# IEEE International NanoElectornics Conference 2010

(INEC 2010)

# **PROGRAM BOOK**

**COVER** 

# **Conference Committee**

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City University of Hong Kong

Founding Chair Cher Ming Tan

Nanyang Technological University

Organization Chair Ricky K Y Fu

City University of Hong Kong

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City University of Hong Kong and Wuhan University of Science and Technology

**An-Ping Huang** (Nano-Electronics)

City University of Hong Kong and Beijing University of Aeronautics and Astronattics

Teng Qiu (Nano-Photonics)

City University of Hong Kong and Southeast University

Xuan-Yong Liu (Nano-Biology)

City University of Hong Kong and Shanghai Institute of Ceramics, CAS

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City University of Hong Kong and Harbin Institute of Technology

Information Chair Yu-Long Jiang Fudan University

Program Co-Chair Jian-Min Miao Nanyang Technological University

Beng-Kang Tay
Nanyang Technological University
Xiao-Wei Sun
Nanyang Technological University

Jun Wei Singapore Institution of Manufacturing Technology, A\*Star Liu-He Li City University of Hong Kong and Beijing University of

Aeronautics and Astronattics

# **Local Organizing Committee**

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Jian-Hui Li Huai-Yu Wang Shu-Wing Wong
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Yuan Gao Jing-Bi You Xinmeng Zhang

Zhuo Wang Rongsheng Chen Fei Ma

## Welcome

Encouraged by the success of the 1<sup>st</sup> and 2<sup>nd</sup> IEEE International NanoElectronics Conference (INEC) held in Singapore in 2006 and Shanghai in 2008, the 3<sup>rd</sup> INEC is held in City University of Hong Kong from January 3 to 8, 2010. Extensive research on nanomaterials has unveiled many interesting and promising materials properties for novel applications in electronics, photonics, and biology. In order to benefit mankind for such discoveries, it is necessary to cross the chasm between nanomaterials and nanodevices and their applications. This effort requires a multi-disciplinary approach combining research in materials design, processing, modeling, characterization, and metrology. Commercialization of nanotechnology is also important to fuel future research. The aim of this conference is to



identify the paths between fundamental research and potential electronic, photonic, and biological applications. INEC2010 provides a forum for international academics, researchers, practitioners, and students working in the areas of nanofabrication, nanoelectronics, nanophotonics, and nanobiology to discuss new developments, concepts, and practices, and to identify future research needs so that nano-research can be brought closer to its immense potential.

INEC2010 features 4 plenary and 22 invited talks by international scientists in nanofabrication, nanoelectronics, nanophotonics, and nanobiology. A special symposium on nanoscience and nanotechnology in China is held during the conference to foster further scientific exchange between scientists from Greater China and other parts of world. We are very fortunate to have 16 academicians of the Chinese Academy of Sciences, Chinese Academy of Engineering, and Academia Sinica to give presentations in this special symposium.

INEC2010 is the largest one of this growing event. We are very pleased to have received 911 contributed abstracts including 503 oral and 408 poster presentations from 35 countries and special administrative regions.

Hong Kong being a vibrant and modern city where east and west meet is very exciting. The city offers superb dining and attractions and boasts one of the most impressive skylines in the world. In addition to the technical events, I urge you to experience and enjoy our unique city.

Paul K Chu General Chair

# **Conference Program Table**

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	Sunday			Monday						Tuesday January 5, 2010				•				
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		11:15	FC101	FC121	FC141		EC119	EC139	PC101	PC119	BC101	TC101	11:15	FC201	FC217	FC231	EC203	EC217
		11:30	FC102	FC122	FC142	KS102	EC120	EC140	PC102	PC120	BC102	TC102	11:30	FC202	FC218	FC232		EC218
	INEC 2010	11:45	FC103	FC123	FC143	EC101	EC121	EC141	PC103	PC121	BC103	TC103	11:45	FC203	FC219	FC233	KS221	EC219
		12:00	FC104	FC124	FC144	EC102	EC122	EC142		PC122	BC104	TC104	12:00	FC204	FC220		EC204	EC220
_		12:15	FC105	FC125	FC145	EC103	EC123	EC143	KS114	PC123	BC105		12:15	FC205	FC221	KS218	EC205	EC221
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		14:00	FC106	FC126	FC146	EC104	EC124	EC144	PC104	PC124	KS119	TC106	14:00					
		14:15	FC107	FC127	FC147	EC105	EC125	EC145	PC105	PC125		TC107						
		14:30	FC108	FC128	FC148	EC106	EC126	EC146	PC106	PC126	BC106	TC108	14:20					
		14:45	FC109	KS108	FC149	EC107	EC127	EC147	PC107	PC127	BC107	TC109			Work	shop		
		15:00	FC110		FC150	EC108	EC128	EC148	PC108	PC128	BC108	TC110	14:40					
	HOT	15:15	FC111	FC129	FC151	EC109	EC129	EC149	PC109	PC129	BC109	TC111						
14:00	<b>Registration</b>	15:30	FC112	FC130	FC152	EC110	KS111	EC150	PC110	PC130	BC110		15:00					
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		16:30	FC115	FC133	FC155	EC113	EC131	EC153	DOLLE	PC133	BC113		16:30	FC207	Fores	FC235	EC207	EC223
		16:45	FC116	FC134	FC156	KS113	EC132	EC154	PC112	PC134	BC114		16:45	FC208	FC222	FC236	EC208	EC224
		17:00	FC117	FC135	FC157	E0444	EC133	EC155	PC113	PC135	BC115	TC117	17:00	FC209	FC223	FC237	EC209	EC225
		17:15	KS103	FC136	FC158	EC114	EC134	EC156	PC114	PC136	BC116	TC118	17:15	FC210	FC224	FC238	EC210	KS209
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		18:00	FC119 FC120	FC140	FC161	EC117	EC137	EC159	PC117	PC139	BC119	TC121	18:00	FC214	FC227	FC241	EC213	EC227
		18:15	FC120	FC140	FC162	EC118	EC138	EC160	PC118	PC140	BC120	TC122	18:15	FC214	FC228	FC242	EUZ14	EC228

- \* Oral presenters have 15 minutes (12 min talk + 3 min Q&A) for regular presentations.
- \* Poster presenters are requested to be present at the posters during poster sessions to answer questions and responsible for mounting and removal of their posters.

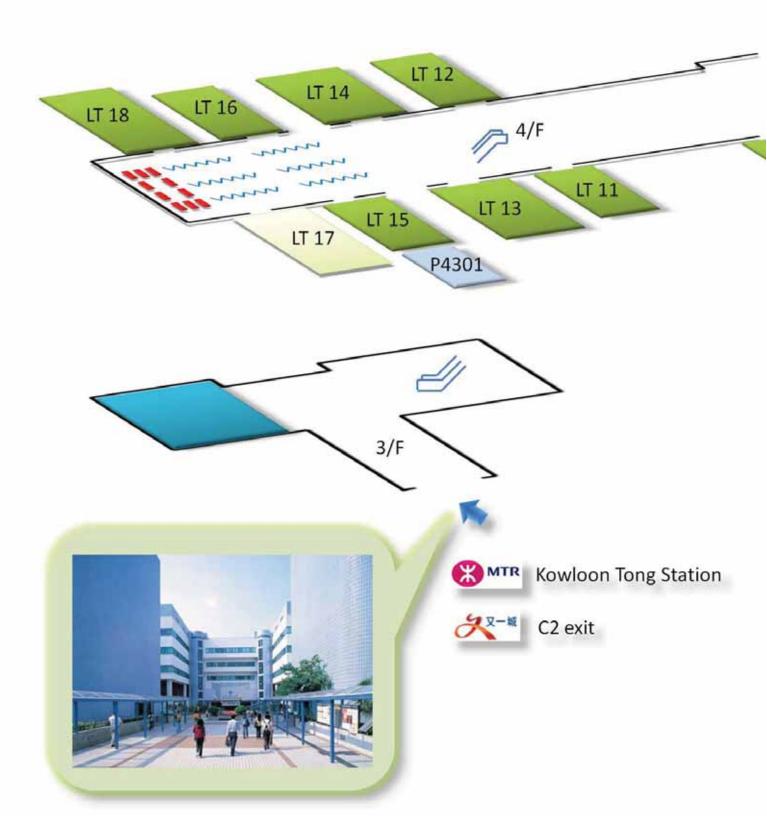
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ı II - 1	8:30	Ceremony	8:45	FC402	FC415	FC435	EC402	EC424	EC439	PC402	BC402	KS410	9:30	Lab Tour
	8:50	KA301	9:00	FC403	FC416	FC436	KS416	EC425	EC440	PC403	BC403	TC401	9.30	Team A
	0.50	KA301	9:15	FC404	FC417	FC437	N3410	EC426	EC441	PC404	BC404	TC402		
ı II - 2	9:15	KA302	9:30	FC405	KS420	FC438	EC403	EC427	EC442	PC405	BC405	TC403		
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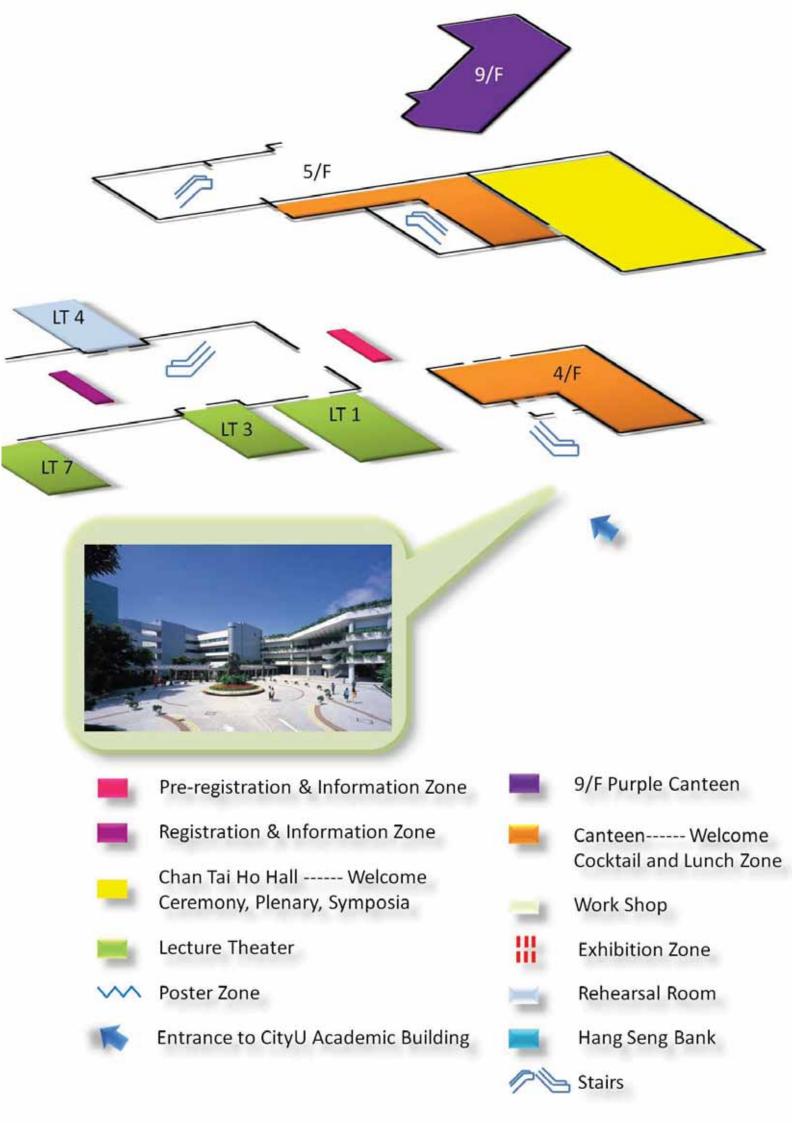




IEEE International NanoElectronics Conference January 3-8, 2010, Hong Kong ,China

# Conference Floor Plan





## Plenary Session I – IEEE INEC 2010

# Chair: Kwok-Fai So, The University of Hong Kong

Date: Jan 4, 2010

Time: 9:20-10:05 am

Venue: Chan Tai Ho Multi-Purpose Hall



Chun-Li Bai

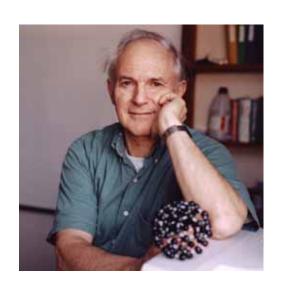
Institute of Chemistry, Chinese Academy of Sciences, China

Formation and Structural Transition of Molecular Self-assembly on Solid Surface Investigated by STM

Date: Jan 4, 2010

Time: 10:05-10:50 am

Venue: Chan Tai Ho Multi-Purpose Hall



Sir Harold Kroto
Nobel Laureate in Chemistry

The Florida State University, Florida, USA

Mechanisms of NanoScale Self-Assembly

## Plenary Session II – IEEE INEC 2010

# Chair: Chi-Ming Che, The University of Hong Kong

Date: Jan 5, 2010

Time: 9:00-9:45 am

Venue: Chan Tai Ho Multi-Purpose Hall



A Paul Alivisatos

University of California at Berkeley and

Lawrence Berkeley National Laboratory, California, USA

Electrical Studies of Individual Colloidal Inorganic Nanocrystals

Date: Jan 5, 2010

Time: 9:45-10:30 am

Venue: Chan Tai Ho Multi-Purpose Hall



Charles M Lieber

Harvard University, Massachusetts, USA

Semiconductor Nanowires: A Platform for

Nanoscience and Nanotechnology



Yi Cui
Stanford University, USA
Nanostructured Photon Management for High
Performance Solar Cells

Date: Jan 4, 2010
Time:11:15-11:45
Venue: LT17



Lars Samuelson
Lund University, Sweden

Semiconductor Nanowires as a Bottom-up Approach to
Realize Nanoelectronic and Nanophotonic Devices

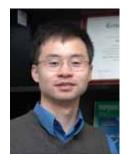
Date: Jan 4, 2010
Time:12:00-12:30
Venue: LT11



You-Nan Xia
Washington University in St. Louis, USA

Engineering the Optical Properties of Gold Nanocages
for Biomedical Applications

Date: Jan 4, 2010
Time:14:00-14:30
Venue: LT01



Song Jin
University of Wisconsin–Madison, USA
Screw Dislocation Driven Nanowire Growth and its
Potential Applications

Date: Jan 4, 2010
Time:14:45-15:15
Venue: LT14



Carsten Ronning
University of Jena, Germany

Ion Beam Doping of Semiconductor Nanowires

Date: Jan 4, 2010
Time:15:30-16:00
Venue: LT13



Edward T. Yu
The University of Texas at Austin, USA

Engineering of Plasmonic Effects in Photodetectors and High-Efficiency Photovoltaics

Date: Jan 4, 2010
Time:16:15-16:45
Venue: LT11

Date: Jan 4, 2010 Time:16:45-17:15 Venue: LT17

Harry Ruda
University of Toronto, Canada
Carrier Transport in Molecular Beam Epitaxially Grown
GaAs/InAs Core-Shell Nanowires



Date: Jan 4, 2010 Time:17:15-17:45 Venue: LT18

Li-Ming Dai Case Western Reserve University, USA Controlled Growth and Modification of Aligned Carbon Nanotubes for Multifunctional Nanocomposites and Nanodevices



Date: Jan 5, 2010 Time:10:45-11:15 Venue: LT18

Dmitri Golberg National Institute for Material Science, Japan *Functional Boron Nitride Nanotubes* 



Date: Jan 5, 2010 Time:11:30-12:00 Venue: LT17

Pei-Dong Yang University of California, Berkeley, USA Semiconductor Nanowires for Energy Conversion



Date: Jan 5, 2010 Time:12:00-12:30

Venue: LT16

University of California, Los Angeles, USA Designing, Measuring, and Controlling Molecular- and Supramolecular-Scale Properties for Molecular Devices



Paul S. Weiss

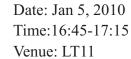
Date: Jan 5, 2010 Time:16:15-16:45 Venue: LT14

Federico Rosei University of Quebec, Canada Strategies for Controlling Nanoscale Assembly





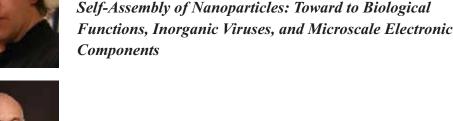
Oliver G. Schmidt
Dresden Institute for Integrative Nanosciences, Germany
Shaped Nanomembranes: From Fundamental Perception
to New Concepts and Applications





Nicholas A. Kotov
University of Michigan, USA
Self-Assembly of Nanoparticles: Toward to Biological
Functions, Inorganic Viruses, and Microscale Electronic
Components

Date: Jan 5, 2010
Time:17:15-17:45
Venue: LT13



Robert Nemanich
Arizona State University, USA
Thermionic and Field Electron Emission Devices from
Diamond and Carbon Nanostructures

Date: Jan 7, 2010
Time:08:30-09:00
Venue: LT12



Edmund G. Seebauer

University of Illinois at Urbana-Champaign, USA

Defect Engineering in Semiconductors for

Nanoelectronic Devices

Date: Jan 7, 2010

Time:09:00-09:30

Venue: LT17



Cary Y. Yang
Santa Clara University, USA
Transport Phenomena in Carbon Nanostructures

Date: Jan 7, 2010
Time:09:30-10:00
Venue: LT14



Zhong Lin Wang

Georgia Institute of Technology, USA

Top Emerging Technologies for Self-Powered

Nanosystems: Nanogenerators and Nanopiezotronics

Date: Jan 7, 2010

Time:10:15-10:45

Venue: LT18

Date: Jan 7, 2010 Time:11:00-11:30 Venue: LT01

Hua-Jian Gao Brown University, USA Learning from Nature about Principles of Hierarchical Materials



Date: Jan 7, 2010 Time:11:30-12:00 Venue: LT15

Xiang-Feng Duan University of California, Los Angeles, USA Functional Inorganic Nanostructures, New Opportunities for Future Electronics



Date: Jan 7, 2010 Time:12:00-12:30 Venue: LT11

Federico Capasso
(to be presented by Nanfang Yu)
Harvard University, USA
Wavefront Engineering of Semiconductor Lasers
Using Plasmonics



Date: Jan 7, 2010 Time:16:45-17:15 Venue: LT14

Yu Huang University of California, Los Angeles, USA Approaching Molecular Nanodevices Using Engineered Nanowire Templates



**NOTE:** Invited talks are listed in the scheduled presentation order.

Date: Wednesday - Jan 6, 2010 Venue: Chan Tai Ho Multi-Purpose Hall

# Symposium on Nanoscience and Nanotechnology in China

# Session 1: Co-Chairs - Charles M Lieber and Zhong Lin Wang



Lih-Juann Chen
National Tsing Hua University, Hsinchu, Taiwan
In-Situ Ultrahigh Vacuum Transmission Electron
Microscope Investigations of Nanostructures

Time: 08:50-09:15

Time: 09:15-09:40

Time: 10:05-10:30



Junhao Chu
East China Normal University and Shanghai Institute of
Technical Physics, Chinese Academy of Sciences,
Shanghai, China
Spin-Related Phenomena in Nano-Structure of
Semiconductors



Chuanxian Ding
Shanghai Institute of Ceramics, Chinese Academy of Sciences,
Shanghai, China
Microstructure and Properties of Plasma Sprayed
Nanostructural ZrO<sub>2</sub> Coatings



You-Wei Du Nanjing University, Nanjing, China Spin Transport in Diluted Magnetic Semiconductors

## Session 2: Co-Chairs – A Paul Alivisatos and You-Nan Xia

Time: 10:50-11:15

Xiao-Lin Lei Shanghai Jiao Tong University, Shanghai, China Oscillations of Nonlinear Magnetoresistance in Microwave-Irradiated 2D Semiconductors



Time: 11:15-11:40

Guo-Gang Qin
Department of Physics and State Key Lab for Mesoscopic
Physics, Peking University, Beijing, China
Electronics and Photonics Prototype Devices Based on
Compound Semiconductor Nanowires/Nanobelts



Time: 11:40-12:05

Ben Zhong Tang
The Hong Kong University of Science & Technology,
Clear Water Bay, Hong Kong
Efficient Luminescence from Nanostructured
Aggregates of Organic Luminogens



Time: 12:05-12:30

David S Y Tong
City University of Hong Kong and The University of Hong Kong
Surface Modification of TiO<sub>2</sub> and ZnO
Nanosurfaces and Applications



## Session 3: Co-Chairs – Lars Samuelson and Paul Weiss



Hailing Tu
General Research Institute for Nonferrous Metals, Beijing,
China

Evolution of Core-Shell Silicon Nanowires Grown on

Silicon Substrates by Pulsed Laser Ablation

Time: 14:00-14:25

Time: 14:25-14:50

Time: 14:50-15:15

Time: 15:15-15:40



King-Ning Tu
University of California at Los Angeles, Los Angeles, CA, USA
Nucleation and Growth of Epitaxial Silicide in
Nanowire of Silicon



Pei-Heng Wu University of Nanjing, Nanjing, China Superconducting Nanowires for Detecting Single Photons at Telecommunication Wavebands



**Waveguides** 

Jianbai Xia Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China Rashba Electron Transport in 1D Quantum

# Session 4: Co-Chairs - Harold Kroto and Peidong Yang

Time: 16:00-16:25

Si-Shen Xie
Institute of Physics, Chinese Academy of Sciences,
Beijing, China
Synthesis and Physical Properties of Macroscale
Carbon Nanotube Architectures



Time: 16:25-16:50

Qi-Kun Xue
Tsinghua University, Beijing, China and Institute of Physics,
Chinese Academy of Sciences, Beijing, China
Probing Superexchange Interaction in Molecular
Magnets by Spin-Flip Spectroscopy and Microscopy



Time: 16:50-17:15

Xingdong Zhang Sichuan Univerisity, Sichuan, China Biological Effects and Risks of Nano-Bioceramics



Time: 17:15-17:40

Ze Zhang
Beijing University of Technology, Beijing, China
Atomic Resolution In-Situ TEM Observation on
Brittle-ductile Transition of Nano-Wires with
Covalent Bonding



**NOTE**: All attendees should be seated 5 minutes before the beginning of each session

# Acknowledgements

Members of the local organizing committee wish to thank the following for their generous sponsorship and support:

































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 $Nan of a brication\ Workshop$ 

**Sponsorships** 

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# Monday - Jan 4, 2010

# Nanofabrication Oral Session I LT-18 Chair: Hua ZHANG, Nanyang Technological University An Electronic Nose for Amine Detection Based on Polymer/SWNT-COOH Nanocomposites Panida Lorwongtragool<sup>1</sup>, Anurat Wisitsoraat<sup>2</sup> and Teerakiat Kerdcharoen<sup>3,\*</sup> <sup>1</sup>Materials Science and Engineering Programme, Faculty of Science, Mahidol University, Bangkok 10400, Thailand, <sup>2</sup>Nanoelectronic and MEMS Lab, National Electronic and Computer Technology Center, Pathumthani 12120, Thailand, <sup>3</sup>Department of Physics and Center of Nanoscience and FC101 Nanotechnology, Faculty of Science, Mahidol University, Bangkok 10400, Thailand \*Contacting Author: Teerakiat Kerdcharoen is with Materials Science and Engineering Programme, Faculty of Science, Mahidol University, Rama 6 Road, Bangkok 10400, Thailand (phone: +66-2-201-5842; fax: +66-2-201-5843; e-mail: sctkc@mahidol.ac.th) 11:30 Carbon Nanotubes and Iron Nanofibers Preparation Using the Pentacarbonyl Iron from the V-type Pyrolysis Flame Yuanchao Liu\*, baomin Sun, Zhanyong Ding and Wei Li FC102 School of energy and power engineering, north china electric power university, china \*Contacting author: Yuanchao Liu is with the school of energy and power engineering, north china electric power university, Beijing, China. (phone: +86 10-80798745; email: ycliu 999@126.com). 11:45 Fabrication of Ion-Induced Carbon-Cobalt Nanocomposite Fibers: Effect of Cobalt Supply Zhipeng Wang\*, Mohd Zamri Mohd Yusop, Takehiko Hihara, Yasuhiko Hayashi and Masaki FC103 Department of Frontier Materials, Nagoya Institute of Technology, Gokiso-cho, Showa-ku, Nagoya 466-8555, Japan. \*Contacting Author: Zhipeng Wang (phone: +81-52 7355024; fax: +81-527355024; email: wang.zhipeng@nitech.ac.jp). 12:00 Growth of Metal-free Carbon Nanotubes with Amorphous Carbon Catalyst Layer on Glass Substrate by Microwave Plasma Enhanced Chemical Vapor Deposition Jae Keun Seo<sup>1</sup>, Ki-han Ko<sup>1</sup>, Jaekwang Kim<sup>1</sup>, Yu sung Lee<sup>1</sup>, Eun Kyu Kang<sup>1</sup>, Jae-Hyeoung Lee<sup>2</sup> and Won Seok Choi1,\* <sup>1</sup> Department of Electrical Engineering, Hanbat National University, Daejeon, Republic of Korea <sup>2</sup> FC104 School of Electronic and Information Engineering, Kunsan National University, Kunsan 573-701, South Korea \*Contacting Author: Won Seok Choi is with the Department of Electrical Engineering, Hanbat National University, Daejeon 305-714, Korea. (Email: wschoi@hanbat.ac.kr; Phone: +82 42 821 1754; Fax: +82 42 821 1088) 12:15 Flexible 3D Conformation of Single-Walled CNTs/PEG Hybrid Wormlike Structure: PEG Lamellae Self-Assembly on CNT in Supercritical CO<sub>2</sub> Fan Zhang, Hao Zhang, Qun Xu\*, Qiuyan Yang FC105 College of Materials Science and Engineering, Zhengzhou University, Zhengzhou 450052, China \*Contacting Author: Qun Xu is with the College of Materials Science and Engineering, Zhengzhou

University, Zhengzhou 450002, China (phone: +86 371 67767827 fax: +86 371 67767827;

email	qunxu@	)ZZ11.	edu.	cn).
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Chair: Z	heng HU	, Nanjing	University
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14:00	Investigation of Influence of Synthesis Parameters on Length and Purity of the CNTs Grown	
	by Thermal Chemical Vapor Deposition	
	Ting Xu*, Jianmin Miao	FC106
	Micromachines Centre, Nanyang Technological University, Singapore, 639798 *Corresponding	
	author: e-mail: xuti0002@ntu.edu.sg	
14:15	Preparation of Silicon Nanowire Arrays via Electroless Metal Deposition	
	Xuan Liu*, Qingsong Hu	
	School of engineering, Shanghai Ocean University. *Contacting Author: Xuan Liu is with school of	FC107
	engineering, Shanghai Ocean University, No.185 mailbox, 999 Hucheng Ring-Rd, Shanghai	
	200433, China.(phone: 86-021-61900819; fax: 86-021-61900819; email: xliu@shou.edu.cn).	
14:30	Synthesis of Single-layer Graphene-Quantum dots nanocomposite directly from graphene	
	oxide	
	Aoneng Cao <sup>1,*</sup> , Zhen Liu <sup>1</sup> , Minghong Wu <sup>1</sup> , Zhangmei Ye <sup>1</sup> , Zhengwei Cai <sup>1</sup> , Yanli Chang <sup>1</sup> , and Yuanfang Liu <sup>1,2</sup>	
	<sup>1</sup> Institute of Nanochemistry and Nanobiology, Shanghai University, Shanghai, 200444, China <sup>2</sup>	FC108
	Beijing National laboratory of Molecular Science, College of Chemistry and Molecular	
	Engineering, Peking University, Beijing, 100871, China. *Contacting Author: Aoneng Cao, Institute	
	of Nanochemistry and Nanobiology, Shanghai University, Shanghai, 200444, China. (Phone:	
	86-21-66135277-102; Fax: 86-21-66135275; email: ancao@shu.edu.cn)	
14:45	Possibility of Cloning Identical Nanotube Structures for Nano Electronics	
	Lianxi Zheng	
	School of Mechanical and Aerospace Engineering, Nanyang Technological University, Singapore	FC109
	639798. Email: lxzheng@ntu.edu.sg	
15:00	Preparation and Properties of Multi-walled Carbon Nanotube/TiO2 Nanocomposite Films	
	Yan Sun, Kangping Yan, Guixin Wang and Wei Wang	FC110
	Sichuan University	
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	electric field	
	Yue-Feng Zhu*, Chan Zhang, Xi-Zhi Yang, Chen Ma, Ren-Ping Zhang, Guang-Hui Wei	
	Key Laboratory for Advanced Materials Processing Technology, Ministry of Education, P. R.	FC111
	China; Department of Mechanical Engineering, Tsinghua University, Beijing 100084, P. R. China	
	yfzhu@tsinghua.edu.cn	
15:30	Growth of Monolayer Graphene on Ni Foils & Foams by Ethanol Chemical Vapor Deposition	
15.50	Xinming Li, Chunyan Li, Hongwei Zhu*, Jinquan Wei, Kunlin Wang, Qinke Shu, Zhen Li, Dehai	
	Wu	
	Key Laboratory for Advanced Manufacturing by Material Processing Technology and Department	FC112
	of Mechanical Engineering, Tsinghua University, Beijing 100084, P. R. China *Contacting Author:	1 0112
	Hongwei Zhu (Phone: +86-10 62781065; Fax: +86-1062770190; Email:	
	hongweizhu@tsinghua.edu.cn).	

FC113

15:45 Influence of Reactant composition in Synthesis of Carbon Nanotubes from pyrolysis flame

16:00

16:15

16:30

16:45

17:00

17:15

17:45

Baomin Sun, Yuanchao Liu*, Zhaoyong Ding and Wei Li The school of energy and power engineering north china electric power university, Beijing ,China *Contacting author: Yuanchao Liu is with the school of energy and power engineering, North China Electric Power University, Beijing, China. (phone: +86 10-80798745; email: ycliu_999@126.com)	
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School of Mechanical and Aerospace Engineering, Nanyang Technological University, Singapore	FC114
639798 Email: jingyulu@pmail.ntu.edu.sg	
Growth Mechanism, Structural Regulation and Functionalization of Carbon-based	
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Zheng Hu	FC115
Key Laboratory of Mesoscopic Chemistry of MOE, Department of Chemistry, Nanjing University,	
Nanjing 210093, China. Zhenghu@nju.edu.cn	
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Coated Carbon Nanotubes	
Jun Yu, and Daniel H. C. Chua*	
Department of Materials Science and Engineering, National University of Singapore, Science Drive	FC116
3, Singapore 119260, Republic of Singapore. *Contacting Author: Dr. Daniel H. C. Chua is with the	
Department of Materials Science and Engineering, National University of Singapore, Singapore.	
(phone: +65-65168933; email: msechcd@nus.edu.sg ).	
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Yu Ting <sup>1</sup> , Gong Yingxue <sup>2</sup> , Chen Yuan <sup>3</sup> , and Liao Kin <sup>4</sup> *	
<sup>1,3,4</sup> School of Chemical and Biomedical Engineering, Nanyang Technological University,	
Singapore. <sup>2</sup> Institute of Life and Health Engineering, Jinan University, Guangzhou, China.	FC117
*Contacting author: Liao Kin is with Division of Bioengineering, School of Chemical and	
Biomedical Engineering, Nanyang Technological University, Sinagpore (phone: +65-67905835;	
fax: +65-67911761; Email: askliao@ntu.edu.sg).	
Controlled Growth and Modification of Aligned Carbon Nanotubes for Multifunctional	
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Liming Dai	KS103
Department of Chemical Engineering, Case School of Engineering, Case Western Reserve	
University, 10900 Euclid Avenue, Cleveland, OH 44106, USA. Email: liming.dai@case.edu	
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T. Nakamiya*, <sup>1</sup> , K. Semba <sup>2</sup> , F. Mitsugi <sup>2</sup> , T. Ikegami <sup>2</sup> , Y. Iwasaki <sup>1</sup> , Y. Sonoda <sup>1</sup> , and R. Tsuda <sup>1</sup>	
<sup>1</sup> Graduate School of Industrial Engineering, Tokai University, Japan <sup>2</sup> Graduate School of Science	FC118
and Technology, Kumamoto University, Japan *Contacting Author: Toshiyuki Nakamiya, Graduate	FC118

G. R. Chang, Fei Ma, Dayan Ma, Ben Ma, and Kewei Xu\*

School of Industrial Engineering, Tokai University, Toroku 9-1-1, Kumamoto 862-8652, Japan

(Phone:+81-96-386-2656; Fax:+81-96-381-7956; Email: nakamiya@tokai.ac.jp)

18:00 Size and Density Control of Silicon Quantum Dots in SiC Dielectric Matrix

FC119

State Key Laboratory for Mechanical Behavior of Materials, Xi'an Jiaotong University, Xi'an 710049, Shaanxi, China. \*Contacting Author: Kewei Xu and G.R. Chang are with State Key Laboratory of Mechanical Behavior of Materials, Xi'an Jiaotong University, No. 28, Xianning West Road, Xi'an 710049, Shaanxi, China. (Phone: +86 29-88403018, e-mail: kwxu@mail.xjtu.edu.cn, ivy.chang09@gmail.com).

# 18:15 Comparision of distinguishable ZnO nanostructures synthesized by a solution process and a vapor transfer method

Guan-nan He<sup>a, b</sup>, Xiuzhu Lin<sup>a</sup>, Sun-tao Wu<sup>c</sup>, Jing Li<sup>c</sup>,\* Qi-Hui Wu <sup>d</sup>

<sup>a</sup> Physics Department, Xiamen University, Xiamen, Fujian 361005, China. <sup>b</sup> Physics Department, Zhongshan University, Guangzhou, Guangdong 510275, China. <sup>c</sup> Pen-Tung Sah Micro-Nano Technology Research Center, Xiamen University, Xiamen, Fujian 361005, China. <sup>d</sup> Department of Physics, La Trobe University, Bundoora 3086, VIC, Australia \* To whom correspondence should be addressed. E-mail: lijing@xmu.edu.cn. Phone: 86-592-2181340. Fax: 86-592-2187196.

FC120

## Nanofabrication Oral Session II

LT-14

FC121

Chair: Shihe YANG, The Hong Kong University of Sciecne and Technology

## 11:15 Carpet of Nanowires on Flexible Silicone Substrate

S. Mátéfi-Tempfli\* and M. Mátéfi-Tempfli

Physical-Chemistry and Physics of Materials (PCPM) Laboratory, Institute of Condensed Matter and Nanosciences, Université catholique de Louvain (UCL), B-1348 Louvain la Neuve, Belgium.

\*Contacting Author: Stefan Mátéfi-Tempfli is with PCPM-UCL, Place Croixdu Sud, 1, bat.

Boltzmann A1, B-1348, Louvain-la-Neuve, Belgium (phone: +32-10-47-2409; fax: +32-10-47-3452; email: matefi@uclouvain.be)

11:30 Core-Shell GaAs-AlAs Nanowires Grown by MBE

Hadas Shtrikman<sup>1</sup>\*, Ronit Popovitz-Biro<sup>2</sup>, Palle von Huth<sup>2</sup>, Andrey Kretinin<sup>1</sup> and Moty Heiblum<sup>1</sup> Braun Center for Submicron Research, The Weizmann Institute of Science, Rehovot, Israel. <sup>2</sup> Electron Microscopy Unit, The Weizmann Institute of Science, Rehovot, Israel. \*Contacting Author: Hadas Shtrikman is at the Braun Center for Submicron Research, The Weizmann Institute of Science, Rehovot 76100, Israel. (phone: 972-8-9342585; fax: 972-8-9344128; e-mail: hadas.shtrikman@weizann.ac.il).

FC122

# 11:45 Direct Growth of Bismuth Telluride nanowires by On-Film Formation of Nanowires for High-efficiency Thermoelectric Devices

University, Evanston, Illinois 60208 \*Contacting Author: Wooyoung@yonsei.ac.kr

Jinhee Ham,<sup>1</sup> Wooyoung Shim,<sup>1,3</sup> Do Hyun Kim,<sup>2</sup> Seunghyun Lee,<sup>1</sup> Jongwook Roh,<sup>1</sup> Sung Woo Sohn,<sup>1</sup> Kyu Hwan Oh,<sup>2</sup> Peter W. Voorhees,<sup>3</sup> and Wooyoung Lee\*<sup>1</sup>

<sup>1</sup> Department of Materials Science and Engineering, Yonsei University, 134 Shinchon, Seoul 120-749, Korea <sup>2</sup> Department of Materials Science and Engineering, Seoul National University, Seoul 151-744, Korea <sup>3</sup> Department of Materials Science and Engineering, Northwestern

FC123

#### 12:00 Fabrication and structure characterization of Te butterfly nanostructures

Tailun Wong<sup>1</sup>, Guangwei She<sup>2</sup>, Chun Cheng<sup>1</sup>, Wei Li<sup>1</sup>, Wensheng Shi<sup>2</sup>, Xiaohong Zhang<sup>2</sup>, and Ning Wang<sup>1</sup>\*

FC124

1) Department of Physics and Institute of Nano Science and Technology, Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong, China 2) Key Laboratory of

Photochemical Conversion and Optoelectronic Materials, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing 100190, China \*Contacting Author: Ning Wang (phone: +852-23587489; fax: +852-23581652; email: phwang@ust.hk).

# 12:15 Fabrication and Surface-Enhanced Raman Scattering Properties of Gold Nanostructures Yong Yang\*, Zhengren Huang, Masaki Tanemura, Kohei Yamaguchi, and Masayuki Nogami Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai, PRC, Nagoya Institute of Ceramics, Nagoya, Japan \*Contacting Author: Yong Yang is with Shanghai Institute of Ceramics,

Chinese Academy of Sciences, Shanghai, 200050, PRC, Tel: 86-21-52414321, E-mail:

yangyong@mail.sic.ac.cn

12:30 Lunch

Chair: Jun CHEN, Sun Yat-Sen University

#### 14:00 Preparation of Titanium Silicide Nanowires by APCVD Method

Zhaodi Ren, Mei Shen, Gaorong Han, Wenjian Weng, Ning Ma and Piyi Du\*
Department of Materials Science and Engineering, State Key Laboratory of Silicon Materials,
Zhejiang University, Hangzhou, China \*Contacting author: Piyi Du is with the department of
Materials Science and Engineering, State Key Laboratory of Silicon Materials, Zhejiang University,
Hangzhou 310027, China. (phone: -86-571-87952324; fax: -86-571-87952324; email: dupy@zju.edu.cn).

14:15 SERS substrate via a low cost and temperature dependence of silver nanostructure

Chun-Hsiang Tu and Shih-Shou Lo
Department of Photonics, Feng Chia University, Taiwan, R.O.C (phone: +886-4-24517250
ext.5041; email: sslo@fcu.edu.tw).

14:30 Interface Effects on Thermal Conductivity of Bi/Te Core-shell Nanowires

Joohoon Kang, Jinhee Ham, Jong Wook Roh, Seunghyun Lee, and Wooyoung Lee\*

Department of Materials Science and Engineering, Yonsei University, 262 Seongsanno

Seodaemun-gu, Seoul, 120-749, Korea \*Contacting Author: Wooyoung Lee is with the Department of Materials Science and Engineering, Yonsei University (phone: 82-2-2123-2834; e-mail: Wooyoung@yonsei.ac.kr)

14:45 Screw Dislocation Driven Nanowire Growth and its Potential Applications Song Jin

Department of Chemistry, University of Wisconsin-Madison, 1101 University Ave., Madison, WI 53706 e-mail: jin@chem.wisc.edu; Tel: 608-262-1562

15:15 Fabrication of a single nanowire circuit made of semiconducting NiS<sub>2</sub> by direct-write electron beam lithography and observation of metallic conduction

G. U. Kulkarni\* and T. Bhuvana

Chemistry and Physics of Materials Unit and DST Unit on Nanoscience, Jawaharlal Nehru Centre FC129 for Advanced Scientific Research, Jakkur P.O., Bangalore 560 064, India \*Contacting Author is with Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India (phone: +91-80-2208 2814; fax: +91-80-22082766; e-mail: kulkarni@jncasr.ac.in)

15:30 Fabrication of integrated copper indium diselenide nanorod arrays on silicon using porous anodic alumina as template

Zhongwei Zhang<sup>1</sup>, Weifeng Liu<sup>1</sup>, Ji Li<sup>1</sup>, Yunxin Han<sup>1</sup>, Guoshun Jiang<sup>1</sup>, Charles Surya<sup>2</sup>, and Changfei Zhu<sup>1,\*</sup>

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<sup>1</sup> Department of Materials Science and Engineering, University of Science and Technology of China, Hefei, Anhui 230026, PR China. <sup>2</sup> Department of Electronic and Information Engineering, The Hong Kong Polytechnic University, Hong Kong, China. \*Contacting Author: Changfei Zhu is with the Department of Materials Science and Engineering, University of Science and Technology of China, China. (phone: +86 551-3600578; email: cfzhu@ustc.edu.cn).

# 15:45 Si Substrate Controlled in-plane Synthesis of Self-assembled Nanostructures Catalyzed by Au Nanoparticles

Zhou Zhang<sup>1</sup>, Lai Mun Wong<sup>2</sup>, Shijie Wang<sup>2</sup>, and Tom Wu<sup>1,\*</sup>

<sup>1</sup> Division of Physics and Applied Physics, School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore. <sup>2</sup> Institute of Materials Research and Engineering, Singapore. \*Contacting Author: Tom Wu is with the Division of Physics and Applied Physics, School of Physical and Mathematical Sciences, Nanyang Technological University; 21 Nanyang Link, SPMS, PAP-04-10, Singapore 637371, Singapore (phone: 65-6514-1047; email: tomwu@ntu.edu.sg)

16:00 Break

Chair: Xiaosheng FANG, National Institute for Materials Science

Woovoung LEE, Yonsei University

# 16:15 Growth of the copper oxide nanowires from copper thin films deposited on silicon substrate

Yeon-Woong Park a, Nak-Jin Seonga, and Soon-Gil Yoona b,\*

<sup>a</sup> School of Nano Science and Technology, <sup>b</sup> Graduate of Analytical Science and Technology (GRAST), Chungnam National University, Daeduk Science Town, 305-764, Daejeon, Korea \*Contacting Author: sgyoon@cnu.ac.kr

## 16:30 Synthesis and Characterization of Angstrom-Scale Anatase Titania Atomic Wires

Chenmin Liu, Hui Sun, and Shihe Yang\*

Department of Chemistry, William Mong Institute of Nano Science and Technology, The Hong
Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong \*Contacting FC133
Author: Prof. Dr. Shihe Yang is with Department of Chemistry, William Mong Institute of Nano
Science and Technology, The Hong Kong University of Science and Technology, Clear Water Bay,
Kowloon, Hong Kong (e-mail: chsyang@ust.hk)

## 16:45 Synthesis strategy for 1D magnetic ternary amorphous nanoalloys

Ming Wen\*, Fan Zhang and Qingsheng Wu

Department of Chemistry, Tongji University, 1239 Siping Road, Shanghai 200092, China. FC134 \*Contacting Author: Ming WEN is with Department of Chemistry, Tongji University, China. (phone: +86-21 65982653 Ex. 8636; fax: +86-2165981097; email: m\_wen@tongji.edu.cn).

# 17:00 Characterization, Cathodoluminescence and Field-Emission Properties of

## Morphology-Tunable CdS Micro/Nanostructures

Tianyou Zhai\*, Xiaosheng Fang, Xijin Xu, Yoshio Bando and Dmitri Golberg
World Premier International Center for Materials Nanoarchitectonics (MANA), National Institute
for Materials Science (NIMS), Namiki 1-1, Tsukuba, Ibaraki 305-0044, Japan \*Contacting Author:
Tianyou Zhai is with National Institute for Materials Science (NIMS), Namiki 1-1, Tsukuba, Ibaraki
305-0044, Japan. (Fax: +81-29-851-6280; zhai.tianyou@gmail.com)

# 17:15 Study on Fabrication and Morphology Evolution of Sandia Octahedral Molecular Sieves Nanowires

FC136

FC135

FC131

# $Contributed\ Presentations-Monday-Jan\ 4,\ 2010-IEEE\ INEC\ 2010$

Lei Liu, Bo Li, Yuming Cui and Xingfu Zhou\*

	State Key Laboratory of Materials-Oriented Chemical Engineering, College of Chemistry and	
	Chemical Engineering, Nanjing University of Technology, Nanjing, China. *Contacting Author:	
	Xingfu. Zhou is with State Key Laboratory of Materials-Oriented Chemical Engineering, College of	
	Chemistry and Chemical Engineering, Nanjing University of Technology, Nanjing, China. (phone:	
	+86-25-83587773;email: Zhouxf@njut.edu.cn).	
17:30	Cross-section Control of Stacked Nanowires formed by Bosch Process and Oxidation	
	Xuan Zuo*, Tao Wang, Ricky M. Y. Ng, Jin He and Mansun Chan	
	Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong	FC137
	*Contacting Author: Xuan Zuo is with the Department of Electronic and Computer Engineering,	FC13/
	Hong Kong University of Science and Technology (tel: +852 2358-8842; fax: +852 2358-1485;	
	e-mail: zuoxuan@ust.hk).	
17:45	Growth of Silicide nanowires and 1D superlattice structures for Thermoelectric Applications	
	S.Liang* X.Fang Zhi-Xin GuO	FC138
	Department of Chemistry, Renmin University of China, Beijing 100872, China Contacting Author:	FC138
	S. Liang (phone: 86-10-62513162; fax: 86-10-62516444; email: sliang@ruc.edu.cn)	
18:00	Selective Shortening Aspect Ratio of Gold Nanorods with Alternative Approaches	
	Haowen Huang	EC120
	School of Chemistry and Chemical Engineering, Hunan University of Science and Technology,	FC139
	Xiangtan, P.R. China. hhwn@iccas.ac.cn	
18:15	Structural Characterization and Cathodoluminescence of Individual BN Layers-Sheathed	
	CaS:Eu nanowires	
	Jing Lin *, Yoshio Bando, Yang Huang, Chengchun Tang, Benjamin Dierre, Takashi Sekiguchi and	
	Dmitri Golberg	FC140
	International Center for Materials Nanoarchitectonics (MANA), National Institute for Materials	
	Science (NIMS) and Advanced Electronic Materials Center, National Institute for Materials Science	
	(NIMS), Namiki 1-1, Tsukuba, Ibaraki, Japan E-mail: LIN.Jing@nims.go.jp	
	Nanofabrication Oral Session III	LT-16
	Chair: Jianmin MIAO, Nanyang Technological University	
11:15	Atomistic Modeling of Scratching Process based on Atomic Force Microscope: Effects of	
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	Hanif Muhammad Khan and Sung-Gaun Kim	
	Sung-Gaun Kim is with Division of Mechanical and Automotive Engineering, Kongju National	FC141
	University, South Korea. *Contacting Author: Sung-Gaun Kim is with Division of Mechanical and	
	Automotive Engineering, Kongju National University, South Korea. (Phone: +82-041-521-9253;	
	fax: +82-041-555-9123; email: kimsg@kongju.ac.kr ).	
11:30	Design of Optical Assistance in Nano-Scale Fabrication for the Flexible Display Panels	
	P.S. Pa	FC142
	Department of Digital Content Design, Graduate School of Toy and Game Design National Taipei	1 0142
	University of Education myhow@seed.net.tw	
11:45	Calibration of a 6-dof parallel micromanipulator for nanomanipulation	FC143
	Lefeng Wang, Weibin Rong, Mao Feng, Taochou Liu, and Lining Sun	1 0143

	State Key Laboratory of Robotics and System, Harbin Institute of Technology, Harbin, China.	
12.00	(phone: +86-451-86414462; fax: +86-451-86402706; e-mail: lefengwang@126.com).	
12:00	Control the Spin State of Transitonal Atoms on ZnO(10-10) by Surface Chemistry Xiaoqing Tian and Jianbin Xu*	
	Department of Electronic Engineering and Materials Science and Technology Research Center, The	FC144
	Chinese University of Hong Kong, Shatin, N.T., Hong Kong SAR, P. R. China *Contacting Author:	1.0144
	jbxu@ee.cuhk.edu.hk	
12:15	Beam Combination Using Near-Zero Index Metamaterials	
12.13	Xingping Wang <sup>1</sup> , Yuanming Feng <sup>1</sup> , Sujuan Chen <sup>1</sup> , Zeyu Zhao <sup>1</sup> and Chongxi Zhou <sup>1,*</sup>	
	<sup>1</sup> State Key Lab of Optical Technologies for Microfabrication, Institute of Optics and Electronics,	
	Chinese Academy of Sciences, Chengdu, 610209, China. *Contacting Author: Chongxi Zhou is	FC145
	with State Key Lab of Optical Technologies for Microfabrication, Institute of Optics and	10110
	Electronics, Chinese Academy of Sciences, Chengdu, 610209, China (phone: +86-85100929; fax:	
	+86-85101502; e-mail: cxzhou@ioe.ac.cn).	
12:30	Lunch	
	Chair: István Mátéfi-Tempfli, Université catholique de Louvain	
14:00	Nano-cones Formed on a Surface of Semiconductors by Laser Radiation: Technology, Model	
1	and Properties	
	*Artur Medvid'	FC146
	Riga Technical University E-mail: medvids@latnet.lv	
14:15	Fabrication of Ultra-Sharp Single Atom Tips	
	Tsu-Yi Fu* <sup>1</sup> , Chia-Lun Chiang <sup>1</sup> , Rung-Jiun Lin <sup>1</sup> , Jin-Long Hou <sup>1,2</sup> , Hong-Shi Kuo <sup>2</sup> , Ing-Shouh	
	Hwang <sup>2</sup> , and Tien T. Tsong <sup>2</sup>	FC147
	<sup>1</sup> Department of Physics, National Taiwan Normal University, Taipei, Taiwan, <sup>2</sup> Institute of Physics,	
	Academia Sinica, Taipei, Taiwan phtifu@phy.ntnu.edu.tw	
14:30	Local Structure characterization of CuPc/TiO <sub>2</sub> Nanocomposites	
	Chaloempol Saributr, Wanichaya Mekprasat, Pitiporn Thanangam and Wisanu Pacharapa	
	College of Nanotechnology Ladkrabang, King Mongkut Institute of Technology Ladkrabang and	FC148
	Thailand Center of Excellence in Physics (ThEP) , Thailand. *Contacting Author: Chaloempol S. is	10140
	with College of Nanotechnology Ladkrabang, King Mongkut Institute of Technology Ladkrabang,	
	Bangkok, Thailand. (phone: +66 326 4111 ext 3076; email: keng_sari@hotmail.com)	
14:45	Modeling of 3-D Trench Structures with Corrected Effective Medium Approximation for	
	Model-Based Infrared Reflectrometry	
	Chuanwei Zhang, Shiyuan Liu*, Tielin Shi	FC149
	Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology,	
	Wuhan, China *Contact author, email: shyliu@mail.hust.edu.cn.	
15:00	Molecular Dynamics Simulation of Polylactic Acid/ Organoclay Nanocomposites: Effects of	
	Different Organic Modifiers	
	Meitang Liu*, Minfeng Pu, and Hongwen Ma	FC150
	School of materials science and technology, University of Geosciences, Xueyuan Road 29, Beijing	

FC151

100083, China. \*Corresponding author: Phone: +86-010-82320151; Email: mtliu@cugb.edu.cn.

15:15 Multifrequency Kelvin Probe Force Microscopy Under Ambient Conditions

X. D. Ding\*, C. Li, R. Y. Zeng and Z. W. Liang, J. B. Xu

State Key Laboratory of Optoelectronic Materials and Technologies, and School of Physics Science & Engineering, Sun Yat-sen University, Guangzhou 510275, China Department of Electronic Engineering, and Materials Science and Technology Research Center, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong, China \* Contacting Auther, Electronic Mail: dingxd@mail.sysu.edu.cn

#### 15:30 Estimation of AFM Tip Shape and Status in Linewidth and Profile Measurement

Guoqiang Han, Zhuangde Jiang\* and Weixuan Jing

State Key Laboratory for Manufacturing Systems Engineering, Xi'an Shaanxi 710049, PR China \*Contacting Author: Zhuang D. Jiang is with Institute of Precision Engineering, Xi'an Jiaotong University, Xi'an Shaanxi, 710049, PR China. (Phone: +86-029-82678616-150; email: galehan@gmail.com).

FC152

#### Nanodiamond Clusters and Their Tranformation into Fullerene at High Temperature: A 15:45 **Tight-Binding Simulation**

Anastassia Sorkin\*, Haibin Su\*\* and Tay Beng Kang\*

\*School of Electrical and Electronic Engineering, Nanyang Technological University \*\*School of Material Science and Engineering, Nanyang Technological University, Singapore Contacting Author: Anastassia Sorkin, School of Electrical and Electronic Engineering, Nanyang Technological University, Block S1, 50 Nanyang Avenue, Singapore, 609775, Singapore (e-mail: asorkin@ntu.edu.sg)

FC153

16:00 Break

Chair: Daniel CHUA, National University of Singapore

Ying Dai, Shandong University

#### 16:15 Negative-Stiffness Vibration Isolation

Liu Fang<sup>1,2</sup>, Pang Xiangyang<sup>1</sup>, Liu Zhigang<sup>1</sup>, Zhang Tao<sup>1,2</sup>, Huang Hongbiao<sup>1</sup>, Zhu Jiangiang<sup>1</sup> <sup>1</sup>. Joint Laboratory for High Power Laser Physics, Shanghai Institute of Optical and Fine Mechanics, CAS. Shanghai, 201800, China<sup>2</sup>. Graduate University of Chinese Academy of Science, Beijing 100039, China Contacting Author: Liu Fang is with Shanghai Institute of Optical and Fine Mechanics, Chinese Academy of Science. (Phone: +86-21 69918809; email: funlau@siom.ac.cn).

FC154

#### Theoretical Analyzing of Monomers Adsorbing in Nano-slits

Meitang Liu<sup>1</sup>\*, Minfeng Pu<sup>1</sup>, Hongwen Ma<sup>1</sup>, and Bozhong Mu<sup>2</sup>

<sup>1</sup> School of materials science and technology, China University of Geosciences, Xueyuan Road 29, Beijing 100083, China. <sup>2</sup> Department of Chemistry, East Chinia University of Science and Technology, Meilong Road 130, Shanghai, 200237, China \*Corresponding author: Phone: +86-010-82320151; Email: mtliu@cugb.edu.cn.

FC155

FC156

#### 16:45 Wall Angle Control of Reactive Ion Etched Features on a Silicon Substrate

Alonggot Limcharoen\*, Chupong Pakpum and Komgrit Leksakul

<sup>1</sup>Faculty of Industrial Engineering, Chiang Mai University, Chiang Mai, Thailand <sup>2</sup> Western Digital (Thailand) Company Limited BangPa-in Industrial Estate, Ayuthaya, Thailand \*Contacting Author: Alonggot Limcharoen is with the Faculty of Industrial Engineering, Chiang Mai University, Chiang Mai, Thailand. (phone: 668-6670-5495; email: numaoy\_paditam@hotmail.com).

FC157

## 17:00 Polymer film selection for corrosion protection of data storage magnetic material Santi Chatruprachewin<sup>1</sup>, Laddawan Supadee<sup>2</sup> and Assoc.Prof.Dr.Wisut Titiroongruang<sup>1</sup>

	<sup>1</sup> Faculty of electrical engineering, King Mongkut's Institute of Technology, Ladkrabang, Thailand. 10520 Tel.(66)1826-1164 e-mail: s2610117@kmitl.ac.th <sup>2</sup> Western Digital (Thailand) Co., Ltd.,	
	Bangpa-in, Ayutthaya. Tel. (66)352-78633 e-mail:laddawan.supadee@wdc.com	
17:15	Nano-data storage and lithography by near-field optics	
	Fuxi Gan and Jingsong Wei	
	Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, Shanghai 201800,	FC158
	China E-mail: fxgan@mail.shenc.ac.en	
17:30	Room Temperature UHV Compatible SiO <sub>2</sub> for Top-Gating an STM-Patterned Quantum Dot	
-,,,,	William Lee <sup>1</sup> ,*, Giordano Scappucci <sup>2</sup> , Daniel Thompson <sup>1,2</sup> , Michelle Simmons <sup>1,2</sup>	
	<sup>1</sup> School of Physics, University of New South Wales, Sydney, NSW 2052, Australia <sup>2</sup> Australian	FC159
	Research Council Centre of Excellence for Quantum Computer Technology, University of New	
	South Wales, Sydney, NSW 2052, Australia * Contacting Email: wct.lee@unsw.edu.au	
17:45	Statistical Processing of Nanoporous Templates with High-Yield Single-Pore Resolution	
	S. Mátéfi-Tempfli <sup>1</sup> , M. Mátéfi-Tempfli <sup>1</sup> , L. Piraux <sup>1</sup> , S. Melinte <sup>2</sup> , and A. Vlad <sup>2</sup> *	
	Laboratoire de Physico-Chimie et Physique des Materiaux, Université catholique de Louvain,	
	B-1348 Louvain la Neuve, Belgium. <sup>2</sup> Laboratoire de Dispositifs Intégrés et Circuits Electroniques,	
	Université catholique de Louvain, B-1348 Louvain la Neuve, Belgium. *Contacting Author:	FC160
	Alexandru Vlad is with Laboratoire de Dispositifs Intégrés et Circuits Electroniques, Université	
	catholique de Louvain, B-1348 Louvain la Neuve, Belgium (phone: +32-10-47-2555; fax:	
	+32-10-47-2598; email:alexandru.vlad@uclouvain.be)	
18:00	Characterization of Plastically Graded Nanostructured Material	
	H.H Ruan*, A.Y. Chen, J. Lu	
	Department of Mechanical Engineering, The Hong Kong Polytechnic University Hung Hom,	FC161
	Kowloon, Hong Kong *Contacting Author: Phone: 852-2766-4502, Fax: 852-2365-4703, email:	
	mmhhruan@inet.polyu.edu.hk	
18:15	Theory of screw dislocation and chiral angle controlled carbon nanotube growth	
	Feng Ding <sup>1</sup> , Boris I. Yakobson <sup>2</sup>	
	1) Institute of Textile and Clothing, Hong Kong Polytechnic University, Kowloon, Hong Kong	FC162
	<sup>2)</sup> ME&MS and Chemistry Department, Rice University, Houston, TX 77005	
	E-mail: tcfding@inet.polyu.edu.hk	
	Nanoelectronics Oral Session I	LT-17
	Chair: Xingwang ZHANG, Institute of Semiconductors, CAS	
11:15	Nanostructured Photon Management for High Performance Solar Cells	
	Yi Cui	KS102
	Department of Material Science and Engineering, Stanford University, Stanford, CA 94305. E-mail:	
	yicui@stanford.edu	
11:45	A Computational Study on Interfacial Doping and Quantum Transport of Silicide-Silicon	
	Contacts	<b>n</b> ~:-
	Yijian Ouyang, Jyotsna Chauhan, and Jing Guo*	EC101
	Department of Electrical and Computer Engineering University of Florida, Gainesville, FL, 32611,	
12.00	USA. Email: guoj@ufl.edu	EC102
12:00	Analysis of Finite Difference Time Domain Technique to Solve the Time-dependent	EC102

	Schroinger Equation in Quantum Structures in Inhomogeneous Medium Wenting Guo, Jin Lan, Xiaoying Wang, Yangyang Peng and Wenquan Sui* Zhejiang University, Zhejiang and California International Nano-Systems Institute Email: goldenglobe99@hotmail.com	
12:15	Determination of the Transmission Coefficients for Quantum Structures Using FDTD Method Yangyang PENG, Xiaoying WANG, Kejie LU, Xiaofeng QU, and Wenquan SUI Nano Electronic Platform, Zhejiang-California Nanosystems Institute, Zhejiang University. Email: besttor@gmail.com	EC103
12:30	Lunch	
	Chair: Xiaolin WANG, University of Wollongong	
14:00	Effects of technological and geometrical parameters of a tri-gate MOSFET fabricated in a bulk technology  B.Ramadout <sup>1, 2</sup> , GN. Lu <sup>2</sup> , J.P. Carrère <sup>1</sup> , L. Pinzelli <sup>1</sup> , C. Perrot <sup>1</sup> , M. Rivoire <sup>1</sup> and F. Nemouchi <sup>3</sup>	EC104
	<sup>1</sup> : STMicroelectronics, 38926 Crolles, France; <sup>2</sup> : Lyon Institute of Nanotechnology (INL), 69621 Villeurbanne, France; <sup>3</sup> : CEA - LETI Minatec, 38000 Grenoble, France Email: benoit.ramadout@st.com	EC104
14:15	Electronic Properties of GaP Nanowires of Different Shapes  Pankaj Srivastava*, Satyendra Singh, Abhay Mishra  CNTL, ABV-Indian Institute of Information Technology and Management (IIITM), Gwalior- 474010. India email; pankajs@iiitm.ac.in; Department of Physics, Hindustan College of Science & Technology, Farah, Mathura-281122. India and Department of Applied Physics, Madhav Institute of Technology & Science, Gwalior –474005. India	EC105
14:30	Influence of Boundary Force on the Performance of Gate-all-around Ge (110) NW FETs with	
	HfO <sub>2</sub> Gate Insulator  Honghua Xu <sup>1</sup> , Xiaoyan Liu <sup>1*</sup> , Gang Du <sup>1</sup> , Yuhui He <sup>2</sup> , Chun Fan <sup>3</sup> , Ruqi Han <sup>1</sup> and Jinfeng Kang <sup>1</sup> <sup>1</sup> Institute of Microelectronics, Peking University & Key Laboratory of Microelectronic Devices and Circuits, Ministry of education, Beijing 100871, China; <sup>2</sup> Key Laboratory of Nanofabrication and Novel Devices Integration Technology, Institute of Microelectronics, Chinese Academy of Sciences, Beijing 100029, China; <sup>3</sup> Computer Center of Peking University, Beijing 100871, China *Contacting Author: Xiaoyan Liu is with Institute of Microelectronics, Peking University, Beijing, China. (phone/fax: +86-10-62757761; *email:xyliu@ime.pku.edu.cn)	EC106
14:45	I-V Curve, Conductance, and Potential Difference of Copper and Gold (110) Nanowires  Saeideh Mohammadzadeh <sup>1, *</sup> , Reinhard Streiter <sup>1, 2</sup> , and Thomas Gessner <sup>1, 2</sup> 1, *Center for Microtechnologies, Chemnitz University of Technology, Chemnitz, Germany <sup>2</sup> Fraunhofer Research Institute for Electronic Nano Systems (ENAS), Chemnitz, Germany  *Contacting Author: E-mail: saeideh.mohammadzadeh@zfm.tu-chemnitz.de Address: Center of  Microtechnologies, Chemnitz University of Technology, 09126 Chemnitz, Germany Tel:  +49-37153136816	EC107
15:00	Multi-paradigm simulations at the nanoscale: methodology and applications to nano materials	

11

Division of Materials Science, Nanyang Technological University \*Contacting Author: H.B. Su

EC108

Haibin Su

(hbsu@ntu.edu.sg)

#### 15:15 A Model for THz Silicon Nanotube Transistor

Guangcun Shan, Miao Zhang\*, and Wei Huang

State Key Laboratory of Functional Materials for Informatics, Shanghai Institute of Microsystem and Information Technology, Shanghai, China, <sup>2</sup>Institute of Advanced Materials, Nanjing University of Posts and Telecommunications, Nanjing, China, \*Contacting Author: Miao Zhang (fax:+86-21 62513510; email: spinor@163.com).

EC109

## 15:30 Neural Network Model for Ballistic Carbon Nanotube Transistors

R. Yousefi<sup>1</sup>, K. Saghafi<sup>2</sup>, M. K. Moravvej-Farshi<sup>3</sup>, M. Shabani<sup>4</sup>

<sup>1</sup>Contacting Author: Department of Electrical Engineering, Sciences & Research Branch, Islamic Azad University, Tehran, Iran (Email: Yousefi@Novinpardazesh.ir). <sup>2</sup> Department of Electrical Engineering, Shahed University, Tehran, Iran. <sup>3</sup>Advanced Device Simulation Lab, Electrical and Computer Engineering Department, Tarbiat Modares University, Tehran, *Iran*. <sup>4</sup> Islamic Azad University, Nour branch

EC110

# 15:45 Numerical Simulation on Novel Nano-Scale Lateral Double-Gate Tunneling Field Effect Transistor

Frank He, Haijun Lou, Wang Zhou, Lin Chen, Yiwen Xu, Hao Zhuang, Xinnan Lin Key Laboratory of Integrated Microsystems, Peking University Shenzhen Graduate School, Shenzhen, P.R. China; Key Laboratory of Microelectronic Devices and Circuits, Institute of Microelectronics, School of Electronics and Computer Science, Peking University, P.R.China E-mail: frankhe@pku.edu.cn Tel: 86-10-62765916 Fax: 86-10-62751789

EC111

16:00 Break

Chair: Yaqing CHI, National University of Defense Technology

# 16:15 Organic Thickness Dependence of Organic Field-Effect Transistor Devices based on Pentacene

Rawat Jaisutti\*, Student Member, IEEE, Wittawat Yamwong, Nithi Atthi, Sirapat Pratontep and Tanakorn Osotchan

<sup>1</sup>Center of Nanoscience and Nanotechnology, Department of Physics,Faculty of Science, Mahidol University, Bangkok, Thailand. <sup>2</sup> Thai Microelectronics Center, National Electronics and Computer Technology Center, National Science and Technology Development Agency, Chachoengsao, Thailand. <sup>3</sup> College of KMITL Nanotechnology, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand. \*Contacting Author: R. Jaisutti is with the Center of Nanoscience and Nanotechnology, Department of Physics, Faculty of Science, Mahidol University, Bangkok, 10400, Thailand. (phone; +6622015770, fax: +6623547159, email; rawat\_phytu@hotmail.com)

EC112

# 16:30 Simulation Study on A New Dual-Material Nanowire MOS Surrounding-Gate Transistor

Wang Zhou, Lining Zhang, Yiwen Xu, Lin Chen and Frank He

<sup>1</sup> The Key Laboratory of Integrated Microsystems, Peking University Shenzhen Graduate School, Shenzhen, China <sup>2</sup> TSRC, School of Electronic Engineering and Computer Science, Peking University, Beijing, China \*Contacting Author: Frank He is with TSRC, School of Electronic Engineering and Computer Science, Peking University, Beijing 100871, China (phone: +86-10-62767915, fax: +86-10-62751789, email: hejin@szpku.edu.cn)

EC113

+86-10-62/6/915, fax: +86-10-62/51/89, email: nejin@szpku.edu.cn)

16:45 Carrier Transport in Molecular Beam Epitaxially Grown GaAs/InAs Core-Shell Nanowires Harry E. Ruda\*, Joe Salfi, Igor Saveliev, and Marina Blumin

KS113

Centre for Advanced Nanotechnology, University of Toronto, 170 College Street, Toronto, Ont.

	M5S 3E4, Canada. ruda@ecf.utoronto.ca	
17:15	Study on Electron Mobility in Nanoscale DG MOSFETs with Symmetric, Asymmetric and	
	Independent Operation Modes	
	Yiwen Xu, Lin Chen, Lining Zhang, Wang Zhou and Frank He	
	<sup>1</sup> The Key Laboratory of Integrated Microsystems, Peking University Shenzhen Graduate School,	EC114
	Shenzhen, China <sup>2</sup> TSRC, School of Electronic Engineering and Computer Science, Peking	LCIIT
	University, Beijing, China *Contacting Author: Frank He is with TSRC, School of Electronic	
	Engineering and Computer Science, Peking University, Beijing 100871, China (phone:	
	+86-10-62767915, fax: +86-10-62751789, email: hejin@szpku.edu.cn)	
17:30	Macromodeling of Realistic Single Electron Transistors for Large Scale Circuit Simulation	
	Haiqin Zhong *, Yaqing Chi, He Sun, Chao Zhang and Liang Fang	
	School of Computer, National University of Defense Technology, Changsha, China.	EC115
	*Contacting Author: Haiqin Zhong is with the School of Computer, National University of Defense	
	Technology, Changsha, China. (phone: +86 013755119465; email charlesrain@163.com)	
17:45	nSET: Novel Simulation Method for Single-Electron Tunnel Device with 1-Dimension	
	Multiple Islands	
	Bingcai Sui*, Yaqing Chi, and Liang Fang	EC116
	National Laboratory for Parallel and Distributed Processing, School of Computer, National	
	University of Defense Technology, Hunan, 410073, China E-mail: Bingcaisui@nudt.edu.cn.	
18:00	Unified Physical Modeling and Analysis of Nanoscale MOSFET Devices and Circuit	
	Simulation	
	Mustafa M. El-MURADI*, Member IEEE , MOHAMED ELMANSOURI*	EC117
	Electronic and Electric Engineering Department University of Al Fatah, Tripoli-Libya P.O Box	
	13275 Email: elmradi2005@yahoo.com, mansori82@yahoo.com	
18:15	The Valence Charge Polarization Induced by the Shorter and Stronger Bonds Between	
	Under-coordinated Gold Atoms	
	Xi Zhang, <sup>1</sup> Jer-lai Kuo, <sup>2</sup> Mingxia Gu, <sup>3</sup> Xiaofeng Fan, <sup>2</sup> Ping Bai, <sup>3</sup> Qing Gong Song, <sup>4</sup> and Chang Q Sun <sup>1</sup> *	
	<sup>1</sup> School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore	EC118
	639798, Singapore <sup>2</sup> School of Physical and Mathematical Science, Nanyang Technological	ECITO
	University, Singapore 639798, Singapore <sup>3</sup> Advanced Photonics and Plasmonics Division, A*STAR	
	Institute of High Performance Computing 1 Fusionopolis Way, Singapore 138632 4 School of	
	Science, Civil Aviation University of China, Tianjin 300300, China *Corresponding author: Chang	
	Q Sun, email: ECQSun@ntu.edu.sg	
	Nanoelectronics Oral Session II	LT-13
	Chair: Xin-Ping QU, Fudan University	
11:15	Atomistic Simulation of Graphene Nanoribbon Tunneling Transistors	
	Jyotsna Chauhan and Jing Guo	EC119
	Department of Electrical and Computer EngineeringUniversity of Florida, Gainesville, FL, 32611, USA. Email: guoj@ufl.edu	
11:30	Comparative Study on Nanostructural tailoring and Capacitance Properties of PPy/CNTs	EC120

#### Nanocomposites Prepared by Chemical and Electrochemical Methods

Jie Wang, Jianbo Zhu, Youlong Xu\*, Xiaofei Sun, Jingping Wang, and Xianfeng Du Electronic Materials Research Laboratory, Key Laboratory of the Ministry of Education, Xi'an Jiaotong University, Xi'an 710049, PR China. \*Contacting Author: Youlong Xu, (phone: 86-29-82665161; fax: 86-29-82665161; email: ylxuxjtu@mail.xjtu.edu.cn)

# 11:45 Effect of Anodization Voltage on Electron Field Emission from Carbon Nanotubes in Anodized Alumina Template

A. Wisitsoraat, D. Phokharatkul, K. Komin, S. Mongpraneet, A. Tuantranont
National Electronics and Computer Technology Center112 Thailand Science Park, Pahol Yothin
Rd., Klong Laung, Pathumthani 12120 Thailand Tel: +662-564-6900, Fax: +662-5646756, Email: anurat.wisitsoraat@nectec.or.th

# 12:00 Electrochemical Characterization of Ordered Microporous Carbons Containing Well-dispersed Platinum Nanoparticles

Chunxia Zhao<sup>1</sup>, Yunxia Yang<sup>2</sup>, Xi Long<sup>1</sup>, Paul Webley\*<sup>3</sup> and Wen Chen\*

<sup>1</sup> State Key Laboratory of Advanced Technology for Materials Synthesis and Processing; School of Materials Science and Engineering, Wuhan University of Technology, Wuhan 430070, China

<sup>2</sup> Petroleum Resources, CSRIO, VIC 3168, Australia <sup>3</sup> Department of Chemical Engineering, Monash University, VIC 3168, Australia \*Contacting Authors: Prof. Paul A. Webley:

EC122

## 12:15 Enhanced Field Emission Properties of IrO<sub>2</sub> Coated Carbon Nanotube Bundle Arrays

paul.webley@eng.monash.edu.au; Prof. Wen Chen: chenw@whut.edu.cn

Yi-Min Chen<sup>1</sup>, Jin-An Chen<sup>1</sup>, Ying-Sheng Huang<sup>1,\*</sup>, Kuei-Yi Lee<sup>1,2</sup>, and Kwong-Kau Tiong<sup>3</sup>

<sup>1</sup> Department of Electronic Engineering, National Taiwan University of Science and Technology, 43

Keelung Road, Section 4, Taipei 106, Taiwan <sup>2</sup> Graduate Institute of Electro-Optical Engineering,
National Taiwan University of Science and Technology, 43 Keelung Road, Section 4, Taipei 106,
Taiwan <sup>3</sup> Department of Electrical Engineering, National Taiwan Ocean University, Keelung 202,
Taiwan \*Contacting Author: Ying-Sheng Huang is with the Department of Electronic Engineering,
National Taiwan University of Science and Technology, Taiwan (phone: +886-2-27336785; fax: +886-2-27333241; e-mail: ysh@mail.ntust.edu.tw)

#### 12:30 Lunch

Chair: Daniel S P LAU, The Hong Kong Polytechnic University

# 14:00 Highly Transparent and Conductive Carbon Nanotube Coatings Deposited on Flexible Polymer Substrate by Solution Method

Gaozhi Xiao\*, Ye Tao, Jianping Lu, and Zhiyi Zhang
Institute for Microstructural Science, National Research Council Canada \*Contacting Author:

Gaozhi Xiao is with the Institute for Microstructural Science, National Research Council, 1200

Montreal Road, Ottawa, Ontario K1A 0R6, Canada (phone: 1-613-991-6159; e-mail: george.xiao@nrc-cnrc.gc.ca)

# 14:15 Identification of Different Concentrations of Antibody by Electrical Property of DLC Thin Films

Vittaya Amornkitbamrung\*, Kridsanapan Srimongkon<sup>1</sup>, Narit Faibut<sup>1</sup>, and Samarn Saekow<sup>2</sup>

Department of Physics, Faculty of Science, Khon Kaen University, Khon Kaen, Thailand.

Integrated Nanotechnology Research Center, Khon Kaen University, Khon Kaen, Thailand.

\*Contacting Author: Vittaya Amornkitbamrung is with the Integrated Nanotechnology Research

Center; Department of Physics, Faculty of Science, Khon Kaen University, Khon Kaen, 40002, Thailand (phone: +66-4320-3359; fax: +66-4320-3359; e-mail: vittaya@kku.ac.th).

## 14:30 Large sensor array based on functionalized graphene devices

Zhengtang Luo,<sup>1,\*</sup> Daniel W. Singer,<sup>1</sup> Matthew E. Berck,<sup>1</sup> Luke A. Somers,<sup>1</sup> Lolita Rotkina, <sup>2</sup> Brett R. Goldsmith, <sup>1</sup> A.T. Charlie Johnson<sup>1</sup>

<sup>1</sup> Department of Physics and Astronomy, University of Pennsylvania, Philadelphia, PA, USA

EC126

EC128

<sup>2</sup> Department of Materials Science and Engineering, University of Pennsylvania, Philadelphia, PA 19104, USA \*Contacting Author: Zhengtang Luo is with Department of Physics and Astronomy, University of Pennsylvania, 209 S.33rd St., Philadelphia, PA 19104, USA (phone: 215-573-3659, fax: 215-898-2010, email: zhl@sas.upenn.edu).

#### 14:45 Hydrogen Sensors based on Pd-functionalized Single-walled Carbon Nanotubes

Jun Min Lee<sup>1</sup>, Seonghwa Ju<sup>2</sup>, Yeongri Jung<sup>2</sup>, Sung-Jin Kim<sup>2</sup>\*, and Wooyoung Lee<sup>1</sup>\*

<sup>1</sup> Department of Materials Science and Engineering, Yonsei University, 262 Seongsanno
Seodaemun-gu, Seoul, 120-749, Korea <sup>2</sup> Division of Nano Science, Ewha Womans University, 11-1
Daehyun-Dong, Seodaemun-Gu, Seoul 120-750, Korea E-mail: wooyoung@yonsei.ac.kr
(Wooyoung Lee). Telephone: +82-2-32772335 E-mail: sjkim@ewha.ac.kr (Sung-Jin Kim).
Telephone: +82 232772335

# 15:00 Direct Growth of Horizontally Aligned Carbon Nanotubes between Electrodes and Its Application to Field-Effect Transistors

Yasuhiko Hayashi<sup>1</sup>\*, B. Jang<sup>1</sup>, T. Iijima<sup>1</sup>, T. Tokunaga<sup>2</sup>, R. A. Afre<sup>1</sup>, M. Tanemura<sup>1</sup>, and G. A. J. Amaratunga<sup>3</sup>

<sup>1</sup> Department of Frontier Materials, Nagoya Institute of Technology, Gokiso-cho, Showa-ku, Nagoya 466-8555, Japan <sup>2</sup> Department of Quantum Engineering, Nagoya University, Furo-cho, Chikusa-ku, Nagoya 464-8601, Japan <sup>3</sup> Electrical Engineering Division, Department of Engineering, University of Cambridge, 9 JJ Thomson Avenue, Cambridge CB30DE, United Kingdom E-mail: hayashi.yasuhiko@nitech.ac.jp

## 15:15 Effects of Electrode Contact on Geometry structure and Transport Properties of the Graphene-based Nanomolecule Devices

Zongling Ding, Jun Jiang<sup>2</sup>, Haibo Shu, Xiaoshuang Chen\*, and Wei Lu

<sup>1</sup>National Lab. Of Infrared Physics, Shanghai Institute for Technical Physics, Chinese Academy of Sciences, Yu Tian Road 500, Shanghai, China. <sup>2</sup>Department of Theoretical Chemistry, School of EC129 Biotechnology, Royal Institute of Technology, Stockholm, Sweden \*Contacting Author: Xiao S. Chen is with the National Lab. Of Infrared Physics, Shanghai Institute for Technical Physics, Chinese Academy of Sciences, Yu Tian Road 500, Shanghai, China. (phone: 021-65420850-24309; fax: 021-65310734; e-mail: xschen@mail.sitp.ac.cn)

## 15:30 Ion beam doping of semiconductor nanowires

C. Borschel, R. Niepelt, S. Geburt, <u>C. Ronning</u>\*
Institute for Solid State Physics, University of Jena. Carsten.Ronning@uni-jena.de

KS111

16:00 Break

Chair: Yanfeng JIANG, North China University of Technology

# 16:15 Indentation Creep and Hardness of a Sn-Ag-Cu Solder Reinforced with Ni-Coated Carbon Nanotubes

EC130

Y.D. Han<sup>1,2</sup>, H.Y. Jing<sup>1</sup>, S.M.L. Nai<sup>3</sup>, L.Y. Xu<sup>1</sup>, C.M. Tan<sup>2,3</sup>, J. Wei<sup>3</sup>\*

<sup>1</sup> School of Materials Science and Engineering, Tianjin University, Tianjin, P.R. China <sup>2</sup> School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore <sup>3</sup> Singapore Institute of Manufacturing Technology, 71 Nanyang Drive, Singapore \*Contacting Author: J. Wei is with Singapore Institute of Manufacturing Technology, 71 Nanyang Drive, Singapore 638075 (phone: 65-67938575; fax: 65-67916377; E-Mail: jwei@SIMTech.a-star.edu.sg)

# 16:30 Mesoporous Activated Carbon From Amphiphilic Carbonaceous Material and Its Application in EDLC

Jin Wang, Mingming Chen\*, Chengyang Wang, and Jiaming Zheng

Key Laboratory for Green Chemical Technology of Ministry of Education, School of Chemical

Engineering and Technology, Tianjin University, Tianjin 300072, PR China \*Corresponding author:

Mingming Chen is with School of Chemical Engineering and Technology, Tianjin University, China

(Phone: +86-22-2789-0481; Fax: +86-22-2789-0481; E-mail: chmmxu@gmail.com).

#### 16:45 Optoelectronic Application of Multi-layer Epitaxial Graphene on a Si Substrate

R. Olac-vaw\*, H.C. Kang, T. Komori, T. Watanabe, H. Karasawa, Y. Miyamoto, H. Handa, H. Fukidome,

T. Suemitsu, M. Suemitsu, V. Mitin and T. Otsuji

<sup>1</sup> Research Institute of Electrical Communication, Tohoku University, Sendai, Sendai, Japan
<sup>2</sup> JST-CREST, Japan Science and Technology Agency, Tokyo, Japan <sup>3</sup> Electrical Engineering
Department, University at Buffalo, The State University of New York, Buffalo, NY, USA
\*Contacting Author: Roman Olac-vaw is with the Research Institute of Electrical Communication,
Table by University (on leave flow) Electrical Engineering Department University at Puffalo, The

EC132

EC133

EC134

Tohoku University (on leave from Electrical Engineering Department, University at Buffalo, The State University of New York, Buffalo, NY, USA). 2-1-1 Katahira, Aoba-ku, Sendai 980-8577, Japan (phone: +81-022-217-6108; fax: +81-022-217-6106; e-mail: roman@riec.tohoku.ac.jp)

# 17:00 Relationship Between Electrical Properties and Structure for Modified Poly(3-hexylthiophene) Copolymer Thin Films

Manas Sittishoktram\*, Udom Asawapirom and Tanakorn Osotchan

<sup>1</sup> Center of Nanoscience and Nanotechnology, Department of Physics, Faculty of Science, Mahidol University, Bangkok, Thailand <sup>2</sup> National Nanotechnology Center, Thailand Science Park, Patumtani, Thailand \*Contacting Author: M. Sittishoktram is with the Center of Nanoscience and Nanotechnology, Department of Physics, Faculty of Science, Mahidol University, Bangkok, 10400 Thailand (phone: +6622015750; e- mail: nus phy@hotmail.com)

17:15 Self-rectifying Resistive Memory based on Au Nanocrystal-Embedded Zirconium Oxide for Crossbar Array Application

Qingyun Zuo, Shibing Long, Qi Liu, Sen Zhang, Qin Wang, Yingtao Li, Yan Wang, and Ming Liu\* Lab of Nanofabrication and Novel Devices Integrated Technology, Institute of Microelectronics, Chinese Academy of Sciences, No.3, BeiTuCheng West Road, ChaoYang District, Beijing, 100029, China \* Contacting Author: Ming Liu (E-mail: liuming@ime.ac.cn, Tel: 86-10-62007699, Fax: 86-10-82995583)

17:30 Selective Enrichment of Metallic and Semiconducting Single-Walled Carbon Nanotubes and Their Thin Film Properties

Hongbo Li, Hehua Jin, Jing Zhang, Xiaonan Wen, Qingwen Li\*

Suzhou Institute of Nano-tech and Nano-bionics, Chinese Academy of Sciences, Suzhou 215125, P.

R. China Corresponding author: Qingwen Li, qwli2007@sinano.ac.cn

17:45 Microstructure and Electrical Properties of In-Situ annealed Carbon Films

Maziar Shakerzadeh, Beng Kang Tay, Hang Tong Edwin Teo and Chong Wei Tan

School of Electrical and Electronic Engineering, Nanyang Technological University, Nanyang Avenue, Singapore 639798, Singapore

### 18:00 Temperature Analysis of Semiconducting Carbon Nanotube Resistance

Sajjad Dehghani, Mohammad Kazem Moravvej-Farshi, and Mohammad Hossein Sheikhi\* Department of Electrical Engineering, Tarbiat Modares University, Tehran, Iran. \*Contacting Author: Mohammad Hossein Sheikhi is with the School of Electrical Engineering, Shiraz University, Shiraz, Iran. (phone: +98-711 6286421; email: msheikhi@shirazu.ac.ir).

EC137

# 18:15 Preparation and Opticalelectrical characteristics of conjugated polymer and functionalized multi-walled carbon tube composite

Ding wen<sup>1</sup>, Huangchao<sup>2</sup>, Shi xingwu<sup>2</sup>, Zhu baorong<sup>2</sup>, Song zhongxiao<sup>3</sup>, Bie Guojun<sup>4</sup>, Liu Chunliang<sup>1</sup>, Hou Xun<sup>2</sup>

<sup>1</sup> the Key Laboratory for Physical Electronics and Devices, Ministry of Education, School of Electric and Information Engineering, Xi'an Jiaotong University, Xi'an, China <sup>2</sup> Key laboratory of photonics technology for information, Shaanxi province, School of Electric and Information Engineering, Xi'an jiaotong University, Xi'an, China <sup>3</sup> School of material Engineering, Xi'an Jiaotong University, Xi'an, China <sup>4</sup> Xi-an Institute of Modern Chemistry, Xi'an, China \*Contacting Author: Ding wen the Key Laboratory for Physical Electronics and Devices, Ministry of Education, School of Electric and Information Engineering, Xi'an Jiaotong University, Xi'an, China ,710049 (phone: 1-626-395-8477; fax: 1-626-584-9104; email: dingwen@mail.xjtu.edu.cn).

EC138

## **Nanoelectronics Oral Session III**

LT-15

Chair: Zhisong XIAO, Beihang University

## 11:15 A Large Gap of Ar and Mixed Gas at Atmospheric Pressure RF-DBD Glow Discharges

B. Li, Q. Chen\*, Z Liu, Z Wang

EC139

Laboratory of Plasma Physics and Materials, Beijing Institute of Graphic Communication, Beijing, China lppmchenqiang@hotmail.com

11:30 Atomic Contacts by Clock Movement

Feiyu Zhou, Zhimao Yang\*, Shengchun Yang

MOE Key Laboratory for Nonequilibrium Synthesis and Modulation of Condensed Matter, Xi'an Jiaotong University, Xi'an, China \*Contacting Author: Zhimao Yang is with the Department of Materials Physics, Xi'an Jiaotong University, Xi'an, China, 710049, (phone: 86-29-82665995, fax: 86-29-82665995, email: zmyang@mail.xjtu.edu.cn)

EC140

11:45 Bipolar resistance switching in multiferroic BiFeO<sub>3</sub> polycrystalline films

Kuibo Yin, Mi Li, Yiwei Liu, Congli He, Bin Chen, Jinzhi Wang, Fei Zhuge, Run-Wei Li\*, Ping Cui, Xiaoqing Pan

EC141

Ningbo Institute of Materials Technology and Engineering (NIMTE), Chinese Academy of Sciences (CAS), Ningbo, Zhejiang315201, P. R. China Email: runweili@nimte.ac.cn

12:00 Characterization of Al<sub>2</sub>O<sub>3</sub> Films grown by Electron Beam Evaporator on Si Substrates

Myoung Yone Seo, Edward Namkyu Cho, Chang Eun Kim, Pyung Moon, and Ilgu Yun \* School of Electrical and Electronic Engineering, Yonsei University, 262 Seongsanno, Seodaemun-gu, Seoul 120-749, Korea \*Contacting Author: iyun@yonsei.ac.kr

EC142

12:15 Circuit Design of the Complementary Pixel Structure for a Wide Dynamic Range CIS
Jinwoo Jung, Bomin Kwon, Jiman Kim, Juhong Park, Namtae Kim\*, Yongsu Park\*\*, Jewon Lee

EC143

and Hanjung Song

Department of Nano Engeering, Inje University \*Department of Electronics and Intelligent Robotics Engineering ,Inje University \*\*Department of Electronics, Chungcheong University Email: hjsong@inje.ac.kr

#### 12:30 Lunch

Chair: Chien-Neng LIAO, National Tsing Hua University

## 14:00 Electrical Characterization and Conduction Mechanism of High-k Ti<sub>1-x</sub>Si<sub>x</sub>O<sub>2</sub> Gate Dielectrics

Chang Eun Kim<sup>a</sup>, Pyung Moon<sup>a</sup>, Edward Namkyu Cho<sup>a</sup>, Sungyeon Kim<sup>b</sup>, Jae-Min Myoung<sup>b</sup>, and Ilgu Yun<sup>a,\*</sup>

<sup>a</sup> School of Electrical and Electronic Engineering, Yonsei University, 262, Seongsanno, Seodaemoon-gu, Seoul, 120-749, Korea <sup>b</sup> Department of Materials Science and Engineering, Yonsei University, 262, Seongsanno, Seodaemoon-gu, Seoul, 120-749, Korea \*Contacting Author: Tel: +82-2-2123-4619, Fax: +82-2-313-2879 E-mail address: iyun@yonsei.ac.kr

# 14:15 Formation of Cu or Cu<sub>2</sub>O Nanoparticles embedded in a Polyimide Film for Nanofloating Gate Memory

Dong Joo Choi and Young-Ho Kim\*

EC145

EC147

EC144

Division of Materials Science and Engineering, Hanyang University, Seoul, 133-791, Korea E-mail: kimyh@hanyang.ac.kr

#### 14:30 Mechanically Flexible PZT thin films on Plastic Substrates

Jong Hyun Rho, Joung Ho Ahn, Nae-Eung Lee, Jong-Hyun Ahn\*

School of advanced Material Science and Engineering, SKKU Advanced Institute of

Nanotechnology, Sungkyunkwan University, Suwon, 440-746, Korea \* Contacting Author:

Jong-Hyun Ahn, Sungkyunkwan University (SKKU) 300 Cheonceondong, Jangan-gu, Suwon,

Gyeonggi do, 440-746, Korea (email:ahnj@skku.edu).

### 14:45 Novel All-Optical Logic Gate Using an Add-Drop Filter and Intensity Switch

T.Threepak, S.Mitatha and P.P Yupapin

<sup>1,2</sup> Hibrid Computing Research Laboratory, Faculty of Engineering, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand <sup>3</sup> Advance Research Center for Photonics, Department of Applied Physics, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand \*Contacting Author:T. Threepak is with the Hibrid Computing Research Laboratory, Faculty of Engineer, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand (phone: +66 1371-7327; email:ktthanun@kmitl.ac.th)

### 15:00 Raman Spectroscopy of Compositional Fluctuations in Spinel Zn<sub>2</sub>TiO<sub>4</sub> Nanostructures

Duangmanee Wongratanaphisan\*, Theerapong Santhaveesuk, and Supab Choopun Applied Physics Research Laboratory, Department of Physics and Materials science, Faculty of Science, Chiang Mai University, Chiang Mai 50200, THAILAND and ThEP Center, Commission Higher on Education, Ministry of Education, 328 Si Ayutthaya Rd., Ratchathewi, Bangkok 10400, THAILAND \*Contacting Author: Duangmanee Wongratanaphisan is with the Applied Physics Research Laboratory, Department of Physics and Materials science, Faculty of Science, Chiang Mai University, Chiang Mai 50200, THAILAND. This work was partially supported by grants from Thailand Research Fund (TRF). (phone: -66-53-943375; fax: -66-53-357511; email: dwongrat@chiangmai.ac.th)

### 15:15 Nano-Schottky Contacts Realized by Bottom-up Technique

EC149

EC148

D. B. Suyatin<sup>1</sup>, J. Trägårdh<sup>1</sup>, M. Messing<sup>1</sup>, J. B. Wagner<sup>2</sup>, L. Montelius<sup>1</sup>, H. Pettersson<sup>1,3,\*</sup> and L. Samuelson<sup>1</sup>

<sup>1</sup> Solid State Physics/The Nanometer Structure Consortium, Lund University, Box 118, S-221 00, Lund, Sweden; Materials Chemistry, Lund University, Box 124, S-221 00 Lund, Sweden; Center for Applied Mathematics and Physics, Halmstad University, Box 823, SE-301 18 Halmstad, Sweden

## 15:30 In-situ Transmission Electron Microscopy Study of Nanotwinned Copper under Electromigration

Chien-Neng Liao<sup>1\*</sup>, Kuan-Chia Chen<sup>1</sup>, Wen-Wei Wu<sup>2</sup>, Lih-Juann Chen<sup>1</sup>, K. N. Tu<sup>3</sup>

<sup>1</sup> Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan, Republic of China. <sup>2</sup> Department of Materials Science and Engineering, National Chiao Tung University, Hsinchu, Taiwan, Republic of China. <sup>3</sup> Department of Materials Science and Engineering, University of California,Los Angeles, CA, USA \*Contacting Author: Chien-neng Liao is currently with Department of Materials Science and Engineering, National Tsing Hua University; 101 Sce. 2 Kuang-Fu Rd.,Hsinchu, 30013 Taiwan, Republic of China (phone: +886-3-5723848; fax: +886-3-5722366; email: cnliao@mx.nthu.edu.tw)

# 15:45 Investigation on Memory Characteristics of TiW Alloy Nanocrystals Embedded in Al<sub>2</sub>O<sub>3</sub>/SiO<sub>2</sub> Stacked Gate Dielectric

Ming Liu\*, Member, IEEE

Laboratory of Nano-fabrication and Novel Devices Integrated Technology, Institute of

Microelectronics, Chinese Academy of Sciences, No.3, BeiTuCheng West Road, ChaoYang

District, Beijing, 100029, China \* Contacting Author: Ming Liu (E-mail: liuming@ime.ac.cn, Tel:

Shiqian Yang, Qin Wang, Shibing Long, Member, IEEE, Manhong Zhang, Chenxin Zhu, Jing Liu,

EC151

EC150

16:00 Break

Chair: Ming LIU, The Institute of Microelectronics, CAS

+86-10-62007699, Fax: +86-10-82995583)

# 16:15 Comparative Analysis of Trap-based Program/Erase Behaviors with Tunnel Dielectric for SONOS Flash Memory

\*Dong Hua Li, Yoon Kim and \*\*Byung-Gook Park
School of Electrical Engineering and Computer Science and Inter-university Semiconductor
Research Center (ISRC), Seoul National University, Seoul, Korea. (Phone: +82-2 880 7279; E-mail: donghua0213@snu.ac.kr)

16:30 Fully Integrated Circuit Design Aihara's Chaotic Neuron Model

Jiman Kim , Jinwoo Jung, Bomin Kwon, Juhong Park, Namtae Kim\*, Yongsu Park\*\*, Jewon Lee and Hanjung Song

Department of Nano Engeering, Inje University \*Department of Electronics and Intelligent

Robotics Engineering ,Inje University \*\*Department of Electronics, Chungcheong University

Email: hjsong@inje.ac.kr

## 16:45 Heat pipes-intergrated circuit coolers

Ravibabu P Rajshekar.K Rohit Kumar Gupta.K

EEE department, ACE College of engineering, JNTUniversity, INDIA.ravi.dsm@gmail.com.

ECE department, CVR College of engineering, JNTUniversity, INDIA.rajshekark4u@gmail.com.

ECE department, CVR College of engineering, JNTUniversity, INDIA.rohitrkg.gupta@gmail.com

17:00	Top Contact Organic Field Effect Transistors Fabricated using Photolithographic Processes  Hong Wang, Zhuoyu Ji, Liwei Shang, Ming Liu*, Xinghua Liu, and Yingquan Peng	
	Laboratory of Nano-Fabrication and Novel Devices Integrated Technology, Institute of	
	Microelectronics, Chinese Academy of Sciences, Beijing 100029, China; School of Physical	EC155
	Science and Technology, Lanzhou University, Lanzhou 730000, China. *Contacting Author: Ming	EC133
	Liu with Institute of Microelectronics, Chinese Academy of Science, Beijing (phone: +86-10-8299	
	5578; fax: +86-10-82995583; email: liuming@ime.ac.cn).	
17:15	Turbidity Detection of Shrimp Taura Syndrome Virus by Loop-Mediated Isothermal	
17:13		
	Amplification Reaction Assawapong Sappat <sup>1</sup> , Wansadaj Jaroenram <sup>2</sup> , Wansika Kiatpathomchai <sup>2, 3</sup> , Tanom Lomas <sup>1</sup> and	
	Adisorn Tuantranont <sup>1</sup> *	
		EC156
	<sup>1</sup> Nanoelectronics and MEMS Laboratory, National Electronics and Computer Technology Center,	EC156
	112 Pahol yothin Rd., Klong Laung, Pathumthani 12120 THAILAND <sup>2</sup> CENTEX Shrimp, Faculty	
	of Science, Mahidol University, Rama VI Road, Ratchathewi, Bangkok 10400 THAILAND	
	<sup>3</sup> National Center for Genetic Engineering and Biotechnology, 113 Pahol yothin Rd., Klong Laung,	
	Pathumthani 12120 THAILAND Email: assawapong.sappat@nectec.or.th	
17:30	Wetting Behaviour of Lead Free Solder on Electroplated Ni and Ni-W Alloy Barrier Film	
	C. S. Chew*, A. S. M. A. Haseeb and M. R. Johan	
	Department of Mechanical Engineering, University of Malaya, 50603 Kuala Lumpur, Malaysia.	EC157
	*Contacting Author: C. S. Chew is with Department of Mechanical Engineering, University of	
	Malaya, 50603 Kuala Lumpur, Malaysia (Tel: +603-7967 4492; Fax: +603-79675317, +603-7967	
	5281; email: chewcheesean@hotmail.com).	
17:45	Potential Future Generation Nanoscale MOS Device: Trigate (TG) or Double Gate (DG)	
	FinFETs?	
	Raisul Islam*, Emran Md. Amin, Md. Zunaid Baten, and Quazi D. M. Khosru	
	Department of Electrical and Electronic Engineering, Bangladesh University of Engineering and	EC158
	Technology, Dhaka-1000, Bangladesh *Contacting Author: Raisul Islam is with the Department of	
	Electrical and Electronic Engineering, Bangladesh University of Engineering and Technology.	
	(phone: +88-01715066787; email: raisul.islam@ieee.org).	
18:00	A novel technique to reduce delay in VLSI interconnects.	
	Sandeep Saini and M.B. Srinivas	EC159
	International Institute of Information technology – Hyderabad, India	EC139
	saini_sandeep@research.iiit.ac.in	
18:15	The Optical Stability of III-V Nanocrystals	
	Jianbing Zhang and Daoli Zhang*	
	Department of Electronic Science and Technology, Huazhong University of Science and	EC160
	Technology (HUST), Wuhan, China. *Contacting Author: Daoli Zhang, Department of Electronic	EC160
	Science and Technology, HUST, Wuhan, China. (phone: +86-27-87542894; fax:	
	+86-27-87542693; e-mail: zhang_daoli@mail.hust.edu.cn)	
	Nanophotonics Oral Session I	LT-11
	Chair: Yiping CUI, Southeast University	

PC101

11:15 Nanoplate Structure for Photocurrent Enhancement in Thin Film Solar Cell

	Ming Tang, Shu-Tong Chang*, Zingway Pei <sup>1</sup> , Bing-Fong Hsieh	
	Department of Electrical Engineering, National Chung Hsing University, Taichung 40227, Taiwan	
	*Contacting Author: Shu-Tong Chang is with Department of Electrical Engineering, National	
	Chung Hsing University, Taichung 40227, Taiwan. (phone: +886-4-22851549 ext. 702; email:	
	stchang@dragon.nchu.edu.tw).	
11:30	Roll to roll fabrication of thin film silicon solar cells on nano-textured substrates.	
	B.B. Van Aken, C. Devilee, M. Dörenkämper, M. Goris, M.C.R. Heijna, J. Löffler and W.J. Soppe*	PC102
	ECN Solar Energy, P.O. Box 1, 1755 ZG Petten, the Netherlands E-mail: soppe@ecn.nl	
11:45	Enhancement in Light Conversion Efficiency of Silicon Solar Cells by using Nanoimprint	
	Anti-reflection Layer	
	Z. Y. Chen and K. W. Sun*	PC103
	Department of Applied Chemistry, National Chiao Tung University, Hsinchu, Taiwan *Email:	
	kwsun@mail.nctu.edu.tw	
12:00	Semiconductor nanowires as a bottom-up approach to realize nanoelectronic and	
	nanophotonic devices	
	<u>Lars Samuelson</u>	KS114
	Lund University, Solid State Physcis/the Nanometer Structure Consortium, Box 118, S-221 00	
	Lund, Sweden. E-mail: lars.samuelson@ftf.lth.se	
12:30	Lunch	
	Chair: Yiping CUI, Southeast University	
14:00	Structural, Optical, and Electrical Properties of Silicon Nanowires for Solar Cells	
	Thomas Stelzner <sup>1</sup> *, Vladimir A. Sivakov <sup>1</sup> , Andreas Berger <sup>1,2</sup> , Björn Hoffmann <sup>1</sup> , Stefaan De Wolf <sup>3</sup> ,	
	Christophe Ballif <sup>3</sup> , Dongfeng Zhang <sup>4</sup> , Johann Michler <sup>4</sup> , and Silke H. Christiansen <sup>1,2</sup>	
	<sup>1</sup> Institute of Photonic Technology, Jena, Germany. <sup>2</sup> Max-Planck-Institute of Microstructure	
	Physics, Halle, Germany. <sup>3</sup> Ecole Polytechnique Fédérale de Lausanne (EPFL), Institute of	DC104
	Microengineering (IMT), Neuchâtel, Switzerland. 4 Laboratory for Mechanics of Materials and	PC104
	Nanostructures, Empa Materials Science and Technology, Thun, Switzerland. *Contacting Author:	
	Thomas Stelzner is with Institute of Photonic Technology, Albert-Einstein-Str. 9, D-07745 Jena,	
	Germany (phone: +49-03641-206446; fax: +49-03641-206499; e-mail:	
	thomas.stelzner@ipht-jena.de)	
14:15	Numerical Modeling of the CIGS Thin Film Solar Cell with Varied Defect Density and Ga	
	Content	
	Minchao Zhou, Hao Ye, Yong Fu, Dayuan Xiong and Fangmin Guo*	PC105
	Key Laboratory of Polar Materials and Devices, Ministry of Education, East China Normal	
	University *Contacting Author: fmguo@ee.ecnu.edu.cn	
14:30	Highly efficiency enhancement of ZnO nanorods as an electron transport layer in inverted	
	organic/inorganic solar cells with dye and buffer layer	
	Yue Yan, Suling Zhao*, Zheng Xu, Dawei Wang,	DC106
	Institute of Optoelectronic Technology, Beijing Jiaotong University, Beijing, 100044, China Key	PC106
	Laboratory of Luminescence and Optical Information (Beijing Jiaotong University), Ministry of	
	Education, Beijing 100044, China * Corresponding author: slzhao@bjtu.edu.cn, 86-10-51688675	
14:45	Strategy toward Two Bands Tandem Organic Dye Sensitized Solar Cell	DC107
	Xichuan Yang*, Chao Teng, Yan Hao, Licheg Sun*	PC107

State Key Laboratory of Fine Chemicals, DUT-KTH Joint Education and Research Center on

	Molecular Devices, Dalian University of Technology (DUT), 158 Zhongshan Rd. 116012 Dalian,	
	China. Fax: +86-411-83702185; Tel.:+86-411-39893886; E-mail yangxc@dlut.edu.cn.	
15:00	Novel Mesoporous TiO <sub>2</sub> Spheres for Dye Sensitized Solar Cells	
	YB. Cheng <sup>1</sup> *, D. Chen <sup>2</sup> , F. Huang <sup>1</sup> , R. Caruso <sup>2</sup>	
	<sup>1</sup> Department of Materials Engineering, Monash University, Melbourne, Victoria 3800 Australia <sup>2</sup>	PC108
	School of Chemistry, The University of Melbourne, Melbourne, Victoria 3010, Australia	
	*Contacting Author: Yi-Bing Cheng, email:yibing.cheng@eng.monash.edu.au	
15:15	Hybrid Inorganic-Organic Films with Benzaldehyde-Based Chromophore for Electro-Optic	
	Device	
	Yuanjing Cui <sup>1</sup> , Jingting Hu <sup>2</sup> , Jiancan Yu <sup>1</sup> , Jingyan Qiu <sup>2</sup> , Liying Liu <sup>2</sup> , Lei Xu <sup>2</sup> and Guodong Qian <sup>1</sup> *	
	<sup>1</sup> Department of Materials Science and Engineering, State Key Lab of Silicon Materials, Zhejiang	PC109
	University, Hangzhou 310027, PR China. <sup>2</sup> Department of Optical Science and Engineering, Fudan	PC109
	University, Shanghai, 200433, PR China. *Contacting Author: Guodong Qian is with the	
	Department of Materials Science and Engineering, State Key Lab of Silicon Materials, Zhejiang	
	University, Hangzhou 310027, PR China. (phone: +86-571-87952334; email: gdqian@zju.edu.cn ).	
15:30	Research on the photoelectric characteristics of a double barrier structure with quantum	
	dots-quantum well inserted in central well	
	Shengwei Zhu, Jianqiang Han, Lang. Fan, Dayuan Xiong and Fangmin Guo*	PC110
	Key Laboratory of Polar Materials and Devices, Ministry of Education, East China Normal	
	University *Contacting Author: fmguo@ee.ecnu.edu.cn	
15:45	Strong Exciton-Photon Coupling in Layered Perovskites Embedded Low-Q Microcavity	
	K. Pradeesh and G.Vijaya Prakash*	DC111
	Nanophotonics Lab, Department of Physics, Indian Institute of Technology Delhi, New Delhi,	PC111
	India-110016 *prakash@physics.iitd.ac.in	
16:00	Break	
	Chair: Peng JIN, Institute of Semiconductors, CAS	
16:15	Engineering of plasmonic effects in photodetectors and high-efficiency photovoltaics	
	Edward T. Yu	KS122
	The University of Texas at Austin, Email: ety@ece.utexas.edu	
16:45	Study on the performance of Nano-optoelectronics device: InGaAs/GaAs VLW-QWIP	
	D. Y. Xiong, F. M. Guo* W. E. Zhang	
	Key Laboratory of Polar Materials and Devices, Ministry of Education, School of Information	PC112
	Sciences and Technology, East China Normal University, Shanghai 200241, China, *Contacting	
	Author: fmguo@ee.ecnu.edu.cn	
17:00	Photoconductive Characteristic in Individual Tungsten Oxide Nanowire	
	Li Gong <sup>1</sup> , Jian Chen <sup>1</sup> *, Weihong Zhang <sup>1</sup> , Shanghui Chen <sup>2</sup> and Fangyan Xie <sup>1</sup>	
	<sup>1</sup> Instrumentation Analysis & Research Center, Sun Yat-sen University, Guangzhou, PRC <sup>2</sup> Science	DC112
	of Physics and Engineering, Sun Yat-sen University, Guangzhou, PRC *Contacting Author: Jian	PC113
	Chen is with Instrumentation Analysis & Research Center, Sun Yat-sen University, Guangzhou,	
	PRC. (Phone: 8620 84113215; Email: puscj@mail.sysu.edu.cn	
17:15	Coupled THz waveguide utilizing long-range surface plasmon polaritons on dual-grating	PC114
		гСП4

Dongbin Tian\*, Huiwu Zhang, Qiye Wen, Yunsong Xie

	School of Microelectronic and Solid-state Electronic, University of Electronic Science and	
	Technology of China, Chengdu, 610054, China tiandongbin@yahoo.com.cn	
17:30	Design and Analysis of Terahertz Surface-Emitting Distributed-Feedback Lasers with	
	Circular Metal Grating	
	S.F. Yu* and X.F. Li	PC115
	School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore	
	639798 E-mail: esfyu@ntu.edu.sg	
17:45	Modeling of THz Concentric Circular Metal Grating with TM Polarization	
	X. F. Li* and S. F. Yu	PC116
	School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore	PC110
	639798 *xfli@ntu.edu.sg	
18:00	THz Light Pulse Generation and Storage within an Embedded Optical Waveguide System	
	P. Udomariyasap <sup>1</sup> , S. Noppanakeepong <sup>1</sup> , S. Mitatha <sup>2</sup> , and P.P. Yupapin <sup>3</sup>	
	<sup>1</sup> Department of Telecommunication Engineering, Faculty of Engineering, <sup>2</sup> Hybrid Computing	
	Research Laboratory, Faculty of Engineering, <sup>3</sup> Advanced Research Center for Photonics, Faculty of	PC117
	Science, All authors are with King Mongkut's Institute of Technology Ladkrabang, Bangkok	rC117
	10520, Thailand. *Contacting Author: P. Udomariyasap is with the Department of Telecom	
	munication Engineering, Faculty of Engineering, King Mongkut's Institute of Technology	
	Ladkrabang, Bangkok 10520, Thailand. (email:s2610113@kmitl.ac.th).	
18:15	Broadband Spectrometers Based on Nano-scale Difference Interferometers	
	T. Yang, C. C. Li, and H. P. Ho, Member, IEEE	
	Department of Electronic Engineering, Center for Advanced Research in Photonics, The Chinese	PC118
	University of Hong Kong, Shatin, N. T., Hong Kong SAR, China (phone: +852 2609-8279; fax:	
	+852 2603-5558; e-mail: hpho@ee.cuhk.edu.hk).	
	NanoPhotonics Oral Session II	LT-7
	Chair: Kok-Wai CHEAH, Hong Kong Baptist University	
11:15	Anti-Bunching from Plasmon Induced Non-Blinking Single CdSe/ZnS Quantum Dot	
	Xiao-Wei Wu, Ming Gong, Chun-Hua Dong, Jin-Ming Cui, Yong Yang, Zheng-Fu Han*,	
	Guang-Can Guo	PC119
	Key Laboratory of Quantum Information, University of Science and Technology of China, CAS,	
	Hefei, 230026, People's Republic of China *Contacting Author: zfhan@ustc.edu.cn	
11:30	Polarization Symmetry of Photoluminescence from PbS Quantum Dots	
	Junjiang Cai and Kohki Mukai <sup>1</sup>	
	Department of Solid State Materials and Engineering, Graduate School of Engineering, Yokohama	PC120
	National University 79-5 Tokiwadai, Hodogaya-Ku, Yokohama, 240-8501, Japan	
	e-mail:mukai@ynu.ac.jp	
11:45	Theoretical aspects of photon emission from a single quantum dot nanocavity system	
	Guangcun Shan <sup>1,2</sup> , Wei Huang <sup>2,3</sup> , Miao Zhang <sup>1</sup>	
	<sup>1</sup> State Key Laboratory of Functional Materials for Informatics, Shanghai Institute of Microsystem	DC121
	and Information Technology, Chinese Academy of Sciences, Shanghai 200050, China <sup>2</sup> Jiangsu	PC121
	Key Laboratory for Organic Electronics and Information Displays, Institute of Advanced Materials,	
	Nanjing University of Posts and Telecommunications, Nanjing 210003, China <sup>3</sup> Faculty of	

Engineering, National University of Singapore, Singapore 117576, Republic of Singapore Email: spinor@163.com,guangcunshan@mail.sim.ac.cn Fax: +86-21- 62511070

## 12:00 Competition between Surface Trapping and Nonradiative Energy Transfer

Zhenling Yang\*, Yanqiang Yang and Qingkun Meng

Center for Condensed Matter Science and Technology, Harbin Institute of Technology, Harbin, China \*Contacting Author: Zhen L. Yang is with Center for Condensed Matter Science and Technology, Harbin Institute of Technology, Harbin, China. (phone: +86 451-86418440, email: zlyang713@126.com)

PC122

## 12:15 Study on Broadband Emitting Self-Assembled Quantum-Dot Material and Devices

P. Jin<sup>1</sup>, X. Q. Lv<sup>1</sup>, N. Liu<sup>1</sup>, Z. Y. Zhang<sup>2</sup> and Z. G. Wang<sup>1\*</sup>

<sup>1</sup> Key Laboratory of Semiconductor Materials Science, Institute of Semiconductors, Chinese Academy of Sciences, Beijing 100083, P. R. China. <sup>2</sup> Department of Electronic and Electrical Engineering, University of Sheffield, Sheffield, S1 3JD, U. K. \* Contacting Author: Z. G. Wang (phone: 8610-82304250; fax: 8610-82305002; e-mail: zgwang@red.semi.ac.cn).

PC123

12:30 Lunch

Chair: Kok-Wai CHEAH, Hong Kong Baptist University

## 14:00 Enhanced UV lasing emission from ZnO-MgO core-shell structure

H. Y. Yang\*<sup>1</sup>, S. F. Yu<sup>1</sup> and T. Wu<sup>2</sup>

1 School of Electrical & Electronic Engineering, Nanyang Technological University Singapore 639798 2 School of Physical & Mathematical Sciences, Nanyang Technological University Singapore 639798 hyyang@ntu.edu.sg

PC124

## 14:15 A Luminescent Nano-Scale Metal-Organic Framework for Sensing Small Molecules

Hui Xu<sup>1</sup>, Zhongshang Dou<sup>1</sup>, Yuanjin Cui<sup>1</sup>, Banglin Chen<sup>2</sup> and Guodong Qian<sup>1</sup>\*

<sup>1.</sup> Department of Materials Science and Engineering, State Key Lab of SiliconMaterials, Zhejiang University, Hangzhou 310027, PR China. <sup>2.</sup> Department of Chemistry, University of Texas-Pan American, Edinburg, TX 78541-2999, \*Contacting Author: Guodong Qian is with the Department of Materials Science and Engineering, State Key Lab of Silicon Materials, Zhejiang University, Hangzhou 310027, PR China. (phone: +86-571-87952334; email: gdqian@zju.edu.cn).

PC125

### 14:30 Photonic Nanostructures Self-assembled from Charge Transfer Complexes

V. A. L. Roy<sup>1,&2</sup>, Mai-Yan Yuen<sup>1</sup>, Wei Lu<sup>1</sup>, Steven C. F. Kui<sup>1</sup>, Man-Ho So<sup>1</sup>, Stephen Sin-Yin Chui<sup>1</sup>, and Chi-Ming Che<sup>1</sup>

<sup>1</sup> Department of Chemistry and HKU-CAS Joint Laboratory on New Material, The University of Hong Kong, Pokfulam Road, Hong Kong. <sup>2</sup> Department of Physics and Materials Science, City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong. E-mail val.roy@cityu.edu.hk; cmche@hku.hk

PC126

#### 14:45 Assemblies of CdSe and Polyethylene Glycol Derivatives for Fluorescent Hybrid

#### Microspheres

Tan Fang, Kaiguo Ma, Yuting Guo, Zilong Li and Haiqing Guo\* the Beijing National Laboratory for Molecular Sciences, State Key Laboratory of Rare Earth Materials Chemistry and Applications, College of Chemistry and Molecular Engineering, Peking University, Beijing, 100871, China \*Contacting Author: Haiqing Guo (phone and fax: +86 10-62755702; email:guohq@pku.edu.cn).

PC127

15:00 Improving The Efficiency of Organic Light Emitting Diodes Using Quantum Well Structure

PC128

	Chung-Ming Wu, Shui-Hsiang Su*, Guo-Yuan Lian, and Meiso Yokoyama School of Electrical Engineering and Information science, Department of Electronic Engineering, I-Shou Universit, Kaohsiung, Taiwan *Contacting Author: Shui-Hsiang Su is with the School of Electrical Engineering and Information science, Department of Electronic Engineering, I-Shou University, Kaohsiung County, Taiwan (phone: +886-7-6577711; email: shsu@isu.edu.tw)	
15:15	Synthesis and luminescent behavior of Mn <sub>(1-x)</sub> S:Dy <sub>x</sub> /ZnS core-shell nanocrystals Lihua Li, Ruishi Xie, Qiang Chen, Xi Yue, Dingquan Xiao and Jianguo Zhu* College of Materials Science and Engineering, Sichuan University, Chengdu 610064, China E-mail:lilihua@163.com	PC129
15:30	Organic 1D Nanostructures for Miniaturized Photonics  Hongbing Fu,* Yongsheng Zhao, Qiao Liao, Jiannian Yao  Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, P.R. China *Contacting Author: hongbing.fu@iccas.ac.cn	PC130
15:45	Photophysical Characteristics of Green Fluorescent Proteins Embedded in Mesoporous Silica Hosts  Yujie Ma¹, Prayanka Rajendran¹, Christian Blum¹, Dominik Brühwiler², and Vinod Subramaniam¹*  ¹ BioPhysical Engineering Group, MESA+ Institute for Nanotechnology and MIRA Institute for Biomedical Technology & Technical Medicine, Faculty of Science and Technology, University of Twente, The Netherlands. ² Institute of Inorganic Chemistry, University of Zürich, Switzerland.  *Contacting Author: Vinod Subramaniam is with the BioPhysical Engineering Group, Faculty of Science and Technology, University of Twente, P.O.Box 217, 7500 AE Enschede, The Netherlands (phone: +31-53-4893158; fax: +31-53-4891105; email: v.subramaniam@tnw.utwente.nl).	PC131
16:00	Break	
	Chair: Jinsong WEI, Shanghai Institute of Optics and Fine Mechanics, CAS	
	N. V. Gaponenko, Balarusian State University of Informatic and Radioelectronics	
16:15	CdTe Quantum Dots Modified Fluorescent Polymer Microspheres by Self-assembly Xiaoyu Chen, Xiuxue Sun, Ping Li, Jimei Zhang, Shichao Xu, Guo Zheng, and Zhao Dai* the Key Laboratory of Hollow Fiber Membrane Materials and Membrane Processes, Ministry of Education, School of Environment and Chemical Engineering, Tianjin Polytechnic University, 300160 Tianjin, China *Contacting Author (phone: +86-22-24528172; email: daizhao@gmail.com).	PC132
16:30	Sol-Gel Synthesis and Luminescence Properties of Titania and Barium Strontium Titanate, doped with Lanthanides, in Porous Anodic Alumina  Nikolai V. Gaponenko and Taekwon Kim  Laboratory of Nanophotonics, Belarusian State University of Informatics and Radioelectronics,  Minsk, Belarus (Phone: +375172938869; email: nik@nano.bsuir.edu.by).  Rational Control of Anisotropic Nanocomposites for Engineered Nanocatives and SERS	PC133
16:45	Application  Tao Chen, Li Huey Tan and Hongyu Chen*  Division of Chemistry and Biological Chemistry, School of Physical and Mathematical Sciences,  Nanyang Technological University (phone: +65-63168795; fax: +65-67911961; e-mail: hongyuchen@ntu.edu.sg)	PC134

17:00	Tip-enhanced Rayleigh Scattering and Photoluminescence from Semiconductor Nanoparticles	
	Yoshihiro Ogawa and Fujio Minami	PC135
	Department of Physics, Tokyo Institute of Technology minami@ap.titech.ac.jp	
17:15	Near Field Properties of Monolayers of Colloidal Polystyrene Microspheres on Silicon	
	S. M. Huang <sup>1,*</sup> , Z. A. Wang <sup>1</sup> , Z Sun <sup>1</sup> , Z. B. Wang <sup>2</sup> , Boris Luk'yanchuk <sup>3</sup>	
	<sup>1</sup> Engineering Research Center for Nanophotonics and Advanced Instrument, Ministry of	
	Education, Department of physics, East China Normal University, North Zhongshan Rd. 3663,	
	Shanghai 200062, P. R. China. <sup>2</sup> Laser Processing Research Centre, School of Mechanical,	
	Aerospace and Civil Engineering, University of Manchester, Sackville Street, Manchester, M60	PC136
	1QD, UK. <sup>3</sup> Data Storage Institute, DSI Building, 5 Engineering Drive 1, Singapore 117608,	
	Republic of Singapore. *Contacting Author: S. M. Huang is with Engineering Research Center for	
	Nanophotonics & Advanced Instrument, Ministry of Education, East China Normal University,	
	North Zhongshan Rd. 3663, Shanghai 200062, China (phone: 86-21-62233227;fax:	
	86-21-62232413;email: smhuang@phy.ecnu.edu.cn	
17:30	Raman Mapping Probing of V <sub>2</sub> O <sub>5</sub> Waveguiding Nanoribbons	
	Ting Yu*, Bin Yan, Yumeng You, Chaoling Du, Zhe Zheng, Zexiang Shen	PC137
	Division of Physics and Applied Physics, School of Physical & Mathematical Sciences, Nanyang	10157
	Technological University, Singapore 637371, Singapore *Contacting Author: yuting@ntu.edu.sg	
17:45	Aqueous Solution Syntheses of Palladium Nanorods and Gold Octahedra and Their Assembly	
	Yi-Hsiu Chen, Chia-Chien Chang, Hsin-Lun Wu, and Michael H. Huang*	
	Department of Chemistry, National Tsing Hua University, Hsinchu, Taiwan *Contacting Author:	PC138
	Michael H. Huang is with the Department of Chemistry, National Tsing Hua University, Hsinchu,	
	Taiwan (phone: +886-3-5718472; e-mail: hyhuang@mx.nthu.edu.tw).	
18:00	High Purity Separation of Nanoparticle Dimers and Trimers for SERS Hot Spots	
	Gang Chen, Yong Wang, Miaoxin Yang, Li Huey Tan, Hongyu Chen*	
	Division of Chemistry and Biological Chemistry, School of Physical and Mathematical Sciences,	PC139
	Nanyang Technological University, 21 Nanyang Link, Singapore 637371, Singapore *Contacting	
10.15	Author: phone: +65-63168795; fax: +65-67911961; e-mail: hongyuchen@ntu.edu.sg	
18:15	High Efficiency Light Extraction of GaAs Semiconductors coated with Au Nanoparticles	
	Xiuli Zhou <sup>1</sup> , Lumin Wang <sup>2,3</sup> , Kai Sun <sup>2</sup>	
	School of Physical Electronics, University of Electronic Science and Technology of China,	DC1.40
	Chengdu 610054, China <sup>2</sup> Department of Materials Science and Engineering, University of	PC140
	Michigan, Ann Arbor, MI 48109, USA <sup>3</sup> Department of Nuclear Engineering and Radiological	
	Sciences, University of Michigan, Ann Arbor, MI 48109, USA *Contacting Author:	
	zxli@uestc.edu.cn	
	Nanobiology Oral Session	LT-1
	Chair: Zhongze GU, Southeast University	
11:15	A More Efficient Pathway for Synthesis of Zinc-doped Superparamagnetic Iron Oxide	
	Nanocrystals with Enhanced Saturation Magnetization	
	Chen Feng, Wenbo Bu*, Jianlin Shi*	BC101
	State Key Laboratory of High Performance Ceramics and Superfine Microstructures, Shanghai	
	Institute of Ceramics, Chinese Academy of Sciences, 1295 Dingxi Road, Shanghai 200050, China	

Corresponding author: Jianlin Shi, email: jlshi@mail.sic.ac.cn; Wenbo Bu, email: wbbu@mail.sic.ac.cn

## 11:30 A Synthetic Strategy of Quantum Dot-Bioconjugate

Qiangbin Wang<sup>1</sup>\*, Hao Yan<sup>2,3</sup>, Dong-Kyun Seo<sup>2</sup>

<sup>1</sup> Suzhou Institute of Nano Tech and Nano Bionics, Chinese Academy of Sciences, Suzhou, 215125, China <sup>2</sup> Department of Chemistry and Biochemistry, Arizona State University, Tempe, 85287, USA 3 The Biodesign Institute, Arizona State University, Tempe, 85287, USA E-mail: qbwang2008@sinano.ac.cn

BC102

BC103

## 11:45 Catalytic Behaviors in Modulating Enzymatic Activity through Different-sized Gold Nanoparticles

Chung-Shu Wu<sup>1</sup>, Chia-Tien Wu<sup>1</sup>, Chieh Chen<sup>1</sup>, Chung-Chih Huang<sup>1</sup>, Yu-Lin Yeh<sup>1</sup>, Yuh-Shyong Yang<sup>2</sup>, and Fu-Hsiang Ko\*<sup>1</sup>

<sup>1</sup>Institute of Nanotechnology, and Department of Materials Science and Engineering, National Chiao Tung University, Hsinchu 300, Taiwan <sup>2</sup>Department of Biological Science and Technology, National Chiao Tung University, Hsinchu 300, Taiwan \*Contacting Author: Fu-Hsiang Ko is with the Institute of Nanotechnology, and Department of Materials Science and Engineering, National Chiao Tung University, Hsinchu 300, Taiwan (phone: +886-3-5712121; e-mail: fhko@mail.nctu.edu.tw).

## 12:00 Electrochemical Behavior of Gold Nanoparticles Modified Nitrogen Incorporated Diamond-like Carbon Electrode and Its Application in Glucose Sensing

Aiping Liu, Erjia Liu \*, Guocheng Yang, Wenguang Ma, and N.W. Khun School of Mechanical and Aerospace Engineering, Nanyang Technological University, 50 Nanyang Avenue, Singapore 639798, Singapore \*Contacting Author: mejliu@ntu.edu.sg, liuaiping1979@gmail.com

BC104

### 12:15 Kinetic Study of Protein Formation and Digestion by Quartz Crystal Microbalance

Tippavan. Hongkacharn\*, Verawat Champreda, Toemsak Srikhirin, Thidarat Wangkam and Tanakorn Osotchan

Center of Nanoscince and Nanotechnology, Department Physics, Faculty of Science, Mahidol University, Bangkok, Thailand National Center for Genetic Engineering and Biotechnology (BIOTEC), National Science and Technology Development Agency, Thailand \*Contacting Author: Tippavan Hongkacharn is with the Department Physics, Faculty of Science, Mahidol University, Bangkok, Thailand (Phone: +66 2 2015750; e-mail: ying wow@hotmail.com)

BC105

12:30 Lunch

Chair: Deling KONG, Nankai University

## 14:00 Engineering the Optical Properties of Gold Nanocages for Biomedical Applications

Claire M. Cobley, <u>Younan Xia\*</u>
Department of Biomedical Engineering, Washington University, St. Louis, MO 63130, USA.

Email:xia@biomed.wustl.edu

KS119

### 14:30 Micro-Diaphragm Resonating Biosensors in Higher Frequency Modes

M. Olfatnia, T. Xu, J.M. Miao, L.S. Ong
School of Mechanical and Aerospace Engineering, Nanyang Technological University, Singapore
Email: m070056@ntu.edu.sg

BC106

### 14:45 Monodisperse and Water-Soluble LaF<sub>3</sub>/LaPO<sub>4</sub>: Ce,Tb Nanocrystals via a Microfluidic

BC107

### Reactor for Shape-Control and Bio-Label

Xiaoxu Zhu<sup>1</sup>, Qinghong Zhang<sup>2</sup>, Yaogang Li<sup>2</sup> and Hongzhi Wang<sup>1</sup>\*

<sup>1</sup> State Key Laboratory for Modification of Chemical Fibers and Polymer Materials, Donghua University <sup>2</sup> Engineering Research Center of Advanced Glasses Manufacturing Technology, MOE, Donghua University, Shanghai 201620, People's Republic of China \*Contacting Author: Hongzhi Wang, phone: 021-67792881; fax: 021-67792855; e-mail: wanghz@dhu.edu.cn.

## 15:00 Quantum Dots Modified Molecular Beacons as Fluorescent DNA Sensors with Different Acceptors

Zhao Dai\*, Ping Li, Xiuxue Sun, Jimei Zhang, Shichao Xu, Xueying Yin, and Guo Zheng Key Laboratory of Hollow Fiber Membrane Materials and Membrane Processes, Ministry of Education, School of environment and Chemical Engineering, Tianjin Polytechnic University, 300160 Tianjin, China \*Contacting Author (phone: +86-22-24528172; email: daizhao@gmail.com).

BC108

# 15:15 Replication of Label-free Guided Mode Resonance Filter for Protein-sensors using UV Nanoimprinting Process with Metallic Nano Stamp

Sungwoo Choi<sup>(1)</sup>, Eikhyun Cho<sup>(1)</sup>, Byungwook Kim<sup>(1)</sup>, Jiseok Lim<sup>(1)</sup>, Jeongwon Han<sup>(1)</sup>, You Ra Heo<sup>(1)</sup>, Seok-min Kim<sup>(2)</sup>, Miroo Kim<sup>(3)</sup>, Hyungil Jung<sup>(3)</sup> and Shinill Kang\*<sup>(1)</sup>

<sup>1</sup>Nano Fabrication and Micro Optics National Research Laboratory, School of Mechanical Engineering, Yonsei University, Seoul, Korea <sup>2</sup>School of Mechanical Engineering, Chung-Ang University, Seoul, Korea <sup>3</sup>Department of Biotechnology, Yonsei University, Seoul, Korea \*Contacting Author: Phone: +82-(02)-2123-2829, Fax: +82-(02)-362-2736, E-mail address: snlkang@yonsei.ac.kr

BC109

# 15:30 **Bio-Sensing and Monitor System Design with Micro Array Probes on an Active RFID Tag**Jium-Ming Lin and Zhong-Qing Hou

BC110

707, Sec. 2 Wu-Fu Rd. Hsin-Chu, Taiwan, 30012 \*Contacting Author: Jium-Ming Lin, jmlin@chu.edu.tw

# 15:45 Gold Nanoparticles based Colorimetric Assay for Bacterial Enzyme Identification and Inhibitors Screening

Rongrong Liu and Bengang Xing\*

Division of Chemistry and Biological Chemistry, School of Physical & Mathematical Sciences, Nanyang Technological University, Singapore, 637371 \*Contacting Author: Bengang Xing is with the Division of Chemistry and Biological Chemistry, School of Physical & Mathematical Sciences, Nanyang Technological University, Singapore, 637371 (phone:65-63168758; e-mail: bengang@ntu.edu.sg).

BC111

16:00 Break

Chair: Donglu SHI, University of Cincinnati

Kuo Chu HWANG, National Tsing Hua University

## 16:15 A Facile "Green" Synthesis of Ascorbic acid -Capped CdSe Nanoparticles

<sup>a, b</sup>Oluwatobi .S. Oluwafemi\* and <sup>b</sup>Johannes .R. Botha

<sup>a</sup> Department of Chemistry and Chemical Technology Walter Sisulu University, Private Bag XI, Mthatha 5117, Eastern Cape, South Africa <sup>b</sup> Department of Physics, Nelson Mandela Metropolitan University, P.O box 77000, Port-Elizabeth, 6031, South Africa. Corresponding author, email: oluwafemi.oluwatobi@gmail.com

BC112

16:30	Fluorescent super parpamagnetic nanoparticles for medical diagnosis and treatment  Donglu shi <sup>1,6</sup> , H. S. Cho <sup>1</sup> , Chris Huth <sup>1</sup> , Hong Xu <sup>2</sup> , H. C. Gu <sup>2</sup> , G. M. Pauletti <sup>3</sup> , Z. Y. Dong <sup>4</sup> , J. Lian <sup>5</sup> ,  R. C. Ewing <sup>5</sup> <sup>1</sup> Department of Chemical and Materials Engineering, University of Cincinnati, Cincinnati, Ohio 45221 <sup>2</sup> Med - X Institute, Shanghai Jiao Tong University, Shanghai 200030, China <sup>3</sup> James L.  Winkle College of Pharmacy, University of Cincinnati, Cincinnati, OH 45267 <sup>4</sup> Department of Internal Medicine, College of Medicine, University of Cincinnati, Cincinnati, Ohio 45221 <sup>5</sup> Departments of Geological Sciences, Nuclear Engineering & Radiological Sciences and Materials Science & Engineering, University of Michigan, Ann Arbor, Michigan 48109, <sup>6</sup> The Institute for Advanced Materials and Nano Biomedicine, Tongji University, Shanghai, China	BC113
16:45	Mass-Sensitive and Resistive Detection of Bioanalytes - Synthetic Antibodies and Plastic Replicae	
	Franz L. Dickert <sup>1,*</sup> , Peter A. Lieberzeit <sup>1</sup> , Stefan Aigner <sup>1</sup> , Christoph Langsam <sup>1</sup> , Chonlatid Sontimuang <sup>2</sup> and Roongnapa Suedee <sup>2</sup> <sup>1</sup> University of Vienna, Department of Analytical Chemistry and Food Chemistry, Vienna, Austria <sup>2</sup> Department of Pharmaceutical Chemistry, Prince of Songkla University Hat Yai, Thailand.  Contacting Author: phone: +43/1/4277-52317, fax: +43/1/4277-9523, e-mail: Franz.Dickert@univie.ac.at	BC114
17:00	Multiplex Bioassay with Photonic Suspension Array	
	Yuanjin Zhao and Zhongze Gu* <sup>1</sup> State Key Laboratory of Bioelectronics, School of Biological Science and Medical Engineering, Southeast University, Nanjing 210096, China. <sup>2</sup> Laboratory of Environment and Biosafety, Research Institute of Southeast University in Suzhou, Dushu Lake Higher Education Town, Suzhou 215123, China phone: 86-25-83795635; e-mail:gu@seu.edu.cn	BC115
17:15	Quantum Dots Decorated Single Walled Carbon Nanotubes for Multimodal Cellular Imaging	
	Ning Du, Bingdi Chen, Hui Zhang, and Deren Yang* State Key Lab of Silicon Materials and Department of Materials Science and Engineering, Zhejiang University, Hangzhou, China. *Contacting Author: phone: 86-571-8795-3003; fax: 86-571-8795-2322; e-mail: mseyang@zju.edu.cn).	BC116
17:30	RecA protein mediated nano-scale patterning of DNA scaffolds	
	Christoph Wälti*, Rajan Sharma, Giles Davies School of Electronic and Electrical Engineering, University of Leeds, LS2 9JT *Contacting Author: Dr C Wälti, c.walti@leeds.ac.uk	BC117
17:45	Sensing Humidity Using Virus-Nanoparticle Assembly Chuanbin Mao,* Aihua Liu, and Gopal Abbineni Department of Chemistry & Biochemistry, University of Oklahoma, Norman, Oklahoma 73019, USA. *Contacting Author: Phone: +1-405-325-4385, Fax: +1-405-325-6111, e-mail: cbmao@ou.edu	BC118
18:00	A Portable Electrochemical Sensor for Caffeine and (-)Epigallocatechin gallate (EGCG)  Based on Molecularly Imprinted Poly(Ethylene-co-Vinyl-Alcohol) Recognition Element  I-Cheng Chung <sup>1</sup> , Chih-Chun Chang <sup>1</sup> , Han-Sheng Chiu <sup>1</sup> , Shih-Fan Jiang <sup>1</sup> , Mei-Hwa Lee <sup>2</sup> , Bin-Da  Liu <sup>3</sup> ,Chun-Yueh Huang <sup>4,*</sup> and Hung-Yin Lin <sup>1,*</sup> <sup>1</sup> Department of Chemical and Materials Engineering, National University of Kaohsiung,  Kaohsiung 811, Taiwan <sup>2</sup> Department of Materials Science and Engineering, I-Shou University,  Kaohsiung 840, Taiwan <sup>3</sup> Department of Electrical Engineering, National Cheng Kung University,	BC119

Tainan 701, Taiwan <sup>4</sup>Department of Electrical Engineering, National University of Tainan, Tainan 700, Taiwan linhy@ntu.edu.tw Disposable Sensors Based on Chitosan Film Doped With Multi-Wall Carbon Nanotubes 18:15 Pornpimol Sritongkham and Adisorn Tuantranont BC120 Nanoelectronics and MEMS Laboratory, National Electronics and Computer Technology Center (NECTEC) Pathumthani 12120, Thailand E-mail: pornpimol.sritongkham@nectec.or.th **Nanophysics Oral Session** LT-12 Chair: Yugang WANG, Peking University An Innovative Monitoring of Residual Layer Thickness and Uniformity in Nanoimprint 11:15 Hong Hocheng\*, and Wei-Hsuan Hsu TC101 Department of Power Mechanical Engineering, National Tsing Hua University \*Contacting Author: Hong Hocheng ( Professor of National Tsing Hua University) hocheng@pme.nthu.edu.tw. Characteristics of Carbon Nanotube Based Micro-Bubble Generator for Thermal Jet Printing Wenli Zhou<sup>1, 2,\*</sup>, Yupeng Li<sup>1</sup>, Weijun Sun<sup>1</sup>, and Sanping Wan<sup>1</sup> <sup>1</sup>Department of Electronic Science and Technology, Huazhong University of Science and TC102 Technology, Wuhan, China <sup>2</sup>Wuhan National Laboratory for Optoelectronics, Wuhan, China Contact author: Wenli Zhou (phone: +86-27-87540028; email: wlzhou@mail.hust.edu.cn) Fabrication of intensity based fiber optic pH Sensor Sarmila Basak A, Shibabrata Basak B,\*, Rajesh Kumar C and P.K.Samanta B,D A Department of Material Science, Jadavpur University, Jadavpur, India. B Department of Physics, TC103 IIT Kharagpur, Kharagpur, India. Department of Physics, Sikkim Manipal Institute of Technology, Majitar, Sikkim, India. DGhatal R. S. Mahavidyalaya, Ghatal, Paschim Medinipur, West Bengal, India \*Corresponding author: dolysona@gmail.com 12:00 DNA Hybridization Enhancement using Piezoelectric Microagitation through Liquid Medium **Coupling** Thitima Maturos<sup>1</sup>, Kiattimant Rodaree<sup>1</sup>, Tawee Pogfay<sup>1</sup>, Sastra Chaotheiang<sup>2</sup>, Kata Jaruwongrangsee<sup>1</sup>, Anurat Wisitsorraat<sup>1</sup>, Tanom Lomas<sup>1</sup>, and Adisorn Tuantranont<sup>1</sup> TC104 Nanoelectronics and MEMS laboratory, National Electronics and Computer Technology Center, Klong Luang, Pathumthani, Thailand National Center for Genetic Engineeting and Biotechnology, Klong Luang, Pathumthani, Thailand \*Contacting Author: phone: 66-2-564-6900 ext. 2111; fax: 66-2-564-6756; e-mail: adisorn.tuantranont@nectec.or.th 12:30 Lunch Chair: Wenli ZHOU, Huazhong University of Science and Technology Wibool Piyawattanametha, National Electronics and Computer Technology Center Gels nad aerogel from colloidal nanocrystals N. Gaponik, \* A. Wolf, A.-K. Herrmann, T. Hendel, N. C. Bigall, V. Lesnyak, and A. Eychmüller TC106 Physical Chemistry, TU Dresden, Bergstr. 66b, 01062 Dresden, GERMANY \*Contacting Author: nikolai.gaponik@chemie.tu-dresden.de 14:15 Hydrogen Dependent Surface Morphology Study of Plasma Deposited SiNx:H Films for two TC107

Gas Systems SiH4/NH3 and SiH4/N2

	Siddheshwar Chopra <sup>1</sup> , R.P. Gupta <sup>2</sup> and Souri Banerjee*	
	BITS, Pilani, Rajasthan	
14:30	Low- and high-content nano-loaded electroactive polyvinylidene fluoride polymer	
	Supasarote Muensit <sup>a,*</sup> and Prissana Rakbamrung	
	Material Physics Laboratory, Physics Department, Prince of Songkla University, Songkhla,	TC108
	Thailand. aNANOTEC CENTER of Excellence at Prince of Songkla University, Songkhla,	
	Thailand. *Contacting Author:. E-mail:supasarote.m@psu.ac.th	
14:45	Optimal Design of 3-D Carbon Micro-electrode Array for Dielectrophoretic Manipulation of	
	Nanoparticles in Fluids	
	Zirong Tang*, Jie Gong, Rizwan Malik, Tielin Shi, Wuxing Lai and Shiyuan Liu	TC109
	Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology,	10109
	Wuhan, China. *corresponding author, 1037 Luoyu Road, Wuhan, China 430074 (phone:	
	86-27-87792241; fax: 86-27-87792413; e-mail: zirong@ mail.hust.edu.cn)	
15:00	Solid Freeform Fabrication of Functionalized Ceramic Dental Crown via Selective Slurry	
	Extrusion Process	
	Anping Xu*, Dongbin Zhu, Yunxia Qu and Yushan Liu	TC110
	School of Mechanical Engineering, Hebei University of Technology, Tianjin 300130, China	
	*Corresponding Author: Anping Xu, E-mail: xap@hebut.edu.cn	
15:15	Large Area Graphene Layer Synthesis	
	Kuen-Liang Chang <sup>1</sup> *, Kai-Hung Hsu <sup>1</sup> , Chien-Min Sung <sup>1,2</sup> , Ting-Ying Wu <sup>1</sup>	
	<sup>1</sup> Department of Material and Mineral Resources Engineering, National Taipei University of	TC111
	Technology, Taipei, Taiwan, R.O.C. <sup>2</sup> KINIK Company, Taipei, Taiwan, R.O.C. *Contacting	
	Author: phone: 886-2-2771-2171-2738; fax: 886-2-2731-7185; email:	
	oldbag195014@hotmail.com).	
15:30	Microstructure of AZ91 Magnesium Alloys Subjected to Surface Mechanical Attrition	
	Treatment	
	HOU Li-feng <sup>1,2</sup> , WEI Ying-hui <sup>1,2</sup> *, XU Bing-she <sup>1,2</sup> ,	
	<sup>1</sup> College of Materials Science and Engineering, Taiyuan University of Technology, Taiyuan	TC112
	030024, P R China <sup>2</sup> Key Laboratory of Interface Science and Engineering in Advanced Materials	10112
	of Taiyuan University of Technology, Ministry of Education, Taiyuan 030024, P R China	
	Corresponding author. Tel: +86 351 6018685; fax: +86 351 6018683 E-mail address:	
	yhwei@public.ty.sx.cn	
15:45	Piezomagnetic properties and shielding properties of amorphous and nanocrystalline powders	
	/ butyl rubber composite films	
	XUXueJiao, ZHUZhengHou, SONGHui, WANZhenZhen, PENGHuan and HUANG JunFu	TC113
	Department of Material Science and Engineering , NanChang University, NanChang, Jiang Xi, China	
	Phone: +86-13755633280. Email:z00708@sina.com.cn	
16:00	Break	
	Chaire Assistan VII II. In the Control of Control of	

Chair: Anping XU, Hebei University of Technology

Farzad Nasirpouri, Sahand University of Technology

16:15 SiO<sub>2</sub>-CNTs doped Nafion Membranes Applied in High Temperature PEM Fuel Cells
 Feng Xu, Shichun Mu and Mu pan
 State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan

University of Technology, Wuhan 430070, China E-mail address: msc@whut.edu.cn **DNA-templated Sunlight-induced Silver Nanowires** 16:30 Mingiang Li\*, Liangbao Yang and Jinhuai Liu TC115 Hefei Institute of Intelligent Machines, Chinese Academy of Sciences, Hefei 230031, People's Republic of China \*E-mail address: mqli@iim.ac.cn Antibacterial Properties of AISI 420 Stainless Steel Implanted by Ag/Cu ions 16:45 Hanshuang Zhang, Hongwei Ni\*, Rongsheng Chen, Kaifu Huo, Wei Li, Weiting Zhan Key Laboratory for Ferrous Metallurgy and Resources Utilization of Ministry of Education, School TC116 of Materials and Metallurgy, College of Chemical Engineering and Technology, Wuhan University of Science and Technology, Wuhan 430081, China. \*Corresponding author: Phone: +86-27-68862856, E-mail: nihongwei320@sohu.com A New Particle Detector Based on Processed Plastic Scintillating Fiber 17:00 Yongjian Xu, Chundong Hu and Jun Li TC117 Institute of Plasma Physics, Chinese Academy of Sciences, Hefei 230031, China phone: +86-551 5592746; email: yjxu@ipp.ac.cn Synthesis and Purifications of Amorphous Carbon Nanotubes M. N. Ng\* and M. R. Johan Advanced Materials Research Laboratory, Department of Mechanical Engineering, University of TC118 Malaya, 50603 Kuala Lumpur, Malaysia \*Contacting Author: Tel: +603-7967 4492; Fax: +603-7967 5317, +603-7967 5281; email: mengnee85@yahoo.co.uk Binarization Algorithm of Passport Image Based on Global Iterative Threshold and Local 17:30 Zhiwen WANG <sup>1,2</sup>, Shaozi LI <sup>1</sup>, Songzhi SU<sup>1</sup>, Guoging XIE <sup>3</sup> <sup>1</sup> Cognitive Science Department of Xiamen University, Xiamen 361005, China; <sup>2</sup> Department of TC119 Computer & Engineering, Guangxi University of Technology, Liuzhou, 545006, China; <sup>3</sup> Faculty of Software, Fujian Normal University, Fuzhou 350007, China wzw69@126.com; szlig@xmu.edu.cn; songzhi@126.com; xgq72@163.com In vivo Real Time Imaging with Micromachined based Dual-axes Confocal Microscope W. Piyawattanametha<sup>1-4</sup> and M. J. Mandella<sup>1,3</sup> <sup>1</sup>Edward L. Ginzton Laboratory, Stanford University, Stanford, CA 94305,USA. <sup>2</sup>National TC120 Electronics and Computer Technology Center (NECTEC), Pathumthani 12120, Thailand. James H. Clark Center for Biomedical Engineering & Sciences Stanford University, Stanford, CA 94305, USA E-mail:wibool@gmail.com 18:00 Effect of size and periodicity on magnetization of nickel dot arrays F. Nasirpouri<sup>1,\*</sup>, A. Nogaret<sup>2</sup> and S.J. Bending<sup>2</sup> <sup>1</sup>Department of Materials Engineering, Sahand University of Technology, Tabriz, Iran <sup>2</sup>Department TC121 of Physics, University of Bath, Bath BA2 7AY, UK \*Contacting Author: F. Nasirpouri (Nasirpouri@sut.ac.ir) 18:15 Magnetic tunable segments in multilayered nanowires F. Nasirpouri<sup>1,\*</sup> and A. Nogaret<sup>2</sup> TC122 <sup>1</sup>Department of Materials Engineering, Sahand University of Technology, Tabriz, Iran <sup>2</sup>Department of Physics, University of Bath, Bath BA2 7AY, UK Email: Nasirpouri@sut.ac.ir

LT-18

# Tuesday - Jan 5, 2010

Nanofabrication Oral Session I

	Chair: George X.S. ZHAO, National University of Singapore	
10:45	Functional Boron Nitride Nanotubes	
	<u>Dmitri Golberg</u> *, Yoshio Bando, Chengchun Tang, Chunyi Zhi	
	International Center for Materials Nanoarchitectonics (MANA), National Institute for Materials	KS206
	Science (NIMS), Namiki1-1, Tsukuba, Ibaraki 305-004, Japan.	
	E-mail: GOLBERG.Dmitri@nims.go.jp	
11:15	Investigation of Inner Surface of Silicon Microchannels Fabricated by Electrochemical	
	Method	
	Pengliang Ci <sup>1</sup> , Jing Shi <sup>1</sup> , Li Sun <sup>1</sup> , Tao Liu <sup>1</sup> , Lianwei Wang <sup>1</sup> *, and Paul K. Chu <sup>2</sup>	
	Laboratory of Polar Materials and Devices, Ministry of Education, and Department of Electronic	FC201
	Engineering, East China Normal University, Shanghai 200241, China, <sup>2</sup> Department of Physics and	
	Material Sciences, City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong, China,	
	E-mail: lwwang@ee.ecnu.edu.cn	
11:30	Low-Temperature Fabrication and Characterization of Ion-Induced Ge Nanostructures	
	A. Miyawaki <sup>1</sup> , T. Hayashi <sup>1</sup> , P. Ghosh <sup>1</sup> , M. Tanemura <sup>1</sup> , *, Y. Hayashi <sup>1</sup> , and T. Tokunaga <sup>2</sup>	
	Department of Frontier Materials, Nagoya Institute of Technology, Gokiso-cho, Showa-ku,	FC202
	Nagoya, Aichi, 466-8555, Japan. <sup>2</sup> Department of Quantum Engineering, Nagoya University,	
	Hurou-cho, Chikusa-ku, Nagoya, Aichi, 464-0814, Japan, E-mail: tanemura.masaki@nitech.ac.jp	
11:45	Photocatalytic Decompositions of Gaseous HCHO over Ag/TiO <sub>2</sub> Nanotube Arrays	
	Jingjing Du, Wen Chen*, Chunxia Zhao, Ying Dai	
	State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, and School	FC203
	of Materials Science and Engineering, Wuhan Uninversity of Technology, Wuhan 430070, China,	
12.00	E-mail: chenw@whut.edu.cn	
12:00	Photoreflectance Study of Strained GaAsN/GaAs T-junction Quantum Wires Grown by	
	MOVPE	
	Pawinee Klangtakai, Sakuntam Sanorpim*, Ryuji Katayama, and Kentaro Onabe	
	1Department of Physics, Faculty of Science, Chulalongkorn University, Phayathai Rd., Pathumwan, Bangkok 10330, Thailand 2Center of Innovative Nanotechnology, Chulalongkorn University,	FC204
	Bangkok, 10330, Thailand 2 Center of Innovative Nanotechnology, Chulaiongkoth University, Bangkok, 10330 Thailand 3Institute for Materials Research (IMR), Tohoku University, Sendai, 980-	
	8577 Japan 4Department of Advanced Materials Science, The University of Tokyo, 5-1-5	
	Kashiwanoha, Kashiwa, Chiba, 277-8561, Japan. E-mail: sakuntam.s@.chula.ac.th	
12:15	Preparation of Composition-tunable Cadmium-rich CdS Nanotubes and Their Photocatalytic	
12.13	Performance	
	Yuying Huang, Fengqiang Sun*, Zhenxun Huang and Qingsong Wu	FC205
	School of Chemistry and Environment, South China Normal University, E-mail:	
	fqsun@scnu.edu.cn; fengqiangsun@yahoo.com.cn	
12.20		
12:30	Lunch	

## $Contributed\ Presentations-Tuesday-Jan\ 5,\ 2010-IEEE\ INEC\ 2010$

14:00 Poster Session

16:00	Break	
	Chair: Giridhar Kulkarni, Jawaharlal Nehru Centre for Advanced Scientific Research	
	Sekhar Chandra Ray, University of the Witwatersrand	
16:15	Synthesis of Chalcopyrite CuInSe <sub>2</sub> Nanoparticles via a Facile Solvothermal Method Huiyu Chen <sup>1</sup> , Seong-Man Yu <sup>2</sup> , Dong-Wook Shin <sup>2</sup> , and Ji-Beom Yoo <sup>1, 2,*</sup> <sup>1</sup> School of Advanced Materials Science & Engineering (BK21), Sungkyunkwan University, Suwon, Republic of Korea. <sup>2</sup> SKKU Advanced Institute of Nanotechnology (SAINT), Sungkyunkwan University, Suwon, Republic of Korea. E-mail:jbyoo@skku.edu	FC206
16:30	Synthesis of One-dimensional (1D) Ge-based Ternary Oxide Nanostructures  Yan Chaoyi, and Lee Pooi See*, IEEE member  School of Materials Science and Engineering, Nanyang Technological University, Singapore.  *Contacting Author: Lee Pooi See is with School of Materials Science and Engineering, Nanyang  Technological University, Singapore, (phone: 65-67906661; fax: 65-67909081; email: pslee@ntu.edu.sg)	FC207
16:45	Electrochemical Performance of multi-walled Carbon Nanotube/Chitosan Composite Tingkai Zhao*, Tiehu Li School of Materials Science, Northwestern Polytechnical University, Xi'an, China. *Contacting Author: Dr. Tingkai Zhao is working in the School of Materials Science, Northwestern Polytechnical University, 127# Youyi West Road, Xi'an 710072, China(phone: 86-29-8846-0337; fax: 86-29-8846-0337; email: ztk@nwpu.edu.cn).	FC208
17:00	Template Synthesis of Hierarchically Ordered Nanoporous Oxide Membrane Xinyi Zhang, Dan Li, and Paul A Webley Department of Chemical Engineering, Monash University, Clayton, VIC3800, Australia. (phone: 61-3-99051958; E-mail: xinyi.zhang@eng.monash.edu.au)	FC209
17:15	The synthesis and photoelectric response of single-crystalline V <sub>4</sub> O <sub>7</sub> Nanowires  Jing Xu, Chenguo Hu*, Huayong Han, Mingquan He, Buyong Wan, Chuanhui Xia  Department of Applied Physics, Chongqing University, Chongqing, 400044, China. *Contacting author: Chenguo Hu is with Department of Applied Physics, Chongqing University, Chongqing, China. (phone: +86 23-65104741; email: hucg@cqu.edu.cn)	FC210
17:30	The Use of Electroless Plating Deposition to Prepare Pd/γ-Al <sub>2</sub> O <sub>3</sub> Nanofiber Catalyst Weimin Kang, Quanxiang Li, Bowen Cheng, Yuanlin Ren, and Xupin Zhuang Tianjin Municipal Key Lab of Fiber Modification and Functional Fiber, Tianjin Polytechnic University, Tianjin, China, 300160 (*Contacting Author: Phone: +86+22+24528018; bowen63@126.com)	FC211
17:45	Preparation of Novel Layered AgBr-Based Inorganic/Organic Nanosheets by Pulsed Laser  Ablation in Aqueous Media  Chun He <sup>1,*</sup> , Dong Shu <sup>2</sup> , Mudar Abou Asi <sup>1</sup> , Dehua Xia <sup>1</sup> , and Minhua Su <sup>1</sup> School of Environmental Science and Engineering, Sun Yat-sen University, Guangzhou, 510275,  China, <sup>2</sup> School of Chemistry and Environment, South China Normal University, Guangzhou, 510006, China, *Contacting Author: hechun@mail.sysu.edu.cn	FC212
18:00	Dendritic Pt-Cu Bimetallic Nanocrystals with a High Electrocatalytic Activity towards	FC213

	Methanol Oxidation	
	Jintao Zhang, Jizhen Ma, Jianwen Jiang and X. S. Zhao*	
	Department of Chemical and Biomolecular Engineering, National University of Singapore, 4	
	Engineering Drive 4, Singapore 117576, Singapore. *Contacting Author: X. S. Zhao is with	
	Department of Chemical and Biomolecular Engineering, National University of Singapore, 4	
	Engineering Drive 4, Singapore 117576, Singapore (phone: (65) 6516-4727; fax: (65) 6779-1936;	
	e-mail: chezxs@nus.edu.sg	
18:15	Synthesis of CdS nanotubes by a paired cell method	
	Yang Xiu-chun, Li Xiao-ning, Zhao Yin, Zou Xiao, Lu Wei, Hou Jun-Wei	FC214
	School of Materials Science and Engineering, Tongji University, Shanghai 200092, China	
	Nanofabrication Oral Session II	LT-14
	Chair: Aoneng CAO, Shanghai University	
10:45	Cell-based Biosensor System Using Micropatterned Polymer Nanofiber	
	Hyun Jong Lee, Eunji Jang, Saemi Park, P. S. Keshava Murthy and Won-Gun Koh*	EC215
	Department of Chemical and Biomolecular Engineering, Yonsei University, Republic of Korea.	FC215
	*Contacting Author: WG. Koh, E-mail:bml@yonsei.ac.kr.	
11:00	Effect of Calcination Temperature on the Electrospun MFe <sub>2</sub> O <sub>4</sub> (M=Ni <sub>0.25</sub> -Cu <sub>0.25</sub> -Zn <sub>0.5</sub> )	
	Ekaphan Swatsitang <sup>1,2</sup> , Likkhasit Wannasen <sup>1</sup> , and Santi Maensiri <sup>1,2</sup>	
	<sup>1</sup> Small & Strong Material Group (SSMG), Department of Physics, Faculty of Science, Khon Kaen	
	University, Khon Kaen, 40002 Thailand. <sup>2</sup> Intergrated Nanotechnology Research Center (INRC),	FC216
	Faculty of Science, Khon Kaen University, Khon Kaen, 40002 Thailand. Contacting Author:	FC216
	Ekaphan Swatsitang; Email address: ekaphan@kku.ac.th, Dr. Santi Maensiri; Tel.: +66-43-	
	202222 to 9 ext. 12248; Fax: +66-43-202374; Email address: sanmae@kku.ac.th;	
	santimaensiri@gmail.com	
11:15	Nanofountain Probes for Direct-Write Nanomanufacturing and In Vitro Single Cell Studies	
	Owen Y. Loh and Horacio D. Espinosa*	EC017
	Dept. of Mechanical Engineering, Northwestern University, o-loh@northwestern.edu,	FC217
	espinosa@northwestern.edu	
11:30	Nearly Monodispersed Perylene Nanotablets: Easy Fabrication and Unique Optical	
	Properties	
	Zhe-Chen Wang, Yan-Ping Ma, Yan-Xia Zhao, Xun-Lei Ding, and Sheng-Gui He*	
	Beijing National Laboratory for Molecular Sciences, State Key Laboratory for Structural	FC218
	Chemistry of Unstable and Stable Species, Institute of Chemistry, Chinese Academy of Sciences,	
	Zhongguancun, Haidian, Beijing 100190, P. R. China. *Contacting Author, E-mail:	
	shengguihe@iccas.ac.cn Fax: +86-10-62559373;Tel: +86-10-62536990	
11:45	Controlled Alignment of Electrospun Nanofiber on Inkjet Printed Patterns on Flexible	
	Substrate	
	Chavis Srichan, Chatdanai Lumdee, Andrew J. Medford, Tanom Lomas, Adisorn Tuantranont*	FC219
	Nanoelectronics and MEMS Laboratory, National Electronics and Computer Technology Center,	
	Thailand, E-mail * adisorn.tuantranont@nectec.or.th	
12:00	Hierarchical Self-Assembly of 1D and 2D Ordered Silver Nanoparticle Arrays on Block	EC220
	Copolymer Templates	FC220

Zhongtao Shi<sup>a</sup>, \*, Yanfen Qin<sup>a</sup>, Youbin Yu<sup>a</sup>, Min Han<sup>b</sup>, and Guanghou Wang<sup>b</sup>

<sup>a</sup> School of Science, Ningbo University of Technology, Ningbo, China; <sup>b</sup> National Laboratory of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, China.

\*Contacting Author: Zhongtao Shi (phone: +86-574-87081630; fax: +86-574-87616027; email: shizht@nbut.cn).

12:15 **Hybrid Synthesis and Processing Schemes for Highly-Ordered Polyaniline Nanoarchitectures**A. Vlad<sup>1</sup>, P. Jedrasik<sup>2</sup>, C.A. Dutu<sup>1</sup>, D.A. Serban<sup>1</sup>, P. Guillet<sup>3</sup>, C.-A. Fustin<sup>3</sup>, U. Södervall<sup>2</sup>, J.F. Gohy<sup>3</sup> and S. Melinte<sup>1</sup>\*

<sup>1</sup>Laboratoire de Dispositifs Intégrés et Circuits Electroniques, Université catholique de Louvain, B-1348 Louvain la Neuve, Belgium. <sup>2</sup>Department of Microtechnology and Nanosciences MC 2, Chalmers University of Technology, SE-412 96 Göteborg, Sweden. <sup>3</sup>Unité de Chimie des Matériaux Inorganiques et Organiques, Université catholique de Louvain, Place L. Pasteur 1, B-1348 Louvain-la-Neuve, Belgium \*Contacting Author: Sorin Melinte (phone: +32-10-47-9309; fax: +32-10-47-2598; email:sorin.melinte@uclouvain.be)

FC221

FC223

FC224

- 12:30 Lunch
- 14:00 Poster Session
- 16:00 Break

Chair: Hongyu CHEN, Nanyang Technological University

Pooi See LEE, Nanyang Technological University

## 16:15 Strategies for Controlling Nanoscale Assembly

#### Federico Rosei

Canada Research Chair in Nanostructured Organic and Inorganic Materials INRS Energie, KS212

Materiaux et Telecommunications, Université du Québec 1650 Boul. Lionel Boulet, J3X 1S2

Varennes (QC), Canada. Email: rosei@emt.inrs.ca

16:45 Polymer nanoparticles with Active Carboxyl Groups: Preparation, Structure and Hydrophilicity

Xiuxue Sun, Zhao Dai\*, Jimei Zhang\*, Ping Li, Shichao Xu, Yang liu, Yanmin Yang, Guo Zheng Key Laboratory of Hollow Fiber Membrane Materials and Membrane Processes, Ministry of Education, School of environment and Chemical Engineering, Tianjin Polytechnic University, 300160 Tianjin, China \*Contacting Author (phone:+86-22-24528172; email: daizhao@gmail.com).

17:00 Transfer Printing using O<sub>2</sub>-Plasma treated PDMS Stamps without Adhesive Layer
Jeehoon Kim and Jong-Hyun Ahn\*

School of Advanced Materials Science and Engineering, SKKU Advanced Institute of Nanotechnology, Sungkyunkwan University, Suwon, 440-746, Korea. \*Contacting Author:

Jong-Hyun Ahn (e-mail: ahnj@skku.edu).

### 17:15 V<sub>2</sub>O<sub>5</sub>/polypyrrole Core-shell Nanotubes for Gas Sensor

Wei Jin, Wen Chen\*, Yu Lu, Chunxia Zhao and Ying Dai

State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, and School of Materials Science and Engineering, Wuhan University of Technology, Wuhan 430070, China,

\* Contacting Author: Wen Chen (phone: +86-27 87651107; fax: +86-27 87864580; email: chenw@whut.edu.cn)

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## $Contributed\ Presentations-Tuesday-Jan\ 5,\ 2010-IEEE\ INEC\ 2010$

17:30	The dendritic PAMAM Synthesis on the DBD Amine Grafted PET Surface	
	Juan Li, Lizhen Yang*, Qiang Chen	
	Laboratory of Plasma Physics and Materials, Beijing Institute of Graphic Communication, 102600,	FC225
	Beijing, China. *Contacting Author: Lizhen Yang (Tel:+86-10-6026-1099, email:	
	lppmchenqiang@hotmail.com)	
17:45	Block Copolymer Nanotemplates as Versatile Platforms for Hybrid Multifunctional	
	Nanostructures	
	Dong Ha Kim	FC226
	Department of Chemistry and Nano Science, Ewha Womans University, 11-1 Daehyun-Dong, Seodaemun-Gu, Seoul 120-750 Korea dhkim@ewha.ac.kr	
18:00	Controlled Growth of Nano- and Bio-Arrays on Patterned Substrates	
	Hua Zhang,* Bing Li, Xiaozhu Zhou, Gang Lu, Xiehong Cao, Freddy Boey	
	School of Materials Science and Engineering, Nanyang Technological University, 50 Nanyang Avenue, Singapore 639798, Singapore. *Contacting Author: Hua Zhang (phone: 65-67905175; fax:	FC227
	65-6790-9081; email:HZhang@ntu.edu.sg)	
18:15	Silver Nanoparticles on Poly(ethylene oxide) and Hydroxyethyl Cellulose Nanofiber	
	Narahari Mahanta, Suresh Valiyaveettil*	FC228
	Department of Chemistry, National University of Singapore, 3 Science Drive 3, Singapore 117543	
	*Contacting Author: phone:0065163659; email: chmsv@nus.edu.sg	
	Nanofabrication Oral Session III	LT-16
	Chair: Xinglong WU, Nanjing University	
10:45	Fabrication of well ordered Zn nanorod arrays by ion irradiation method at room	
	temperature and effect on crystal orientations	
	Masaki Kutsuna, Pradip Ghosh*, Masato Kudo, Masaki Tanemura and Yasuhiko Hayashi	FC229
	Department of Frontier Materials, Graduate School of Engineering, Nagoya Institute of Technology,	
	Gokiso-cho, Showa-ku, Nagoya, 466-8555, Japan, E-mail: pradipnit@yahoo.co.in	
11:00	Scanning Probe Microscopy-based Characterization of ZnO Nanorods	
	Christian Teichert* <sup>1</sup> , Yue Hou <sup>1</sup> , Igor Beinik <sup>1</sup> , Xinyi Chen <sup>2</sup> , Y. F. Hsu <sup>2</sup> , Aleksandra B. Djurišić <sup>2</sup> ,	
	Wolfgang Anwand <sup>3</sup> , Gerhard Brauer <sup>3</sup>	
	<sup>1</sup> Institut für Physik, Montanuniversität Leoben, Austria. <sup>2</sup> Department of Physics, University of	FC230
	Hong Kong, P.R. China. <sup>3</sup> Institut für Strahlenphysik, Forschungszentrum Dresden-Rossendorf,	
	Germany. *Contacting Author: Christian Teichert (phone:43-3842-402-4663; fax:	
	43-3842-402-4663; e-mail: teichert@unileoben.ac.at)	
11:15	Stable Aqueous Dispersions of ZnO Nanoparticles for Ink-Jet Printed Gas Sensors	
	Ahmed S. G. Khalil <sup>1</sup> , Sonja Hartner <sup>2</sup> , Moazzam Ali <sup>1</sup> , Anoop Gupta <sup>2</sup> , Hartmut Wiggers <sup>2</sup> , and Markus	
	Winterer <sup>1</sup>	
	<sup>1</sup> Nanoparticle Process Technology and CeNIDE, Duisburg-Essen University, Duisburg, Germany.	FC231
	<sup>2</sup> Institute for Combustion and Gas Dynamics and CeNIDE, Duisburg-Essen University, Duisburg,	
	Germany. *Contacting author: Ahmed S. G. Khalil, (phone: +49 2033791183; fax: +49203 379	
	4453;e-mail: ahmed.s.g.khalil@uni-due.de).	
11:30	Structural and Optical Properties of AlxZn1-xO Alloys by Sol-gel Technique	FC232
	Min Wei, Hong Deng, Xueran Deng, Chunrong Yang, Jinju Chen	1.0232

State Key Laboratory of Electronic Thin Films and Integrated Devices , the School of Microelectronics and Solid State Electronics ,University of Eletronic Science and Technology of China, Chengdu, P.R. China, phone:-86-28-83207281; email: minwei@uestc.edu.cn, hdeng@uestc.edu.cn

## 11:45 Synthesis and Photoluminescence of Ga Doped ZnO Flowers

Gao Hong, Xu Lingling, Liu Jia, Lv Wei, Li Zeming, Zhang Xitian
Heilongjiang Key Laboratory for Advanced Functional Materials and Excited State Processes,
Department of Physics, School of Physics and Electronic Engineering, Harbin Normal University,
Harbin 150025, P.R. China, E-mail: xtzhangzhang@hotmail.com

## 12:00 Designing, Measuring, and Controlling Molecular- and Supramolecular-Scale Properties for Molecular Devices

### Paul S. Weiss,\* Senior Member

California NanoSystems Institute, University of California, Los Angeles, Los Angeles, CA 90095, USA, psw@cnsi.ucla.edu; Departments of Chemistry and Physics, The Pennsylvania State University, University Park, PA 16802, USA, stm@psu.edu

- 12:30 Lunch
- 14:00 Poster Session
- 16:00 Break

Chair: Jr Hau HE, National Taiwan University

Yong YANG, Shanghai Institute of Ceramics, CAS

#### 16:15 Fabricating ZnO nanowires-based Humidity Sensor via Dielectrophoresis Method

Yun Wang, John T. W. Yeow\*, Senior Member IEEE, Yu-Tung Yin and Liang-Yih Chen\*
Yun Wang and John Yeow are both with Department of System Design Engineering, University of
Waterloo, Waterloo, Ontario, Canada, N2L 3G1, Yu-Tung Yin and Liang-Yih Chen are both with
Department of Chemical Engineering, National Taiwan University of Science and Technology,
Taipei, 106, Taiwan. \*Contacting Author: John and Chen have equal contribution for the report.
The main contact email: sampras@mail.ntust.edu.tw.

## 16:30 NO Gas Sensing Properties of ZnO Wire-like Thin Films Synthesized by Thermal Oxidation of Sputtered Zn Metallic Films in Air

Nguyen Le Hung, Eunseong Ahn, Hooncheol Jung, Hyojin Kim\*, Soon-Ku Hong, and Dojin Kim

FC235

Department of Materials Science and Engineering, Chungnam National University, \*Contacting

Author: Hyojin Kim (phone: 82-42-821-6636; fax: 82-42-822-3206; email:hyojkim@cnu.ac.kr).

### 16:45 Copper Seed Layer Using Atomic Layer Deposition for Cu interconnect

Dae-Yong Moon<sup>1</sup>, Tae-Suk Kwon<sup>1</sup>, Byung-Woo Kang<sup>2</sup>, Woong-Sun Kim<sup>2</sup>, Baek Mann Kim<sup>3</sup>, Jae Hong Kim<sup>3</sup>, and Jong-Wan Park\*<sup>2</sup>

<sup>1</sup>Division of Nanoscale Semiconductor Engineering, <sup>2</sup>Division of Materials Science & Engineering, FC236 Hanyang University, Soul, Korea <sup>3</sup>Research & Development Division, Hynix, Icheon-si, Kyoungki-do, Korea, \*Contacting Author: Jong-Wan Park (phone: +82-2-2220-0386; email: eako37@hanyang.ac.kr)

# 17:00 Y<sub>2</sub>O<sub>3</sub>:Eu<sup>3+</sup> Luminescent Nanofibers From Electrospun PVA/Y(NO<sub>3</sub>)<sub>3</sub>/Eu(NO<sub>3</sub>)<sub>3</sub> Composite Fibers

FC237

FC233

KS218

	ruming Chen, Qingrong Qian, Xinping Liu, Liren Xiao, and Qingnua Chen."	
	College of Chemistry and Materials Science, Fujian Normal University and Fujian Modified Plastic	
	Research and Develop technology Institue, Fuzhou 350007, China. *Contacting Author: Qinghua	
	Chen is with College of Chemistry and Materials Science, Fujian Normal University, Fuzhou	
	350007, China (Phone: +86 8344 1949; fax: +81 043 251 1231; email: cqhuar@pub5.fz.fj.cn).	
17:15	Conformal Photoresist Coating for Critical Dimension Improvement	
	Laddawan Supadee and Assoc.Prof.Dr.Wisut Titiroongruang	FC238
	Electrical engineering faculty, King Mongkut's Institute of Technology, Ladkrabang, Bangkok	FC236
	Thailand. s1060031@kmitl.ac.th and ktwisut@kmitl.ac.th	
17:30	Electrical properties of Pb(Mg <sub>1/3</sub> Nb <sub>2/3</sub> )O <sub>3</sub> -PbTiO <sub>3</sub> (PMN-PT) epitaxial films grown on Si	
	substrates	
	Juan Jiang, a Nak-Jin Seong, Hyun-Hee Hwang, Won-Jae Lee, and Soon-Gil Yoon Az	
	<sup>a</sup> School of Nano Science and Technology, Graduate of Analytical Science and Technology	EC220
	(GRAST), Chungnam National University, Daeduk Science Town, 305-764, Daejeon, Korea <sup>b</sup> Room	FC239
	206, Business Incubator Building 233-5, Gasan-dong, Guemcheon-Gu,153-801, Seoul,	
	Korea <sup>c</sup> Department of Nano Technology, Dong-Eui University, Busan, 614-714, Korea*Contacting	
	Author: sgyoon@cnu.ac.kr	
17:45	Fabrication of ZnO Nanostructures: Effect of Organic and Inorganic Compounds	
	P. K. Samanta <sup>1,2</sup> *, S. Basak <sup>1</sup> and P. Roy Chaudhuri <sup>1</sup> , MEMBER, IEEE	
	1Department of Physics & Meteorology, Indian Institute of Technology, Kharagpur, India	FC240
	2Department of Physics, Ghatal R. S. Mahavidyalaya, Ghatal, Paschim Medinipur, India, E-mail:	
	pijush.samanta@gmail.com	
18:00	Whispering-Gallery Mode Ultraviolet Laser ZnO Nano-/Micro-rods	
	C. X Xu*, J. Dai, G. P. Zhu, C. G. Lv, Y. P. Cui	
	Advanced Photonics Center, School of Electronic Science and Engineering, Southeast University,	FC241
	Nanjing 210096, China, Email: xcxseu@seu.edu.cn	
18:15	Ce-doped ZnO nanorods by electrodeposition	
	F. Fang, A. M. C. Ng, X. Y. Chen, A. B. Djurišić, and W. K. Chan	
	<sup>1</sup> Dept. of Physics, The University of Hong Kong, Pokfulam Road, Hong Kong, <sup>2</sup> Dept. of Chemistry,	
	The University of Hong Kong, Pokfulam Road, Hong Kong, *Contacting Author: Dr. A. B. Djurišić	FC242
	is with the Department of Physics, The University of Hong Kong, Pofulam Road, Hong Kong, P. R.	
	China. (phone: +852 28597946; email: dalek@hkucc.hku.hk).	
	Nanofabrication Poster Session I	ATRIUM
14:00		
	Preparation of Carbon Nanofibers Using Ferric Nitrate from the V-type Pyrolysis Flame	
	Yuanchao Liu*, baomin Sun, Zhaoyong Ding and Wei Li	
	School of energy and power engineering north china electric power university, beijing ,china	ED404
	*Contacting Author Yuanchao Liu is with the School of Energy and Power Engineering, North	FP201
	China Electric Power University, Beijing, China (phone: +86 10-80798745;	
	email:ycliu_999@126.com)	
	Synthesis and Characterization of Carbon Nanotubes from the V-type Pyrolysis Flame	
	Baomin Sun, Yuanchao Liu*, Zhaoyong Ding and Wei Li	FP202
	School of energy and power engineering north china electric power university, beijing ,China	

\*Contacting Author Yuanchao Liu is with the School of Energy and Power Engineering, North China Electric Power University, Beijing, China (phone: +86 10-80798745; email:ycliu 999@126.com)

## A New Modeling Method for the Pattern Library of Interconnect Parasitic Capacitances in VLSI

Hui Qu\*<sup>1</sup>, Xiaoyu Xu<sup>1</sup>, *Member, IEEE*, and Zhuoxiang Ren<sup>2</sup>, *Senior Member, IEEE*<sup>1</sup>Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, China. <sup>2</sup>Mentor FP203

Graphics Corporation, San Jose, CA, 95131, USA. \*Contacting Author: Hui Qu is with the Institute of Electrical Engineering, Chinese Academy of Sciences; No.6, Beiertiao Street, Zhongguancun, Haidian District, Beijing, 100190, China (e-mail: quhui@mail.iee.ac.cn).

## A novel and facile route for the synthesis of water-soluble cadmium sulfide quantum dots

Li Zhen, Liu Yanyan, Fang Yaoguo, Peng Liwei, Liu Tiebing, Wu Minghong\*
Shanghai Applied Radiation Institute, Shanghai University, 333 Nanchen Road, Baoshan, Shanghai 200444, China. \*Contacting Author: Wu Minghong is with Shanghai Applied Radiation Institute, Shanghai University, China. (Phone: +86-21 66304220; fax: +86-21 66135275; email: mhwu@staff.shu.edu.cn)

# A novel chelating surfactant templating pathway for preparation of $\text{Co}_3\text{O}_4$ /silica mesoporous composite

Kui Niu, Mingqing Chen\*, Zhongbin Ni, and Chengwu Fu
School of Chemical and Material Engineering, Jiangnan University, Wuxi, China. \*Contacting
FP205
Author: Mingqing Chen is with School of Chemical and Material Engineering, Jiangnan University,
1800 Lihu Road, Wuxi, China. (Tel.: +86-510-89880678; fax: +86-510-85917763; E-mail: mqchen@jiangnan.edu.cn).

# A Simple Route to High-temperature Phase Metal Oxide nanoparticls by Laser Ablation in Liquid

Peisheng Liu<sup>1,2\*</sup>, Weiping Cai<sup>2</sup>, Xiangdong Luo<sup>1\*</sup>, Weiping Jing<sup>1</sup> and Jinglian Hu<sup>3</sup>

<sup>1</sup>Jiangsu Key Laboratory of ASCI Design, Nantong University, Nantong 226019, P.R. China <sup>2</sup>Key Laboratory of Materials Physics, Anhui Key Laboratory of Nanomaterials and Nanotechnology, Institute of Solid State Physics, Chinese Academy of Sciences, Hefei 230031, P.R. China <sup>3</sup>School of FP206 Materials Science and Engineering, Anhui Key Laboratory of Metal Materials and Processing, Anhui University of Technology, Ma-An-Shan, 243002, P.R. China. \*Contacting Authors: Peisheng Liu and Xiangdong Luo are with Jiangsu Key Laboratory of ASCI Design, Nantong University, China (phone: +86-513-85012704; fax: +86-513-85012700; Email: psliu@issp.ac.cn , luoxd@ntu.edu.cn)

## A Study of Conjugation of FePt/ZnS Nanocore-shell Structure with Different Sequences of DNAs

Ho Chang and Sheng-Hung Wu

FP207

Department of Mechanical Engineering, National Taipei University of Technology E-mail address:
f10381@ntut.edu.tw

# Assembly of Inorganic-Organic Hybrid Network via Hydrogen Bonding and Its Reinforcing Effects on Thermoplastics

<sup>a</sup>Mingliang Du\*, <sup>b</sup>Baochun Guo\* and <sup>b</sup>Demin Jia <sup>a</sup> Key Laboratory of Advanced Textile Materials and Manufacturing Technology, Ministry of Education, Zhejiang Sci-Tech University, Hangzhou 310018, China. <sup>b</sup>Department of Polymer Materials and Engineering, South China University of Technology, Guangzhou 510640, China. \*To

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whom all correspondences should be addressed. du@zstu.edu.cn, Fax: 86-571- 86843255, Tel:86-571-86843255 (ML Du); Email: psbcguo@scut.edu.cn, Fax: 86-20-22236688, Tel: 86-20-87113374 (BC Guo).

# Atomic Structure of Hydrous Ruthenium Oxide Coating on Carbon-Nanotube for Supercapacitor

Yuli Lin\* and H.-S Huang
Institute of Engineering Science, Chung Hua University, Hsinchu, Taiwan \*Contacting Author: Yuli Lin is with the Institute of Engineering Science and Department of Mechanical Engineering, Chung Hua University, Hsinchu, Taiwan (phone: +886 3-5185494; email:yulilin@chu.edu.tw).

FP209

### Behaviors of the Different Dispersers on the Morphology of the Porous TiO2 Films

Yu Zou, Ding Ren, JiFu Du, HaiYang Dai, ChangYong Zhan, NingKang Huang\*
Key Lab. of Radiation Physics and Technology, Ministry of Education; Institute of Nuclear Science and Technology, Sichuan University, ChengDu, Sichuan, P. R. China, 610064 \*Contacting Author: NingKang Huang, Tel.: +86-28-85412230; Fax: +86-28-85410252; Email address:

FP210

# Catalytic Growth and Characterization of Single-Crystalline Aluminum Nitride Nanowires Hue-Min Wu\*and Jaw-Yeu Liang

Department of Physics, Chinese Culture University, Taipei 111, Taiwan \*Corresponding author: hueminwu@faculty.pccu.edu.tw

FP211

## Characterization and Photocatalytic Activity of Titanate Nanotube using a Solvothermal Route

Qingfeng Sun, Haipeng Yu\*, Yixing Liu, Yongzhi Cui, Qiongfang Yu, and Liyang Luo
Key laboratory of Bio-based Material Science and Technology of Ministry of Education, Northeast
Forestry University, China E-mail: fengsunqing@sohu.com; yuhaipeng20000@yahoo.com.cn;
yxl200488@sina.com \*Contacting Author: Haipeng Yu is with the Key laboratory of Bio-based
Material Science and Technology of Ministry of Education, Northeast Forestry University;
Hexing road 26, Harbin, 150040, China. (phone: 86-451-8219-1756; email:
yuhaipeng20000@yahoo.com.cn).

FP212

### Chemical Structure of Photocatalytic Active Sites in Nanosize TiO<sub>2</sub>

Tung-Li Hsiung and H. Paul Wang\*

huang 072@163.com

Department of Environmental Engineering, National Cheng Kung University, Tainan 701, Taiwan. \*Contacting Author: H. Paul Wang is with Department of Environmental Engineering and Sustainable Environmental Research Center, National Cheng Kung University, Tainan 701, Taiwan. (phone: +886-6-2763608; fax: +886-6-2752790; email: wanghp@mail.ncku.edu.tw).

FP213

## Constriction Feffomagnetic Patterned Thin Film By AFM Scratch Lithography

Kyungmin Jang\*, Yoshifumi Ishibashi, Daisuke Iwata, Hidenori Suganuma, Tsutomu Yamada, and Yasushi Takemura

Department of Electrical and Computer Engineering, Yokohama National University, Yokohama, Japan \*Contacting Author: Kyungmin Jang is with the Department of Electrical and Computer Engineering, Yokohama National University, Yokohama, Japan (phone: +81-45-339-4154; fax: +81-45-339-4154; email: d09gd193@ynu.ac.jp)

FP214

## Controllable Synthesis of Straight and Branched CdTe Nanowires Using CdO as Precursor

Sheng Liu, Chun-Yan Yang, Wen-Hua Zhang\*, and Can Li\*

FP215

State Key Lab of Catalysis, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, 457 Zhongshan Road, Dalian, China. \*Contacting Authors: Can Li and Wen-hua Zhang are with

State Key Lab of Catalysis, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, 457 Zhongshan Road, Dalian, 116023, China (phone: +86-411-84379070; +86-411-84379252; email: canli@dicp.ac.cn; whzhang@dicp.ac.cn).

## Controlled Growth of Carbon Nanotubes Using Zinc Oxide Nanotubes as the Catalyst SHIH-FONG LEE<sup>1</sup>, YUNG-PING CHANG<sup>1</sup>, LI-YING LEE<sup>1,2</sup>

<sup>1</sup>Department of Electrical Engineering, Dayeh University, No. 168, University Road, Da-Tsuen, Changhua, Taiwan 51505, R.O.C. <sup>2</sup>Department of Electronic Engineering, Chung Chou Institute of Technology, No. 6, Lane 2, Section 3, Shanjiao Road, Yuanlin, Changhua, Taiwan 510, R.O.C.

FP216

\*Corresponding author e-mail address:ypc@cht.com.tw

# Controlled Growth of Disordered Si Nanowire Arrays at Room Temperature for Self-Cleaning and Anti-Reflection Applications

Yu-An Dai, Hung-Jr Chang, Chin-An Lin, and Jr-Hau He\*

Small Lab of Institute of Photonics and Optoelectronics, & Department of Electrical Engineering, National Taiwan University, Taipei, 106, Taiwan, ROC \*Contacting Author: Jr-Hau He is with Institute of Photonics and Optoelectronics, & Department of Electrical Engineering, National Taiwan University, Taipei, 106. (phone: +886-2-33669646; email: jhhe@cc.ee.ntu.edu.tw).

FP217

### Controlled large strain of Si in the NiSi/Si/NiSi nanowire heterostructure

W. W. Wu<sup>1\*</sup>, K. C. Lu<sup>2\*</sup>, K. N. Chen<sup>3\*</sup>, and C. W. Wang<sup>1</sup>

<sup>1</sup>Department of Materials Science and Engineering, National Chiao Tung University, Hsinchu, Taiwan <sup>2</sup>Department of Materials Science and Engineering, National Cheng Kung University, Taiwan, Taiwan <sup>3</sup>Department of Electronics Engineering, National Chiao Tung University, Hsinchu, Taiwan \*Contacting Authors: W. W. Wu is with National Chiao Tung University, Taiwan (phone: 886-3-571-2121 ext 55395; fax: 886-3-572-4727; e-mail: wwwu@mail.nctu.edu.tw). K. C. Lu is with National Cheng Kung University, Taiwan (phone: 886-6-275-7575 ext 62900; fax: 886-6-234-6290; e-mail: kclu@mail.ncku.edu.tw). K. N. Chen is with National Chiao Tung University, Taiwan (phone: 886-3-513-1558; fax: 886-3-572-4361; e-mail: knchen@mail.nctu.edu.tw).

# Dielectric Constant Controlled Solvothermal Synthesis of a $TiO_2$ Photocatalyst with Tunable Crystallinity: A Strategy for Solvent Selection

Jian J. Wu, Xu J. Lü, and Fu Q. Huang\*

FP219

CAS Key Laboratory of Materials for Energy Conversion, Shanghai Institute of Ceramics, Chinese Academy of Sciences (SICCAS), 1295# Dingxi Road, Shanghai 200050, P. R. China (P.R.C). \*Contacting Author: Fax: +86 21 5241 6360, Email: huangfq@mail.sic.ac.cn,

## Dielectrophoretic Addressable Deposition of Arc-SWCNTs for High-throughput Screening FET Arrays

Wei Guo<sup>1</sup>, Zengpei Dou<sup>1</sup>, Xiaoxue Tian<sup>2</sup>, Hongfang Sun<sup>1</sup>\*, Yanyi Huang<sup>3</sup>, Dongsheng Xu<sup>2</sup>, Yuanfang liu<sup>1</sup>

<sup>1</sup>Dept. Chemical Biology, College of Chemistry and Molecular Engineering, Peking University
<sup>2</sup> State Key Laboratory for Structural Chemistry of Unstable and Stable Species, College of
Chemistry and Molecular Engineering, Peking University <sup>3</sup> Dept. Advanced Materials and

Nanotechnology, College of Engineering, Peking University \*Contacting Author: Dr. Hongfang Sun is in the Beijing National Laboratory for Molecular Sciences, Department of Chemical Piology College of Chemistry & Molecular Engineering, Peking University, Peijing 100871, Chir

Biology, College of Chemistry& Molecular Engineering, Peking University, Beijing 100871, China. (phone/fax: 86-10-62754127, shf@pku.edu.cn)

### Direct Single-Step Micromolding Method For Patterning Of Various Nanomaterials FP221

## $Contributed\ Presentations-Tuesday-Jan\ 5,\ 2010-IEEE\ INEC\ 2010$

D. H. Dl e K H' C H *	
Radha B <sup>1</sup> & Kulkarni G. U. *	
Chemistry and Physics of Materials Unit and DST Unit on Nanoscience, Jawaharlal Nehru Centre	
for Advanced Scientific Research, Jakkur P.O., Bangalore 560 064, India *Contacting Author is	
with Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India (phone:	
+91-80-2208 2814; fax: +91-80-22082766; e-mail: kulkarni@jncasr.ac.in)	
Effect of Oxide Layer on Al-induced Crystallization of Amorphous Si <sub>1-x</sub> Ge <sub>x</sub> Thin Films	
Tianwei Zhang, Fei Ma, Kewei Xu*	
State Key Laboratory for Mechanical Behavior of Materials, Xi'an Jiaotong University, Xi'an	FP222
710049, Shaanxi, P.R. China *Contacting Author: Kewei Xu State Key Laboratory of Mechanical	
Behavior of Materials, Xi'an Jiaotong University, No. 28, Xianning West Road, Xi'an 710049,	
Shaanxi, P. R. China. (Phone: +86 29-88403018).	
Effect of Process Parameters on Perpendicular Coercivity of Co <sub>3</sub> Pt Thin Films	
S. C. Chen <sup>1</sup> , P. C. Kuo <sup>2</sup> , C. L. Shen <sup>2</sup> ,*, S. L. Hsu <sup>2</sup> , G. P. Lin <sup>2</sup> , S. L. Ou <sup>2</sup> , and K. T. Huang <sup>2</sup>	
<sup>1</sup> Department of Materials Engineering, Ming Chi University of Technology, Taipei 243, Taiwan	
<sup>2</sup> Institute of Materials Science and Engineering, National Taiwan University, Taipei 106, Taiwan	FP223
*Contacting Author: C. L. Shen is with the Institute of Materials Science and Engineering, National	
Taiwan University; No. 1, Sec. 4, Roosevelt Road, Taipei, 10617 Taiwan (phone:	
+886-2-2364-8881; fax: +886-2-2363-4562; email:d96527024@ntu.edu.tw).	
Effects of Reaction Conditions on Preparation of FePO <sub>4</sub> •2H <sub>2</sub> O and Properties of LiFePO <sub>4</sub> by	
Solution Precipitation Route	
*Bao ZHANG, Jiafeng ZHANG, Chao SHEN, Chunli PENG, and Qian LIAN	
School of Metallurgical Science and Engineering, Central South University, Hunan, China, 410083.	FP224
*Contacting Author: Bao ZHANG is with the School of Material Science and Engineering, Central	
South University, Hunan, China. (Phone: +86 731-88836357; Email: csuzjf@163.com,	
csuzb@vip.163.com).	
Effects of Additives on Sintering of Nanocrystalline Hydroxyapatite	
Jutharatana Klinkaewnarong, Ekaphan Swatsitang, and Santi Maensiri	
Integrated Nanotechnology Research Center (INRC) and Small & Strong Materials Group (SSMG),	
Department of Physics, Faculty of Science, Khon Kaen University, Khon Kaen, 40002, Thailand.	FP225
*Contacting Author: Jutharatana Klinkaewnarong; e-mail: jutharatana@gmail.com and Santi	
Maensiri; e-mail: sanmae@kku.ac.th; santimaensiri@gmail.com	
Effects of Applied Voltage on Barrier Oxide Layer in Porous AAO Fabrication	
Ji-Hong Kim*, Sung Uk Jang, Ki Hoon Park, and Soon-Ju Kwon	
Laboratory for Photosynthetic Materials and Devices, the Department of Materials Science and	FP226
Engineering, Pohang University of Science and Technology, Pohang, Korea *e-mail:	
jihong81@postech.ac.kr	
Effects of Potassium Hydroxide Post-Treatments on the Field-Emission Properties of Thermal	
Chemical Vapor Deposited Carbon Nanotubes	
LI-YING LEE <sup>1,2</sup> , SHIH-FONG LEE <sup>1</sup> , YUNG-PING CHANG <sup>1</sup> , WEI- SHAO HSIAO <sup>1</sup>	
<sup>1</sup> Department of Electrical Engineering, Dayeh University, No. 168, University Road, Da-Tsuen,	FP227
Changhua, Taiwan 51505, R.O.C. <sup>2</sup> Department of Electronic Engineering, Chung Chou Institute of	11 227
Technology, No. 6, Lane 2, Section 3, Shanjiao Road, Yuanlin, Changhua, Taiwan 510, R.O.C.	
*Corresponding author e-mail address:ypc@cht.com.tw	
Electrochemical Behavior of Zn Anodes in Zn/Air Batteries for Nano-roughened ZnO Structure Synthesis	FP228
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**Structure Synthesis** 

Yi-Hao Pai and Gong-Ru Lin Graduate Institute of Photonics and Optoelectronics, and Department of Electrical Engineering, National Taiwan University E-mail:paiyihao930@ntu.edu.tw (Y. H. Pai); grlin@ntu.edu.tw (G. -R. Lin) Enhanced Efficiency of Thermal Interface Materials with Cu@C Nanoparticles Yu-Min Chiu<sup>1</sup>, H. Paul Wang<sup>1\*</sup>, Chien-Hua Huang<sup>1</sup>, Wei-Keng Lin<sup>2</sup>, and Yu-Ling Wei<sup>3</sup> <sup>1</sup>Department of Environmental Engineering, National Cheng Kung University, Tainan 701, Taiwan. <sup>2</sup>Department of Engineering and System Science, National Tsing Hua University, Hsinchu 300, FP229 Taiwan. <sup>3</sup>Department of Environmental Science and Engineering, Tunghai University, Taichung 407, Taiwan \*Contacting Author: H. Paul Wang is with Department of Environmental Engineering and Sustainable Environmental Research Center, National Cheng Kung University, Tainan 701, Taiwan. (phone: +886-6-2763608; fax: +886-6-2752790; email: wanghp@mail.ncku.edu.tw). Enhanced Roughness of Porous TiO<sub>2</sub> Photoanode with Hollow Carbon Sphere Templates Y.-H. Chang <sup>1</sup>, C.-Y. Liao <sup>1</sup>, James Wang <sup>2</sup>, H. Paul Wang <sup>1,3,4</sup>\*, and Y.-L. Wei <sup>5</sup> <sup>1</sup>Department of Environmental Engineering, National Cheng Kung University, Tainan 70101, Taiwan. <sup>2</sup>Department of Biomedical Engineering, University of Southern California, Los Angels, CA 90007, USA. 3Sustainable Environment Research Center, National Cheng Kung University, FP230 Tainan 70101, Taiwan. <sup>4</sup>Center for Micro/Nano Science and Technology, National Cheng Kung University, Tainan 70101, Taiwan. <sup>5</sup>Department of Environmental Science and Engineering, Tunghai University, Taichung 40704, Taiwan. \*Contacting Author: H. Paul Wang (phone: +886-6-276-3608; fax: +886-6-275-2790; e-mail: wanghp@mail.ncku.edu.tw). Enhanced Wet Etching of Patterned GaN with Heavy-Ion Implantation Yuan Gao, <sup>1</sup> Chune Lan, <sup>1</sup> Jianming Xue, <sup>1</sup> Sha Yan, <sup>1</sup> Yugang Wang, \*, <sup>1</sup> Fujun Xu, <sup>2</sup> Bo Shen <sup>2</sup> <sup>1</sup>State Key Laboratory of Nuclear Physics and Technology, Peking University, Beijing 100871, Pepole's Republic of China. <sup>2</sup>State Key Laboratory for Artificial Microstructures and Mesoscopic FP231 Physics, Peking University, Beijing 100871, Pepole's Republic of China. \*Contacting Author: Yugang Wang is with the State Key Laboratory of Nuclear Physics and Technology, Peking University, Beijing 100871, Pepole's Republic of China. (e-mail: ygwang@pku.edu.cn, TEI:861062755406, FAX:861062751875) Enhancement of Ordering and Perpendicular Magnetic Properties of CoPt Films by adding Ag Underlayer C. L. Shen <sup>1</sup>,\*, P. C. Kuo<sup>1</sup>, Y. S. Li<sup>1</sup>, G. P. Lin<sup>1</sup>, K. T. Huang<sup>1</sup>, and S. C. Chen<sup>2</sup> <sup>1</sup>Institute of Materials Science and Engineering, National Taiwan University, Taipei 10617, Taiwan FP232 <sup>2</sup>Department of Materials Engineering, MingChi University of Technology, Taipei 243, Taiwan \*Contacting Author: C. L. Shen is with the Institute of Materials Science and Engineering, National Taiwan University; No. 1, Sec. 4, Roosevelt Road, Taipei, 10617 Taiwan (phone: +886-2-2364-8881; fax: +886-2-2363-4562; email: d96527024@ntu.edu.tw). Enhancing the rectification efficiency by changing ion species and introducing concentration gradients FP233 Liuxuan Cao†, Wei Guo†, Lin Wang and Yugang Wang\* State Key Laboratory of Nuclear Physics and Technology, Peking University, caoliuxuan@126.com

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<sup>1</sup>Small & Strong Materials Group (SSMG), Department of Physics, Faculty of Science, Khon Kaen University, Khon Kaen, 40002, Thailand <sup>2</sup>Integrated Nanotechnology Research Center (INRC),

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Fabrication and Magnetic Properties of Electrospun Ti<sub>0.9</sub>V<sub>0.1</sub>O<sub>2</sub> Nanofibers

Wichaid Ponhan<sup>1</sup> and Santi Maensiri<sup>1,2</sup>

Faculty of Science, Khon Kaen University, Khon Kaen, 40002, Thailand \*Contacting Author: Wichaid Ponhan; Email address: w ponhan@hotmail.com And Dr. Santi Maensiri; Tel.: +66-43-202222 to 9 ext. 2248; Fax: +66-43-202374; Email address: sanmae@kku.ac.th; santimaensiri@gmail.com Fabrication and Magnetorheological Property of Nano-sized Magnetic Particles Kang Hyun Song, Bong Jun Park, and Hyoung Jin Choi All authors are with Department of Polymer Science and Engineering, INHA University, Incheon, Korea. \*Contacting Author: H. J. FP235 Choi is with the Department of Polymer Science and Engineering, INHA University, Incheon, Korea. (phone: +82 32-8607486; email: hjchoi@inha.ac.kr) Fabrication of Dimension-tunable Si Nanopillar Arrays with Antireflection and Self-Cleaning **Properties** Yi-Ruei Lin, and Jr-Hau He \* Small Laboratory, Institute of Photonics and Optoelectronics, and Department of Electrical FP236 Engineering, National Taiwan University, Taipei, 106 Taiwan ROC. \*Contacting Author: Jr-Hau He with the Small Laboratory, Institute of Photonics and Optoelectronics, and Department of Electrical Engineering, National Taiwan University, Taipei, 106 Taiwan ROC (Fax: +886-2-2367-7467; Tel: +886-2-33669646; E-mail: jhhe@cc.ee.ntu.edu.tw). Fabrication of FePt Nano-Islands for Ultra-High Density Magnetic Recording Media G. P. Lin<sup>1</sup>, \*, P. C. Kuo<sup>1</sup>, K. T. Huang<sup>1</sup>, S. L. Ou<sup>1</sup>, C. L. Shen<sup>1</sup>, T. L. Tsai<sup>1</sup>, and S. C. Chen<sup>2</sup> <sup>1</sup>Institute of Materials Science and Engineering, National Taiwan University, Taipei 10617, Taiwan <sup>2</sup>Department of Materials Engineering, MingChi University of Technology, Taipei 243, Taiwan FP237 \*Contacting Author: G. P. Lin is with the School of Institute of Materials Science and Engineering, National Taiwan University, Taipei 10617, Taiwan. (phone: +886-2-2364-8881; email: d95527015@ntu.edu.tw). Fabrication of Nano-Scale Cu Bond Pads with Seal Design in 3D Integration Applications K. N. Chen<sup>1</sup>\*, Member, IEEE, Y. Zhu<sup>2</sup>, W. W. Wu<sup>1</sup>\*, C. K. Tsang<sup>2</sup>, S. H. Lee<sup>3</sup>, and J. Q. Lu<sup>4</sup> <sup>1</sup>National Chiao Tung University, Hsinchu, Taiwan <sup>2</sup>IBM T. J. Watson Research Center, Yorktown Heights, NY 10598, USA <sup>3</sup>Laboratory for Physical Sciences, University of Maryland, College Park, FP238 MD 21029 USA <sup>4</sup>Rensselaer Polytechnic Institute, Troy, NY 12180, USA \*Contacting Authors: K. N. Chen is with National Chiao Tung University, Taiwan (phone: +886-3-513-1558; fax: +886-3-572-4361; e-mail: knchen@mail.nctu.edu.tw). W. W. Wu is with National Chiao Tung University, Taiwan (phone: +886-3-571-2121 ext 55395; fax: +886-3-572-4727; e-mail: wwwu@mail.nctu.edu.tw). Fabrication of novel ZnS/ZnAl<sub>2</sub>S<sub>4</sub> nanocomposite using a facile solvothermal route Chalermchai Pilapong<sup>1</sup>, Titipun Thongtem<sup>1</sup>, Somchai Thongtem<sup>2</sup>,\* <sup>1</sup> Department of Chemistry Faculty of Science, Chiang Mai University, Chiang Mai 50200, FP239 Thailand <sup>2</sup> Department of Physics and Materials Science, Faculty of Science, Chiang Mai University, Chiang Mai 50200, Thailand \* schthongtem@yahoo.com; sthongtem@hotmail.com Fabrication of Si Nanowire Arrays Selectively Formed on Pre-Patterned (001)Si Substrates S. L. Cheng\* and C. H. Lo Department of Chemical and Materials Engineering, National Central University, Taoyuan, Taiwan, FP240 R.O.C. \*Contacting Author: S. L. Cheng (phone: +886-3-4227151 ext.34233; email:

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Fabrication of The SnO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub> Catalysts Through Electrospinning

Quanxiang Li, Weimin Kang, Bowen Cheng\*, Yuanlin Ren, Xue Bai

slcheng@ncu.edu.tw).

Tianjin Municipal Key Lab of Fiber Modification and Functional Fiber, Tianjin Polytechnic University, Tianjin, 300160, China. *Contacting Author: Bowen Cheng is with Tianjin Municipal Key Lab of Fiber Modification and Functional Fiber, Tianjin Polytechnic University, Tianjin, 300160, China. (phone: +86 22 24528018; fax: +86 22 24528017; email: bowen63@126.com ). Fabrication of Truncated Rhombic Dodecahedral Cu <sub>2</sub> O Nanocages and Nanoframes	
Chun-Hong Kuo* and Michael H. Huang Department of Chemistry, National Tsing Hua University, 101, Section 2, Kuang Fu Road, Hsinchu 30013, Taiwan. *Contacting Author: Chun-Hong Kuo is with the Department of Chemistry, National Tsing Hua University, Hsinchu, Taiwan (phone: +886-3-5715131; e-mail:	FP242
d9523805@oz.nthu.edu.tw).	
Fabrication of Two-dimensional Multiscale Patterns by Holographic Lithography	
Jun Hyuk Moon <sup>1</sup> ,*, Woo-Min Jin <sup>1</sup> , Ju-Hwan Shin <sup>1</sup> , and Shu Yang <sup>2</sup>	
<sup>1</sup> Department of Chemical and Biomolecular Engineering, Sogang University, South Korea. <sup>2</sup>	FP243
Department of Materials Science and Engineering, University of Pennsylvania, PA, USA	
*Contacting Author: Prof. Jun Hyuk Moon is with the Department of Chemical and Biomolecular	
Engineering, Sogang University; 1 Shinsu-dong Mapo-gu Seoul South	
Fabrication, Mechanical Properties and Fracture Toughness of Thermoplastic Polyolefin Filled with Carbon Nanofibers	
Cheng Zhu Liao, Sie Chin Tjong*	FP244
Dept. Physics & Materials Science, City University of Hong Kong, Tat Chee Avenue, Kowloon,	11244
Hong Kong *Contacting Author: aptjong@cityu.edu.hk (S C Tjong)	
Facile and Efficient Decoration of Magnetic Nanoparticles on Functionalized Multi-wall	
Carbon Nanotubes	
Hongfu Zhou, Hangquan Li *	
The Key Laboratory of Beijing City on Preparation and Processing of Novel Polymer Materials,	FP245
Beijing University of Chemical Technology, Beijing 100029, PR China (phone:+86-10-64428804;	
email: duzj@mail.buct.edu.cn)	
Fe thin film of thickness 90nm produces large horizontal displacement by magnetic torque	
Yi-Ping Hsieh, Yun-Jui Li, Zung-Hang Wei and Mei-Feng Lai	FP246
Department of Power Mechanical Engineering. d9633818@oz.nthu.edu.tw	
Ferroelectric domain and d <sub>33</sub> measurement in the BiPbFeO <sub>3</sub> film	
Yu-Kuan Huang, Chin-Chung Yu*, and Hsiung Chou	
Yu-Kuan Huang is with the Department of Applied Physics, National University of Kaohsiung,	
Kaohsiung 800, Taiwan, R.O.C. Hsiung Chou is with the Department of Physics, National Sun	FP247
Yat-sen University, Kaohsiung 804, Taiwan, R.O.C. *Contacting Author: Chin-Chung Yu is with the	
Department of Applied Physics, National University of Kaohsiung, Kaohsiung 800, Taiwan, R.O.C.	
(phone: +886-7-5918897; fax: +886-7-5919357; e-mail: yucc@nuk.edu.tw).	
Gas detection using Carbon nanotubes and metal ligand Carbon nanotubes Gas Sensor	
Inho Kim <sup>1</sup> , Gi-Hyeon Kim <sup>1</sup> , Seong Dong Kim <sup>2</sup> , Hyang Hee Choi <sup>3</sup>	
<sup>1</sup> . Shinwoo Electronics Co., Ltd., Gyeonggido, Korea <sup>2</sup> . Korea Electronics Technology Institute,	FP248
Gyeonggido, Korea <sup>3</sup> . Yonsei University, Seoul, Korea. *Corresponding author: National Nano Core	
Research Center, 120-749, Yonsei University, Seoul, Korea, e-mail: netchoi@yonsei.ac.kr.	
Gas ionization sensors with CNT/Ni field cathodes	
Bohr-Ran Huang, Tzu-Ching Lin*, and Ying-Kan Yang Graduate Institute of Electro-Optical Engineering and Department of Electronic Engineering,	FP249

National Taiwan University of Science and Technology, Taipei 106, Taiwan, R.O.C. D9702308@mail.ntust.edu.tw

### Growth of Porous ZnO Nanowires by Thermal Oxidation of ZnS Nanowires

Chih-Cheng Hung<sup>1</sup>, Wen-Tai Lin<sup>1</sup>,\*, and Kuen-Hsien Wu<sup>2</sup>

<sup>1</sup>Department of Materials Science and Engineering, National Cheng Kung University, Tainan,
Taiwan <sup>2</sup>Department of Electro-Optical Engineering, Southern Taiwan University of Technology,
Tainan, Taiwan \*Contacting Author: Wen-Tai Lin is with the Department of Materials Science
and Engineering, National Cheng Kung University, Tainan, Taiwan (email:
wtlin@mail.ncku.edu.tw).

### Growth of ZnO Nanostructures by Electrodeposition

F. Fang, <sup>1</sup> H. Wang, <sup>1</sup> A. B. Djurišić, <sup>1</sup>\* A. M. C. Ng <sup>1</sup> and W. K. Chan <sup>2</sup> <sup>1</sup>Dept. of Physics, The University of Hong Kong, Pokfulam Road, Hong Kong <sup>2</sup>Dept. of Chemistry,

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The University of Hong Kong, Pokfulam Road, Hong Kong E-mail: dalek@hku.hk

## **High Perfermance Light-Colored Rubber Nanocomposites**

Baochun Guo, Feng Chen, Yanda Lei and Demin Jia

<sup>1</sup>Department of Polymer Materials and Engineering, South China University of Technology, Guangzhou 510640, China (phone: +86-20-8711 3374; fax: +86-20-2223 6688; e-mail: psbcguo@scut.edu.cn)

## High-energy Heavy Ion Beam Annealed Ion-implantation-synthesized SiC Nanocrystallites and Photoluminescence

J. Khamsuwan<sup>1</sup>, S. Intarasiri<sup>2</sup>, K. Kirkby<sup>3</sup>, P.K. Chu<sup>4</sup> and L.D. Yu<sup>1,5</sup>\*

Department of Physics and Materials Science, Faculty of Science, Chiang Mai University, Chiang Mai 50200, Thailand <sup>2</sup> Institute for Science and Technology Research and Development, Chiang Mai University, Chiang Mai 50200, Thailand <sup>3</sup> Ion Beam Centre, University of Surrey, Guildford, Surrey, GU2 7XH, UK <sup>4</sup> Department of Physics and Materials Science, City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong <sup>5</sup> Thailand Center of Excellence in Physics, CHE, 328 Si Ayutthaya Road, Bangkok 10400, Thailand E-mail: yuld@fnrf.science.cmu.ac.th

# Hydrothermal Synthesis and Characterization of Monodisperse CeO<sub>2</sub> Nanospheres Sumalin Phokha<sup>1</sup> and Santi Maensiri<sup>1,2</sup>

<sup>1</sup>Small & Strong Material Group (SSMG), Department of Physics, Faculty of Science, Khon Kaen University, Khon Kaen, 40002 Thailand. <sup>2</sup>Intergrated Nanotechnology Research Center (INRC), Faculty of Science, Khon Kaen University, Khon Kaen, 40002 Thailand. \*Contacting Author: Sumalin Phokha; Email address: kaekip@hotmail.com Dr. Santi Maensiri; Tel.: +66-43-202222 to 9 ext. 2248; Fax: +66-43-202374; Email address: sanmae@kku.ac.th; santimaensiri@gmail.com

## Improved Carbon Nanotube Supported Pt Nanocatalyts with Lyophilization Method

State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, Wuhan 430070, China

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## Improvement of Interfacial Adhesion Strength and Thermal Stability of Cu/cap barrier/low-k Dielectric Stack by Plasma Treatment on the Surface of Cu Film

Bo Liu, Jijun Yang, Yuan Wang\*, and Kewei Xu

Daping He, Shichun Mu\* and Mu Pan

<sup>1</sup>Key Laboratory of Radiation Physics and Technology of Ministry of Education, Institute of Nuclear Science and Technology, Sichuan University, Chengdu 610064, PR China. <sup>2</sup>State-Key Laboratory for Mechanical Behavior of Materials, Xi'an Jiaotong University, Xi'an 710049, PR China \*Contacting Author: Yuan Wang is with Key Laboratory of Radiation Physics and

## $Contributed\ Presentations-Tuesday-Jan\ 5,\ 2010-IEEE\ INEC\ 2010$

Technology of Ministry of Education, Institute of Nuclear Science and Technology, Sichuan	
University, Chengdu 610064, PR China. (phone: +86-28-8541-2695; fax: +86-28-8541-0252;	
e-mail: wyuan@scu.edu.cn)	
Influence of Nickel Nanoparticle-Substitution on Dielectric Properties of P(BN)ZT Ceramic	es
Nittaya Jaitanong, Wanwilai C.Vittayakorn and Arnon Chaipanich*	
Department of Physics and Materials Science, Faculty of Science, Chiang Mai University, Chian	g ED257
Mai 50200, Thailand. *Contacting Author: Arnon Chaipanich; 239 Huay Keaw Road, Muang	FP257
District, Chiang Mai, Thailand, 50200 (Tel: +66 (0)53 943367; Fax: +66 (0)53 943445; E-mail:	
arnon@chiangmai.ac.th)	
Investigation Based On NEMS Double Si <sub>3</sub> N <sub>4</sub> Resonant Beams Pressure Sensor	
Chuan Yang Can Guo Xiaowei Yuan	ED250
Department of mechanical engineering in Xi'an JiaoTong University. Xi'an	FP258
China.(phone:029-82668616-149; email: guocan5085@126.com or yangchuan@mail.xjtu.edu.cr	n )
Effects of host and shape on nonlinear optical properties of CdS nanorods and nanoparticle	es
Cun Chang <sup>a</sup> , Qing Chang <sup>a*</sup> , Yinglin Song <sup>b</sup>	
<sup>a</sup> College of Electronic Engineering, Heilongjiang University, Harbin 150080, P. R. China	FP259
<sup>b</sup> Department of Applied Physics, Harbin Institute of Technology, Harbin 150001, P. R. China	
* Corresponding authors. Tel: 86-451-86608504. E-mail: changqing@fudan.edu.cn	
Large-scale Syntheses of Uniform ZnO Nanorods and Ethanol Gas Sensors Application	
Jin Chen <sup>1</sup> , Jin Li <sup>2</sup> , and Shaojun Qiu <sup>3</sup>	
<sup>1</sup> School of Materials Science and Engineering, Xi'an University of Architecture and Technology,	
Xi'an 710055, P. R. China <sup>2</sup> State Key Laboratory of Solidification Processing, School of Materia	ils
Science and Engineering, Northwestern Polytechnical University, Xi'an 710072, China <sup>3</sup> Xi'an	FP260
Modern Chemistry Research Institute, Xi'an, 710065, China *Contacting Author: Jin Chen is wit	:h
the School of Materials Science and Engineering, Xi'an University of Architecture and Technological Control of Materials Science and Engineering, Xi'an University of Architecture and Technological Control of Materials Science and Engineering, Xi'an University of Architecture and Technological Control of Materials Science and Engineering, Xi'an University of Architecture and Technological Control of Materials Science and Engineering, Xi'an University of Architecture and Technological Control of Materials Science and Engineering, Xi'an University of Architecture and Technological Control of Materials Science and Engineering Control of Materials	gy,
Xi'an, China (ph: +86-29-82207830, email: chainjim@sina.com)	
Large-scale synthesis of Sb <sub>2</sub> S <sub>3</sub> spikes by hydrothermal reaction	
Chalermchai Pilapong <sup>1</sup> ,*, Titipun Thongtem <sup>1</sup> , Somchai Thongtem <sup>2</sup>	
<sup>1</sup> Department of Chemistry, Faculty of Science, Chiang Mai University, Chiang Mai 50200,	ED261
Thailand <sup>2</sup> Department of Physics and Materials Science, Faculty of Science, Chiang Mai	FP261
University, Chiang Mai 50200, Thailand * Corresponding author: ttpthongtem@yahoo.com;	
ttpthongtem@hotmail.com	
Microstructure and Magnetic Properties of the FePt Film on a Membrane of Anodized	
Aluminium Oxide	
Shih-Yuan Chen, Yeong-Der Yao, Jenn-Ming Wu, and Chin-Chung Yu*	
Shih-Yuan Chen and Jenn-Ming Wu are with the Department of Materials Science and Engineer	ing,
National Tsing Hua University, Hsinchu 300, Taiwan, R.O.C. Yeong-Der Yao is with the	FP262
Department of Physics and Institute of Applied Science and Engineering, Fu Jen University, Taip	pei
242, Taiwan, R.O.C. *Contacting Author: Chin-Chung Yu is with the Department of Applied	
Physics, National University of Kaohsiung, Kaohsiung 800, Taiwan, R.O.C. (phone:	
+886-7-5918897; fax: +886-7-5919357; e-mail: yucc@nuk.edu.tw).	
Microstructure and Resistivity of Machinable AlN/h-BN Ceramic Nanocomposites	
Hai-yun Jin, Bo He, Nai-kui Gao and Zong-ren Peng	FP263
State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University,	11203
Xi'an, China (Phone: +86-29-82663284; Email: hyjin@mail.xjtu.edu.cn)	

Microwave-Assisted Synthesis of Water-dispersed Core/(Doped) Shell Quantum Dots Haoting Lu, Lihui Yuwen, Mei Hu, and Lianhui Wang* Laboratory of Advanced Materials, Fudan University, China *Contacting Author: Lianhui Wang is with with Laboratory of Advanced Materials, Fudan University, China (phone: +86-21-55664575;	FP264
email: wlhui@fudan.edu.cn)	
Molecular dynamics simulation of Argon-atom bombardment on graphene sheets  Xiao-Lin Wei <sup>1</sup> *, Kai-Wang Zhang <sup>1</sup> , Ru-Zhi Wang <sup>2</sup> , Wen-Liang Liu <sup>1</sup> , and Jian-Xin Zhong <sup>1</sup> Laboratory for Quantum Engineering and Micro-Nano Energy Technology, Xiangtan University, Xiangtan, Hunan 411105, China and Department of Physics, Xiangtan University, Xiangtan, Hunan 411105, China <sup>2)</sup> Laboratory of Thin Film Materials, College of Materials Science and Engineering, Beijing University of Technology, Beijing 100124, China. *Contacting Author: Xiaolin Wei is with Department of Physics, Xiangtan University, Xiangtan, Hunan 411105, China (email: xlw@xtu.edu.cn).	FP265
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YL. Wei*, <sup>1</sup> , CC. Hsu <sup>1</sup> , YS. Peng <sup>1</sup> , YR. Chen <sup>1</sup> and H. Paul Wang <sup>2,3</sup>	
<sup>1</sup> Department of Environmental Science and Engineering, Tunghai University, Taichung City 407 Taiwan <sup>2</sup> Department of Environmental Engineering, National Cheng Kung University, Tainan City 701 Taiwan <sup>3</sup> Sustainable Environment Research Center, National Cheng Kung University, Tainan City 701 Taiwan *Contacting Author: YL. Wei is with Department of Environmental Science and Engineering, Tunghai University, Taichung City 407 Taiwan . (phone: +886-4-2359-1368; fax: +886-4-2359-6858; email: yulin@thu.edu.tw).	FP266
Nanofluidic Diode Generated by pH Gradient inside Track-etched Conical Nanopore	
Lin Wang, Wei Guo, Yanbo Xie, Xinwei Wang, Jianming Xue* and Yugang Wang	
State Key Laboratory of Nuclear Physics and Technology, Peking University, No.201, Chengfu Road, Beijing, China. *Contacting Author: Jianming Xue is with State Key Laboratory of Nuclear Physics and Technology, Peking University, Beijing, China. (Phone: +86-10- 62758494; fax:	FP267
+86-10-62751875; email: jmxue@pku.edu.cn)	
Optimized Conditions for THz Photonic Crystal Fabrication with Excimer Laser  Irene. Ling Li * ,Jing Zhen Huang, Ye Wu, Ling Fu, Jian Pang Zhai, and Shuang Chen Ruan  Shenzhen Key Lab of Laser Engineering, College of Electronic Science and Technology, Shenzhen  University, Guangdong, China. *Contacting author: Irene Ling Li is with College of Electronic  Science and Technology, Shenzhen University, Guangdong, China. (Tel:86-755-26558252,  email:phyirene@163.com)	FP268
Synthesis of ZnO Nanoparticles by Spray-Pyrolysis Method and Their Photocatalytic Effect	
Sang Duck Lee, Sang-Hun Nam, Myoung-Hwa Kim, Young Dok Kim and Jin-Hyo Boo*	
Department of Chemistry, Sungkyunkwan University, Suwon 440-476, Republic of Korea *Contacting Author: Jin-Hyo Boo is with the Department of Chemistry, Sungkyunkwan University, 300 Cheoncheon-dong, Jangan-gu, Suwon 440-746 Republic of Korea (phone: +82-31-290-5972; fax: +82-31-290-7075; e-mail: jhboo@skku.edu).	FP269
PH-Tuned Synthesis of Gold Nanoplates Using Star CD-PDMAEMA	
Huaming Sun, Ziwei Gao*, Kun Hou, Xiaohui Han, Jinling Li and Lingxiang Gao	
Key Laboratory of Applied Surface and Colloid Chemistry, Ministry of Education, School of	FP270
Chemistry and Materials Science, Shaanxi Normal University, Xi'an 710062, People's Republic of	

China \*Contacting Author: Ziwei Gao is with Key Laboratory of Applied Surface and Colloid Chemistry, Ministry of Education, School of Chemistry and Materials Science, Shaanxi Normal

University, Xi'an 710062, People's Republic of China. (phone: +86 29 85303733; fax: +86 29

85303733 8001; E-mail address: zwgao@snnu.edu.cn) Piezoelectric evaluation of UV-illuminated PZT films by piezorsponse force microscopy Cin-Guan Hong<sup>1</sup>, Ching-Pin Hsu<sup>2</sup>, Cheng-Fu Yang<sup>1</sup> and Ching-Chich Leu<sup>1</sup>,\* Department of Chemical and Materials Engineering, National University of Kaohsiung, FP271 Kaohsiung, Taiwan, R.O.C. \*Contacting Author: Ching-Chich Leu is with the Department of Chemical and Materials Engineering, National University of Kaohsiung, Kaohsiung, Taiwan, R.O.C. (phone: +886-7-5919456; email:ccleu@nuk.edu.tw). Preparation and Characterization of nickel nanorods via microwave hydrothermal route Guangjian Wang, Zhengwang Liu, Shuai Zhang, Yajie Guo FP272 School of chemistry and materials science, Huaibei Coal Normal College, P.R.China E-mail: liuzhengwang@yahoo.cn **Scanning Parameters Optimization for Digital PI Controller** Daixie Chen, Min Li, Yunsheng Lin, Bohua Yin, and Li Han Department of Micro-nano Fabrication Technology, Institute of Electrical Engineering, Chinese Academy of Scineces, Beijing, China. \*Contacting Author: Daixie Chen is with the Department of FP273 Micro-nano Fabrication Technology, Institute of Electrical Engineering, Chinese Academy of Scineces, Beijing, China. (phone: 010-82547182; mobile: 13488761406; email: chendaixie@mail.iee.ac.cn; fax: 86-10-82547174) Surface hardening of NiTi shape memory alloy in-duced by surface nanocrystallization via surface me-chanical attrition treatment Tao Hu<sup>a</sup>, C.L. Chu<sup>b</sup>, J. Lu<sup>c</sup>, Paul K. Chu<sup>a</sup> <sup>a</sup> Department of Physics & Materials Science, City University of Hong Kong, Tat Chee Avenue, FP274 Kowloon, Hong Kong <sup>b</sup> School of Materials Science and Engineering and Jiangsu Key Laboratory for Advanced Metallic Materials, Southeast University, Nanjing, 211189, China c Department of Mechanical Engineering, The Hong Kong Polytechnic University, Hunghom, Kowloon, Hong Kong, China paul.chu@cityu.edu.hk Nanoelectronics Oral Session I LT-17 Chair: Xiaosheng FANG, National Institute for Materials Science Spin filtering in a quantum ring with Rashba coupling B. Tanatar<sup>1</sup>\* and V. Moldoveanu<sup>2</sup> <sup>1</sup>Department of Physics, Bilkent University, Bilkent 06800 Ankara, Turkey, <sup>2</sup>National Institute of EC201 Materials P.O. Box MG-7, Bucharest-Magurele, Romania, \*Contacting Author: email: tanatar@fen.bilkent.edu.tr Nano-Scale Early-Design-Stage Prediction for Crosstalk-Induced Power 11:00 Ahmad Atghiaee\*, Student Member, IEEE, Nasser Masoumi, Member, IEEE, and Payman Zarkesh-Ha, Senior Member, IEEE EC202 <sup>1</sup> Advanced VLSI Laboratory, School of ECE, University of Tehran, Iran. <sup>2</sup> School of ECE, University of New Mexico, Albuquerque, USA. \*Contacting Author: Ahmad Atghiaee is with Advanced VLSI Laboratory, School of ECE, University of Tehran; North Kargar Ave., P.O.Box 14395 – 413, Tehran, Iran (phone: 98-21-6111-4362; e-mail:a.atghiaee@ieee.org). 11:15 Effect of Technology Scaling on Program and Read Window in Phase Change Memories EC203

Stefania Braga\*, Alessandro Cabrini, and Guido Torelli

University of Pavia, Department of Electronics, Via Ferrata 1, 27100, Pavia, Italy, Mail: stefania.braga@unipv.it 11:30 **Semiconductor Nanowires for Energy Conversion Peidong Yang** KS221 Department of Chemistry, University of California, Berkeley, CA 94720. 12:00 Electron charge transfer along quantum nanosystems Satarin K.K.\*, Polivnikova T.N., Gainullin I.K. EC204 Moscow State University, Physics Faculty, E-mail: satarin@ph-elec.phys.msu.ru 12:15 Local Structure Investigation of Indium Oxynitride Thin Films by X-ray Absorption Fine structure K. Amnuyswat<sup>1</sup>, P. Thanomngam<sup>1,3</sup>, S. Sopitpan<sup>2</sup>, A. Sungthong<sup>1</sup>, S. Porntheeraphat<sup>1</sup> and J. Nukeaw<sup>1,3</sup> <sup>1</sup> College of KMITL Nanotechnology, King Mongkut's Institute of Technology Ladkrabang, EC205 Bangkok, Thailand, <sup>2</sup> Thai Microelectronic Center, National Science and Technology Development Agent, Patumtani, Thailand, <sup>3</sup> Thailand Center of Excellence in Physics, CHE, 328 Si Ayutthaya Rd. Bangkok 14000 \*Contacting Author: Kittiphong Amnuyswat (phone: +66-86-9020207; email: kaswat@gmail.com) 12:30 Lunch 14:00 Poster Session 16:00 Break Chair: Rongming WANG, Beihang University 16:15 The Model of Nano-scale Copper Particles Removal from Silicon Surface in high pressure CO<sub>2</sub>+H<sub>2</sub>O and CO<sub>2</sub>+H<sub>2</sub>O+IPA cleaning solutions Xin Tan<sup>1</sup>, Jiajue Chai<sup>1</sup>, Xiaogang Zhang <sup>1</sup>\* and Jiawei Chen <sup>2</sup>\* 1) Department of Chemistry, Renmin University of China, Beijing, China 2) China State Key EC206 Laboratory of Geological Processes and Mineral Resources, China, University of Geosciences, Beijing, China, \*Contacting Author: Xiaogang Zhang (phone: 86-10-62516958; fax: 86-10-62515601; email: zhang xg@ruc.edu.cn) 16:30 Theoretical Study on the Peanut-Shaped Dimers and Nanotubes Consisted of C<sub>50</sub> Cages Hongcun Bai and Yuanhe Huang\* EC207 College of Chemistry, Beijing Normal University, Beijing 100875, P. R. China. \*Contacting Author: Y. Huang (E-mail: yuanhe@bnu.edu.cn) 16:45 Modeling & Simulation of Nanowires as sensors <sup>1</sup>Lamba, V.K., <sup>2</sup>Engles, D., <sup>3</sup>Malik, S.S,. EC208 <sup>1</sup>Deptt of ECE, HCTM kaithal, 2Deptt of ECE, GNDU Amritsar, 3Deptt of Physics, GNDU Amritsar. 17:00 Modeling of Temperature Sensor Built on GaN Nanostructures Asghar Asgari EC209 Photonics Group, Research Institute for Applied Physics, University of Tabriz, Tabriz 51665-163, Iran School of Electrical, Electronic and Computer Engineering, The University of Western

## $Contributed\ Presentations-Tuesday-Jan\ 5,\ 2010-IEEE\ INEC\ 2010$

	Australia, Crawley, WA 6009, Australia, asgari@tabrizu.ac.ir	
17:15	Subband Structure and Effective Mass of Strained SiGe (110) Inversion Layer for PMOSFET	
	Wei-Chin Wang, Shu-Tong Chang*, and Bing-Fong Hsieh	
	Department of Electrical Engineering, National Chung Hsing University, Taichung 40227, Taiwan.	EC210
	*Contacting Author: Shu-Tong Chang (phone: +886-4-22851549 ext. 702; email:	
	stchang@dragon.nchu.edu.tw).	
17:30	Quantum Mechanical Effect on Determining Threshold Voltage of Trigate FinFET Using	
	Self-Consistent Analysis	
	Emran Md. Amin, Md. Zunaid Baten, Raisul Islam and Quazi D. M. Khosru	EC211
	Department of Electrical and Electronic Engineering, Bangladesh University of Engineering and	
	Technology, Dhaka-1000, Bangladesh, email: emranmdamin@yahoo.co.in	
17:45	Structural and Electronic Properties of poly(fluorene-pyrrole) copolymer: Time Dependent	
	Density Functional Theory Investigation	
	Rungtiwa Chidthong <sup>1</sup> * Pornpimol Maitarat <sup>2, 3</sup> Supa Hannongbua <sup>2, 3</sup>	
	<sup>1</sup> Department of Chemistry, Faculty of Science and Technology, Nakhon Pathom Rajabhat	EC212
	University, Nakhon Pathom, Thailand 73000 <sup>2</sup> Department of Chemistry, Faculty of Science,	
	Kasetsart University, Jatuchak, Bangkok, Thailand 10900 <sup>3</sup> Center of Nanoscience, Kasetsart	
	University, Bangkok, Thailand 10900, *E-mail: rungtiwa@npru.ac.th	
18:00	Tunability of a Quantum Dot based FET for multiple valued logic circuits: A modeling and	
	simulation approach	
	Arvind Pawan R. <sup>1</sup> , Ajay Srinath <sup>2</sup> , V.K.Chaubey <sup>3</sup>	EC213
	Birla Institute of Technology and Science, Pilani, India, <sup>1</sup> rarvind.bits@gmail.com,	
	<sup>2</sup> ajay.srinath@gmail.com, <sup>3</sup> vkster@gmail.com	
18:15	A Quantum Mechanical Transport Approach to Analyze of DG Silicon Nanowire Transistor	
	Fatemeh Karimi *, Reza Hosseini**	EC214
	* Islamic Azad University Central branch, Tehran, Iran, fm_karimi779@yahoo.com	EC214
	** Islamic Azad University Science & Research branch, Tehran, Iran. rezaho61@yahoo.com	
	Nanoelectronics Oral Session II	LT-13
	Chair: Quan LI, The Chinese University of Hong Kong	
10:45	Fabrication of Stable Contacts for Carbon Nanotube Using Eutectic Alloy	
	Daehyun Park <sup>1</sup> , and D. Jeon <sup>1, 2, *</sup>	
	<sup>1</sup> Nano Systems Institute, Seoul National University <sup>2</sup> Department of Physics Education, Seoul	EC215
	National University, Seoul 151-748, South Korea *Contacting Author: D. Jeon (Phone:	
	+82-2-880-9116; email: jeon@snu.ac.kr).	
11:00	Hole Mobility in SiGe Inversion Layers: Dependence on Surface Orientation, Channel	
	Direction, and Strain	
	Bing-Fong Hsieh, Shu-Tong Chang, Ming-Hong Lee*	
	Department of ElectricalEngineering, National Chung Hsing University, Taichung	EC216
	40227, Taiwan. (email:stchang@dragon.nchu.edu.tw) *Contacting Author: Ming-Hong Lee is with	
	the institute of Electro-Optical Science and Technology, National Taiwan Normal University,	
	Taipei, Taiwan.(email: mhlee@ntnu.edu.tw).	
11:15	Highly Efficient Cross-linked PbS Nanocrystal/C <sub>60</sub> Hybrid Heterojunction Photovoltaic Cell	EC217

### $Contributed\ Presentations-Tuesday-Jan\ 5,\ 2010-IEEE\ INEC\ 2010$

	S. W. Tsang, '8 H. Fu, 'R. Wang, J. Lu, 'K. Yu, and Y. Tao', *	
	<sup>1</sup> Institute for Microstructural Sciences, 2Steacie Institute for Molecular Sciences, National Research	
	Council of Canada, Ottawa, Ontario, Canada K1A 0R6 §Presenting Author:	
	sai-wing.tsang@nrc-cnrc.gc.ca, *Corresponding Author: ye.tao@nrc-cnrc.gc.ca	
11:30	Graphene Nanosheet Counter-Electrodes for Dye-Sensitized Solar Cells	
	D. W. Zhang <sup>1</sup> , X. D. Li <sup>1,2</sup> , S. Chen <sup>1</sup> , H. B. Li <sup>1</sup> , Z Sun <sup>1</sup> , X. J. Yin <sup>2</sup> , S. M. Huang <sup>1*</sup>	
	<sup>1</sup> Engineering Research Centerfor Nanophotonics & Advanced Instrument, Ministry of Education,	
	Department of Physics, East China Normal University, North Zhongshan Rd. 3663, Shanghai	EC218
	200062, P. R. China. <sup>2</sup> Advanced Materials Technology Centre, Singapore Polytechnic, 500 Dover	
	Rd., 139651 Singapore. *Contacting Author: S. M. Huang (phone: 86-21-62233227;fax:	
	86-21-62232413;email: smhuang@phy.ecnu.edu.cn)	
11:45	Influence of Gold Particle Size on Melting Temperature of VLS Grown Silicon Nanowire	
	Yanfeng Jiang* Yamin Zhang	
	Microelectronic Center, College of Information Engineering, North China University of	EC219
	Technology, Beijing, 100144, China, E-mail address: yfjiang@ncut.edu.cn	
12:00	Study of an Novel Self-Alignment Method for Silicon Nanowire	
	Yanfeng Jiang Yamin Zhang	
	Microelectronic Center, College of Information Engineering, North China University of	EC220
	Technology, Beijing, 100144, China, E-mail address: yfjiang@ncut.edu.cn	
12:15	Facile Fabrication of Si Nanowires Arrays for Solar Cell Applications	
	Xiaocheng Li*, Beng Kang Tay	EC001
	School of Electrical & Electronic Engineering, 50 Nanyang Avenue, Singapore 639798	EC221
	Email: xiaocheng@ntu.edu.sg	
12:30	Lunch	
14:00	Poster Session	
16:00	Break	
	Chair: Hadas Shtrikman, Weizmann Institute of Science	
16:15	Effect of Quantum Capacitance on Switching Speed in T-CNFETs	
	Hailiang Zhou, Minxuan Zhang, and Yue Hao	
	National Laboratory for Parallel and Distributed processing, School of Computer, National	EC222
	University of Defense Technology, Changsha, Hunan, 410073, China School of Microelectronics,	
	Xidian University, Xi'an, Shanxi, 710000, China. Contacting Email: hlzhou@nudt.edu.cn	
16:30	Optical and Electrical Properties of Silicon Nanoparticles	
	Anoop Gupta <sup>1*</sup> , Sonja Hartner <sup>1</sup> , Hartmut Wiggers <sup>1,2</sup>	
	<sup>1</sup> Institute for Combustion and Gasdynamics (IVG), University of Duisburg-Essen, Duisburg,	EC223
	Germany. <sup>2</sup> Center for Nanointegration Duisburg-Essen (CeNIDE), University of Duisburg-Essen,	
	Duisburg, Germany. *Contacting Author: Anoop Gupta (phone: 49-203-379-3769; fax:	
16.45	49-203-379-3087; email: anoop.gupta@uni-due.de).	
16:45	Nanotube Substituted Source/Drain Regions Carbon Nanotube Transistors for VLSI Circuits	ECCO
	Shibesh Dutta, Student Member, IEEE, Balakrishnan Shankar, Amrita Vishwa Vidyapeetham	EC224
	Balakrishnan Shankar is with the Mechanical Engineering Department, Amrita Vishwa	

Vidyapeetham, INDIA (email: bala@amritapuri.amrita.edu).\*Contacting Author: Shibesh Dutta is a

	student of the Electronics & Communication Engineering Department, Amrita Vishwa	
	Vidyapeetham, INDIA (email: shibesh_06ec53@students.amrita.ac.in).	
17:00	Preparation, Mechanical and Electrical Properties of Carbon Micro- and Nanocoils	
	Hui Bi*, Kaichang Kou, Zhichao Wang, Jiaoqiang Zhang	ECOS
	School of Science, Northwestern Polytechnical University, Xi'an, China. *Contacting Author: Hui	EC225
	Bi (phone: 86-13891987909; email:bihui_1981@yahoo.com.cn)	
17:15	Self-Assembly of Nanoparticles: Toward to Biological Functions, Inorganic Viruses, and	
	Microscale Electronic Components	
	Nicholas A. Kotov	KS209
	Departments of Chemical Engineering, Materials Science and Engineering, Biomedical	
	Engineering, University of Michigan, Ann Arbor, MI; kotov@umich.edu.	
17:45	n-type conductivity in oxygen ion implanted nanocrystalline diamond films	
	X.J. Hu*, H.J. Liu, J.P. Pan, L.P. Lu	EGOO
	College of Chemical Engineering and Material Science, Zhejiang University of Technology,	EC226
	Hangzhou *Contacting Author: huxj@zjut.edu.cn	
18:00	Luminous Efficiency Enhancement of Organic Light-Emitting Diodes by an External	
	Electron Source	
	Chi-Shing Li, Shui-Hsiang Su*, Tzu-Min Lin , Hsiang-Yu Chi and Meiso Yokoyama	EC227
	school of Department of Electronic Engineering, Ishou University, Kaohsiung County, Taiwan,	
	*Contacting Author: Shui-Hsiang Su (phone:886-7-657-7711; email: shsu@isu.edu.tw).	
18:15	Field Emission Properties of Graphite Nanotubes	
	Wang Shuxia, Chen Weizhong, He Yelu	EC228
	Applied Physics Department, Chongqing University, Chongqing, 400044	
	Nanoelectronics Oral Session III	LT-15
	Nanoelectronics Oral Session III	1/1-1.
	Chair: Ming LIU, The Institute of Microelectronics, CAS	
10:45	Complete Formation Sequence of InAs Quantum Dots on Lattice-Mismatched InGaAs/GaAs	
	Substrates	
	Songphol Kanjanachuchai and Teerawat Limwongse	
	Semiconductor Device Research Laboratory (Nanotec Center of Excellence), Department of	EC229
	Electrical Engineering Faculty of Engineering, Chulalongkorn University, Bangkok 10330,	
	Thailand	
11:00	Phase Transformation Experimental Study of IC Chip Power Supplying grounding on	
	Ferroelectric Ceramic Porous Material	
	Zhenhai Zhang <sup>1*</sup> , Zhanzhong Cui <sup>1</sup> , Jinglong Yan <sup>2</sup> , and Kejie Li <sup>1</sup>	
	<sup>1</sup> School of Mechatronics Engineering, Beijing Institute of Technology, Beijing, P. R. China. <sup>2</sup> North	
	China System Engineering Institute, Beijing, P. R. China. *Contacting Author: Zhenhai Zhang is	EC230
	with School of Mechatronics Engineering, Beijing Institute of Technology; 5 South Zhongguancun	
	Street, Haidian District, Beijing, 100081, P. R. China (phone:-86-13691397429;	
	e-mail:tigerzzh@126.com).	
11:15	Preparation of Nanorod-like Anatase TiO <sub>2</sub> Nanocrystals and Their Photovoltaic Properties	
	Qinghong Zhang,* Shuang Li, Yaogang Li and Hongzhi Wang	EC231

	State Key Laboratory for Modification of Chemical Fibers and Polymer Materials, Donghua University, Shanghai 201620, China. *Corresponding author, fax: +86-21-67792855, email:	
	zhangqh@dhu.edu.cn	
11:30	Preparation of SnO <sub>2</sub> Nanowires by Solvent-free Method using Mesoporous Silica Template	
	and its Gas Sensitive Properties	
	Haijiao Zhang, Zhijin Tan, Ruofei Wu, Chunlei Zhang, Wenming Shi, and Zheng Jiao*	
	Institute of Nanochemistry and Nanobiology, School of Environmental and Chemical Engineering,	EC232
	Shanghai University, Shangda Rd. 99, Shanghai 200444, P. R. China. *Contacting Author: Zheng	
	Jiao is with the Institute of Nanochemistry and Nanobiology, Shanghai University, Shanghai, China.	
	(phone:+86-21-66137803; fax: :+86-21-66135275; email: zjiao@shu.edu.cn)	
11:45	Single Electron transistor based Reconfigurable Flip Flop	
	Rathnakannan.K , Vanaja Ranjan.P and S.H.Thilagar	EC233
	DEEE,Anna University	
12:00	Thermal Conductivity Reduction in an Individual Single Crystalline Bi Nanowire by Size	
	Effect	
	Jong Wook Roh <sup>1,a)</sup> , Kedar Hippalgaonkar <sup>2,a)</sup> , Joohoon Kang, Seunghyn Lee <sup>1</sup> , Jin Hee Ham <sup>1</sup> , Renkun	
	Chen <sup>2</sup> , Arun Majumdar <sup>2</sup> , Woochul Kim <sup>3</sup> and Wooyoung Lee <sup>1,*</sup>	EC234
	<sup>1</sup> Department of Materials Science and Engineering, Yonsei University, 134 Sinchon, Seoul 120-749,	
	Korea <sup>2</sup> Department of Mechanical Engineering, University of California, Berkeley, California	
	94720, USA <sup>3</sup> School of Mechanical Engineering, Yonsei University, 134 Sinchon, Seoul 120-749,	
10.15	Korea *Contacting Author: Wooyoung Lee	
12:15	Thermoelectric effect and charge density distribution in the TiO <sub>2</sub> -SrTiO <sub>3</sub> hetero-structure H.L. Kwok <sup>1*</sup>	
	<sup>1</sup> Center of Advanced Materials & Related Technology and Dept. of ECE, University of Victoria,	EC235
	BC, Canada *Corresponding author: e-mail: hlkwok@ece.uvic.ca, Phone: 250-7218685, Fax:	
	250-7216052.	
12:30	Lunch	
14:00	Poster Session	
16:00	Break	
	Chair: Weili LIU, Shanghai Institute of Microsystem and Information Technology, CAS	
16:15	Fabrication and Characterization of Twin Poly-Si Thin Film Transistors EEPROM with	
	Nitride Trapping Layer	
	Yung-Chun Wu*, Min-Feng Hung, Ji-Hong Chiang, Lun-Jyun Chen, Chiang-Hung Chen	
	Department of Engineering and System Science, National Tsing Hua University, Hsinchu, Taiwan,	EC236
	R.O.C. *Contacting Author: Yung-Chun Wu is with the Department of Engineering and System	
	Science, National Tsing Hua University, No. 101, Section 2, Kuang-Fu Road, Hsinchu, Taiwan,	
	R.O.C. (phone: 886-3-5715131 ext. 34287; fax: 886-3-5720724; e-mail: ycwu@ess.nthu.edu.tw).	
16:30	FPGA Leakage Power Reduction Using CLB-Clustering Technique	
	Mohammad Mehdi Tohidi and Nasser Masoumi	FC237

EC238

Advanced VLSI lab, school of ECE, University of Tehran Tehran, Iran

16:45 Interconnect Design in Nanoscale FPGAs

	Mohammad Mehdi Tohidi and Nasser Masoumi	
	Advanced VLSI lab, school of ECE, University of Tehran Tehran, Iran	
17:00	Organic-Inorganic Hybrid Circuit with Organic Memory and MOSFET	
	Xing H. Liu, Zhuo Y. Ji, De Y. Tu, Li W. Shang, Ming Liu* and Chang Q. Xie	
	Key Laboratory of Nanofabrication and Novel Devices Integration Technology, Institute of	
	Microelectronics, Chinese Academy of Sciences, Beijing, China. *Contacting Author: Ming Liu	EC239
	with Institute of Microelectronics, Chinese Academy of Science, No. 3, West Road of North	
	TuCheng, Chao Yang District, Beijing, 100029, China (phone: +86-10-8299 5578; fax: +86-10-8299	
	5583; email: liuming@ime.ac.cn).	
17:15	Preparation of Nanostructures Thermoelectric Materials Using PLA Technique	
	T. Kumpeerapun*1, J. Hirunlabh1, J. Khedari2, H. Scherrer3, V. Kosalathip4, W. Phangream4, and P.	
	Limsuwan <sup>4</sup>	
	<sup>1</sup> Faculty of Energy, Environmental and Materials, King Mongkut's University of Technology	
	Thonburi, Bangkok 10140, Thailand. <sup>2</sup> Building Technology Division, Faculty of Architecture,	
	Kasetsart University, Bangkok 10900, Thailand. <sup>3</sup> Ecole Nationale Supérieure des Mines de Nancy,	EC240
	Parc de Saurupt, CS14234, 54042 Nancy Cedex, France. <sup>4</sup> Department of Physics, Faculty of	
	Science, King Mongkut's University of Technology Thonburi, Bangkok 10140, Thailand.	
	*Contacting Author: T. Kumpeerapun is with the Faculty of Energy, Environmental and Materials,	
	King Mongkut's University of Technology Thonburi: 126 Pracha-utid Road, Bangmod, Toongkru,,	
	Bangkok 10140, Thailand. (phone: 66-2470-8867; email: taswal.kum@kmutt.ac.th).	
17:30	Electrodeposited the Gold/Manganese Oxides as Nano Supercapacitor	
	Yi Hu <sup>*</sup> , Jiun-Shing Liu	
	Department of Material Engineering, Tatung University.40 ChungShan North Road, 3rd Section	EC241
	Taipei 104, Taiwan, R.O.C. *Contacting Author: Yi Hu Phone: 886-2-25925252-3411-103, E-mail:	
	huyi@ttu.edu.tw	
17:45	Reliability Analysis of Lithium-Ion battery based on recent advancement in Nanotechnology	
	Pawan Kumar Kotak, Manish Sharma	EC242
	Acropolis Institute of Technology and Research, Indore	
18:00	Construction and operation of sub-10 nm Vertical Molecular Transistors	
	Elad Mentovich and Shachar Richter*	EC243
	Tel Aviv University, Ramat Aviv, Tel Aviv 69978, Israel	
18:15	CdS-FePt Based Photoelectrochemical Sensor for Detection of H <sub>2</sub> O <sub>2</sub>	
	Zhao Yue*, Marco Zanella, Waqas Khalid	
	<sup>1</sup> College of Information Technical Science, Nankai University, Weijin road 94, Tianjin 300071,	EC244
	China <sup>2</sup> Department of Physics, Marburg University, Marburg 35037, Germany *Contacting Author:	EC211
	Zhao Yue is with College of Information Technical Science, Nankai University, China	
	(E-mail:Lunarey@gmail.com; Phone:+86-13652079984)	
	Nanoelectronics Poster Session I	ATRIUM
14:00		
	Anthrylenes with End-Capping Diphenyl moiety for Blue Organic Light-Emitting Diodes	
	Jeong Keun Park <sup>1</sup> , Kum Hee Lee <sup>1</sup> , Seul Ong Kim <sup>1</sup> , Jung Sun Park <sup>2</sup> , Ji Hoon Seo <sup>2</sup> , Young Kwan	ED201
	Kim <sup>2,*</sup> , and Seung Soo Yoon <sup>1*</sup>	EP201
	<sup>1</sup> Department of Chemistry, Sungkyunkwan University, Suwon, Korea <sup>2</sup> Department of	

Information Display, Hongik University, Seoul, Korea Email: ssyoon@skku.edu, kimyk@wow.hongik.ac.kr

#### A Molecular Dynamics Study of Thermal Conductivity in Graphene Nanoribbons

G.C. Loh 1\*, J. Shiomi 3, H.B. Su 2, S. Maruyama 3, and B.K. Tay 1

639798 (phone: +65-6790-5454; email: lohg0003@ntu.edu.sg)

#### A Novel Symmetric Hetero-metal String Complex Ru2Ni3(dpzpda)4Cl2

Caixia Yin\* and Shie-Ming Peng

<sup>1</sup>Key Laboratory of Chemical Biology and Molecular Engineering of Ministry of Education, Institute of Molecular Science, Shanxi University, Taiyuan, China <sup>2</sup>Department of Chemistry, National Taiwan University, Taipei,10617 Taiwan,ROC. (phone: -86-351-7011022; email: yincx@sxu.edu.cn)

#### A Stable Red Organic Light-emitting Diode Based on a Pentacene Derivative

X. D. Luo <sup>a)</sup>, P. S. Liu a), B. D. Ding <sup>a), b)</sup>\*, Li Wang<sup>c)</sup>, W. Q. Zhu<sup>c)</sup>, X. Y. Jiang<sup>c)</sup>, and Z. L. Zhang<sup>c)</sup>

<sup>a)</sup> Jiangsu Key Laboratory of ASIC, Nantong University, Nantong, 226019, China <sup>b)</sup> Department of Chemistry, Nantong University, Nantong, 226019, China <sup>c)</sup> Department of Materials Science,

Shanghai University, Jiading Campus, Shanghai, 201800, China E-mail: luoxd@ntu.edu.cn

(X.D.Luo), dbd@ntu.edu.cn (B.D.Ding)

### A study on the electronic transport for the low-field quantum Hall devices and quantum metrology

Da-Ren  $\mathsf{Hang}^{*,1}$  and K. A.  $\mathsf{Cheng}^2$ 

<sup>1</sup>Department of Materials and Optoelectronic Science, National Sun Yat-sen University, Kaohsiung 804, Taiwan, R.O.C. <sup>2</sup>Department of Electronic Engineering, Lunghwa University of Science and Technology, Taoyuan 333, Taiwan, R.O.C. \*Contacting Author: Da-Ren Hang is with Department of Materials and Optoelectronic Science, National Sun Yat-sen University, Kaohsiung 804, Taiwan, R.O.C. (phone: 886-7-5252000 Ext 4066; Email: drhang@faculty.nsysu.edu.tw)

#### A Study on the simple structural phosphorescent Organic Light-Emitting Diodes

Hoe Min Kim<sup>\*</sup>, Ji Hyun Seo<sup>1</sup>, Eun Young Choi<sup>1</sup>, Jun Ho Kim<sup>1</sup>, Kum Hee Lee<sup>2</sup>, Seul Ong Kim<sup>2</sup>, Seung Soo Yoon<sup>2</sup>, and Young Kwan Kim<sup>1</sup>

<sup>1</sup>Department of Information display, Hongik University, Seoul 121-791, Korea <sup>2</sup>Department of Chemistry, Sungkyunkwan University, Suwon 440-746, Korea <sup>\*</sup>Contacting Author: Seung Soo Yoon with the Department of Chemistry, Sungkyunkwan University, Suwon 440-746, Korea (phone: 82-31-290-7071; fax: 82-31-290-7075; e-mail: ssyoon@skku.edu). <sup>\*\*</sup>Contacting Author: Young Kwan Kim with the Department of Information display, Hongik University, Seoul 121-791, Korea (phone: 82-2-320-1646; fax: 82-2-3141-8928; e-mail: kimyk@wow.hongik.ac.kr).

# Amperometric Immunosensor For HIV p24 in Serum Based on Polyelectrolyte/Gold Magentic Nanoparticle Multilayers Modified Electrode

Ning GAN 1\*, Feng WANG<sup>1</sup>, Fei LIU <sup>2</sup>, Lei ZHENG<sup>2</sup>

<sup>1</sup>The State Key Laboratory Base of Novel Functional Materials and Preparation science, Faculty of Material Science and Chemical Engineering of Ninbo University, Ningbo, 315211, China;

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<sup>&</sup>lt;sup>1</sup> School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore

<sup>&</sup>lt;sup>2</sup> School of Materials Science and Engineering, Nanyang Technological University, Singapore

<sup>&</sup>lt;sup>3</sup> Department of Mechanical Engineering, The University of Tokyo, Tokyo, Japan Contacting Author: G.C. Loh is with the School of Electrical and Electronic Engineering, Nanyang Technogical University; 50 Nanyang Avenue, Singapore

<sup>&</sup>lt;sup>2</sup> Nanfang Medical University, Guangzhou,414000,China ganning@nbu.edu.cn

# Analysis and Modeling of Nano-Crystalline Silicon TFTs on Flexible Substrate with Mechanical Strain

M. H. Lee<sup>1,\*</sup>, S. T. Chang<sup>2</sup>, J.-J. Huang<sup>3</sup>, G.-R. Hu<sup>3</sup>, Y.-S. Huang<sup>3</sup>, and C.-C. Lee<sup>3</sup>

<sup>1</sup> Institute of Electro-Optical Science and Technology, National Taiwan Normal University, Taipei,

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Taiwan <sup>2</sup> Department of Electrical Engineering, National Chung Hsing University, Taichung,

Taiwan <sup>3</sup> Display Technology Center (DTC), Industrial Technology Research Institute (ITRI),

Hsinchu, Taiwan \*Tel: 886-2-29338260 ext. 407 / Fax: 886-2-86631954 email: mhlee@ntnu.edu.tw

#### Analytic Model of A Silicon Nanowire pH Sensor

Yun Seop Yu\*, Hyung-Kun Park1, Sung Woo Hwang2, and Doyeol Ahn3

<sup>1</sup>Information and Communication Engineering Department, Korea University of Technology and Education, Chungnam, 330-708, Korea <sup>2</sup>Research Center for Time-domain Nano-functional Devices and Department of Computer & Electronics Engineering, Korea University, Seoul, Korea <sup>3</sup>Institute of Quantum Information Processing & Systems, University of Seoul, Seoul, Korea

\*Contacting Author: Y. S. Yu is with Department of of Information & Engineering, Hankyong National University, 67 Seokjeong, Anseong, Gyeonggi, 456-749, Korea(phone: +82-31-670-5293; e-mail: ysyu@hknu.ac.kr)

### Atomic Structure of the Ag/Ge(111)-( R3xR3) Surface: from STM Observation to Theoretical Study

L.-W. Chou,  $^{1,2}$  H. C. Wu,  $^{1,3}$  Y.-R. Lee,  $^1$  J.-C. Jiang,  $^2$  C. Su,  $^{4,*}$  and J.-C. Lin  $^{1,3,*}$ 

<sup>1.</sup>Inst. of Atomic and Molecular Sciences, Academia Sinica, Taiwan <sup>2.</sup>Dept. of Chemical Engineering, National Taiwan University of Science and Technology, Taiwan <sup>3.</sup>Dept. of Chemistry, National Taiwan Normal University, Taiwan <sup>4.</sup>Inst. of Organic and Polymeric Materials, National Taipei University of Technology, Taiwan E-mail: jclin@po.iams.sinica.edu.tw and f10913@ntut.edu.tw

# Characterization of Copper Phthalocyanine Thin Film Photovoltaic on PET Substrate Prepared by Electron-Beam Evaporation Technique

Jiti Nukeaw<sup>1,2</sup> and Benchapol Tunhoo<sup>\*1,2</sup>

<sup>1</sup> College of Nanotechnology, King Mongkut's Institute of Technology Ladkrabang, Chalongkrung Rd., Ladkrabang, Bangkok 10520, Thailand <sup>2</sup> ThEP Center, CHE, 328 Si Ayuthaya Rd., Bangkok 10400, Thailand. \*Contacting Author: Benchapol Tunhoo is with the College of Nanotechnology, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand (phone: 662-326-4411; fax: 662-3264733; email: ktbencha@kmitl.ac.th).

# Characterization of RuO<sub>2</sub> Nanocrystals Deposited on Carbon Nanotubes by Reactive RF Sputtering

Yu-Chen Su<sup>1</sup>, Ching-An Chen<sup>1</sup>, Yi-Min Chen<sup>1</sup>, Ying-Sheng Huang<sup>1,\*</sup>, and Kuei-Yi Lee<sup>1,2</sup>

<sup>1</sup>Department of Electronic Engineering, National Taiwan University of Science and Technology, 43

Keelung Road, Section 4, Taipei 106, Taiwan <sup>2</sup>Graduate Institute of Electro-Optical Engineering,

National Taiwan University of Science and Technology, 43 Keelung Road, Section 4, Taipei 106,

Taiwan \*Contacting Author: Ying-Sheng Huang is with the Department of Electronic Engineering,

National Taiwan University of Science and Technology, Taiwan (phone: +886-2-27336785; fax: +886-2-27333241; e-mail: ysh@mail.ntust.edu.tw)

# Charge Transport Model of gate solution AlGaN/GaN High Electron Mobility Transistors A. Asgari 1, 2,\*, L. Rajabi Bonab 1

<sup>1</sup>Photonics Group, Research Institute for Applied Physics, University of Tabriz Tabriz 51665-163, Iran <sup>2</sup> School of Electrical, Electronic and Computer Engineering, The University of Western

Australia, Crawley, WA 6009, Australia asgari@tabrizu.ac.ir	
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Binghai Dong, Tao Jiang*, Zuxun Xu, Jun Ren, Shimin Wang	EP214
Ministry of Education Key Laboratory for the Green Preparation and Application of Functional	
Materials, Hubei University, 430062, Wuhan, PR Chian	
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C. Y. Ho, <sup>1</sup> S. S. Chiu, <sup>1</sup> T. C. Kei, <sup>1</sup> K. T. Tsai, <sup>1</sup> Y. A. Dai, <sup>1</sup> J. H. Hsu, <sup>2</sup> M. L. Chang, <sup>2</sup> and J. H. He <sup>1,*</sup>	
<sup>1</sup> Institute of Photonics and Optoelectronics, and Department of Electrical Engineering, National	EP215
Taiwan University, Taipei, 10617 Taiwan <sup>2</sup> Integrated Service Technology, Hsinchu, 30072 Taiwan	E1 213
Address: No. 1, Sec. 4, Roosevelt Road, Taipei, 10617 Taiwan (R.O.C) *Contacting Author: Jr-Hau	
He; E-mail: jhhe@cc.ntu.edu.tw	
Crystallization Kinetics of Amorphous Ga-Sb films Extended for Phase-change Memory	
Chih-Chung Chang, Kin-Fu Kao, Ming-Jinn Tsai, Tri-Rung Yew, and Tsung-Shune Chin*	
<sup>1</sup> Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu,	
30013, Taiwan, R.O.C. <sup>2</sup> Industrial Technology Research Institute, Hsinchu, 31040, Taiwan, R.O.C.	
<sup>3</sup> Department of Materials Science and Engineering, Feng Chia University, Taichung 40724,	EP216
Taiwan, R.O.C. *Contacting Author: Tsung-Shune Chin is both with the DMSE, Feng Chia	
University, No. 100, Wen-hwa Rd., Seatwen, Taichung, 40724, Taiwan; and DMSE, National Tsing	
Hua University, No. 101, Sec. 2, Kuang-Fu Road, Hsinchu, 30013, Taiwan, R.O.C. (phone: +886 3	
57142630; fax: +886 3 5719868; e-mail: tschin@fcu.edu.tw, and tschin@mx.nthu.edu.tw)	
Decrease the OFF State Current of Carbon Nanotube Field Effect Transistors via Continuous	
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Ying Feng*, Shihua Huang, Yanfang Qi, Yuguang Feng, and Fangtian You	
Institute of Optoelectronic Technology, Beijing Jiaotong University, Beijing 100044, China	EP217
*Contacting Author: Ying Feng is with Institute of Optoelectronic Technology,	
Beijing Jiaotong University, Beijing 100044, China (Phone: +86-10	
51466793;email:05118310@bjtu.edu.cn)	
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Chen*,1,2	EP218
<sup>1</sup> School of Environmental and Chemical Engineering, Shanghai University, Shanghai 200444,	LI 210
People's Republic of China <sup>2</sup> Department of Physics and Materials Science, City University of	
Hong Kong, Tat Chee Avenue, Kowloon Tong, Hong Kong E-mail:cnzwchen@yahoo.com.cn;	
mhwu@staff.shu.edu.cn	
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Pi-Chun Juan <sup>1,*</sup> , Chuan-Hsi Liu <sup>2</sup> , Min Jou <sup>2</sup> , Yi-Kuan Chen <sup>1</sup> , Yu-Wei Liu <sup>1</sup> , Chih-Wei Hsu <sup>1</sup> , Yi-Hsien	
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<sup>1</sup> Department of Materials Engineering, Ming Chi University of Technology, Taiwan, R.O.C.	
<sup>2</sup> Department of Mechatronic Technology, National Taiwan Normal University, Taiwan, R.O.C.	
E-mail: pcjuan@mail.mcut.edu.tw	
E-mail: pcjuan@mail.mcut.edu.tw  Design, Fabrication and Performance of SO <sub>2</sub> Sensor based on LaF3 Solid-Electrolyte  Guoliang Sun <sup>1,2</sup> , Hairong Wang* <sup>1,2</sup> , Zhuangde Jiang <sup>1,2</sup> , and Tianshuo Yin <sup>1,2</sup>	EP220

<sup>1</sup>State Key Laboratory for Manufacturing Systems Engineering (Xi'an Jiaotong University),Xi'an Shaanxi 710049, PR China <sup>2</sup>Institute of Precision Engineering, Xi'an Jiaotong University, Xi'an Shaanxi 710049, PR China \*Contacting Author: Wang Hairong is with the Institute of Precision Engineering, Xi'an Jiaotong University, Xi'an Shaanxi 710049, PR China (phone: +86-29-82668616-149; e-mail: whairong@mail.xjtu.edu.cn,).

#### Detection of CO and NH<sub>3</sub> Mixed Gas using Single-Walled Carbon Nanotubes

Ki-Young Dong<sup>1</sup>, Jinwoo Lee<sup>1</sup>, Dae-Jin Ham<sup>1</sup>, Jinil Choi<sup>1</sup>, In-Sung Hwang<sup>2</sup>, Jong-Heun Lee<sup>2</sup>, Hyang Hee Choi3 and Byeong-Kwon Ju<sup>1\*</sup>

<sup>1</sup>Display and Nanosystem Laboratory, College of Engineering, Korea University, Seoul 136-713, Republic of Korea <sup>2</sup>Department of Materials Science and Engineering, Korea University, Seoul 136-713, Korea <sup>3</sup>Department of Physics and Nanomedical National Core Research Center, Yonsei University, Seoul 120-749, Republic of Korea \*Contacting Author: Byeong-Kwon Ju. Display and Nanosystem Laboratory,

email: bkju@korea.ac.kr

#### Diarylamino-Substituted Stilbene Derivatives for Blue Organic Light-Emitting Diodes

Seul Ong Kim<sup>1</sup>, Kum Hee Lee<sup>1</sup>, Hyuck Joo Kwon<sup>2</sup>, Young Kwan Kim<sup>2\*</sup>, and Seung Soo Yoon<sup>1\*</sup>

<sup>1</sup>Department of Chemistry, Sungkyunkwan University, Suwon, Korea <sup>2</sup> Department of Information

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Display, Hongik University, Seoul, Korea \*E-mail address: ssyoon@skku.edu,

kimyk@wow.hongik.ac.kr

### Dielectric Properties of Binary BaTiO<sub>3</sub>/PVDF and Graphite doped GN/BaTiO<sub>3</sub>/PVDF nanocomposites

Yuchao Li, Robert Kwok Yiu Li, and Sie Chin Tjong\*

Department of Physics and Materials Science, City University of Hong Kong, Kowloon town, Hong EP223 Kong. \*Contacting Author: Sie Chin Tjong. Tjong is with the Department of Physics and Materials Science, City University of Hong Kong. Kowloon town, Hong Kong (phone: +852 2784-7702; E-mail: aptjong@cityu.edu.hk)

### Dielectric Response of polyvinylidene fluoride loaded with silicon carbide nanoparticles Yuchao Li, Robert Kwok Yiu Li, and Sie Chin Tjong\*

Department of Physics and Materials Science, City University of Hong Kong, Kowloon town, Hong Kong. \*Contacting Author: Sie Chin Tjong. Tjong is with the Department of Physics and Materials Science, City University of Hong Kong. Kowloon town, Hong Kong (phone: +852 2784-7702; E-mail: aptjong@cityu.edu.hk)

### Effect of Monolayer-Protected Ag Nanoparticles and Nature of Self-Assembled Monolayers on Organic Hetero-Junction Solar Cells

Chong-Chi Kuo<sup>1</sup>, Jadab Sharma<sup>1</sup>, Yian Tai1\*, Kuei-Hsien Chen<sup>2</sup>, Li-Chyong Chen<sup>3</sup> and Jui-Sheng Chou<sup>4</sup>

<sup>1</sup>Department of Chemical Engineering, National Taiwan University of Science and Technology,
Taipei 106, Taiwan. <sup>2</sup>Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei 106,
Taiwan. <sup>3</sup>Center for Condensed Matter Science, National Taiwan University, Taipei 106, Taiwan.

<sup>4</sup>Department of Construction Engineering, National Taiwan University of Science and Technology,
Taipei 106, Taiwan. \*Contacting Author: Yian, Tai Phone:+886-2-27376620, e-mail:
ytai@mail.ntust.edu.tw

# Effect of Oxygen Partial Pressure on the Electrical Properties of the LSCO/AZO Heterojunction

Shin Lee and Yi Hu\*

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Department of Materials Engineering, Tatung University, Taipei, Taiwan, ROC Adress: Rm. 103, No.7-1, Dehui St., Zhongshan Dist., Taipei City 104, Taiwan (R.O.C.) \*Contacting Author: Yi Hu E-mail: huyi@ttu.edu.tw

#### Effect of TiO2 Nanoparticles on Dielectric Properties of CuO Ceramics

Santi Maensiri<sup>1,\*</sup>, Prasit Thongbai<sup>1</sup>, and Teerapon Yamwong<sup>2</sup>

<sup>1</sup>Small & Strong Materials Group (SSMG), Department of Physics, Faculty of Science, Khon Kaen University, Khon Kaen, 40002, Thailand <sup>2</sup>National Metals and Materials Technology Center (MTEC), Thailand Science Park, Pathumthani, 12120, Thailand \*Contacting Author: Dr. Santi Maensiri; Tel.: +66-43-202222 to 9 ext. 2248; Fax: +66-43-202374; Email address: sanmae@kku.ac.th; santimaensiri@gmail.com

### Effects of Device and Peripheral Parameters on Transconductance of Silicon Nanowire Transistors

Mahmoud Zangeneh, Hossein Aghababa and Behjat Forouzandeh

School of Electrical and Computer Engineering, University of Tehran, Tehran, Iran e-mail:

m.zangene@ece.ut.ac.ir; h\_aghababa@yahoo.com

### Effects of Os Inserted Layers on the Structures and Magnetic Properties of the FePt Film Shih-Yuan Chen, Yeong-Der Yao, Jenn-Ming Wu, and Chin-Chung Yu\*

Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu 300,
Taiwan, R.O.C; Department of Physics and Institute of Applied Science and Engineering, Fu Jen
University, Taipei 242, Taiwan, R.O.C. \*Contacting Author: Chin-Chung Yu is with the Department
of Applied Physics, National University of Kaohsiung, Kaohsiung 800, Taiwan, R.O.C.
(phone: +886-7-5918897; fax: +886-7-5919357; e-mail: yucc@nuk.edu.tw).

#### Effects of Zn Doping on the In<sub>15</sub>Sb<sub>85</sub> Phase Change Recording Thin Films

Sin-Liang Ou<sup>1,\*</sup>, Po-Cheng Kuo<sup>1</sup>, Shu-Chi Sheu<sup>1</sup>, Ger-Pin Lin<sup>1</sup>, Tsung-Lin Tsai<sup>1</sup>, Wei-Tai Tang<sup>2</sup>, and Don-Yau Chiang<sup>3</sup>

<sup>1</sup>Institute of Material Science and Engineering, National Taiwan University, Taipei 106, Taiwan

<sup>2</sup>Department of Chemistry, National Tsing Hua University, Hsinchu 300, Taiwan 3Instrument

Technology Research Center, National Applied Research Laboratories, Hsinchu 300, Taiwan

\*Contacting Author: Sin-Liang Ou is with the Institute of Material Science and Engineering,
National Taiwan University; No. 1, Sec. 4, Roosevelt Road, Taipei, 10617 Taiwan (phone:
+886-2-23648881; fax: +886-2-23634562; email: d94527017@ntu.edu.tw)

### Electrical Characteristics of Carbon Nanotube Network fabricated by a Simple Transfer Method

Sun Kug Kim<sup>1</sup>, Sang Min Park<sup>1</sup>, Doo Hee Hwang<sup>1</sup>, Dong Kyu Jang<sup>1</sup>, Raushan Koizhaiganova<sup>1</sup>, Siegmar Roth<sup>1,2,\*</sup>, and Cheol Jin Lee<sup>1,\*</sup>

<sup>1</sup> School of Electrical Engineering, Korea University, Seoul 136-713, Korea. <sup>2</sup> Solid State Physics, Max Planck Institute, Stuttgart 70569, Germany \*Contacting Author: C. J. Lee is with the School of Electrical Engineering and Department of Micro/Nano Systems, Korea University, Seoul 136-713, Korea. (phone: +82-2-3290-3216; fax: +82-2-921-4722; email: cjlee@korea.ac.kr), S. Roth is with the Solid State Physics, Max Planck Institute, Stuttgart 70569, Germany, (phone: +82-2-3290-3852; fax: +82-2-921-4722; email: siegmar@korea.ac.kr)

#### Electrical Characteristics of Ga<sub>3</sub>Te<sub>2</sub>Sb<sub>12</sub> with High Thermal Stability for PRAM

Kin-Fu Kao, Yung-Ching Chu, Ming-Jinn Tsai, and Tsung-Shune Chin\*

<sup>1</sup>Department of Materials Science and Engineering, National Tsing Hua University <sup>2</sup>EOL/Industrial Technologies Research Institute <sup>3</sup>Department of Materials Science and Engineering, Feng Chia

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University *Contacting Author: Tsung-Shune Chin is emeritus with Department of Materials	
Science and Engineering of National Tsing Hua University and currently is with Feng Chia	
University; Address: 100, Wunhua Rd., Seatwen District, Taichung City 40724, Taiwan; E-mail:	
tschin@fcu.edu.tw, tschin@mx.nthu.edu.tw	
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Nanotubes and Nanofibers	
Lin-Xiang He, and Sie-Chin Tjong*	EP233
Department of Physics and Materials Science, City University of Hong Kong, Kowloon, Hong	
Kong. Phone: 852-27887702; Email: aptjong@cityu.edu.hk	
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Department of Material Science and Engineering, Yonsei University 262 Seongsanno,	EP234
Seodaemun-gu, Seoul 120-752, Korea * Contacting Author: Department of Material Science and	
Engineering, Yonsei University 262 Seongsanno, Seodaemun-gu, Seoul 120-752, Korea	
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Wojciech Jung*1, Grzegorz Zaremba1, Olof Engström2 and Maria Kaniewska1	
<sup>1</sup> Institute of Electron Technology, Al. Lotnikow 32/46, Warsaw 02-668, Poland. <sup>2</sup> Chalmers	EP235
University of Technology, Microtechnology and Nanoscience, SE-412 96 Göteborg, Sweden.	
*Contacting Author: Wojciech Jung is with the Institute of Electron Technology, Al. Lotnikow	
32/46, Warsaw 02-668, Poland (phone: 48-22-5487784; e-mail: jung@ite.waw.pl)	
Enhanced Magnetic Properties in FePt (001) Epitaxial Thin films by Cu Capping Layer	
D. H. Wei <sup>1</sup> and Y. D. Yao <sup>2</sup>	
<sup>1</sup> Department of Mechanical Engineering, National Taipei University of Technology, Taipei 106,	
Taiwan <sup>2</sup> Institute of Applied Science and Engineering, Fu Jen University, Taipei 242, Taiwan	EP236
*Contacting Author: Da-Hua Wei is with the Department of Mechanical Engineering, National	
Taipei University of Technology, Taipei 106, Taiwan (phone: +886-2-27712171-2022; fax:	
+886-2-27317191; email: dhwei@ntut.edu.tw).	
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Jae Sang Lee <sup>1</sup> , Ji-Hong Kim <sup>2</sup> , Byung-Moo Moon <sup>2</sup> , Wook Bahng <sup>3</sup> , Sang-Cheol Kim <sup>3</sup> , Nam-Kyun	
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<sup>1</sup> Department of Electronic Materials Engineering, Kwangwoon University, Seoul 139-701, Korea	EP237
<sup>2</sup> Department of Electrical Engineering, Korea University, Seoul 136-701, Korea 3 Korea	
Electro-technology Research Institute, Changwon, 641-120, Korea *Contacting Author:	
smkoo@kw.ac.kr	
Fabrication and Optical Absorption of Size-tunable Core-shell Structured ZnO	
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<sup>1</sup> Faculty of Physics and Electronic Technology, Hubei University, Wuhan 430062, China	EP238
<sup>2</sup> Department of Physics, The Chinese University of Hong Kong, Shatin, New Territory, Hong Kong,	
China *Contacting Author: Prof. Hao Wang with email address: wangh@hubu.edu.cn. Prof. Quan	
Li with email address: liquan@phy.cuhk.edu.hk.	
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Shih-Tang Chen<sup>1</sup>, Hua-Chiang Chen<sup>1</sup>, Kun-Cheng Huang<sup>1</sup>, Fu-Ken Liu<sup>2</sup>, and Ching-Chich Leu<sup>1,\*</sup>

<sup>1</sup>Department of Chemical and Materials Engineering, National University of Kaohsiung, Kaohsiung, Taiwan, R.O.C. <sup>2</sup>Department of Applied Chemistry, National University of Kaohsiung, Kaohsiung, Taiwan, R.O.C. \*Contacting Author: Ching-Chich Leu is with the Department of Chemical and Materials Engineering, National University of Kaohsiung, Kaohsiung, Taiwan, R.O.C. (phone: +886-7-5919456; email:ccleu@nuk.edu.tw).

# Ferroelectric and magnetic behavior of $Pb(Zr_{0.52}Ti_{0.48})O_3$ based Magnetoelectric nanocomposite films

W. Huang\*, L.X. Zhou, J. Zhu, X. H. Wei, Y. Zhang and Y. R. Li State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronics Science and Technology of China, Chengdu, China \*Contacting Author: W.Huang is with the State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronics Science and Technology of China. (Phone: +86-28-83203901; Email: uestchw@uestc.edu.cn)

# Field Emission Characteristics of Different Surface Morphologies of ZnO Nanostructures Formed on Carbon Nanotubes

Kuei-Yi Lee<sup>1,2,\*</sup>, Huan-Bin Lian<sup>1</sup>, Kuan-Wei Li<sup>1</sup>, Jhen-Hong Cai<sup>1</sup>, and Yao-Te Wang<sup>1</sup>

<sup>1</sup>Department of Electronic Engineering, National Taiwan University of Science and Technology, 43

Keelung Road, Section 4, Taipei 106, Taiwan. <sup>2</sup>Graduate Institute of Electro-Optical Engineering,

National Taiwan University of Science and Technology, 43 Keelung Road, Section 4, Taipei 106,

Taiwan. \*Contacting Author: Kuei-Yi Lee is with the Department of Electronic Engineering,

National Taiwan University of Science and Technology, Taiwan (phone: +886-2 2730-1254; fax: +886-2 2737-6424; e-mail: kylee@mail.ntust.edu.tw).

# Field Emission from GaN/AlN Nano-Films on Si Substrate Prepared by Pulsed Laser Deposition

Wei Zhao<sup>1</sup>, Ruzhi Wang<sup>1\*</sup>, Fengying Wang<sup>1</sup>, Siying Chen<sup>2</sup>, Bo Wang<sup>1</sup>, Hao Wang<sup>1</sup>, and Hui Yan<sup>1</sup>

<sup>1)</sup>College of Materials Science and Engineering, Beijing University of Technology, Beijing 100124, China. <sup>2)</sup>School of Optoelectronics, Beijing Institute of Technology, Beijing 10081, China

\*Contacting Author: Ruzhi Wang is with College of Materials Science and Engineering, Beijing University of Technology, China. (phone: +86-10 67392445; fax: +86-10 67392445; email: wrz@bjut.edu.cn ).

### Flexible and Transparent Touch Sensor using Single-Wall Carbon Nanotube Thin-Films Eun-Suk Choi<sup>1</sup>, Min-Ho Jeong<sup>1</sup>, Kang Won Choi<sup>1</sup>, Chaehyun Lim<sup>2</sup>, and Seung-Beck Lee\*1,2

<sup>1</sup>Department of Electronics and Computer Engineering, Hanyang University, Seoul, Korea <sup>2</sup>Department of Nanoscale Semiconductor Engineering, and Institute of Nano Science and Technology, Hanyang University, Seoul, Korea \*Contacting Author: Seung-Beck Lee is with the Nanoelectronic Devices Laboratory, Department of Nanoscale Semiconductor Engineering, and Institute of Nano Science and Technology, Hanyang University, 133-791, Seoul, Korea (phone: 82-2-2220-1676; fax: 82-2-2294-1676; email: sbl22@hanyang.ac.kr).

# Flexible Thin Flim Transistor Using Printed Single-Walled Carbon Nanotubes Suk-Jae Jang<sup>1</sup>, Jong-Hyun Ahn<sup>1, 2, \*</sup>

<sup>1</sup> SKKU Advanced Institute of Nanotechnology, Sungkyunkwan University, Suwon, 440-746, Korea <sup>2</sup> School of Advanced Materials Science and Engineering, Sungkyunkwan University, Suwon, 440-746, Korea \*Contacting Author: Jong-Hyun Ahn is with the School of Advanced Materials Science and Engineering, SKKU Advanced Institute of Nanotechnology, Sung -kyunkwan University, Suwon, 440-746, Korea (e-mail: ahnj@skku.edu).

#### Growth and Characterizations of CoFe<sub>2</sub>O<sub>4</sub>-ZnO Nanocomposite Thin Films

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 $Yoon^1$ <sup>1</sup> Department of Chemistry, Sungkyunkwan University, Suwon, Korea <sup>2</sup> Department of Information Display, Hongik University, Seoul, Korea \*Contacting Author: Seung Soo Yoon is with the Department of Chemistry, Sungkyunkwan University; (phone: 82-31-290-5071; fax:

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82-31-290-7075; e-mail: ssyoon@skku.edu), Young Kwan Kim is with the Department of Infirmation of Display, Hongik University; (phone: 82-2-320-1645; fax: 82-2-3141-8928; e-mail: kimyk@wow.hongik.ac.kr). Highly Sensitive Si nanowire-based Gas Sensors for Detection of a Nerve Agent Yeonju Kim, Jun Min Lee, Seung Hyun Lee and Wooyoung Lee\* Department of Materials Science and Engineering, Yonsei University, 262 Seongsanno EP252 Seodaemun-gu, Seoul, 120-749, Korea \*Contacting Author: Wooyoung Lee is with the Department of Materials Science and Engineering, Yonsei University (phone: 82-2-2123-2834; e-mail: Wooyoung@yonsei.ac.kr) Impact of Structural Parameters on Reduction of Short Channel Effects and Improvement of Switching Speed in Double Gate SOI MOSFET with Metal Source-Drain Mohammad-Naser Moghaddasi, Zahra Ahangari EP253 Science and Research Branch, Islamic Azad University, Tehran, Iran mn moghaddasi@yahoo.com; z.ahangari@gmail.com Improved Infrared Emissions of Er3+-Tm3+ Codoped Al2O3 Thin Films: The Role of Cross **Relaxation among Rare Earth Ions** Bo Zhou, Zhisong Xiao\*, Lu Yan, Fang Zhu, Feng Zhang, Anping Huang, and Jinliang Wang EP254 <sup>1</sup> School of Physics and Nuclear Energy Engineering, Beihang University, Beijing 100191, China <sup>2</sup> Department of Electronic Engineering, City University of Hong Kong, 83 Tat Chee Road, Kowloon, Hong Kong, China \*E-mail: zsxiao@buaa.edu.cn Improvement of Thermal Stability of Cu/Cu(Zr)/p-SiOC:H Film Stack Using an Ultra-thin Zr(Ge) Alloy Film as an Exhaustion Interlayer Bo Liu, Jijun Yang, Yuan Wang \*, and Kewei Xu <sup>1</sup>Key Laboratory of Radiation Physics and Technology of Ministry of Education, Institute of Nuclear Science and Technology, Sichuan University, Chengdu 610064, PR China. <sup>2</sup>State-Key **EP255** Laboratory for Mechanical Behavior of Materials, Xi'an Jiaotong University, Xi'an 710049, PR China \*Contacting Author: Yuan Wang is with Key Laboratory of Radiation Physics and Technology of Ministry of Education, Institute of Nuclear Science and Technology, Sichuan University, Chengdu 610064, PR China. (phone: +86-28-8541-2695; fax: +86-28-8541-0252; e-mail: yuan@scu.edu.cn) In-situ Synchrotron X-ray Diffraction measurement of Epitaxial FeRh Thin Films Sung-Uk Jang<sup>1</sup>, Seungmin Hyun<sup>2</sup>, Hwan Soo Lee<sup>3</sup>, Soon-Ju Kwon<sup>1\*</sup>Ji-Hong Kim<sup>1</sup>, Ki-Hoon Park1, Hak-Joo Lee<sup>2</sup> <sup>1</sup>Laboratroy for Photosynthetic Materials and Devices, the Department of Materials Science and Engineering, Pohang University of Science and Technology, Pohang, Korea. <sup>2</sup> Division of EP256 Nano-Mechanical Systems Research Korea Institute of Machinery & Materials (KIMM), Daejeon, Korea. <sup>3</sup>eMD Center, Samsung Electro-Mechanics Co., Ltd., Suwon, Korea \*Contacting Author: the Department of Materials Science and Engineering, Pohang University of Science and Technology, Pohang, Korea.(phone:+82-54-279-2137; e-mail:soonju@postech.ac.kr) Interfacial Nature of Resistive Switching Effect in Perovskite-Oxide Thin Film Devices Hon-Kit Lau, Paddy Kwok-Leung Chan and Chi-Wah Leung\* Hon-Kit Lau and Chi-Wah Leung are with the Department of Applied Physics and Materials EP257 Research Centre, Hong Kong Polytechnic University, Hong Kong, China. Paddy Kwok-Leung Chan is with the Department of Mechanical Engineering, Hong Kong Polytechnic University, Hong

Kong, China. \*Contacting Author: Chi-Wah Leung is with the Department of Applied Physics and

Materials Research Centre, Hong Kong Polytechnic University, Kowloon, Hong Kong, China (e-mail: apleung@polyu.edu.hk).

### **Introducing Time-dependant Sources for Solving Time-domain Schroinger Equation using FDTD Method**

Xiaoying Wang, Wenting Guo, Chengzhi Li, Jin Lan, and Wenquan Sui\*
Zhejiang California International Nanosystems Institute (ZCNI), Zhejiang University, Hangzhou.
310029, China (Phone: +86-057186971920; email: xiaoying8581@163.com)

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# Investigation of Resistive Switching Behavior using Ti/ZnO Nanobelt/Ti for Non-Volatile Memory Application

Ching-Yuan Ho, Chen-Fang Kang, Yen-Te Chiang and Jr-Hau He\*
School of National Taiwan University, Institute of Photonics and Optoelectronics & Department of Electrical engineering, Taipei, Taiwan, Republic of China. \*Contacting Author: Jr-Hau He is with the School of National Taiwan University, Institute of Photonics and Optoelectronics & Department of Electrical engineering, Taipei, Taiwan, Republic of China. (phone: +886-2-33669646; email: ihhe@cc.ee.ntu.edu.tw).

# Investigation of the Formation of $BaTiO_3$ Oriented Aggregated Particles under Ultrasonic Irradiation

Feng Dang\*, Kazumi Kato, Hiroaki Imai<sup>1</sup>, Satoshi Wada<sup>2</sup>, Hajime Haneda<sup>3</sup> and Makoto Kuwabara<sup>4</sup>

<sup>1</sup> Keio University, 4-1-1 Hiyoshi, Kohoku-ku, Yokohama, 223-8522 Japan <sup>2</sup> Yamanashi University,

4-3-11, Takeda, Kofu, 400-8511 Japan <sup>3</sup> National Institute for Materials and Science (NIMS), 1-1

Namiki, Tukuba, 305-0044 Japan <sup>4</sup> Kyushu University, 6-1 Kasuga-kouen Kasuga, Fukuoka,

816-8580 Japan \*Contacting Author: Feng Dang is with the National Institute of Advanced

Industrial Science and Technology (AIST) 2266-98 Anagahora, Shimoshidami, Moriyama-ku,

Nagoya, 463-8560 Japan (e-mail: dangf@ aist.go.jp)

### **Nanophotonics Oral Session**

Chair: Xiao Wei SUN, Nanyang Technological University

# 10:45 Wavelength Division Multiplexer of Surface Plasmon Polaritons Using Dual-periodical Arranged Metal Gap Waveguide

X. Q. Yu\* and S. N. Zhu

<sup>1</sup>Physics Department, Southeast University, Nanjing, 211189, China <sup>2</sup>National Laboratory of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, China \*Contacting Author: X. Q. Yu is with Physics Department, Southeast University, Nanjing, 211189, China, (phone: +86-25-52090600; email: xqyu@seu.edu.cn)

#### 11:00 ZnO nanorod LED

Xiao Wei SUN PC202

School of Electrical and Electronic Engineering Nanyang Technological University Singapore

### 11:15 High Efficient Self-assembly CdSe/ZnS Quantum dots Light-Emitting Devices in Organic Matrix

Sydney, Australia <sup>1</sup>School of Materials Science and Engineering, Nanyang Technological

A. Uddin and C.C. Teo<sup>1</sup>
School of Photovoltaic and Renewable Energy Engineering, The University of New South Wales,

University; Singapore 639798

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### $Contributed\ Presentations-Tuesday-Jan\ 5,\ 2010-IEEE\ INEC\ 2010$

11:30	Enhanced WDM using a Gaussian Pulse within a Nano-waveguide	
	P. Youplao <sup>1</sup> , C. Vongchumyen <sup>1</sup> , S. Mitatha <sup>1</sup> and P.P.Yupapin <sup>2</sup>	
	<sup>1</sup> Hybrid Computing Research Laboratory, Faculty of Engineering <sup>2</sup> Advanced Research Center for	
	Photonics, Faculty of Science, All authors are with King Mongkut's Institute of Technology	PC204
	Ladkrabang, Bangkok 10520, Thailand. *Contacting Author: S. Mitatha is with the Hybrid	
	Computing Research Laboratory, Faculty of Engineering, King Mongkut's Institute of Technology	
	Ladkrabang, Bangkok 10520, Thailand. (e-mail:kmsomsak@kmitl.ac.th).	
11:45	CdS Nanowires/Nanobelts Electronic and Photonic Devices	
	Lun Dai, G. G. Qin	
	Department of Physics and State Key Lab for Mesoscopic Physics, Peking University, Beijing	PC205
	100871, China *Contacting Author: lundai@pku.edu.cn; qingg@pku.edu.cn	
12:00	Broadband Mid-Infrared Generation Using One-Dimensional Photonic Bandgap Waveguides	
	Ritwick Das <sup>1</sup> and K. Thyagarajan <sup>2</sup>	
	<sup>1</sup> Mediterranean Technology Park 08860, Castelldefels (Barcelona), Spain <sup>2</sup> Department of Physics,	PC206
	Indian Institute of Technology Delhi, Hauz Khas, New Delhi – 110016, India	10200
	*Contacting Author: K. Thyagarajan Email: ktrajan@physics.iitd.ac.in	
12:15	Focusing by Varying the High-refractive-index Square Dielectric Rods	
12.10	Sujuan Chen, Chongxi Zhou*, Chuaikai Qiu	
	State Key Laboratory of Optical Technologies for Microfabrication, Institute of Optics and	PC207
	Electronics, Chinese Academy of Sciences *Contacting Author:Chongxi Zhou	
	Electronics, Chinese reducing of Sciences Conditing radior. Chongar Zhou	
12:30	Lunch	
14:00	Poster Session	
16:00	Break	
	Chair: Xiao Wei SUN, Nanyang Technological University	
16:15	Three dimensional SnO <sub>2</sub> /ZnO Hierarchical Nanostructures: Fabrication and Lasing	
10110	Properties	
	Chuanwei Cheng, <sup>1</sup> Bo Liu, <sup>1</sup> Huiying Yang, <sup>2</sup> Weiwei Zhou, <sup>1</sup> Li Sun, <sup>1</sup> Handong Sun, <sup>1</sup> Siu Fung Yu, <sup>2</sup>	
	Hao Gong, <sup>3</sup> Jixuan Zhang, <sup>3</sup> Hong Jin Fan <sup>1,*</sup>	
	<sup>1</sup> Division of Physics and Applied Physics, School of Physical and Mathematical Sciences, Nanyang	PC208
	Technological University, 637371 Singapore <sup>2</sup> Division of Microelectronics, School of Electrical	10200
	and Electronic Engineering, Nanyang Technological University. 637371 Singapore <sup>3</sup> Division of	
	Materials Science and Engineering, National University of Singapore, 117576 Singapore	
	*Contacting Author: fanhj@ntu.edu.sg	
16:30	Effectively enhanced the haze of ZnO thin-film by ZnO and ZnO hollow nanoparticles	
10.50	Dison Huang and Shih-Shou Lo*	
	Nano Opto-electron Device Laboratory, Department of Photonics, Feng-Chia University,100,	
	Wenhwa Rd. Seatwen Taichung, Taiwan. *Contacting Author: Shih-Shou Lo is with the Nano	PC209
	Opto-electron Device Laboratory, Department of Photonics, Feng Chia University, No.100,	1 0205
	Wenhwa Road, Taichung, Taiwan, 40724, R.O.C. (phone:+886 -4-24517250 ext.5041;	
16.45	fax:+886-4-24510182; email: sslo@fcu.edu.tw).  Shaped nanomembranes: From fundamental perception to new concepts and applications	KS21.
10.40	SHADEU HAHOHEHIDI AHES. FTOIH TUHUAHIEHIAI DEFCEDUOH IO HEW CONCEDIS AHU ADDIICAHONS	N.32.1

#### Yongfeng Mei and Oliver G. Schmidt

Institute for Integrative Nanosciences, IFW Dresden, Helmholtzstr. 20, 01060 Dresden, Germany. o.schmidt@ifw-dresden.de

#### 17:15 Controlled Fabrication of Gold@Conducting Polymers Core-Shell Nanostructures

Shuangxi Xing, Li Huey Tan and Hongyu Chen\*

Division of Chemistry and Biological Chemistry, School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore. \*Contacting Author: Hongyu Chen is with the Division of Chemistry and Biological Chemistry, School of Physical and Mathematical Sciences, Nanyang Technological University, 21 Nanyang Link, Singapore 637371, Singapore (phone: +65-63168795; fax: +65-67911961; e-mail: hongyuchen@ntu.edu.sg; website: http://www.ntu.edu.sg/home/hongyuchen/).

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#### 17:30 Encapsulation of Hydrophobic Nanocrystals by Diblock Copolymers

Jun Xu and Hongyu Chen\*

Division of Chemistry and Biological Chemistry, School of Physical and Mathematical Sciences, Nanyang Technological University, 21 Nanyang Link, Singapore 637371, Singapore \*Contacting Author: Hongyu Chen is with the Division of Chemistry and Biological Chemistry, School of Physical and Mathematical Sciences, Nanyang Technological University, 21 Nanyang Link, Singapore 637371, Singapore (phone: +65-63168795; fax: +65-67911961; e-mail: hongyuchen@ntu.edu.sg; website: http://www.ntu.edu.sg/home/hongyuchen/).

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### 17:45 Fabrication of Complex Nanostructures by Colloidal Chemistry

Hongyu Chen\*

\*Contacting Author: Hongyu Chen is with the Division of Chemistry and Biological Chemistry, School of Physical and Mathematical Sciences, Nanyang Technological University, 21 Nanyang Link, Singapore 637371, Singapore (phone: +65-63168795; fax: +65-67911961; e-mail: hongyuchen@ntu.edu.sg; website: http://www.ntu.edu.sg/home/hongyuchen/).

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# 18:00 Rational Assembly of Nanoparticles Clusters with Specific Formulae by Colloidal Reaction Yong Wang, Gang Chen, Miaoxin Yang, and Hongyu Chen\*

Division of Chemistry and Biological Chemistry, Nanyang Technological University, Singapore 637371. \*Contacting Author: Hongyu Chen is with the Division of Chemistry and Biological Chemistry, Nanyang Technological University, Singapore 637371 (phone: +65-63168795; email: hongyuchen@ntu.edu.sg).

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### 18:15 Third-Order Optical Nonlinearity of Cadmium Sulfide Nanoparticles Loaded in Mesostructured Silica Materials

Jiaqi Li, Hangrong Chen\*, Yu Chen, Peng Jiang, Chenyang Wei, and Jianlin Shi\*
State Key Laboratory of High Performance Ceramics and Superfine Microstructures, Shanghai Institute of Ceramics, Chinese Academy of Sciences, 1295 Dingxi Road, Shanghai 200050, China\*Corresponding author: hangrong Chen, email: hrchen@mail.sic.ac.cn; Jianlin Shi, email: jlshi@mail.sic.ac.cn

PC214

### Nanophotonics Poster Session I

ATRIUM

14:00

#### Design of Antireflective Subwavelength Grating Structure for Infrared Medical Imaging

Xun Zheng, Soonkyu Je, Byungwook Kim, Jongmyeong Shim, Shinill. Kang\* Nano Fabrication and Micro Optics National Research Laboratory, School of Mechanical PP201

Engineering, Yonsei University, Seoul, Korea \*Contacting Author: Shinill. Kang is with the Nano Fabrication and Micro Optics National Research Laboratory, School of Mechanical Engineering, Yonsei University; 134, Sinchon-dong, Seodaemun-gu, Seoul, 120-749, Korea (Phone: +82-(02)-2123-2829, Fax: +82-(02)-362-2736, E-mail address: snlkang@yonsei.ac.kr) Aqueous Synthesis of Thiol-Capped Water-Soluble Fe-doped ZnSe nanocrystals Ruishi Xie, Lingyun Liu, Lihua Li, Yuanli Li, Qiang Chen, Xi Yue, Dingquan Xiao and Jianguo PP202 Zhu\* College of Materials Science and Engineering, Sichuan University, Chengdu 610064, China Construction and Investigation of A DNA Sensing System Based on A Magnetic Molecular **Beacon Probe** Shichao Xu, Juan Yang, Jimei Zhang\*, Zhao Dai, Bo Sun, Tielin Feng, Yan Zi <sup>1</sup> School of Environmental and Chemical Engineering, Tianjin Polytechnic University Tianjin, PP203 China <sup>2</sup> School of Chemistry, Nankai University, Tianjin, China \*Contacting Author: Jimei Zhang is with the School of Environmental and Chemical Engineering; 63#, Chenglin Rd, Hedong District, Tianjin City, 300160, China (phone:86-22-2452-8172, email: zhangjimei@tjpu.edu.cn). Control of Regioregularity by Photo Cross-linking of Polythiophenes Sehwan Kim, Yuna Kim, Jeonghun Kim, and Eunkyoung Kim\* PP204 Department of Chemical and Biomolecular Engineering, Yonsei University 262 Seongsanno, Seodaemun-gu, Seoul 120-749, Korea Electron Transport in the Long-Range Charge-Recombination Dynamics of Single Encapsulated Dye Molecules on TiO2 Nanoparticle Films Edwin K. L. Yeow\* and Xiangyang Wu Division of Chemistry and Biological Chemistry, School of Physical & Mathematical Sciences, PP205 Nanyang Technological University, Singapore, 637371 \*Contacting Author: Edwin K. L. Yeow is with the Division of Chemistry and Biological Chemistry, School of Physical & Mathematical Sciences, Nanyang Technological University, Singapore, 637371 (phone:65-63168758; e-mail: edwinyeow@ntu.edu.sg). Dye-sensitized Solar Cell using Natural Dyes as Sensitizers Huizhi Zhou, Liqiong Wu\*, Qingqing Miao, Gang Xin and Tingli Ma\* State Key Laboratory of Fine Chemicals, Dalian University of Technology, Dalian, China. PP206 \*Contacting Author: Tingli Ma is with the State Key Laboratory of Fine Chemicals, Dalian University of Technology, Dalian, China. (phone: +86-411-39893820; email: tinglima@dlut.edu.cn) Exciton Wavefunction Coupled Surface Plasmon Resonance for Indium-doped p-ZnO Nanowires with Perforated Aluminum Circle Hole Arrays on Si Substrate Chia-Hui Fang, Chung-Yuan Tsai, Jen-Cheng Wang, and Tzer-En Nee\* Department of Electronic Engineering, Chang Gung University, Tao-Yuan 333, Taiwan, Republic of PP207 China \*Contacting Author: Tzer-En Nee is with the Department of Electronic Engineering, Chang Gung University, Tao-Yuan 333, Taiwan, Republic of China. (phone: +886-3-2118800 ext. 5791; fax: +886-3-2118507, E-mail: neete@mail.cgu.edu.tw) Fabrication of highly transparent ZnO/PVB nanocomposite films with novel UV-shielding properties Xiao-Fei Zeng, Xue Li, Xia Tao, Zhi-Gang Shen, Jian-Feng Chen\* PP208 Research Center for High Gravity Engineering Technology, Ministry of Education, Beijing University of Chemical Technology, Beijing 100029, PR China \*Contacting Author: Jianfeng Chen

is with Research Center for High Gravity Engineering Technology, Ministry of Education, Beijing

University of Chemical Technology, China. (phone: +86-10 64446466; fax:+86-10 64444784; email: chenjf@mail.buct.edu.cn ).

# Crystal Growth and Photoluminescence Properties of Eu3+-doped Y3Al5O12 Nanocrystals by High-energy Ball Milling

Hyun Kyoung Yang<sup>1</sup>, Jong Won Chung<sup>1</sup>, Soung Wook Park<sup>1</sup>, Jung Hyun Jeong<sup>1</sup>,\*, Ki-wan Jang<sup>2</sup>, Ho Sueb Li<sup>2</sup>, Soung Soo Yi<sup>3</sup>

<sup>1</sup> Department of Physics, Pukyong National University, Busan 608-737, Republic of Korea

<sup>2</sup> Department of Physics, Changwon National University, Changwon 641-773, Republic of Korea

<sup>3</sup> Department of Electronic Materials Engineering, Silla University, Busan 617-736, Republic of Korea. \*Contacting Author: J. H. Jeong is with the Department of Physics, Pukyong National University, Busan 608-737, Republic of Korea (phone: 82-51-629-5564; fax: 82-51-629-5549; e-mail: jhjeong@pknu.ac.kr).

# High Efficiency InGaP/GaAs Solar Cell with Sub-wavelength Structure on AlInP Window Layer

Min-An Tsai<sup>1</sup>, Peichen Yu<sup>2</sup>, C. H. Chiu1, H. C. Kuo<sup>2</sup>, T. C. Lu<sup>2</sup>

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Department of Electrophysics, Department of Photonics and Institute of Electro-Optical Engineering, National Chiao-Tung University, Hsinchu, 30010, Taiwan, R.O.C.

# $Hydrothermal\ Synthesis\ and\ NIR-to-blue,\ Green,\ Organge\ and\ White\ Upconversion$ $Luminescence\ in\ Yb^{3+}/Tm^{3+}/Er^{3+}/Ho^{3+}-doped\ Na_{0.5}Gd_{0.5}WO_4$

Zhiguo Xia\*, Jiayue Sun, and Haiyan Du

<sup>1</sup> School of Materials Sciences and Technology, China University of Geosciences, Beijing 100083, China <sup>2</sup> College of Chemistry and Environmental Engineering, Beijing Technology and Business University, Beijing 100037, China \*Contacting Author: Zhiguo Xia is with School of Materials Sciences and Technology, China University of Geosciences, Beijing 100083, China. (phone: +86-10 82322759; e-mail: xiazg426@yahoo.com.cn)

#### Integrated Micro-and Nano Optical Cavities on a Chip for Supersensitive Sensing

Yingzhan yan\*, Zhe Ji, Shubin yan, Jijun Xiong and Wendong Zhang

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National Key Laboratory For Electronic Measurement Technology, North University Of China, Taiyuan, ShanXi Province, China (+86-351-3920398; email: yyz712@gmail.com)

### Junction Temperature of High-Power LED Packages with Diamond film

Cheng-Yi Hsu<sup>1</sup> and Yuli Lin<sup>1</sup>,\*

Institute of Engineering Science, Chung Hua University, Hsinchu, Taiwan \*Contacting Author: Yuli PP213 Lin is with the Institute of Engineering Science and Department of Mechanical Engineering, Chung Hua University, Hsinchu, Taiwan (phone: +886 3-5185494; email:yulilin@chu.edu.tw).

# **Localized-surface-plasmon Enhanced Luminescence from Porous Silicon by Gold Nanoparticles**

Hui Wang, Zhenghua An\*, Qijun Ren, Hengliang Wang, Zhanghai Chen, and Xuechu Shen

<sup>1</sup>. Laboratory of Advanced Materials, Fudan University, Han-dan Road 220#, Shanghai 200433,

China <sup>2</sup>. State-key Surface Physics Laboratory and Physics Department, Fudan University,

Shanghai 200433, China \* Contacting author: Zhenghua An is with Laboratory of Advanced

Materials, State-key Surface Physics Laboratory and Physics Department, Fudan University.

Han-dan Road 220#, Shanghai 200433, China. Phone/Fax: +86-21-51630255. E-mail:

anzhenghua@fudan.edu.cn.

# Luminescence Properties of Bi<sup>3+</sup> ions co-doped Gd<sub>2</sub>O<sub>3</sub>:Eu<sup>3+</sup>, Tb<sup>3+</sup> nanophosphors Jong Won Chung<sup>1</sup>, Byung Kee Moon<sup>1</sup>, Jung Hyun Jeong<sup>1</sup>,\*, Jung Hwan Kim<sup>2</sup> PP215

<sup>1</sup> Department of Physics, Pukyong National University, Busan 608-737, Republic of Korea <sup>2</sup> Department of Physics, Dong Eui University, Busan 614-714, Republic of Korea \*Contacting Author: J. H. Jeong is with the Department of Physics, Pukyong National University, Busan 608-737, Republic of Korea (phone: 82-51-629-5564; fax: 82-51-629-5549; e-mail: jhjeong@pknu.ac.kr). On the physical properties of In<sub>2</sub>O<sub>3</sub> films prepared by atomic layer deposition using tri-methyl-indium and nitrous oxide Wei-Hsu Chi, Kuo-Yi Yen, Shao-Cian Li, Jyh-Rong Gong\*, Cuo-Yo Nieh, and Shih-Chang Liang PP216 the Department of Physics, National Chung Hsing University, Taiwan, R O. C. (\*Electronic mail:jrgong@phys.nchu.edu.tw ;Tel: +886-4-2284-0427 ;Fax: +886-4-2285-8583.) Optical and structural features of silicon-rich a-SiNx::H thin films Sarab Preet Singh<sup>1</sup>, C.J. Oton<sup>2</sup>, P. Srivastava<sup>1</sup>, Sanatanu Ghosh<sup>1</sup>, and G. Vijaya Prakash<sup>1,\*</sup> <sup>1</sup> Nanostech and Nanophotonics labs, Department of Physics, Indian Institute of Technology Delhi, PP217 New Delhi-110016, India <sup>2</sup> Optoelectronics Research Centre, University of Southampton, Southampton, SO17 1BJ, UK \*E-mail: prakash@physics.iitd.ac.in Optical Properties of Single-Crystalline Wurtzite Aluminum Nitride Nanowires Hue-Min Wu\*and Jaw-Yeu Liang Department of Physics, Chinese Culture University, Taipei 111, Taiwan \* Corresponding author: Dr. PP218 Hue-Min Wu Associate Professor, Dept. of Physics Chinese Culture University Taipei 111, Taiwan E-mail: hueminwu@faculty.pccu.edu.tw Performance Enhancements in Optoelectrical Properties of InGaN/GaN Light-emitting Diodes with Micro-hole Arrayed Indium-tin-oxide Layer Chia-Hui Fang, Jen-Cheng Wang, and Tzer-En Nee\* the Department of Electronic Engineering, Chang Gung University, Tao-Yuan 333, Taiwan, PP219 Republic of China. \*Contacting Author: Tzer-En Nee is with the Department of Electronic Engineering, Chang Gung University, Tao-Yuan 333, Taiwan, Republic of China. (phone: +886-3-2118800 ext. 5791; fax: +886-3-2118507, E-mail: neete@mail.cgu.edu.tw) Characterization of the Structure of Ionic Liquid by SAXS Analytical Method E Cheng, Wei-Min Mao, and Zi-Jian Lv First and second authors are with School of Materials Science and Engineer, University of Science and Technology Beijing, Beijing, China. Third author is with Shen Yang Normal University, the PP220 College of Chemistry and Life Science, 100034, Shen Yang, China. \* Contacting Author: E Cheng is with Powder Meltallurgy Institute, Central Iron and Steel Research Institute, Xue Yuan Nan Lu 76#, 100081, Beijing, China. (phone.: +86-010-13301088089; email: yizhengsmith @gmail.com). Nanobiology Oral Session LT-1 Chair: Jiao Sun, Shanghai Jiaotong University 10:45 A Preliminary Study on A Highly Porous Nano Calcium Phosphate Bioceramic Scaffolds for

Yu Feng, Wei Li\*, Zhiling Yan and Yunmao Liao State Key Lab of Oral Disease, West China College of Stomatology, Sichuan University, 14

**Bone Tissue Engineering** 

Renminnan Road, Chengdu 610041, China. \*Contacting Author: Wei Li is with State Key Lab of Oral Disease, West China College of Stomatology, Sichuan University, China. (phone:+86-28

85502894;fax: +86-28 85582167; email: leewei2000@sina.com) 11:00 Binding of Nanoplastics onto a Cellulose Film Priyanka Bhattacharya<sup>1,2</sup>, Ran Chen<sup>1</sup>, Mercy Lard<sup>1,3</sup>, Sijie Lin<sup>1</sup>, and Pu-Chun Ke<sup>\*1,2</sup> <sup>1</sup>Department of Physics and Astronomy, Clemson University, Clemson, SC, USA. <sup>2</sup>Center for Optical Materials Science and Engineering Technologies, Clemson University, Clemson, SC, USA. BC202 <sup>3</sup>Department of Physics, Lund University, Lund, Sweden. \*Contacting Author: Pu Chun Ke is with the Department of Physics and Astronomy, Clemson University; 118 Kinard Laboratory, Clemson University, Clemson, SC, 29631, USA (phone: 1-864-656-0558; fax: 1-864-656-0805; email: pcke11@clemson.edu). Corrosion Behavior of DLC-coated NiTi Alloys in the Presence of Serum Proteins 11:15 Ruiqiang Hang<sup>1</sup>, Shengli Ma<sup>1,\*</sup> and Paul K. Chu<sup>2</sup> <sup>1</sup>State Key Laboratory for Mechanical Behavior of Materials, Xi'an Jiaotong University, Xi'an BC203 710049, China. <sup>2</sup>Department of Physics and Materials Science, City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong, China \*Contacting Author: Shengli Ma, phone: 86-29-82668395; email: slma@mail.xjtu.edu.cn) 11:30 Effect of Extraction Motheds on Micro/Nano Particles Leaching from C. lanceolata Wood MA Qing-zhi, PENG Wan-xi, WU Yi-qiang, ZHANG Xu, DENG He-ping BC204 Central South University of Forestry and Technology, 410004 Changsha, Hunan Province, P.R. China Effects of Alkaline Extraction on Micro /Nano Particles of Eucalyptus urophydis Wood 11:45 PENG Wan-xi<sup>1</sup>, WU Yi-qiang<sup>1</sup>, WU Shu-bin<sup>2</sup>, ZHANG Dang-quan<sup>1</sup> <sup>1</sup>School of Materials Science and Engineering, Central South University of Forestry and BC205 Technology, Changsha 410004; <sup>2</sup>State Key of Pulp and Paper Engineering, South China University of Technology, Guangzhou 510640 12:00 Effects of Hydroxyapatite Nanoparticle on Remineralization of Artificial Root Caries in Vitro Junjun Jing, Shengbin Huang, Bin He, and Yuqing Hao\* State Key Laboratory of Oral Diseases, Sichuan University, No. 14, 3rd Section Renmin South BC206 Road, Chengdu, Sichuan 610041, China. \*Contacting Author: Tel./fax: +86 +28 85503469. E-mail address: hygluxi@126.com (Y. Hao). Evaluating Biocompatibility of Semiconductive Gallium Nitride, Flat and Nano-Structured 12:15 Silicon Chips by Cell Viability, Adhesion and Growth Yu-Ting Kang and Ta-Jen Yen Department of Materials Science and Engineering School of National Tsing Hua University, BC207 Hsinchu, 300, Taiwan (R.O.C.) Contacting Author: Ta-Jen Yen is with the Department of Materials Science and Engineering School of National Tsing Hua University, Hsinchu, 300, Taiwan (R.O.C.) (phone:+886-3-5742171; fax:+886-3-5722366; email: tjyen@mx.nthu.edu.tw) 12:30 Lunch 14:00 Poster Session 16:00 Break

BC208

16:15 Fabrication of Nano-structured HA/CNT Coatings on Ti<sub>6</sub>Al<sub>4</sub>V by Electrophoretic Deposition

Chair: Yong Han, Xi'an Jiaotong University

Bokai Zhang <sup>1</sup>, Chi Tat Kwok <sup>2</sup>, Fai Tsun Cheng <sup>3</sup>, Hau Cheung Man <sup>4</sup>

<sup>1,2</sup> Department of Electromechanical Engineering, University of Macau, <sup>3</sup> Department of Applied Physics, <sup>4</sup> Department of Industrial & Systems Engineering, The Hong Kong Polytechnic University, China

### 16:30 Hardware Implementation of a Pulse-type Neuron with a Synapse Function for Hodgkin-Huxley Model

Bomin Kwon, Jinwoo Jung, Jiman Kim, Juhong Park, Jewon Lee, Namtae Kim\*, Yongsu Park\*\* and Hanjung Song

BC209

Department of Nano Engineering, Inje University \*Department of Electronics and Intelligent Robotics Engineering ,Inje University \*\*Department of Electronics, Chung Cheong University \*Contacting Author: Hanjung Song is with the Department of Nano Engeering, Inje University (phone:+82-55-320-3873)

#### 16:45 Ion Beam Nanobiology

L.D. Yu<sup>a,b</sup>, P. Nimmanpipug<sup>c</sup>, V.S. Lee<sup>c</sup> and S. Anuntalabhochai<sup>d</sup>

<sup>a</sup> Plasma and Beam Physics Research Facility, Department of Physics and Materials Science, Faculty of Science, Chiang Mai University, Chiang Mai 50200, Thailand <sup>b</sup> Thailand Center of Excellence in Physics, Commission on Higher Education, 328 Si Ayutthaya Road, Bangkok 10400, Thailand <sup>c</sup> Computer Simulation and Modeling Laboratory, Department of Chemistry, Faculty of Science, Chiang Mai University, Chiang Mai 50200, Thailand <sup>d</sup> Molecular Biology Laboratory, Department of Biology, Faculty of Science, Chiang Mai University, Chiang Mai 50200, Thailand <sup>\*</sup>Contacting Author: L.D. Yu

BC210

# 17:00 Nanocoating of Montmorillonite/Mg-beta-Tricalcium Phosphate on Orthodontic Titanium Miniscrews

Wen You Zhou<sup>1,\*</sup>, A. Bakr M. Rabie<sup>1</sup>, Ricky W. K. Wong<sup>1</sup> and Bin Tang<sup>2</sup>

BC211

<sup>1</sup>Discipline of Orthodontics, Faculty of Dentistry, The University of Hong Kong, Hong Kong

<sup>2</sup>Department of Mechanical Engineering, The University of Hong Kong, Hong Kong \*Contacting Author: Wen You Zhou

#### 17:15 Preparation and Characteristics of Ag/ SiO<sub>2</sub> Nancomposite

LiaoYan, Chen Qiang\*, Cai Huiping, Zhu Huiqin

Laboratory of Plasma Physics and Materials, Beijing Institute of Graphic Communication, 102600, Beijing, China. \*corresponding author: Qiang Chen Email: lppmchenqiang@hotmail.com Tel: 0086-10-6026-1099 Fax: 0086-10-6026-1099

BC212

#### 17:30 Preparation and characterization of well ordered mesoporous diopside nanobiomaterial

Jie Wei<sup>1\*</sup>, Junfeng Jia<sup>1</sup>, Xin Jiang<sup>1</sup>, Xiaohui Wu<sup>1</sup>, Chenglong Dai<sup>1</sup>, Shicheng Wei<sup>2</sup>, Jung-Woog Shin<sup>3</sup>, Changsheng Liu<sup>1</sup>

<sup>1</sup>Key Laboratory for Ultrafine Materials of Ministry of Education, East China University of Science and Technology, Shanghai 200237, P.R.China <sup>2</sup>Center for Biomedical Materials and Tissue Engineering, Academy for Advanced Inter- disciplinary Studies, Peking University, Beijing 100871, P.R.China <sup>3</sup>Department of Biomedical Engineering, Inje University, Gimhae, Gyeongnam, 621-749, Republic of Korea

BC213

### $17:45 \quad \textbf{Ultraviolet-enhanced wettability and bioactivity of self-organized TiO_2\ nanotube\ layer}$

Lan Zhang, Yong Han\*

BC214

State Key Laboratory for Mechanical Behavior of Materials, Xi'an Jiaotong University, Xi'an 710049, China \*Contacting Author: Yong Han. State Key Laboratory for Mechanical Behavior of

Materials, Xi'an Jiaotong University, Xi'an 710049, China (phone: +86 02982665580; fax:,+86 02982663453; e-mail: yonghan@mail.xjtu.edu.cn) 18:00 Toxicity of TiO<sub>2</sub> Nanomaterials Influenced by Dispersion Medium in C. elegans Wenwen Zhang, Liping Tong, Wu Lijun, An Xu\* BC215 Key Laboratory of Ion Beam Bioengineering, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, Anhui, P.R. China \*Contacting author; email: anxu@ipp.ac.cn 18:15 Synthesis of Hydroxyapatite Film Utilizing Carbon Nanotubes as Template Lifang Niu, Huiyi Kua, and Daniel H. C. Chua\* Department of Materials Science and Engineering, National University of Singapore, 7 Engineering BC216 Drive 1, Singapore 117574 \*Contacting author: Daniel H. C. Chua (Phone: 65-65168933, fax: 65-67763604, email: msechcd@nus.edu.sg) Nanobiology Poster Session I ATRIUM 14:00 Silica Nanoparticles Induce Apoptosis in Human Endothelial Cells via Reactive Oxygen **Species** Xin Liu, Jiao Sun \* Shanghai Biomaterials Research & Testing Center / shanghai Ninth People's Hospital, Shanghai BP201 Jiaotong University School of Medicine, Shanghai ,China \* Corresponding author: E-mail: jiaosun59@yahoo.com .Address: No.716, Xie-tu Road, Shanghai 200023, P.R. China. Phone: 0086-21-63034903 Fax: 0086-21-63011643 Synthesis and Cellular Biocompatibility of Two Types of Nanophase Hydroxyapatite with Different Ca/P Molar Ratio Yantao Zhao <sup>1,2</sup>, Yumei Zhang <sup>1\*</sup>, Yimin Zhao <sup>1</sup>, Shuxun Hou <sup>2</sup>, Paul K. Chu <sup>3\*</sup> <sup>1</sup> School of Stomatology, Fourth Military Medical University, Xi'an 710032, China <sup>2</sup> Department of **BP202** Orthopedics, The 304th Clinical Branch of the General Hospital of People's Liberation Army, Beijing, 100037, China. <sup>3</sup> Department of Physics and Materials Science, City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong \*Contacting Author: Yumei Zhang; Paul K. Chu. (Phone: +86-29-84776090; email: wqtzym@fmmu.edu.cn). Synthesis of fluorapatite nanorods enamel prism-like structure in porous alumina template Jie Wei<sup>a,b</sup>, Xiaochen Liu<sup>a</sup>, Junfeng Jia<sup>b</sup>, Yifei Zhang<sup>a</sup>, Chengjie Wang<sup>a</sup>, Shicheng Wei<sup>a,c</sup>, Changsheng Liu<sup>b</sup> <sup>a</sup> Center for Biomedical Materials and Tissue Engineering, Academy for Advanced Inter-**BP203** disciplinary Studies, Peking University, Beijing 100871, P.R.China b Key Laboratory for Ultrafine Materials of Ministry of Education, East China University of Science and Technology, Shanghai 200237, P.R.China cSchool and Hospital of Stomatology, Peking University, 100081, Beijing The effect of nanohydroxyapatite solution on the occluding ability of dentinal tubule Jing Yang <sup>1</sup> Kehua Que <sup>2</sup> Bin Guo\* <sup>2</sup> <sup>1</sup> Tianjin Stomatological Hospital of Nankai University, TianJin city, China <sup>2</sup> State Key Laboratory **BP204** of Oral Diseases, Sichuan University, China \*Contacting Author: Guobin, State Key Laboratory of Oral Diseases, Num 14, Section 3, Road Renminnan, Wuhou district, Chengdu city, Sichuan province, China. Tel:862885503561. Email:denthua@126.com A Study on the Preparation and Characterization of Plasmid DNA and Drug-containing **BP205** 

Magnetic Nano-liposomes for the Treatment of Tumor

Zi-vu Wang, Li Wang, Dong-sheng Zhang

School of Medicine, Southeast University, Nanjing 210009, China \*Contacting Author: Dong-sheng Zhang, male, professor, b7712900@ jlonline.com. Tel: 86-25-83272502 Surface Modification of Biodegradable Poly (butylene Succinate) by Gas PIII Junhui Ji\*, Huaiyu Wang, and Wei Zhang\* Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing 100190, China **BP206** \* Corresponding authors Dr. Junhui Ji and Dr. Wei Zhang Tel: [86]-10-82543775 Fax: [86]-10-69732300 Email: jhji@263.net or weizhang9743@hotmail.com Bacterial Disinfection and Osteoblast Behaviors on Ag Plasma-Modified Polyethylene Wei Zhang\*, and Junhui Ji\* Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing 100190, China **BP207** \* Corresponding authors Dr. Junhui Ji and Dr. Wei Zhang Tel: [86]-10-82543775 Fax: [86]-10-69732300 Email: jhji@263.net or weizhang9743@hotmail.com Binding Studies of L-Tryptophan to Human Serum Albumin with Nanogold-structured Sensor by Piezoelectric Quartz Crystal Impedance Analysi Yumei Long<sup>1,2</sup>\*, Lihua Nie<sup>2</sup>, Shouzhuo Yao<sup>2</sup>, and Jinhua Chen<sup>2</sup> <sup>1</sup>College of chemistry, chemical engineering and materials science, Suzhou University, 215123, **BP208** China <sup>2</sup>State Key Laboratory of Chemo/Biosensing and Chemometrics, College of Chemistry and Chemical Engineering, Hunan University, 410082, China \*Contacting Author: E-mail: yumeilong@suda.edu.cn Bioactivity and Mechanical Properties of White Portland Cement Paste with Carbon **Nanotubes** Pincha Torkittikul, Arnon Chaipanich\* **BP209** Cement and Concrete Research Laboratory, Department of Physics, Faculty of Science, Chiang Mai University, Chiang Mai 50200, Thailand (email: arnon@chiangmai.ac.th). Co-Delivery of Hydrophobic and Hydrophilic Drugs from Polymeric Ethosomes by Microemulsions Xiaofei Liang, Qi Wang, Xiaoyan Chen, Yanming Sun, and Yourong Duan\* BP210 Shanghai Cancer Institute, Shanghai JiaoTong University, Shanghai, P.R. China \*Corresponding author: Yourong Duan is with Shanghai Cancer Institute, Shanghai JiaoTong University, Shanghai, and P.R. China. (E-mail: yrduan@sci.shmu.edu.cn). **Detection of Dopamine via FRET between Alexa Fluors** Chang-hwan Seo and Jong-sung Kim\* Department of Chemical and Bioengineering, Kyungwon University, South Korea. \*Contacting BP211 Author: Jong Sung Kim, Kyunwon University; San65, Bokjeong-dong, Sujeong-gu, Seongnam, Gyeonggi, 461-701, South Korea (phone: 82-31-750-5361; fax: 82-31-750-5363; email:jskim@kyungwon.ac.kr. Effect of iron oxide nanoparticles on PC12 Cells by MTS and p53 Jie Wu, Jiao Sun\* Shanghai Ninth People's Hospital, Shanghai Biomaterials Research & Testing Center Shanghai **BP212** Jiaotong University School of Medicine, 7 box, Xietu Road 716, Shanghai, China 200023 \* Corresponding author: E-mail: jiaosun59@yahoo.com .Address: No.716, Xie-tu Road, Shanghai 200023, P.R. China. Phone: 0086-21-63034903 Fax: 0086-21-63011643 Effect of Surface Topography of Zirconia Coating on its Bioactivity and Osteoblast Response **BP213** Guocheng Wang, Xuanyong Liu\*, Chuanxian Ding

Shanghai Institute of Ceramics, Chinese Academy of Science, Shanghai 200050, PR China \*Contact author: Xuanyong Liu, Phone: 86-21-52412409; Fax: 86-21-52412409; e-mail: xyliu@mail.sic.ac.cn Electrochemical characteristics of TiO2 nanotubes with different diameters LIU Chenglong<sup>a,b</sup>, Zhao Lingzhou<sup>b</sup>, Wang Yueji<sup>a</sup> <sup>a</sup> School of Materials Science and Engineering, Chonqing University of Technology, Chongqing **BP214** 400050, PR China b Department of Physics and Materials Science, City University of Hongkong, Hongkong \*Corresponding author LIU Chenglong Email:liuchenglong@cqut.edu.cn Electrochemical deposition of high density gold nanoparticles on indium/tin oxide electrode for fabrication of superoxide anion biosensor Xiuping Yu, Liping Wang, and Junwei Di\* **BP215** Department of Chemistry, Soochow University, Suzhou, Jiangsu 215123, PR China \*Contacting Author: Junwei Di with Department of Chemistry, Soochow University, Suzhou China (phone: +86 512-65880354; email: djw@suda.edu.cn). **Electrospun Chitosan Nanofiber for Tissue Engineering** Yun Mi Kang<sup>1</sup>, Jae Hoon Ko<sup>2</sup>, E Sle Kim<sup>1</sup>, Gyeong Hae Kim<sup>1</sup>, Goh Woon Park<sup>1</sup>, Young Hwan Park<sup>2</sup>, Byoung Hyun Min<sup>1</sup>, Bong Lee<sup>3</sup>, Jae Ho Kim<sup>1</sup> and Moon Suk Kim<sup>1,\*</sup> <sup>1</sup>Department of Molecular Science and Technology, Ajou University, Korea <sup>2</sup>Digital Dyeing & **BP216** Finishing Tech, Korea Institute of Industrial Technology, Korea <sup>3</sup>Department of Polymer Engineering, Pukyung National University, Korea \*Corresponding author. Department of Molecular Science and Technology, Ajou University, Suwon, 443-749, Korea; Tel. +82-31-219-2608; Fax. +82-31-219-3931. E-mail address: moonskim@ajou.ac.kr Effect of Particle Size on the Sonochemical Synthesis of Silica-coated Magnetite Composite Feng Dang\*, Naoya Enomoto<sup>1</sup>, Junichi Hojo<sup>1</sup>, Keiji Enpuku<sup>2</sup> <sup>1</sup> Department of Applied Chemistry, Faculty of Engineering, Kyushu University, Fukuoka **BP217** 819-0395, Japan <sup>2</sup> Research Institute of Superconductor Science and Systems, Kyushu University, Fukuoka 819-0395, Japan \* Contacting Author: Feng Dang is with the National Institute of Advanced Industrial Science and Technology (AIST), Nagoya, Japan (e-mail: dangf@aist.go.jp) Folic Acid Conjugated mPEG-PEI-Sebacoyl Acid as a Non-Viral Vector for Nucleic Acid **Delivery** Zhenhua Xu<sup>a</sup>, Leo K. S. Siu<sup>a</sup>, Wesley Tucker<sup>a</sup>, Hsiang-fu Kung<sup>b</sup>, Samuel S. M. Ng<sup>a</sup>,\* and Marie C. Lina,\* BP218 <sup>a</sup> Department of Chemistry, Open Laboratory of Chemical Biology, The University of Hong Kong. Pokfulam, Hong Kong, China b Stanley Ho Centre for Emerging Infectious Diseases, The Chinese University of Hong Kong, Shatin, Hong Kong, China FRET-Based Optical Biosensor Based on ZnO Nanorods Arrays Chenghua Sui\*, Xia Cai, and Bo Yan Department of Applied Physics, Zhejiang University of Technology, Hangzhou, China \*Contacting BP219 Author: Chenghua Sui is with Department of Applied Physics, Zhejiang University of Technology, Hangzhou, 310023, China (Phone: +86-571-85290327; email: suich@zjut.edu.cn). Hybridization of ODNs with Core-Shell Structure of Fe<sub>3</sub>O<sub>4</sub> Nanoparticles and CS\ALG

**BP220** 

Department of Mechanical Engineering, National Taipei University of Technology, E-mail address: f10381@ntut.edu.tw

composite structure Ho Chang and LinWei Lin

### $Contributed\ Presentations-Tuesday-Jan\ 5,\ 2010-IEEE\ INEC\ 2010$

Hydrothermal Synthesis and Bio-mineralization of Hydroxyapatite Nanorod	
Kai Li, Sie Chin Tjong	
Department of Physics and Materials Science, City University of Hong Kong, Hong Kong, China.  * Contacting Author: Sie Chin Tjong is with Department of Physics & Materials Science, City	BP221
University of Hong Kong; 83 Tat Chee Avenue, Kowloon, Hong Kong, China. (phone: +852	
27887702; email: aptjong@cityu.edu.hk)	
Impact Of Structure Parameters and Operation Conditions On Performance Of Nanoscale	
BioFET	
Yan Guan, Yuanyuan Song, Student Member, IEEE, Lining Zhang, Frank He, Member, IEEE	
1The Key Laboratory of Integrated Microsystems, Peking University Shenzhen Graduate School,	BP222
Shenzhen, China 2TSRC, School of Electronic Engineering and Computer Science, Peking	
University, Beijing, China *Contacting Author: Frank He is with TSRC, School of Electronic	
Engineering and Computer Science, Peking University, Beijing 100871, China (phone:	
+86-10-62767915, fax: +86-10-62751789, email: hejin@szpku.edu.cn)	
In situ Atomic Force Microscope Observation of Self-Assembly Adsorption of Bovine Serum	
Albumin on Silica and Gold Nano Film	
Xue-song Ye <sup>1</sup> , Tao Zhou1, Feng Liu <sup>1†</sup> , Jun Liu <sup>1*</sup> , Jian Sha <sup>2</sup> , and Ling Xia <sup>1</sup>	
<sup>1</sup> The Department of Biomedical Engineering, Biosensors National Special Laboratory, Zhejiang	BP223
University, Hangzhou, Zhejiang, China. <sup>2</sup> The Department of Physics, Zhejiang University,	
Hangzhou, Zhejiang, China. †*Corresponding Authors: Phone: +86-571-879-527-56; Fax:	
+86-571-879- 516-76; e-mail: †bmilyf@gmail.com / * liujun@zju.edu.cn	
In Vivo Release of Bovine Serum Albumin From a Small Intestinal Submucosa Gel	
E Sle Kim <sup>1</sup> , Yun Mi Kang <sup>1</sup> , Ju Young Lee <sup>2</sup> , Gyung Hae Kim <sup>1</sup> , Kkot Nim Kang <sup>3</sup> , Da Yeon Kim <sup>3</sup> ,	
Goh Woon Park <sup>1</sup> , Bong Lee <sup>3</sup> , Jae Ho Kim <sup>1</sup> and Moon Suk Kim <sup>1,*</sup>	
<sup>1</sup> Department of Molecular Science and Technology, Ajou University, Korea <sup>2</sup> Pharmaceutical	BP224
engineering, Chungnam National University, Korea <sup>3</sup> Department of Polymer Engineering, Pukyung	
National University, Korea *Corresponding author. Tel.+82-31-219-2608; fax. +82-31-219-3931.	
E-mail: moonskim@ajou.ac.kr	
Influence of Annealing on Cytocompatibility of Anodized Nanoscale Titania Surfaces	
Lingzhou Zhao <sup>1</sup> , Kaifu Huo <sup>2</sup> , Shenglin Mei <sup>1</sup> , Wei Wang <sup>1</sup> , Yumei Zhang <sup>1*</sup> and Zhifen Wu <sup>1*</sup>	
School of Stomatology, the Fourth Military Medical University, 145 West Changle Road, Xi'an	
710032, China <sup>2</sup> Hubei Province Key Laboratory of Refractories and Ceramics Ministry-Province	
Jointly-Constructed Cultivation Base for State Key Laboratory, College of Materials and	BP225
Metallurgy, Wuhan University of Science and Technology, Wuhan 430081, China *Contacting	
author: Yumei Zhang and Zhifen Wu are with School of Stomatology, the Fourth Military Medical	
University, Xi'an, China.(Yumei Zhang, phone: +86-29-84776090, email: wqtzym@fmmu.edu.cn;	
Zhifen Wu, phone: +86-29-84776093, email: wzfwxy@fmmu.edu.cn)	
Interaction between functional group and ssDNA inserted on chemically modified solid-state	
nano/micro-channel	
Kejian Ding <sup>a,*</sup> , Fan Wu <sup>a</sup> , Nuoxin Wang <sup>a</sup> , Wangsheng Chu <sup>c</sup> , Ziyu Wu <sup>b,c</sup>	BP226
<sup>a</sup> College of Life sciences and Biotechnology, School of Science, Beijing Jiaotong University,	D1 220
Beijing 100044 P.R. China <sup>b</sup> University of Science and Technology of China, Hefei 230026,P.R.	
China <sup>c</sup> Institute of High Energy Physics, Chinese Academy of Sciences, Beijing 100049 P.R. China	
Investigating the Adsorption Mechanism of Bovine Serum Albumin on Crystal Surface by	BP227
Steering Atomic Force Microscopy	D1 44 /

Xue-song Ye<sup>1</sup>, Tao Zhou<sup>1</sup>, Feng Liu<sup>1†</sup>, Jun Liu<sup>1\*</sup>, Jian Sha<sup>2</sup>, and Ling Xia<sup>1</sup> <sup>1</sup> The Department of Biomedical Engineering, Biosensors National Special Laboratory, Zhejiang University, Hangzhou, Zhejiang, China. <sup>2</sup> The Department of Physics, Zhejiang University, Hangzhou, Zhejiang, China. † \*Corresponding Authors: Phone: +86-571-879-527-56; Fax: +86-571-879-516-76; e-mail: † bmilyf@gmail.com / \* liujun@zju.edu.cn Label-free Detection of Glucose based on Quantum Dots Mei Hu, Haoting Lu, Lihui Yuwen and Lianhui Wang\* Laboratory of Advanced Materials, Fudan University, 220 Handan road, Shanghai 200433, China. **BP228** \*Contacting Author: Lianhui Wang is with the Laboratory of Advanced Materials, Fudan University, Shanghai, China. (phone: +86-21 5566 4182; Fax: +86 21 6565 5123; E-mails: wlhui@fudan.edu.cn). Mesoporous Silica Nanotubes Incorporating with CdS Quantum Dots for Controlled Release of Ibuprofen Yun-Jie Yang, Xia Tao\*, Qian Hou and Jian-Feng Chen **BP229** Key Lab for Nanomaterials of the Ministry of Education, Beijing University of Chemical Technology, Bei San Huan Dong Road 15, Beijing 100029, China. \*Contacting Author: Xia Tao (phone: +86 10 6445 3680; fax: +86 10 6443 4784; E-mail: taoxia@mail.buct.edu.cn) Nanowire Field Effect Transistor With its Sub-picomolar Label-free Biosensing Capability **Toward a Gene Mutation** Chi-Chang Wu<sup>1</sup>, Fu-Hsiang Ko<sup>1,\*</sup>, Ting-Siang Su<sup>1</sup>, Bo-Syuan Li<sup>1</sup>, and Wen-Fa Wu<sup>2</sup> <sup>1</sup>Institute of Nanotechnology and Department of Material Science and Engineering, National Chiao **BP230** Tung University, Hsinchu, Taiwan. <sup>2</sup>National Nano Device Laboratories, Hsinchu 300, Taiwan \*Contacting Author: Fu-Hsiang Ko is with National Chiao Tung University, Hsinchu 300, Taiwan. (Phone: 886-3-5712121 ext. 55807; e-mail: fhko@mail.nctu.edu.tw) Preparation and Antibacterial Performance of TiO2 Nanotube Arrays Loaded with Ag Nanoparticles Hairong Wang<sup>1</sup>, Kaifu Huo<sup>1,2\*</sup>, and Paul K Chu<sup>2</sup> <sup>1</sup>The Hubei Province Key Laboratory of Refractories and Ceramics Ministry, Province BP231 Jointly-Constructed Cultivation Base for State Key Laboratory, College of Materials and Metallurgy, Wuhan University of Science and Technology, Wuhan 430081, China. 2Department of Physics & Materials Science, <sup>2</sup>City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong, China \*Contacting Author: Kaifu Huo, Electronic mail: kfhuo@wust.edu.cn SnO<sub>2</sub>:Zn<sup>2+</sup> Ultrathin Nanowires with Visible-Light Photocatalytic Activity Zonglong Zhu, Wei Liu, Zheng Xu BP231 School of Chemistry and Chemical Engineer, Nanjing University, Nanjing, 210093, People's Republic of China E-mail: zhengxu@nju.edu.cn **Nanophysics Oral Session** LT-12 Chair: Jun CAI, North China Electric Power University Prashanthi Kovur, Indian Institute of Technology, Bombay Nanopowders of the barium zirconium titanate for applications in electronic devices Supasarote Muensit<sup>a,\*</sup> and Nawal Binhayeeniyi TC201

Material Physics Laboratory, Physics Department, Prince of Songkla University, Songkhla,

10:45

Thailand. <sup>a</sup>NANOTEC CENTER of Excellence at Prince of Songkla University, Songkhla,

Thailand. \*Contacting Author: Supasarote MUENSIT, Material Physics Laboratory, Physics Department, Prince of Songkla University, Songkhla 90112 Thailand. 11:00 Controlling Enironmental Pollution by Application of Inartificial Nano Material Zengliang Yu<sup>a\*</sup>, Dongqing Cai<sup>a</sup>, Jiang Jiang<sup>a</sup>, Yuejin Wu<sup>a</sup>, Xiangqin Wang<sup>a</sup>, Dan Liu<sup>a</sup>, Xu Wang<sup>a</sup>, Hong Zhang<sup>a</sup>, Yi Tang<sup>a</sup> TC202 <sup>a</sup> Key Laboratory of Ion Beam Bioengineering, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei 230031, China \*Corresponding Author Prof. Zengliang Yu Email: zlyu@ipp.ac.cn Investigation magnetism state of undoped surface of 4H-SiC Lin Yu<sup>1</sup>, Donghong Liu<sup>1</sup>, Ying Dai<sup>1,\*</sup>, Baibiao Huang<sup>2</sup> TC203 <sup>1</sup> School of Physics, Shandong University, Jinan 250100, P. R. China <sup>2</sup> State Key Laboratory of Crystal Materials, Shandong University, Jinan 250100, P. R. China Investigation on Microstructure and Magnetic Properties of (Fe<sub>50</sub>Co<sub>50</sub>)<sub>73.5</sub>Cu<sub>1</sub>Nb<sub>3</sub>Si<sub>13.5</sub>B<sub>9</sub> Yuxin Wang, Xiang Li, Biao Yan\*, Yu Zhang, Chunfeng Du, and Shenqiang Zhao School of Materials Science and Engineering, Tongji University; Shanghai Key Lab of D&A for TC204 Metal-Functional Materials \*Contacting Author: Biao Yan is with the Shanghai Key Lab of D&A for Metal-Functional Materials, School of Materials Science and Engineering, Tongji University, (phone: +86-21 65981178; fax:+ 86-21 65983462; email: yanbiao@vip.sina.com). Length Effect of (15,15) Single-Walled Carbon Nanotube on Its Energy and Young's Modulus Studied Using Linear Scaling Quantum Mechanical Method J. Cai TC205 School of Nuclear Science and Engineering, North China Electric Power University, Beijing 102206, P. R. China 12:00 Dominance of broken bonds and nonbonding electrons in low-dimensional systems Chang Q Sun TC206 School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore 639798 and School of Physical Science, Xiangtan University, Hunan 411105 12:15 Novel Atomic Dynamics at W (111) Surfaces Tsu-Yi Fu<sup>\*1</sup>, Weng-J. Wong<sup>1</sup>, and Tien T. Tsong<sup>2</sup> TC207

<sup>1</sup> Department of Physics, National Taiwan Normal University, Taipei, Taiwan <sup>2</sup> Institute of Physics,

12:30 Lunch

14:00 Poster Session

16:00 Break

Chair: Minghong WU, Shanghai University

Zengliang YU, Institute of Plasma Physics, CAS

Academia Sinica, Taipei, Taiwan \*Contacting Author: Tsu-Yi, Fu

#### 16:15 Optical and FTIR Studies of CdSe Quantum Dots

Nor Aliya Hamizi\*, Mohd Rafie Johan

Advanced Materials Research Laboratory, Department of Mechanical Engineering, University of

Malaya, Kuala Lumpur 50630, Malaysia

### $Contributed\ Presentations-Tuesday-Jan\ 5,\ 2010-IEEE\ INEC\ 2010$

16:30	Preparation and Magnetic Properties of Magnetite Nanoparticles by Sol-gel Method	
	Hongzhang Qi*, Biao Yan , and Chengkui Li	
	Shanghai Key Lab. of D&A for Metal-Functional Materials, School of Materials Science and	
	EngineeringTongji University,1239 Siping Road, Shanghai 200092, China *Contacting Author:	TC209
	Hongzhang Qi is with Shanghai Key Lab. of D&A for Metal-Functional Materials, School of	
	Materials Science and Engineering, Tongji University (phone: +86-13774228796; Email: qhzsh	
	wh@gmail)	
16:45	Preparation,Structure and Properties of Mg-based Bulk amorphous and nanocrystalline	
	materials	
	Chunfeng Du*, Hongzhang Qi, Biao Yan, and Leding Guan	
	Shanghai Key Lab. of D&A for Metal-Functional Materials, School of Materials Science and	
	Engineering, Tongji University,1239 Siping Road, Shanghai 200092, China *Contacting Author:	TC210
	Chunfeng Du is with Shanghai Key Lab. of D&A for Metal-Functional Materials, School of	
	Materials Science and Engineering, Tongji University,1239 Siping Road, Shanghai 200092, China	
	(phone:+86-13482478620;Email:duchunfeng@live.cn)	
17:00	Synthesis and Characterization of spherical LiNi <sub>0.7</sub> Co <sub>0.15</sub> Mn <sub>0.15</sub> O <sub>2</sub> via Co-precipitation	
17.00	Xinxin Tan <sup>a,b</sup> , Weidong Wang <sup>b</sup> , Yougen Tang <sup>a,*</sup> , Haiyan Wang <sup>a</sup> , Qianqian Ding <sup>b</sup>	
	<sup>a</sup> College of Chemical and Chemical Engineering, CentralSouthUniversity, Changsha 410083,	
	PRChina <sup>b</sup> Shenzhen Tianjiao TechnologyCo., Ltd. Shenzhen 518119.PRChina	TC211
	*Corresponding author. Tel.: +86 731 88830886; fax: +86 731 88879616. E-mail address:	
	ygtang@mail.csu.edu.cn.	
17:15	The Coulomb Interaction and Volume Compress Effect on Spin and Orbital Moment of NiO	
17.15	Chewa Thassana <sup>1*</sup> , Wicharn Techitdheera <sup>1</sup>	
	<sup>1</sup> Department of Applied Physics, Faculty of Science, King Mongkut's Institute of Technology	
	Ladkrabang, Bangkok, Thailand. <sup>2</sup> College of KMITL nanotechnology, King Mongkut's Institute of	TC212
	Technology Ladkrabang, Bangkok, Thailand. *Contacting Author: Chewa Thassana is with the	10212
	Department of Applied Physics, Faculty of Science, King Mongkut's Institute of Technology	
	Ladkrabang, Bangkok, Thailand.	
17:30	Magnetic Characterization and Self-heating of Various Magnetic Nanoparticles for Medical	
17.50	Applications	
	Asahi Tomitaka <sup>1*</sup> , Hiroki Kobayashi <sup>1</sup> , Tsutomu Yamada <sup>1</sup> , Minhong Jeun <sup>2</sup> , Seongtae Bae <sup>2</sup> and	
	Yasushi Takemura <sup>1</sup>	
	<sup>1</sup> Department of Electrical and Computer Engineering, Yokohama National University, Japan	TC213
	<sup>2</sup> Biomagnetics Laboratory, Department of Electrical and Computer Engineering, National	
	University of Singapore, Singapore 117576, Singapore.	
	*e-mail: d09sd105@ynu.ac.jp	
17:45	Transparent resistive random access memory (TRRAM) based on Gd <sub>2</sub> O <sub>3</sub> film and its resistive	
17.73	switching characteristics	
	Kou-Chen Liu <sup>1,*</sup> , Wen-Hsien Tzeng <sup>2</sup> , Kow-Ming Chang <sup>2</sup> , Yi-Chun Chan <sup>1</sup> , Chun-Chih Kuo <sup>1</sup> , and	
	Chun-Wen Cheng <sup>1</sup>	
	<sup>1</sup> Institute of Electro-Optical Engineering, Chang Gung University, Tao-Yuan, 33302, Taiwan, R.O.C	TC214
	<sup>2</sup> Institute of Electronics, Department of Electronics Engineering, National Chiao Tung University,	10214
	HsinChu, 30010, Taiwan,R.O.C *Contacting Author: Kou-Chen Liu is with Institute of	
	Electro-Optical Engineering, Chang Gung University, Tao-Yuan, 33302, Taiwan, R.O.C	
	(phone:+886-3-2118800; fax: +886-3-2118507; email:jacobliu@mail.cgu.edu.tw)	

### 18:00 Effect of Nanoparticle Size on the Green Luminescence of Ti doped ZnO Nanoparticles

M Naeem<sup>1</sup>, S Qaseem<sup>2</sup>

<sup>1</sup>School of Electrical and Computer engineering, National University of Sciences and Technology, Islamabad, Pakistan. <sup>2</sup>Department of Applied Physics, Federal Urdu University of Arts, Science and Technology Islamabad, Pakistan

TC215

#### **Nanophysics Poster Session I**

ATRIUM

TP201

14:00

### Effect of Annealing on the Gate Effective Work-Function Modulation for the Al/TiN/SiO2/P-Si Structure

Xiaorong Wang, Bingzong Li, Guoping Ru, Xinping Qu and Yulong Jiang\*
State Key Lab of ASIC and System, Department of Microelectronics, Fudan University, Shanghai 200433, China. State Key Lab of ASIC and System, Department of Microelectronics, Fudan University, Shanghai 200433, China \* Contacting Author: Yulong Jiang is with the State Key Lab of ASIC and System, Department of Microelectronics, Fudan University, Shanghai 200433, China (e-mail:yljiang@fudan.edu.cn).

#### A novel bistable mechanism with parallel beams and permanent magnets

Jian Zhao\*1, Hongxi Wang², and Jianyuan Jia³

<sup>1</sup>Key Laboratory of Wide Band-Gap Semiconductor Materials and Devices of Ministry of Education, School of Microelectronics, Xidian University, Xi'an, China. <sup>2</sup> College of mechatronical engineering, Xi'an Technological University, Xi'an, China. <sup>3</sup> Research Institute on Mechatronics, TP202 Xidian University, Xi'an 710071, China. \*Contacting author: Zhao Jian is with the Key Laboratory of Wide Band-Gap Semiconductor Materials and Devices of Ministry of Education, School of Microelectronics, Xidian University, Xi'an, 710071, China. (Phone: 008615998623319, email: zhaojian0403@163.com)

AC Magnetic Susceptibility of Co-Ti-Zn Ferrite Nanoparticles for Hyperthermia Agents Daiki Shigeoka<sup>1</sup>, Hikaru Katayanagi<sup>1</sup>, Yuki Moro<sup>1</sup>, Shinji Kimura<sup>1</sup>, Toshiyuki Mashino<sup>1</sup>, Tomoyuki Hiroki<sup>1</sup> and Yuko Ichiyanagi 1<sup>2\*</sup>

<sup>1</sup>Graduate School of Engineering, Department of Physics, Yokohama National University

<sup>2</sup>Japan Science and Technology Agency, Precursory Research for Embryonic Science and

Technology \*Contacting Author: Yuko ICHIYANAGI 79-5 Tokiwadai, Hodogaya, Yokohama

240-8501 Japan

#### **Assembly of Upconversion NaREF4 Nanocrystals**

Wei Feng, LingDong Sun, and ChunHua Yan\*

Beijing National Laboratory for Molecular Sciences, State Key Laboratory of Rare Earth Materials, Chemistry and Applications & PKUHKU Joint Laboratory in Rare Earth Materials and
Bioinorganic Chemistry, Peking University, Beijing 100871, China \*Contacting Author: Chun H.

Yan is with State Key Laboratory of Rare Earth Materials, Peking University, Beijing, China
(phone: +86 10-62754179; fax: +86 10-62754179; e-mail: yan@pku.edu.cn)

### Coulomb repulsion at the nanometer-sized contact: a force driving superhydrophobicity, superfluidity, superlubricity and supersolidity

Chang Q Sun, a,d,\* Yi Sun, and Jisheng Pan, Xiao-Hui Wang, Ji Zhou, and Long-Tu Li TP205 School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore 639798, Singapore Institute of Materials Research and Engineering, Agency for Science,

Technology and Research (A\*STAR), 3 Research Link, Singapore 117602, Singapore <sup>c</sup> State Key Lab of New Ceramics and Fine Processing, Department of Materials Science and Engineering, Tsinghua University, Beijing, 100084, China <sup>d</sup> School of Physical Science and the Key laboratory of low-dimensional materials and application technologies (Ministry of Education), Xiangtan University, Hunan 411105, China \* E-mail: ecqsun@ntu.edu.sg Crystallization Behavior of Ni-Nb-Sb System Bulk Metallic Glass Junxia Lu, Jiliang Zhang, and Chanhung Shek\* **TP206** Department of Physics and Materials Science, City University of Hong Kong, Hong Kong, China \*Contacting Author: Email: apchshek@cityu.edu.hk; Tel: 852-27887798; Fax: 852-27887830 Development of phenol detecting biosensor using PEG hydrogel microparticles Eunji Jang, Saemi Park, Hyun Jong Lee, Keshava Murthy. P.S and Won-Gun Koh\* **TP207** Department of Chemical and Biomolecular Engineering, Yonsei University, \* Contacting Author: wongun@yonsei.ac.kr Effect of microwave annealing on amorphous Si of carbon powder S. C. Fong<sup>1\*</sup>, C. Y. Wang<sup>2</sup>, and T. S. Chin<sup>1,3</sup> <sup>1</sup> Department of Materials Science and Engineering, National Tsing Hua University, HsinChu 30013, Taiwan, the Republic of China <sup>2</sup> Materials and Chemical Engineering Lab., Industrial **TP208** Technology Research Institute, Chutung, 31000, Taiwan, R.O.C.<sup>3</sup> Department of Materials Science and Engineering, Feng Chia University, Taichung, 40724, Taiwan, R.O.C. Corresponding author: S. C. Fong, email: d947503@oz.nthu.edu.tw Effect of Nano Structure Anhydrous Agnesium Carbonateon Fire-retardant Performance of **PLA/BF Composites** Xingong Li, Yiqiang Wu\*, and Xia Zheng College of Material Science and Engineering, Central South University of Forestry and **TP209** Technology, 498 Shaoshan South Road, Changsha 410004, China. \*Contacting Author: Yiqiang Wu is with the School of Material Scienceand Engineering, Central South University of Forestry and Technology, Changsha, China. (phone: +8673185623302;email: lxgwood@163.com). Fabrication and Properties of Nano h-BN Coated SiC/ Epoxy Composites Hai-yun Jin, Hui-cheng Shi, Tao Zhang\*, Nai-kui Gao and Zong-ren Peng <sup>1</sup>State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University, **TP210** Xi'an, China <sup>2</sup> State Key Laboratory for Mechanical Behavior of Materials, Xi'an Jiaotong University, Xi'an, China Contacting author: Tao Zhang is with the State Key Laboratory for Mechanical Behavior of Materials, Xi'an Jiaotong University, Xi'an, 710049, China. Hydrogen adsorption on Li metal in boron substituted graphene: ab initio approach Hong-Lae Park and Yong-Chae Chung\* Department of Materials Science and Engineering, Hanyang University, Korea \*Contacting Author: TP211 Yong-Chae Chung is with the Department of Materials Science and Engineering, Hanyang University (phone: +82-2-2296-5308; fax: +82-2-2281-5308 email: yongchae@hanyang.ac.kr) Hydrothermal Synthesis of SnO<sub>2</sub> Nanorods from Na<sub>2</sub>SnS<sub>3</sub> through Oriented Growth Lei Wang and Yangin Wang\*

Immunoassays Using Hydrogel Microparticles for Multiplex Detection-Enabled Shape-Coded Array

Lab for Advanced Materials, Research Institute of Industrial Catalysis, East China University of

Science and Technology, Meilong Road 130, Shanghai 200237, P. R. China. \*Contacting Author:

Email: wangyangin@ecust.edu.cn

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**TP213** 

Saemi Park, Eunji Jang, Hyun Jong Lee, Keshava Murthy. P.S Won-Gun Koh\* Department of Chemical and Biomolecular Engineering, Yonsei University \*Contacting Author: wongun@yonsei.ac.kr

### Improved Efficiency and Adhesion Property between the PEDOT: PSS and ITO in Solution-Processed Organic Light-Emitting Diodes

Eun Young Choi<sup>1</sup>, Ji Hyun Seo<sup>1</sup>, Hoe Min Kim<sup>1</sup>, Jun Ho Kim<sup>1</sup>, Jong-Tae Je<sup>2</sup>, and Young Kwan Kim\*

TP214

<sup>1</sup>Department of Information display, Hongik University, Seoul 121-791, Korea <sup>2</sup> SFC CO., LTD. Ochang Techno Village 641-5, Cheongwon-kun, Chungbuk, Korea \*Contacting Author: Young Kwan Kim with the Department of Information display, Hongik University, Seoul 121-791, Korea (phone: 82-2-320-1646; fax: 82- 2-3141-8928; e-mail: kimyk@wow.hongik.ac.kr).

# Kinetic Surface Roughening of TaN Thin Films Sputtered at Different $N_2$ /Ar Flow Ratios Jijun Yang, Bo Liu, Yuan Wang\*, and Kewei Xu

<sup>1</sup>Key Laboratory of Radiation Physics and Technology of Ministry of Education, Institute of Nuclear Science and Technology, Sichuan University, Chengdu 610064, PR China. <sup>2</sup>State-Key Laboratory for Mechanical Behavior of Materials, Xi'an JiaotongUniversity, Xi'an 710049, PR China \*Contacting Author: Yuan Wang is with Key Laboratory of Radiation Physics and Technology of Ministry of Education, Institute of Nuclear Science and Technology, Sichuan University, Chengdu 610064, PR China. (phone: +86-28-8541-2695; fax: +86-28-8541-0252; e-mail: wyuan@scu.edu.cn)

TP215

### Low Energy Oscillatory Phenomena in Photoreflectance of GaMnAs Films Grown by LT-MBE

X. D. Luo <sup>a), c)\*</sup>, P. S. Liu <sup>a)</sup>, B. D. Ding <sup>a)</sup>, Y. Q. Wang <sup>b)</sup>, W. K. Ge <sup>c)</sup>, and J. N. Wang <sup>c)</sup>

<sup>a)</sup> Jiangsu Key Laboratory of ASIC, Nantong University, Nantong, 226019, China <sup>b)</sup> Key Laboratory of Materials Physics, Institute of Solid State Physics, CAS, Heifei, 230031, China <sup>c)</sup> Department of Physics, Hong Kong University of Science & Technology, Hong Kong, China \*Contacting author: X.D.Luo (luoxd@ntu.edu.cn)

#### Low power integrated fluxgate sensor for portable electronic equipments

Chong Lei, Yong Zhou, Lei Chen, Zhimin Zhou

National Key Laboratory of Nano/Micro Fabrication Technology, Key Laboratory for Thin Film and Microfabrication of Ministry of Education, Institute of Micro and Nano Science & Technology, Shanghai Jiao Tong University, Dongchuan Road 800, Shanghai 200240, China. Corresponding author: leiysdx@msn.com

TP217

### Magnetoresistance Effect and Magnetic Properties of Strain Induced Co/Cu Multilayer Films C. Rizal<sup>1\*</sup> and Y. Ueda<sup>2</sup>

<sup>1</sup> Author is with the Department of Electrical and Computer Engineering, University of British Columbia, Vancouver, Canada.<sup>2</sup> Author is with the Department of Electrical and Electronic Engineering, Muroran Institute of Technology, Hokkaido, Japan. \*Contacting Author: Conrad Rizal (Phone: +1 604 822 6268; e-mail:crizal@ece.ubc.ca)

TP218

### Wednesday - Jan 6, 2010 CHAN TAI HO HALL

# SYMPOSIUM ON NANOSCIENCE AND NANOTECHNLOGY IN CHINA

### 08:30-08:50 OPENING CEREMONY

Chair: Charles M Lieber, Harvard University

Zhong-Lin Wang, Georgia Institute of Technology

### 08:50 In-situ Ultrahigh Vacuum Transmission Electron Microscope Investigations of Nanostructures

KA301

L. J. Chen<sup>1\*</sup>, and W. W. Wu<sup>2</sup>

<sup>1</sup>Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan, Republic of China, <sup>2</sup>Department of Materials Science and Engineering, National Chiao Tung University, Hsinchu, Taiwan, Republic of China. E-mail: ljchen@mx.nthu.edu.tw

# 09:15 Spin-related phenomena in nano-structure of semiconductors Junhao Chu

KA302

Key Laboratory of Polar Materials and Devices, Ministry of Education, East China Normal University, Shanghai 200062, China. National Laboratory for Infrared Physics, Shanghai Institute of Technical Physics, Chinese Academy of Sciences, Shanghai 200083, China. E-mail:jhchu@mail.sitp.ac.cn

#### 09:40 Microstructure and Properties of Plasma Sprayed Nanostructural ZrO<sub>2</sub> Coatings

KA303

Chuanxian Ding, and Xuanyong Liu

Shanghai Institute of Ceramics, Chinese Academy of Sciences, 1295 Dingxi Road, Shanghai 200050, China. (phone: -86-21-52414201; fax: -86-21-52413903; email: cxding@sunm.shenc.ac.cn)

#### 10:05 Spin transport in Diluted Magnetic Semiconductors

KA304

Y.W. Du\*, F.M. Zhang, D Wu and S.J. Xiong

National Laboratory of Microstrctures Nanjing, Department of Physics, Nanjing University and Jiangsu Provincial Laboratory for NanoTechnology. dyw@nju.edu.cn

# Symposium on Nanoscience and Nanotechnology in China Wednesday – Jan 6, 2010 - IEEE INEC 2010

10:30	Break	
	Chair: A Paul Alivisatos, Lawrence Berkeley National Laboratory	
	You-Nan Xia, Washington University in St. Louis	
10:50	Oscillations of Nonlinear Magnetoresistance in Microwave-Irradiated 2D Semiconductors  X. L. Lei  Department of Physics, Shanghai Jiao Tong University, Shanghai, China. Email: xllei@sjtu.edu.cn	KA305
11:15	Electronics and Photonics Prototype Devices Based on Compound Semiconductor Nanowires/Nanobelts  L. Dai & G. G. Qin Department of Physics and State Key Lab for Mesoscopic Physics, Peking University, Beijing 100871, China.	KA306
11:40	Efficient Luminescence from Nanostructured Aggregates of Organic Luminogens  Ben Zhong Tang  Department of Chemistry, The Hong Kong University of Science & Technology, Clear Water Bay, Kowloon, Hong Kong, China Phone: +852-2358-7375 (Office); Fax: +852-2358-1594 (Office); E-mail: tangbenz@ust.hk	KA307
12:05	Surface Modification of TiO <sub>2</sub> and ZnO Nanosurfaces and Applications  S. Y. Tong, 1,2* Xu Hu, 1 R. Q Zhang, 1 M. K. Fung, 2 C. T. Yip, 2 A. M. C. Ng, 2 F. Fang, 2 A. B. Djurišić 1  1 Dept. of Physics and Materials Science, City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong. Dept. of Physics, The University of Hong Kong, Pokfulam Road, Hong Kong. *E-mail: apdtong@cityu.edu.hk	KA308
12:30	Lunch Chair: Lars Samuelson, Lund University	
	Paul S Weiss, University of California, Los Angeles	
14:00	Evolution of core-shell silicon nanowires grown on silicon substrates by pulsed laser ablation <a href="Hailing Tu">Hailing Tu</a> , Lei Wang, Xing Chen, Shiwei Zhu, Jun Du and Qinghua Xiao <a href="Institute">Institute</a> of Advanced Electronic Materials, General Research Institute for Nonferrous Metals, <a href="Beijing">Beijing</a> , 100088, China, tuhl@grinm.com	KA309
14:25	Nucleation and Growth of Epitaxial Silicide in Nanowire of Silicon  Yi-Chia Chou, Kuo-Chang Lu, and K. N. Tu  Department of Materials Science and Engineering, University of California at Los Angeles, Los Angeles, CA 90095-1585, USA. Department of Materials Science and Engineering, National	KA310

Cheng Kung University, Tainan 701, Taiwan, Republic of China

### Symposium on Nanoscience and Nanotechnology in China Wednesday – Jan 6, 2010 - IEEE INEC 2010

14:50	Superconducting Nanowires for Detecting Single Photons at Telecommunication Wavebands	KA311
	L. Kang, J. Chen, L. B. Zhang, and P. H. Wu	
	Research Institute of Superconductor Electronics (RISE), University of Nanjing, Nanjing, China.	
	E-mail: phwu@nju.edu.cn	
15:15	Rashba electron transport in 1D quantum waveguides	KA312
	LIU Duan Yang <sup>1</sup> , XIA JianBai <sup>1,2</sup> , & CHANG YiaChung <sup>2</sup>	
	<sup>1</sup> State Key Laboratory for Superlattices and Microstructures, Institute of Semiconductors, Beijing	
	100083, China. <sup>2</sup> Research Center for Applied Sciences, Academia Sinica, Taipei, Taiwan 11529.	
	Corresponding author email: xiajb@red.semi.ac.cn	
15:40	Break	
	Chair: Harold Kroto, Florida State University	
	Pei-Dong Yang, University of California, Berkeley	
16:00	Synthesis and Physical Properties of Macroscale Carbon Nanotube Architectures	KA313
	S.S. Xie, W.J. Ma, W.Y. Zhou	
	Beijing National Laboratory of Condensed Matter, Institute of Physics, Chinese Academy of	
	Sciences, Beijing 100190, P.R. China. ssxie@aphy.iphy.ac.cn	
16:25	Probing Superexchange Interaction in Molecular Magnets by Spin-Flip Spectroscopy and	KA314
	Microscopy	
	Xi Chen, Ying-Shuang Fu, 1, 2 Shuai-Hua Ji, 1, 2 Xu-Cun Ma, 2 Wen-Hui Duan, 1 Jin-Feng Jia, 1 and <b>Qi-Kun Xue</b> 1, 2 *	
	<sup>1</sup> Department of Physics, Tsinghua University, Beijing 100084, China. <sup>2</sup> Institute of Physics,	
	Chinese Academy of Sciences, Beijing, 100190, China. * E-mail: qkxue@mail.tsinghua.edu.cn	
16:50	Biological Effects and Risks of Nano-bioceramics	KA315
	Xingdong Zhang	
	National Engineering Research Center for Biomaterials, Sichuan Univerisity. zhangxd@scu.edu.cn;	
	xingdongzhang@hotmail.com	
17:15	Atomic resolution in-situ TEM observation on brittle-ductile transition of nano-wires with	KA316
	covalent bonding	
	X. D. Han and <b>Z. Zhang</b> *	
	Institute of Microstructure and Property of Solid Materials, Beijing University of Technology,	
	Ping-le-yuan 100, Chaoyang Dis., 100124 Beijing, China. *zezhang@bjut.edu.cn	

# Wednesday - Jan 6, 2010 ASIA WORLD EXPO CENTER

18:30-22:30 CONFERENCE BANQUET

## Thursday - Jan 7, 2010

	Nanofabrication Oral Session I	LT-18
	Chair: Yue ZHANG, The University of Science and Technology Beijing	
8:30	Carbon-assisted Growth Technology for ZnO Nanowires	
	C. Cheng, T. L. Wong, W. Li, D.P. Yu and N. Wang*	
	1) Department of Physics and the Institute of Nano Science and Technology, the Hong Kong	EC401
	University of Science and Technology, Hong Kong, China, 2) Department of Physics, Peking	FC401
	University, Beijing, P.R. China *Contacting Author: Ning Wang (phone: +852-23587489; fax:	
	+852-23581652; email: phwang@ust.hk).	
8:45	Controllable Growth of Zinc oxide single-crystal hexagonal microtubes by hydrothermal	
	synthesis	
	Deng Hong*, Jinju Chen and Min Wei	
	State Kcy Laboratory of Eelctronic Thin Films and Integrated Devices, University of Electronic	FC402
	Science and Technology of China, Chengdu, China *Contacting Author: Hong Deng is with State	
	Kcy Laboratory of Eelctronic Thin Films and Integrated Devices, University of Electronic Science	
	and Technology of China, Chengdu, China. (phone: +86-28 83202551;email: hdeng@uestc.edu.cn).	
9:00	Dopant Induced Shape Evolution of Colloidal Nanocrystals: The Case of Zinc Oxide	
	Ye Feng Yang, Yi Zheng Jin,* Zhi Zhen Ye, and Hai Ping He	FC403
	State Key Laboratory of Silicon Materials, Department of Materials Science and Engineering,	FC403
	Zhejiang University, P.R. China *Contacting Author: yizhengjin@zju.edu.cn	
9:15	Effects of Precursor Concentration on ZnO Nanorods Grown on Flexible PET Substrate by	
	Hydrothermal Synthesis	
	C. M. Shin, J.Y. Lee, J.H. Heo, T.M. Lee, J.H. Park, H. Ryu*	FC404
	Department of Nano Systems Engineering, Inje University *Contacting Author: Hyukhyun Ryu is	1 0 7 0 7
	with the Department of Nano Systems Engineering, Inje University, Obang-dong, Gimhae,	
	Gyeongnam 621-749, Republic of Korea.(phone: +82-55-320-3874, email: hhryu@inje.ac.kr)	
9:30	Effects of O2 Plasma Power on the Structural and Surface Morphologies of ZnO Thin Films	
	Grown on the Flexible PES Substrate by Atomic Layer Deposition	
	J.H. Heo, J.Y. Lee, C. M. Shin, T.M. Lee, J.H. Park, H. Ryu*	
	Department of Nano Systems Engineering, Inje University *Contacting Author: Joo Hoe Heo, the	FC405
	Department of Nano Systems Engineering, Center for Nano Manufacturing, Inje University,	
	Obang-dong, Gimhea, Gyeongnam 621-749, Republic of Korea (phone: +82-55-320-3874, e-mail:	
	hhryu@inje.ac.kr)	
9:45	Fabrication of phosphorus-doped ZnO quantum dots by metal organic chemical vapor	
	deposition	
	L. P. Zhu*, Y. Z. Wu, Y. J. Zeng, H. P. He, J. M. Lin, J. Jiang, Z. Z. Ye, and B. H. Zhao	
	State Key Laboratory of Silicon Materials, Department of Materials Science and Engineering,	FC406
	Zhejiang University, Hangzhou, 310027, China *Contacting Author: Liping Zhu is with the State	
	Key Laboratory of Silicon Materials, Department of Materials Science and Engineering, Zhejiang	
	University Hangzhou China (Phone: 86-571-87953139 Email: zln1@ziu.edu.cn)	

10	0.00	Break

Chair:	Aleksandra	a Diurisic.	. The Univ	versity of	Hong Kong

### 10:15 Top emerging technologies for self-powered nanosystems: nanogenerators and nanopiezotronics

Zhong Lin Wang KS417

FC407

FC409

School of Materials Science and Engineering, Georgia Institute of Technology, Atlanta GA 30332-0245 USA. E-mail: zhong.wang@mse.gatech.edu

### 10:45 Highly Ordered Growth of ZnO Nanostructures by Combination of Nanoimprint Lithography and Hydrothermal Method

Shao-Ren Deng, Student Member, IEEE, Tao Chen, Shu-Yi Liu, Yi-Fang Chen, Ejaz Huq, Ran Liu and Xin-Ping Qu $^*$ , Senior Member, IEEE

State Key Lab of ASIC and System, Department of Microelectronics, Fudan University, Shanghai 200433, China. \*Contacting Author: Xin-Ping Qu is with the State Key Lab of ASIC and System, Department of Microelectronics, Fudan University, Shanghai 200433, China (e-mail:xpqu@fudan.edu.cn).

## 11:00 Low-temperature Fabrication of Bunch-shaped ZnO Nanowires Using an Sodium Hydroxide Aqueous Solution

Xiulan Hu\*, Yoshitake Masuda, Tatsuki Ohji, and Kazumi Kato

National Institute of Advanced Industrial Science and Technology (AIST), 2266-98 Anagahora, FC408 Shimoshidami, Moriyama-ku, Nagoya 463-8560, Japan. (AIST), 2266-98 Anagahora, Shimoshidami, Moriyama-ku, Nagoya 463-8560, Japan. (phone: +81-52-7367237; fax: +81-52-7367234; email: xiulan-hu@aist.go.jp)

## 11:15 Microstructures and Photoluminescence Properties of Three-dimensional Multi-layered ZnO Flowers by Surfactant-free Hydrothermal Method

Xu Lingling, Gao Hong, Li Zeming, Lv Wei, Liu Jia, Zhang Xitian
Heilongjiang Key Laboratory for Advanced Functional Materials and Excited State Processes,
Department of Physics, School of Physics and Electronic Engineering, Harbin Normal University,
Harbin 150025, P.R. China \*Contacting author: Xu Lingling is with Department of Physics, School
of Physics and Electronic Engineering, Harbin Normal University, Harbin 150025, P.R. China.
(phone:+86-451-88060526; email:xulingling hit@163.com)

11:30 One Dimensional ZnO Nanostrucures Grown on ZnO/Si by Hydrothermal Process

Yinglei Tao, Yongsheng Wang\*, Ming Fu, and Dawei He

Institute of optoelectronic technology, Beijing Jiaotao Uniersity, Beijing, China

## 11:45 **Optical and adsorption Properties of ZnO nanotubes prepared from aqueous solution** Dewei Chu\*, Yoshitake Masuda, Tatsuki Ohji, and Kazumi Kato

National Institute of Advanced Industrial Science and Technology (AIST), 2266-98 Anagahora,
Shimoshidami, Moriyama-ku, Nagoya 463-8560, Japan. \*Contacting Author: Dewei Chu is with
National Institute of Advanced Industrial Science and Technology (AIST), 2266-98 Anagahora,
Shimoshidami, Moriyama-ku, Nagoya 463-8560, Japan. (Phone: +81-52-7367238; fax:

#### 12:00 Photoresponse characteristics of vertically aligned ZnO nanowires

+81-52-7367234; email: Dewei-chu@aist.go.jp)

J. P. Kar1, S. N. Das, J. H. Choi, T. I. Lee and J. M. Myoung\*

Yonsei University, Seoul, Republic of Korea. \*Contacting Author: jmmyoung@yonsei.ac.kr

12:15 Preparation and Optical Properties of ZnO Nanostructures

	Zeming Li, Lingling Xu, and Xitian Zhang*  Heilongjiang Key Laboratory for Advanced Functional Materials and Excited State Processes,  School of Physics and Electronic Engineering, Harbin Normal University, Harbin 150025, P.R.  China *Contacting Author: Xitian Zhang, School of Physics and Electronic Engineering, Harbin  Normal University, Harbin 150025, P.R. China. (phone:+86-451-88060629;  email: xtzhangzhang@hotmail.com)	FC413
12:30	Lunch	
14:00	Poster Session	
	Nanofabrication Oral Session II	LT-14
	Chair: Fu-Hsing LU, National Chung Hsing University	
8:30	Fabrication and Characterization of Ordered GeSi Nanoislands on Si (001) Substrates Zhenyang Zhong*, Peixuan Chen, Bingying Pan, Yanwu Chen, Zhenhua An, Fang Lu, and Zuimin Jiang	
	Surface Physics Laboratory (National Key Laboratory) and Department of Physics, Fudan University, Shanghai 200433, China *Contacting Author: Zhenyang Zhong is with Surface Physics Laboratory (National Key Laboratory) and Department of Physics, Fudan University, Shanghai 200433, China. (phone: +86 21-55664059, email: zhenyangz@fudan.edu.cn).	FC414
8:45	Aloe Vera-Plant Extract Solution Synthesis, Kinetic Study and Magnetic Properties of Nanocrystalline Ni <sub>0.35</sub> Cu <sub>0.25</sub> Zn <sub>0.4</sub> Fe <sub>2</sub> O <sub>4</sub> Laokul P <sup>1.2</sup> , Maensiri S <sup>1</sup> , and Seraphin S <sup>3</sup> <sup>1</sup> Small & Strong Materials Group (SSMG), Department of Physics, Faculty of Science, Khon Kaen University, Khon Kaen, 40002, Thailand. <sup>2</sup> Department of Physics, Faculty of Science, Mahasarakham University, Kantharawichai District, Maha Sarakham Province, 44150, Thailand. <sup>3</sup> Department of Materials Science and Engineering, The University of Arizona, Tucson, Arizona 85721, U.S.A. *Contacting Author: Corresponding author: sanmae@kku.ac.th and santimaensiri@gmail.com (Dr. Santi Maensiri)	FC415
9:00	Biomimetic Synthesis of Hydrophobic Calcium Carbonate Nanoparticles  Jian Li, Chengyu Wang*, Xianglin Zhai and Yang Xu  School of materials chemistry, Department of materials science engineering, northeast forestry university, Harbin, China. *Contacting Author: Chengyu Wang is with the School of Materials Chemistry, Department of Materials Science and engineering, Northeast Forestry University, Harbin, China.(phone: +86 451-82190116; email: wangcy@netu.edu.cn).	FC416
9:15	Controllable Synthesis of Hollow Ni@SiO <sub>2</sub> with Sub-nanometer Nickel  Rongwen Lu <sup>1,2</sup> , Anmin Cao <sup>1</sup> , Goetz Veser <sup>1</sup> Department of Chemical Engineering, University of Pittsburgh. <sup>2</sup> State Key Laboratory of Fine Chemicals, Dalian University of Technology Contacting Author: Goetz Veser, gveser@pitt.edu	FC417
9:30	Transport Phenomena in Carbon Nanostructures  Toshishige Yamada, Tsutomu Saito, Drazen Fabris, and Cary Y. Yang  Center for Nanostructures, Santa Clara University, Santa Clara, California. Phone: (408) 554-6814  Fax: (408) 554-5474 Email: cyang@scu.edu	KS420

#### 10:00 Break

Chair: Chenguo HU, Chongqing University

## 10:15 Synthesis of nanometal(shell)-LiFePO<sub>4</sub>/C (core) composite particles by ultrasonic electrodeposition

Qi FAN<sup>1</sup>, YueFeng TANG\* and YanFeng CHEN

FC418

Department of Materials Science and Engineering, and National Laboratory of Solid State Microstructures, Nanjing University, Nanjing 210093, China \*Corresponding Author, E-mail: yftang@nju.edu.cn, Fax:+86-25-83595535

#### $10:30 \quad \hbox{The Thermal Stability of Nanocrystalline Cu Prepared by High Energy Ball Milling}$

J.M.Tao<sup>1</sup>, X.K.Zhu<sup>1</sup>, P.Z.Wong<sup>2</sup>, R.O. Scattergood<sup>2</sup>, and C.C. Koch<sup>2</sup>

<sup>1</sup>Department of Materials Science and Engineering, Kunming University of Science and Technology, Kunming, Yunnan, China. <sup>2</sup>Department of Materials Science and Engineering, NC State University, Raleigh, NC, USA. \*Contacting Author: Xinkun Zhu is with the Department of Materials Science and Engineering, Kunming University of Science and Technology; No.253, Xuefu Road, Kunming, 650093, China, (phone: 86-871-519-8154; fax: 86-871-516-1278; e-mail: xk zhu@hotmail.com)

FC419

# 10:45 Magnetic Hollow Mesoporous Silica Nanospheres with Large Pore Sizes: Vacuum Impregnation Technique, Superparamagnetic Property and Ultra-fast Immobolization of Enzymes

Yu Chen, Hangrong Chen\*, Limin Guo, and Jianlin Shi\*

FC420

The State Key Laboratory of High Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai, 200050, China \*Contacting Author: (Phone: +86-21-52412714; 52412700; Email: jlshi@sunm.shcnc.ac.cn; hrchen@mail.sic.ac.cn)

### 11:00 Nitrogen-doped TiO<sub>2</sub> Nano-crystal Colloid: A printable "Ink" for potential Solar Energy Devices

Zheng Jiang<sup>1,2</sup>\*, Huahong Shi<sup>1</sup>, Guidong Yang<sup>1</sup>, Tiancun Xiao<sup>1</sup>, Martin O. Jones<sup>1,3</sup>, Peter P. Edwards<sup>1</sup>\*

FC421

<sup>1</sup>Inorganic Chemistry Laboratory, Department of Chemistry, University of Oxford, OX1 3QR, U.K. <sup>2</sup>Jesus College, University of Oxford, OX1 3DW, U.K. <sup>3</sup>Rutherford Appleton Laboratory, Chilton, Harwell Science and Innovation Campus, Didcot, OX11 0QX \*Main authors' e-mail address: zheng.jiang@jesus.ox.ac.uk and peter.edwards@chem.ox.ac.uk

#### 11:15 Preparation and Characterization of Ultrafine Ni Powder by Freeze-drying

Xiaoli Xi\*, Zuoren Nie, Peiyun Tong, and Tieyong Zuo College of Material Science and Engineering, Beijing University of Technology, Beijing 100124,

FC422

## 11:30 Refined Nano-Colloid Silica Prepared by Improved Ion Exchange Method and Used for Polishing Silicon

China \*Contacting Author: xixiaoli@bjut.edu.cn; Tel/Fax: +86-10-6739-1536

Wang Haibo\*, Zhang Lei, Song Zhitang, Liu Weili and Hu Xiaokai
State key Laboratory of Functional Material for Informatics, Laboratory of Nanotechnology,
Shanghai Institute of Micro-system and Information Technology, Chinese Academy of Science
\*Contact author is with the State key Laboratory of Functional Material for Informatics, Laboratory
of Nanotechnology, Shanghai Institute of Micro-system and Information Technology, Chinese

FC423

Academy of Science (Tel: +86-21-62511070-8408 E-mail: wanghb@mail.sim.ac.cn.)

11:45	Self Assembly pattern prediction of Liquid Carbon Nanoparticles at low temperatures	
	Sayonsom Chanda, Dwaipayan Mukhopadhyay	FC424
	Department of Electrical Engineering, National Institute of Technology, Durgapur	
12:00	Crystallization and Electrochemical Corrosion Behaviors of Amorphous and nanocrystalline	
	Fe-based Alloys	
	Xiang Li, Yuxin Wang, Chunfeng Du, Chenkui Li, Biao Yan*	
	Shanghai Key Lab of Metal Functional Materials, School of Materials Science and Engineering,	EC 405
	Tongji University, Shanghai 200092, China. *Contacting Author: Biao Yan is with with Shanghai	FC425
	Key Lab of Metal Functional Materials, School of Materials Science and Engineering, Tongji	
	University, Shanghai 200092, China.(Phone: +86-21 65982463; fax: +86-21 65983462; email:	
	yanbiao@vip.sina.com).	
12:15	Direct Route to Fabrication and Characterization of W <sub>18</sub> O <sub>49</sub> /TiO <sub>2</sub> Core-Shell Nanoparticles	
	H. C. Lin <sup>1</sup> *, C. Y. Su <sup>2</sup> , Y. Hwu <sup>1</sup>	
	<sup>1</sup> Insitute of Physics, Academia Sinica, Nankang, Taipei, 106, Taiwan, <sup>2</sup> Institute of Manufacturing	FC426
	Technology, National Taipei University of Technology, Taipei, 106, Taiwan *Contacting Author: H.	
	C. Lin	
12:30	Lunch	
12.50	Luicii	
14:00	Poster Session	
16:00	Break	
	Chair: Kien Wen SUN, National Chiao Tung University	
16:15	Facil Synthesis of Monodispersed Superparamagnetic Fe3O4 Nanoparticles with controlled	
	particle sizes	
	Dengke Pan, Hui Zhang*, Ting Fan and Jiangang Chen	FC427
	State Key Laboratory of Chemical Resource Engineering, Beijing University of Chemical	FC427
	Technology, P.O. Box 98, Beijing 100029, China (*Corresponding author. Tel: +8610-6442 5872;	
	Fax: +8610-6442 5385; Email: huizhang67@gst21.com).	
16:30	Photochemical Preparation of CdS Nanoparticles on Carboxyl- Functionalized Copolymer	
	Microspheres and Their Visible-light Photocatalytic Activities	
	Zhenxun Huang, postgraduate student, Fengqiang Sun*, Prof. Dr. Jianxiong Tan and Lijun Tao	FC428
	School of Chemistry and Environment, South China Normal University *Contacting author:	
	Fengqiang Sun E-mail: fqsun@scnu.edu.cn; fengqiangsun@yahoo.com.cn	
16:45	Approaching Molecular Nanodevices using Engineered Nanowire Templates	
	Yu Huang	KS407
	Department of Materials Science and Engineering, University of California, Los Angeles, Los	125407
	Angeles CA 9095.	
17:15	Novel Preparation of Nanoporous SnO <sub>2</sub> with High Potocatalytic Activity by a Photochemical	
	Method	
	Hongjuan Wang, PostDoctor, Fengqiang Sun*, Prof. Dr., Yu Zhang, Qingsong Wu and Jianpeng Li	FC429
	School of Chemistry and Environment, South China Normal University *Contacting author:	
	Fengqiang Sun E-mail: fqsun@scnu.edu.cn; fengqiangsun@yahoo.com.cn	
17:30	Synergistic Effect of Eu <sup>3+</sup> and Gd <sup>3+</sup> Co-doping on photocatalysis Activity of Nano-TiO <sub>2</sub>	FC430

### $Contributed\ Presentations-Thursday-Jan\ 7,\ 2010-IEEE\ INEC\ 2010$

	Lu Xudong Jiang Chengzhi Zhang Xingming and Wang Xia	
	No.6, Manping Middle Road, Hnnan District, Shenyang, 110168, China *Contacting Author: Lu	
	Xudong is with Equipment Engineering College, Shenyang, Ligong University, Shenyang, China.	
	(phone:+86-24-13082431825;email:lxd_8181@163.com)	
17:45	Production of Ni-Mo-P Powder by the Combined Use of Hypophoshorous Acid Reduction and	
	Ultrasonic Reduction	
	Atsushi Chiba* and Kentaro Fukuzawa	
	Department of Materials Chemistry, Yokohama National University, 79-5, Tokiwadai,	FC431
	Hodogaya-Ku, Yokohama 240-8501, Japan *Contacting Author; A.Chiba is with Department of	
	Materials Chemistry, Yokohama National University, 79-5, Tokiwadai, Hodogaya-Ku, Yokohama	
	240-8501, Japan (hone: +81 45 - 339 - 3951; e-mail: achiba@ynu.ac.jp)	
18:00	Aqueous Synthesis of Thiol-Capped Water-Soluble Fe-doped ZnS nanocrystals	
	Ruishi Xie, Lingyun Liu, Lihua Li, Yuanli Li, Qiang Chen, Xi Yue, Dingquan Xiao and Jianguo Zhu*	FC432
	College of Materials Science and Engineering, Sichuan University, Chengdu 610064, China	
	Nanofabrication Oral Session III	LT-16
	Chair: Jian LU, The Hong Kong Polytechnic University	
8:30	An Artificial Nose Based on M-Porphyrin (M = Mg, Zn) Thin Film and Optical Spectroscopy	
	Sumana Kladsomboon <sup>1</sup> , Theeraporn Puntheeranurak <sup>2</sup> , Sirapat Pratontep <sup>3</sup> and Teerakiat Kerdcharoen <sup>1</sup> *	
	<sup>1</sup> Department of Physics and <sup>2</sup> Department of Biology, Faculty of Science, Mahidol University,	
	Bangkok 10400, Thailand. <sup>3</sup> College of KMITL Nanotechnology, King Mongkut's Institute of	FC434
	Technology Ladkrabang, Chalongkrung Rd., Ladkrabang, Bangkok 10520, Thailand. *Contacting	
	Author: Teerakiat Kerdcharoen is with the Department of Physics and Center of Nanoscience and	
	Nanotechnology, Faculty of Science, Mahidol University, Bangkok 10400, Thailand. (E-mail	
	address: sctkc@mahidol.ac.th Fax: +662201 5843)	
8:45	Fabrication and Characterization of Co-Sputtering Au/SiO <sub>2</sub> Thin Films Prepared by RF	
	Magnetron Sputtering	
	Z.Aspanut, C.K.Wah, C.S.Kong, R.Ritikos, G.B.Tong, S.A. Rahman, M.R. Muhammad	FC435
	Low Dimensional Research Centre Department of Physics, Faculty of Science, University of	
	Malaya 50603 Kuala Lumpur.	
9:00	Fabrication of Highly Ordered Porous Nickel Phosphide Films and Their Application as	
	Anode for Lithium Ion Batteries	
	Jiayuan Xiang, Jiangping Tu*, Xinhui Xia, Li Zhang, Yun Zhou, Shaojun Shi	FC436
	Department of Materials Science and Engineering, Zhejiang University, Hangzhou, 310027	1 0 150
	*Contacting Author: Tel.: +86-571-8795-2573; Fax: +86-571-8795-2856. E-mail address:	
	tujp@zju.edu.cn (J.P. Tu)	
9:15	Fabrication of micro- and nanostructures through unconventional means	
	Tingbing Cao*, Dan Zhao, Nan Zhu, Mianqi Xue, Fangfang Wang	FC437
	Department of Chemistry, Renmin University of China, Beijing 100872 *Contacting Author:	/
	E-mail: tcao@chem.ruc.edu.cn	
9:30	Fabrication of Proton Conducting Y <sub>2</sub> O <sub>3</sub> -doped BaZrO <sub>3</sub> Thin Films by Electrostatic Spray	FC438

#### Deposition

K. Somroop<sup>1</sup> and R. Pornprasertsuk<sup>1,2</sup>\*

<sup>1</sup> Research Unit of Advanced Ceramics, Department of Materials Science, Faculty of Science, Chulalongkorn University, Bangkok, Thailand, <sup>2</sup> National Center of Excellent for Petroleum, Petrochemicals and Advance Materials, Chulalongkorn University, Bangkok, Thailand \*Contacting author: Rojana Pornprasertsuk is with the department of Materials Science, Faculty of Science, Chulalongkorn University, Bangkok, Thailand (phone: +66-2-218-5547; fax +66-2-218-5561; email: rojana.p@chula.ac.th)

### 9:45 Growth and Characterization of Er Doped ZnO Prepared by Reactive Ion Beam Sputtering

Chung-Chi Liau and Liang-Chiun Chao\*

FC439

Department of Electronic Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan R. O. C. \*Contacting author: lcchao@mail.ntust.edu.tw

10:00 Break

Chair: Pivi DU, Zhejiang University

Xin-Ping QU, Fudan University

#### 10:15 Influence of Nano-Embossing on Properties of Pb(Zr<sub>0.3</sub>,Ti<sub>0.7</sub>)O<sub>3</sub> Ferroelectric Thin Film

Zhenkui Shen, Zhihui Chen, Jiangrong Fang, Bingrui Lu, Zhijun Qiu, Anquan Jiang, Yifang Chen, Xinping Qu and Ran Liu\*

State Key Lab of ASIC and System, Department of Microelectronics, Fudan University, Shanghai FC440 200433, China. \*Contacting Author: Ran Liu is with the State Key Lab of ASIC and System, Department of Microelectronics, Fudan University, Shanghai 200433, China (e-mail: rliu@fudan.edu.cn).

### 10:30 Structural properties characterization of TiO<sub>2</sub> thin films prepared by sol-gel process on Si and Ge based substrates

Yannan Xie, Huolin Huang, Feng Zhang and Zhengyun Wu\*

Department of Physics, Xiamen University, Xiamen, China.\*Contacting Author: Zhengyun Wu is with the Department of Physics, Xiamen University, China. (phone: +86-592-2180522; fax: +86-592-2189426; zhywu@xmu.edu.com) \*Contacting Author: Zhengyun Wu is with the Department of Physics, Xiamen University, China. (phone: +86-592-2180522; fax: +86-592-2189426; zhywu@xmu.edu.com)

#### 10:45 Magnetic and Optical properties of Mn doped ZnO nanocrystalline films

Chuan-hui Xia, Chen-guo Hu\*, Yong-shu Tian, Buyong Wan, Xiaoshan He, Jing Xu

Department of Applied Physics, Chongqing University, Chongqing, 400044, China. \*Contacting

author: Chenguo Hu is with Department of Applied Physics, Chongqing University, Chongqing,

China. (phone: +86 23-65104741; email: hucg@cqu.edu.cn)

## 11:00 Mechanism behind the Formation of Self-assembled Nanosized clusters in Diamond-like carbon nanocomposites

Y. M. Foong and Daniel H.C. Chua\*

FC443

FC444

Department of Materials Science & Engineering, Faculty of Engineering, National University of Singapore, 117574, Singapore. \* Corresponding author: msechcd@nus.edu.sg, fax +65 6776 3604

## 11:15 Nanoindentation study on mechanical properties of Zr(C)N films deposited on NiTi shape memory alloy

C. L. Chu a, \*, H. L. Ji a, C. Guo A, X. B. Sheng A, Y. S. Dong A, P. H. Lin A, T. Hu b, P. K. Chu b

### $Contributed\ Presentations-Thursday-Jan\ 7,\ 2010-IEEE\ INEC\ 2010$

11:30

11:45

12:00

12:15

12:30

14:00

16:00

16:15

16:30

Source

<sup>a</sup> School of Materials Science and Engineering and Jiangsu Key Laboratory for Advanced Metallic Materials, Southeast University, Nanjing, 211189, China <sup>b</sup> Department of Physics and Materials Science, City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong, China *Corresponding authors, E-mail address: clchu@seu.edu.cn (C.L. Chu)  Preparation of Ba <sub>x</sub> Sr <sub>1-x</sub> TiO <sub>3</sub> thin films on TiN/Si by a novel hydrothermal-galvanic couple method	
Pei-Hsuan Chan and Fu-Hsing Lu*	
Department of Materials Science and Engineering, National Chung Hsing University, Taiwan *Contacting Author: Fu-Hsing Lu is with the Department of Materials Science and Engineering, National Chung Hsing University, 250, Kuo Kuang Rd., Taichung 402, Taiwan R.O.C. (phone: 886-4-22851455; fax: 886-4-22857017; e-mail: fhlu@dragon.nchu.edu.tw)	FC445
Raman Spectra of the Carbon Films by Pulsed Laser Deposition using C <sub>60</sub> Target	
A. N. M. Ashrafuzzaman1, Ahmed Zubair1, S. M. Mominuzzaman1, 2,* Tetsuo Soga2 and Takashi	
Jimbo2	
1Department of Electrical and Electronic Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka- 1000, Bangladesh 2Department of Environmental Technology and Urban Planning, Nagoya Institute of Technology, Gokiso-cho, Showa-ku, Nagoya 466-8555, Japan *Corresponding author. phone: +880-2-8611594; fax: +880-2-8611594; E-mail: momin@eee.buet.ac.bd (S. M. Mominuzzaman)	FC446
Size effects of Superelasticity in Nanocrystalline NiTi Shape Memory Alloy	
Fei Wang <sup>1</sup> , Ping Huang <sup>2,*</sup> , Wenqiang Chen <sup>2</sup> , and Kewei Xu <sup>2</sup>	
<sup>1</sup> MOE Key Laboratory for Strength and Vibration, School of Aerospace, Xian Jiaotong University, Xi'an, 710049, People's Republic of China. <sup>2</sup> State-key Laboratory for Mechanical Behavior of Material, Xi'an Jiaotong University, Xi'an, 710049, People's Republic of China. *Contacting Author: Email address: huangping@mail.xjtu.edu.cn, Phone:0086-29-82663869, Fax: 0086-29-82663453	FC447
Low-Temperature Aqueous Processing for Generation of Nanostructured Oxide Films	
Junghyun Cho*, Biplab K. Roy, and Guangneng Zhang  Dept. of Mechanical Engineering & Materials Science and Engineering Program, State University of New York (SUNY) at Binghamton *Contacting Author: Junghyun Cho, (e-mail: jcho@binghamton.edu)	FC448
Lunch	
Poster Session	
Break	
Chair: Beng Kang TAY, Nanyang Technological University	
Self-assembly Fabrication of Two-dimensional Nano-netwoks of Porphyrin-based Molecules Ziliang Shi and Nian Lin* Department of Physics, Hong Kong University of Science and Technology, Hong Kong. *Contacting Author: Nian Lin (e-mail: phnlin@ust.hk).	FC449
The Role of Bias Potential on Atomic Layer Deposition Al <sub>2</sub> O <sub>3</sub> Thin Films in ECR Plasma	FC450

	Qiang Chen <sup>1</sup> *, Xincun Li <sup>1</sup> , Lijun Sang <sup>1</sup> , Yuefei Zhang <sup>2</sup> , Lizhen Yang <sup>1</sup> , Zhongwei Liu <sup>1</sup> , and	
	Zhenduo Wang <sup>1</sup>	
	<sup>1</sup> Laboratory of Plasma Physics and Materials, Beijing Institute of Graphic Communication, 102600, Beijing, China. <sup>2</sup> Beijing University of Technology, 100124, Beijing, China. *Contacting	
16.45	Author.: Qiang Chen (Tel:+86-10-6026-1099, email: lppmchenqiang@hotmail.com)	
16:45	Flexible MIM Capacitors Using Zirconium-Silicate and Hafnium-Silicate as Gate-Dielectric	
	Films	FC451
	Jagan Singh Meena, Min-Ching Chu and Fu-Hsiang Ko*	FC431
	Institute of Nanotechnology, National Chiao Tung University, Taiwan (R.O.C.) *Contacting Author:	
17.00	Prof. Fu-Hsiang Ko, E-mail: fhko@mail.nctu.edu.tw	
17:00	The Origin for High Transition Temperature of TiPd and TiPt Shape Memory Films Shiqiang Qian *12, Qingchao Tian2, and Jiansheng Wu2	
	<sup>1</sup> Meterials Engineering Institute, Shanghai University of Engineering Science, Shanghai, China	
	<sup>2</sup> School of Materials Science and Engineering, Shanghai Jaiao Tong University, Shanghai, China	FC452
	*Contacting Author: Shiqiang Qian is with Materials Engineering Institute, Shanghai University of	FC432
	Engineering Science, Shanghai, 201620, P. R. China (phone:86-021-67791203;	
	fax:86-021-67791201; email: qshiqiang@163.com)	
17:15	High Purity Nano Abrasives for Chemical Mechanical Planarization Application	
17.15	Weili Liu <sup>1,2, a*</sup> , zhitang Song <sup>1,2,b</sup>	
	<sup>1</sup> Shanghai Institute of Microsystem and Information Technology, China, Shanghai, 200050, China	FC453
	<sup>2</sup> Shanghai Xinanna Electronic Science and Technology Co. Ltd, Shanghai, 201506, China	10.00
	*Corresponding authors: arabbitlwl@mail.sim.ac.cn, bztsong@mail.sim.ac.cn	
17:30	Nanostructured Multiferroic Double Perovskite Thin Films	
	Deepak, Nitin Choudhary, and Davinder Kaur*	
	Department of Physics and Centre of Nanotechnology, Indian Institute of Technology Roorkee,	
	Roorkee India Corresponding author: Dr. Davinder Kaur Department of Physics & Center of	FC454
	Nanotechnology, Indian Institute of Technology Roorkee, Roorkee, India Tel: 91-1332-285407;	
	Fax: 91-1332-273560 Email: dkaurfph@iitr.ernet.in	
17:45	The Electrical Properties Improving of ITO Films on Cholesteric Liquid Crystal Layer by	
	<b>Using Two-steps Deposition Process</b>	
	HsiHao Huang, HsuanKai Lin*, and ChungShu Chang	
	1Display Technology Center/Industrial Technology Research Institute, Hsinchu, Taiwan. 2Laser	FC455
	Application Technology Center/ Industrial Technology Research Institute South, Tainan, Taiwan.	
	*Contacting Author: Hsuankai Lin is with industrial Technology Research Institute South, Taiwan.	
	(phone: +886-6-6939086; e-mail: HKLin@itri.org.tw)	
18:00	Preparation of nanoporous copper by dealloying Al-Cu alloy	
	Wang Ying, Mao Rong, Liang Shuhua	FC456
	(School of Materials Science and Engineering, Xi'an University of Technology, Xi'an 710048,	1.0430
	China) ying.gongzuo@163.com	
	Nanofabrication Poster Session II	ATRIUM
14:00		
17.00	Preparation and Characterization of W/Al <sub>2</sub> O <sub>3</sub> core/shell Nanocomposites	
	Xiangyang Xu, Xiaoli Xi*, Zuoren Nie, Zhihong Wang, and Tieyong Zuo	FP401

Adress: College of Material Science and Engineering, Beijing University of Technology, Beijing 100124, China \*Contacting Author: xixiaoli@bjut.edu.cn; Tel/Fax: +86-10-6739-1536 Preparation and Characterizations of Cu<sub>2</sub>S Nanowalls by Dispersing Cu Foils in Na<sub>2</sub>S **Solution** Yung-Tang Nien<sup>1</sup>,\*, Yu-Hsuan Chang<sup>2</sup> and In-Gann Chen<sup>2</sup> FP402 <sup>1</sup> Center for Micro/Nano Sci. and Tech., <sup>2</sup> Dept. of Materials Sci. and Eng., National Cheng Kung University, Taiwan \*E-mail: nien@mail.mse.ncku.edu.tw Preparation and Dielectric Properties of Epoxy/Silica Nanocomposites Huicheng Shi, Naikui Gao\*, Haiyun Jin, Bangfa Chen and Gang Zhang All authors are with State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an FP403 Jiaotong University, Xi'an 710049, China \*Contacting Author: Naikui Gao is with State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University, Xi'an, China. (phone: +86-29 82667884; fax:+86-29 82668567; email: gnk@mail.xjtu.edu.cn). Preparation and Photocurrent Response of ZnO/TiO<sub>2</sub> Nanotubes Composite Lu Lia, Yunhuai Zhanga\*, Peng Xiaob, Yannan Yanga, Lu Lua and Xiaoning Zhanga <sup>a</sup>.Department of Chemical Engineering, Chongqing University, Cngqing, 400030, P.R. China. FP404 <sup>b</sup>.Physics Department, Chongqing University, Chongqing, 400030, P.R. China \*Contacting Author: Yunhuai Zhang is with Department of Chemical Engineering, Chongqing University, P.R. China. (phone: +86 13883077781; fax: +86-023 65102031; email: muziyulu2007@yahoo.cn) Preparation and Properties of Micelle Nanoparticles by P4VP-b-PMAA Copolymer Xifeng Zhang 1), Xiaonong Cheng 2), Yehai Xu 1), Zhijuan Cao 1), Wei Hao 1), and Chong Yan 2) 1 School of Chemistry and Chemical Engineering, Jiangsu University, 301 Xuefu Road, Zhenjiang 212013, China. 2 School of Materials Science and Engineering, Jiangsu University, 301 Xuefu FP405 Road, Zhenjiang 212013, China. \*Contacting Author: Xifeng Zhang is with School of Chemistry and Chemical Engineering, Jiangsu University, China. (phone: +86-511 88791800; fax:+86-511 88791708; email: zhangxf chzh@163.com) Preparation of Cu Nanowires and Their Tribological Property in Liquid Paraffin Xifeng Zhang <sup>1)</sup>, Xiaonong Cheng <sup>2)</sup>, Yehai Xu <sup>1)</sup>, Zhijuan Cao <sup>1)</sup>, Wei Hao <sup>1)</sup>, and Chong Yan <sup>2)</sup> <sup>1</sup> School of Chemistry and Chemical Engineering, Jiangsu University, 301 Xuefu Road, Zhenjiang 212013, China.<sup>2</sup> School of Materials Science and Engineering, Jiangsu University, 301 Xuefu FP406

Road, Zhenjiang 212013, China. \*Contacting Author: Xifeng Zhang is with School of Chemistry and Chemical Engineering, Jiangsu University, China. (phone: +86-511 88791800; fax:+86-511 88791708; email: zhangxf chzh@163.com).

#### Preparation of KNbO<sub>3</sub> Nanowires by a Novel Intermediate Template Sol-gel Method

Chao Wang, Yudong Hou\*, Haiyan Ge, Mankang Zhu and Hui Yan

Key Laboratory of Advanced Functional Materials of China Education Ministry, College of Materials Science and Engineering, Beijing University of Technology, Beijing 100124, China.

\*Contacting Author: Yudong Hou is with Key Laboratory of Advanced Functional Materials of China Education Ministry, College of Materials Science and Engineering, Beijing University of Technology, Beijing 100124, China. (phone: +86-10-67392445; fax: +86-10-67392445; email: ydhou@bjut.edu.cn)

#### Preparation of Luminescent Dye Doped Core-Shell Nanoparticles and Their Application in cell recognition

Chunjuan Xie, Dongguang Yin\*, Jian Li, Li Zhang, Binhu Liu, Minghong Wu\* College of Environmental and Chemical Engineering, Shanghai University, Shanghai, 200444, FP408

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China \*Contacting Author: Dongguang Yin and Minhong Wu are with the College of

Environmental and Chemical Engineering, Shanghai University. (e-mail: ydg26@yahoo.cn (D.G. Preparation of Mesoporous N-doped TiO<sub>2</sub> via Solvent Evaporation Induced Assembly Zheng Jiang<sup>1,2</sup>\*, Nianjun Luo<sup>1</sup>, Martin O. Jones<sup>1,3</sup>, Tiancun Xiao<sup>1</sup>, Peter P. Edwards<sup>1</sup>\* <sup>1</sup>. Inorganic Chemistry Laboratory, Department of Chemistry, University of Oxford, OX1 3OR, FP409 U.K.<sup>2</sup>. Jesus College, University of Oxford, OX1 3DW, U.K.<sup>3</sup>. Rutherford Appleton Laboratory, Chilton, Harwell Science and Innovation Campus, Didcot, OX11 0QX Preparation of Metal Oxide Nanoparticles Using a Biomolecular Assembly as a Template Inho Lee and Sang-Yup Lee\* FP410 Department of Chemical and Biomolecular Engineering, Yonsei University, Seoul, Korea. (phone: +82-2-2123-5758; email:leessy@yonsei.ac.kr). Production of Ni-W-P Powder by the Combined Use of Hypophoshorous Acid Reduction and **Ultrasonic Reduction** Atsushi Chiba\* and Kenta Goto Department of Materials Chemistry, Yokohama National University, 79-5, Tokiwadai, FP411 Hodogaya-Ku, Yokohama 240-8501, Japan\*Contacting Author; A.Chiba is with Department of Materials Chemistry, Yokohama National University, 79-5, Tokiwadai, Hodogaya-Ku, Yokohama 240-8501, Japan (hone: +81 45-339-3951; e-mail: a-chiba@ynu.ac.jp Receptions of Nanostructures in the Surface Layer at the Simultaneous Action of Ions of Various Grades and Energies on Structural Material FP412 Kostyuk G. I. National Aerospace University named after N. E. Zhukovsky (KhAI) National Aerospace University Research on Mechanical-Electrical Coupling Characteristics of GaAs HEMT Build-in **Cantilevers-Mass** Tingting Hou, Chenyang Xue, Guowen Liu, Zhenxin Tan, Binzhen Zhang, Jun Liu, and Wendong FP413 Zhang National Key Laboratory For Electronic Measurement Technology, North University of China, Taiyuan, Shanxi 030051, China E-mail:xuechenyang@nuc.edu.cn Self-Assembly of Iron Oxide Nanoparticles mediated by Phospholipids Jung Hoon Kim<sup>1</sup>, Young Keun Kim<sup>2</sup>, Senior Member, IEEE, and Chong Seung Yoon<sup>1\*</sup>, Member, *IEEE* <sup>1</sup>Department of Materials Science and Engineering, Hanyang University, Seoul, Korea <sup>2</sup>Department FP414 of Materials Science and Engineering, Korea University, Seoul, Korea\*Contacting Author: Chong Seung Yoon is with Department of Materials Science and Engineering, Hanyang University, Seoul, Korea. (phone: +82-2-2220-0384; fax:+82-2-2220-1838; email: csyoon@hanyang.ac.kr). Sol-Gel Derived Nanoporous TiO<sub>2</sub> Films with the Addition of Polymer Yang-Ting Chang, Shang-Ren Wang and Ching-Chich Leu\* Department of Chemical and Materials Engineering, National University of Kaohsiung, FP415 Kaohsiung, Taiwan, R.O.C \*Contacting Author: Ching-Chich Leu is with the Department of Chemical and Materials Engineering, National University of Kaohsiung, Kaohsiung, Taiwan, R.O.C. (phone: +886-7-5919456; email:ccleu@nuk.edu.tw). Solid-state fabrication of nanostructured AlSb by electron beam heating process Chaned Wichasilp<sup>1</sup>, Titipun Thongtem<sup>2</sup>, Somchai Thongtem<sup>1</sup>,\* FP416 <sup>1</sup> Department of Physics and Materials Science, Faculty of Science, Chiang Mai University, Chiang

Mai 50200, Thailand <sup>2</sup> Department of Chemistry, Faculty of Science, Chiang Mai University, Chiang Mai 50200, Thailand \*Corresponding author: e-mails: schthongtem@yahoo.com; sthongtem@hotmail.com

#### Solid-state Microwave Induced Plasma Synthesis of Antimony Telluride

Tawat Suriwong<sup>1</sup>, Titipun Thongtem<sup>2</sup>, Somchai Thongtem<sup>1</sup>,\*

<sup>1</sup> Department of Physics and Materials Science, Faculty of Science, Chiang Mai University, Chiang Mai 50200, Thailand <sup>2</sup> Department of Chemistry, Faculty of Science, Chiang Mai University, Chiang Mai 50200, Thailand \*Corresponding author: e-mails: schthongtem@yahoo.com; sthongtem@hotmail.com

## Stable Colloidal Dispersions of Silicon Nanoparticles for the Fabrication of Films using Inkjet Printing Technology

Anoop Gupta<sup>1\*</sup>, Ahmed S. G. Khalil<sup>2</sup>, Markus Winterer<sup>2</sup>, Hartmut Wiggers<sup>1,3</sup>

<sup>1</sup> Institute for Combustion and Gasdynamics (IVG), University of Duisburg-Essen, Duisburg,
Germany. <sup>2</sup> Nanoparticle Process Technology (NPPT), University of Duisburg-Essen, Duisburg,
Germany. <sup>3</sup> Center for Nanointegration Duisburg-Essen (CeNIDE), University of Duisburg-Essen,
Duisburg, Germany. \*Contacting Author: Anoop Gupta is with the IVG, University of
Duisburg-Essen, Lotharstr.1, 47057, Duisburg, Germany (phone: 49-203-379-3769; fax:
49-203-379- 3087; email: anoop.gupta@uni-due.de).

#### Strain relaxation in nano-patterned strained-Si/SiGe heterostructure on Insulator

Xuyan Liu, Weili Liu\*, Xiaobo Ma, Zhitang Song and Chenglu Lin

State Key Laboratory of Functional Materials for Informatics, Laboratory of Nanotechnology, Shanghai Institute of Micro-system and Information Technology, Chinese Academy of Sciences, 865 Changning Road, Shanghai 200050, China. (phone: +86-21-62511070-8403; Fax: +86-21-62134404; E-mail: liuyan@mail.sim.ac.cn, Rabbitlwl@mail.sim.ac.cn)

### Strain-Induced Wurtzite to h-BN Phase Transformation in Zinc Oxide Nanorods

Eung-Kwan Lee and Yong-Chae Chung\*

Department of Materials Science and Engineering, Hanyang University, Seoul, Republic of Korea
\*Contacting Author: Yong-Chae Chung is with the Department of Materials Science and
Engineering, Hanyang University, 17 Haengdang-dong, Seongdong-gu, Seoul 133-791, Korea
(Phone: +82-2-2296-5308, E-mail: yongchae@hanyang.ac.kr

### Study in the Porosity of the $TiO_2$ Films Prepared by Magnetron Sputtering Deposition

Ding Ren, Yu Zou, ChangYong Zhang, NingKang Huang\*

Key Lab of Radiation Physics and Technology of Education Ministry of China, Institute of Nuclear FP421 Science and Technology, Sichuan University, Chengdu, Sichuan, China 610064 \*Contacting Author: NingKang Huang, Tel.: +86-28-85412230; Fax: +86-28-85410252;

### Study on Micro-Hardness of Ni-Co-SiC Nano-composite Coatings by High-Frequency Pulse Li Cen $^1$ Xu Yunhua $^{2*}$

<sup>1</sup> School of Mechanical and Electronic Control Engineering, Beijing Jiaotong University, Beijing FP422 100044, China <sup>2</sup> School of Science, Beijing Jiaotong University, Beijing 100044, China \*Contacting Author: Xu Yunhua E-mail:yhxu@bitu.edu.cn

### Study on the Fabrication and Characterization of A Novel n-HA/Mulit-(Animo Acid) Compolymer Composite

Hong Li, Guoyu Lv, Jingtian Nan, Yonglei Liu, Xiaoman Luo, and Yonggang Yan\* FP423 School of Physical Science and Technology, Sichuan University. 24 South section 1, Yihuan road, Chengdu Sichuan, 610065, China. phone:+86 28 85187572; Fax:+86 28 85187573; e-mail:

yan\_yonggang@vip.163.com).

Styrene-Butadiene Rubber/Halloysite Nanotubes Composites Modified by	y Epoxidized Natural
Rubber	

Zhixin Jia, Yuanfang Luo, Baochun Guo \*, Shuyan Yang, Mingliang Du, Demin Jia

<sup>1</sup>College of Materials Science and Engineering, South China University of Technology, Guangzhou

510640, China \*Contacting author: B.C. Guo. (Phone:86-20-87113374,

e-mail:psbcguo@scut.edu.cn

### Supercritical CO<sub>2</sub> assisted Poly(vinylidene fluoride) wrapping on carbon nanotubes Linghao He<sup>1,2</sup>, Qun Xu<sup>1\*</sup>, Qiuyan Yang<sup>1</sup>

<sup>1</sup> College of Materials Science and Engineering, Zhengzhou University, Zhengzhou 450002, China <sup>2</sup> Henan Provincial Key Laboratory of Surface & Interface Science, Zhengzhou University of Light FP425 Industry, Zhengzhou 450052, China \*Contacting Author: Qun Xu is with the College of Materials Science and Engineering, Zhengzhou University, Zhengzhou 450002, China (phone: +86 371 67767827 fax: +86 371 67767827; email:qunxu@zzu.edu.cn).

#### Surface-Enhanced Raman Scattering from Different Silver Nanostructures

W.C. Zhang\*, X.L. Wu\*, C.X. Kan, F.M. Pan, H.T. Chen, J. Zhu, and Paul K. Chu
W.C. Zhang, C.X. Kan and F.M. Pan are with College of Science, Nanjing University of
Aeronautics and Astronautics, Nanjing 210016, China; X.L. Wu, H.T. Chen, J. Zhu are with
National Laboratory of Solid State Microstructures and Department of Physics, Nanjing University,
Nanjing 210093, China; Paul K. Chu is with Department of Physics & Materials Science, City
University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong, China
\*Contacting Author: W.C. Zhang is with College of Science, Nanjing University of Aeronautics
and Astronautics, Nanjing 210016, China (email: weichun@nuaa.edu.cn); X.L. Wu is with
National Laboratory of Solid State Microstructures and Department of Physics, Nanjing University,
Nanjing 210093, China (email: hkxlwu@nju.edu.cn).

#### Synthesis and characterization of Carbon Nanotube/Zinc Oxide composites

Prayut Potirak<sup>1</sup>, Chokchai Kahattha<sup>2,3</sup> and Wisanu Pecharapa<sup>2,3</sup>

<sup>1</sup>Department of Applies Physics, King Mongkut's Institute of Technology Ladkrabang, Bangkok 10520, Thailand <sup>2</sup>College of KMITL Nanotechnology, King Mongkut's Institute of Technology Ladkrabang, Chalongkrung Rd., Ladkrabang, Bangkok 10520, Thailand <sup>3</sup>ThEP Center, CHE, 328 SiAyutthaya Rd., Bangkok 10400, Thailand Email: kpewisan@kmitl.ac.th

#### Synthesis and Characterization of Highly Ordered TiO<sub>2</sub> Nanotube Arrays

Kao-Chen Sun<sup>1</sup>, Mu-Tze Chen<sup>1</sup>, Bo-Yun Shiu<sup>1</sup>, Yung-Fang Lu<sup>2</sup>, Jen-Chieh Chung<sup>2</sup>, Yu-Chang Liu<sup>2</sup>, Yu-Zhen Zeng<sup>2</sup>, and Hong-Wen Wang<sup>\*</sup>, <sup>1</sup>

<sup>1</sup>Department of Chemistry, Center for Nanotechnology, Chung-Yuan Christian University, Chungli FP428 320, Taiwan, R.O.C. <sup>2</sup>Chemical Engineering Division, Institute of Nuclear Energy Research, No. 1000, Wenhua Road, Jiaan Village, Lungtan Township, Taoyuan County 32546, Taiwan, R.O.C. \*Contacting Author: hongwen@cycu.edu.tw

## Synthesis and Characterization of Self-assemble ZnO Nano-film and Its Influence on Anti-light Discoloration Properties of Bamboo

Yiqiang Wu<sup>1</sup>, Yan Qing<sup>1</sup>, Ye Song<sup>1</sup>, and Yan Yu\*<sup>2</sup>
School of Materials Science and Engineering, Central South University of Forestry and
Technology, Changsha, China. \*2Contacting Author: Yan Yu is with the International Center for
Bamboo and Rattan, Beijing, China. (phone: +86-731-85623302; qingyan0429@163.com)

Synthesis and electrical properties of the metal-silicide nanostructures

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Contributed Fleschiations – Thursday – Jan 7, 2010 - IEEE INEC 2010	
P. H. Yeh, C. I. Tsai	
Department of Physics, Tamkang University, Tansui, Taiwan 251, R. O. C. Department of Materials	
Science and Engineering, National Tsing Hua University, HsinChu, Taiwan, R.O.C.	
E-mail:phyeh331@mail.tku.edu.tw	
Synthesis and High Lithium Electroactivity of Rutile TiO <sub>2</sub> @C Nanorods	
Yongcai Qiu, Wei Chen, and Shihe Yang*	
Nano Science and Technology Program, Department of Chemistry, The Hong Kong University of	FP431
Science and Technology, Clear Water Bay, Kowloon, Hong Kong (P. R. China) *Contacting Author:	
chsyang@ust.hk	
Synthesis and structural characterization of nickel oxide nanoparticles synthesized by	
Polymerized complexed (PC) method	
K. Wongsaprom <sup>1</sup> * and S. Maensiri <sup>2</sup>	
Department of Physics, Faculty of Science, Mahasarakham University, Mahasarakham, 44150,	FP432
Thailand 2Small & Strong Materials Group (SSMG), Department of Physics, Faculty of Science,	11 132
Khon Kaen University, Khon Kaen, 40002, Thailand *Contacting Author: Tel. +6643754379; Fax:	
+6643754379. E-mail address:wkwanruthai@gmail.com (K. Wongsaprom).	
Synthesis of ATO nanorods by molten-salt-assisted coprecipitation process	
Hsin-Chun Lu, Ying-Chia Huang, Chao-Hsiang He, Kai-Yi Wang	
Department of Chemical and Materials Engineering, Chang Gung University, Kwei-Shan,	FP433
Tao-Yuan, 333, Taiwan, R.O.C. Address: hsinchun@mail.cgu.edu.tw	
Synthesis of BaO Nanowires and their Humidity Sensitive Property	
Chenguo Hu <sup>1</sup> ,*, Hulin Zhang <sup>1</sup> , Michao Zhang <sup>1</sup> , Rusen Yang <sup>2</sup> , Chunhua Zheng <sup>1</sup> and Xue Wang <sup>1</sup>	
<sup>1</sup> Department of Applied Physics, Chongqing University, Chongqing, 400044, China. <sup>2</sup> School of	
Materials Science and Engineering, Georgia Institute of Technology, Atlanta, GA 30332, USA	FP434
*Contacting author: Chenguo Hu is with Department of Applied Physics, Chongqing University,	
Chongqing, China. (phone: +86 23-65104741; email: hucg@cqu.edu.cn)  The Synthesis of Carbon Nanotubes on Silicon Nanowires by Thermal Chemical Vapor	
<b>Deposition</b> SHIH-FONG LEE <sup>1</sup> , SHU-HUI LIAO <sup>2</sup> , YUNG-PING CHANG <sup>1</sup> , LI-YING LEE <sup>1,2</sup> , SHI- KAI LI <sup>1</sup>	
<sup>1</sup> Department of Electrical Engineering, Dayeh University, No. 168, University Road, Da-Tsuen,	FP435
Changhua, Taiwan 51505, R.O.C. <sup>2</sup> Department of Electronic Engineering, Chung Chou Institute of	
Technology, No. 6, Lane 2, Section 3, Shanjiao Road, Yuanlin, Changhua, Taiwan 510, R.O.C.	
*Contacting Author: YUNG-PING CHANG, (phone: +886-937-121979;	
fax:+886-4-22061344;e-mail: ypc@cht.com.tw).	
Synthesis of Crystalline β-FeSi <sub>2</sub> under High-Temperature and High-Pressure	
W. N. Su, X. L. Wu*, X. Wang, Y. Y. Zhang, J. C. Shen, and J. M. Zhu	
National Laboratory of Solid State Microstructures and Department of Physics, Nanjing University,	FP436
Nanjing, China *Contacting Author: X. L. Wu is with the National Laboratory of Solid State	
Microstructures and Department of Physics, Nanjing University, Nanjing, China	
(email:hkxlwu@nju.edu.cn)	
Synthesis of functional carbon nanospheres and amperometric sensing of hydrogen peroxide	
Xue Wang <sup>a</sup> , Chenguo Hu <sup>a</sup> ,*, Yufeng Xiong <sup>b</sup> , Xiaoshan He <sup>a</sup> , Yi Xi <sup>a</sup> , Chuanhui Xia <sup>a</sup>	

<sup>a</sup> Department of Applied Physics, Chongqing University, Chongqing, 400044, China. b National Center for Nanoscience and Technology, Beijing, 100080, PR China. \*Contacting author: Chenguo Hu is with Department of Applied Physics, Chongqing University, Chongqing, China. (phone: +86

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Contributed Presentations Thursday 3an 7, 2010 - IEEE INVEC 2010	
23-65104741; email: hucg@cqu.edu.cn)	
Synthesis of Hierarchically Organized Nanostructured TiO <sub>2</sub> by Pulsed Laser Deposition and	
Its Application to Dye-sensitized Solar Cells	
Jun Hong Noh <sup>1</sup> , Jong Hun Park <sup>1</sup> , Hyun Soo Han <sup>1</sup> , Sangwook Lee <sup>1</sup> , Dong Hoe Kim <sup>1</sup> , Hyun Suk	
Jung <sup>2</sup> , Kung Sun Hong <sup>1</sup>	FP438
<sup>1</sup> Department of Materials Science & Engineering, Seoul National University, Seoul 151-742, Korea	
<sup>2</sup> School of Advanced Materials Engineering, Kookmin University, Jeongneung-dong, Seongbuk-gu,	
Seoul 136-702, S. Korea	
Synthesis of Nanocrystalline Li <sub>0.05</sub> In <sub>0.05</sub> Ni <sub>0.90</sub> O Powder and Its Bulk Giant Dielectric	
Properties	
Prasit Thongbai <sup>1</sup> ,*, Tanachat Eknapakul <sup>1</sup> , Sarawut Pongha <sup>1</sup> , Teerapon Yamwong <sup>2</sup> , and Santi	
Maensiri <sup>1</sup>	
<sup>1</sup> Small & Strong Materials Group (SSMG), Department of Physics, Faculty of Science, Khon Kaen	FP439
University, Khon Kaen, 40002, Thailand 2National Metals and Materials Technology Center	
(MTEC), Thailand Science Park, Pathumthani, 12120, Thailand* Contacting Author: Mr. Prasit	
Thongbai; Email address: prasitphysics@hotmail.com; Tel.: +66-43-202222 to 9 ext. 2248; Fax:	
+66-43- 202374	
Synthesis of Ni/TiO <sub>2</sub> Nanocomposite by Loading TiO <sub>2</sub> Nanotubes with Ni Nanoparticles	
Yannan Yanga, Yunhuai Zhanga, Peng Xiaob*, Xiaoning Zhanga, Lu Lua and Lu Lia	
<sup>a</sup> Department of Chemical Engineering, Chongqing University, Chongqing, 400030, P.R. China	FP440
<sup>b</sup> Department of Physics, Chongqing University, Chongqing, 400030, P.R. China *Contacting	11 440
Author: Peng Xiao is with Department of Physics, Chongqing University, P.R. China (phone:	
+86-15823038874; fax: +86-023-6510- 2031; email: yangyannanyin@yahoo.com.cn).	
Synthesis of Oxidized Graphene Sheets with High Surface Area by Modified Thermal	
Exfoliation Method under Ultra-low Temperature	
Haobin Zhang, Yong Yang, Jiwen Wang, Zhaohui Lu, Cao Chen, Wenge Zheng*, Qing Yan and	
Shuai Yin	FP441
Ningbo Key Laboratory of Polymer Materials, Polymers and Composites Division Ningbo Institute	
of Material Technology & Engineering, Chinese Academy of Sciences, Ningbo 315201, P.R.China	
E-mail address: polang@nimte.ac.cn or wgzheng@nimte.ac.cn (Wenge Zheng)	
Synthesis of Si Nanowries and their Hysteresis Behavior	
Tae-Eon Park, <sup>1,2</sup> Myoungha Kim, <sup>1</sup> Hwangyou Oh, <sup>1</sup> Il-Soo Kim, <sup>1</sup> Joonyeon Chang, <sup>2</sup> Suk-Hee Han, <sup>2</sup>	
and Heon-Jin Choi <sup>1</sup> *	
<sup>1</sup> Department of Materials Science and Engineering, Yonsei University, Seoul, Korea <sup>2</sup> Center for	FP442
Spintronics Research, Korea Institute of Science and Technology, Seoul, Korea *Contacting Author:	
Heon-Jin Choi is with the Department of Materials Science and Engineering, Yonsei University,	
Seoul, Korea (phone: +82-2-2123-5849; email: hjc@yonsei.ac.kr)	
The Analysis of X-Ray Diffraction by Al <sup>3+</sup> Implanted Polytetrafluorethylene	
Yuan Zhao, Hui Tang, and Feng C. Wang	
School of Material Science and Engineering, Harbin University of Science and Technology, Harbin,	FP443
China. *Contacting Author: Hui Tang is with the School of Material Science and Engineering,	
Harbin University of Science and Technology, Harbin, China. (phone: +86-13936418364; email:	

Hsin-Chiang You<sup>1</sup>\*, Shao-Hui Shieh<sup>1</sup>, Shiang-Jun Zhang<sup>1</sup>, Fu-Hsiang Ko<sup>2</sup>, Hsiung-Min Lin<sup>2</sup>,

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The Effect of X-ray Irradiation on the Novella Type Photoresist

zhaoyuan1986@tom.com)

### $Contributed\ Presentations-Thursday-Jan\ 7,\ 2010-IEEE\ INEC\ 2010$

Shyh-Chang Tsaur <sup>3</sup> , Chin-Che Lin <sup>3</sup>	
<sup>1</sup> Department of Electronic Engineering, National Chin-Yi University of Technology, Taichung,	
Taiwan R.O.C <sup>2</sup> Institute of Nanotechnology, National Chiao Tung University, Hsinchu, Taiwan	
R.O.C <sup>3</sup> Asia University, Taichung, Taiwan R.O.C	
The Effects of Bi-layer Catalysts and its Annealing on the Growth of GaN Nanowires	
Dong-Hau Kuo* and Wei-Ting Shen	
Department of Polymer Engineering, National Taiwan University of Science and Technology, Taiwan, ROC. *Contacting Author: Dong-Hau Kuo is with NTUST; No. 43, Sec. 4, Keelung Rd.	FP445
Taiwan, ROC (phone: 886-2-27303291; fax: 886-2-27303291; email: dhkuo@mail.ntust.edu.tw.	
The Fabrication of ZnO Nanowire Arrays in Porous Anodic Alumina Template by	
Coordination Reaction	
Lingcui Zhang, Yongfeng Ruan * , Danli Wang, Hongbo Yang, Dongyu Fang	FP446
School of science, Tianjin University, Tianjin, China. *Contacting Author: Yongfeng Ruan is with	
the School of science, Tianjin University, Tianjin, China.(email: ruanyf2002@yahoo.com.cn)	
The Influence of Stacking Faulty Energy on High Energy Ball Milling Cu Alloys	
Dai Li, XinKun Zhu	
Oxbridge college, Kunming University of Science and Technology Faculty of materials and	FP447
metallurgical engineering, Kunming University of Science and Technology	
hkl9900@yahoo.com.cn, xk_zhu@hotmail.com	
The Influence of the Micro-structure on Optical Properties of Nc-Si:H Films for Solar Cells	
Xiao-Ni Gao, Jian-Ning Ding*, Ning-Yi Yuan, Guang-Gui Cheng, and Li-Qiang Guo	
Center of Micro/Nano Science & Technology, Jiangsu University, Zhenjiang, 212013, P. R. China,	
but the third author is with Center of Low-dimension Materials, Micro/Nano Device and System,	FP448
Jiangsu Polytechnic University, Changzhou, 213164, P. R. China Contacting Author: Jian-Ning Ding, Professor, Center of Low-dimension Materials, Micro/Nano Device and System, Jiangsu	
Polytechnic University, Changzhou, 213164, P. R. China (phone: +86 0519-86330008) email:	
dingjn@jpu.edu.cn)	
The role of pH and calcination process on CuFe <sub>2</sub> O <sub>4</sub> nanoparticles synthesized by	
microwave-hydrothermal reactions	
Titipun Thongtem <sup>1</sup> ,*, Anukorn Phuruangrat <sup>1</sup> , Somchai Thongtem <sup>2</sup>	
<sup>1</sup> Department of Chemistry, Faculty of Science, Chiang Mai University, Chiang Mai 50200,	FP449
Thailand <sup>2</sup> Department of Physics and Materials Science, Faculty of Science, Chiang Mai	
University, Chiang Mai 50200, Thailand * Corresponding author : ttpthongtem@yahoo.com;	
ttpthongtem@hotmail.com	
The Study of Mechanical Characteristic of Electrodeposited Nanocrystalline Ni-Co Alloy	
Chengdong Xu <sup>1</sup> *, Yunhua Xu <sup>2</sup> , and Xiaojing Gong <sup>2</sup>	
<sup>1</sup> School of Aerospace Engineering, Beijing Institute of Technology, Beijing 100081, China 2School of Science, Beijing Jiaotong University, Beijing 100044, China	FP450
*Contacting Author: Chengdong Xu is with the School of Aerospace Engineering , Beijing Institute	
of Technology; No.5 South Zhongguancun Street, Beijing,100081, China (phone: 86-10-6891-8053;	
fax: 86-10-6891-4599; email: xucd@bit.edu.cn)	
Zirconia Films Prepared by Micro-Arc Discharge Oxidation in Different Electrolytes	
Fanya Jin <sup>a</sup> , Min Dan, <sup>a</sup> Liru Shen <sup>a</sup> , Jiong Li <sup>a</sup> Honghui Tong <sup>a</sup> , Paul K. Chu <sup>b</sup>	FP451
<sup>a</sup> Southwestern Institute of Physics, Chengdu, Sichuan, 610041, China <sup>b</sup> Department of Physics and	11 101
Materials Science, City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong	

### $Contributed\ Presentations-Thursday-Jan\ 7,\ 2010-IEEE\ INEC\ 2010$

ZnO Nanowires Prepared by Thermal Oxidation of Metallic Zinc Films	
Ching-Fu Lin and Liang-Chiun Chao*	FP452
Department of Electronic Engineering, National Taiwan University of Science and Technology,	FF432
Taipei, Taiwan, R. O. C. lcchao@mail.ntust.edu.tw	
A Novel Design of CNT-Based Embedded Inductors	
Omar F. Mousa	FP453
University of Alabama Tuscaloosa, AL 35487 ofmousa@crimson.ua.edu	
Electronic structure, Electron field emission and Magnetic behaviors of Carbon nanotube	
Fabricated on La <sub>0.66</sub> Sr <sub>0.33</sub> MnO <sub>3</sub> (LSMO) base layer	
S.C. Ray <sup>1,2</sup> ,*, S.L. Wu <sup>2</sup> , M.H. Tsai <sup>2</sup> , T. I. T. Okpalugo <sup>3</sup> , D.C. Ling <sup>2</sup> , W.F. Pong <sup>2</sup>	
<sup>1</sup> School of Physics, University of the Witwatersrand, Private Bag 3, WITS 2050, Johannesburg,	FP454
South Africa <sup>2</sup> Department of Physics, Tamkang University, Tamsui 251, Taiwan <sup>3</sup> University of the	
West of Scotland, Thin Film Centre, High Street, Paisley, PA1 2BE *Corresponding Author: (S. C.	
Ray); raysekhar@rediffmail.com	
Growth of Vertically Aligned ZnO Nanorod Arrays as Anti-reflection Layer in Silicon Solar	
Cell	
J. Y. Chen and K. W. Sun*	FP455
Department of Applied Chemistry, National Chiao Tung University, Hsinchu, Taiwan *Email:	
kwsun@mail.nctu.edu.tw	
Nanostructured TiO <sub>2</sub> Films for Dye-Sensitized Solar Cells Prepared by Sol-Gel Method.	
Young Sam Jin <sup>1</sup> , Kyung Hwan Kim <sup>1</sup> , Sang Joon Park <sup>2</sup> , Hyon Hee Yoon <sup>2</sup> , and Hyung Wook Choi <sup>1</sup> *	
<sup>1</sup> Department of Electrical Engineering Kyungwon University 2Department of Chemical	FP456
Engineering Kyungwon University *Contacting Author: Department of Electrical engineering,	FP430
Kyungwon University San 65 Bokjeong-dong, Sujeoung-gu, Gyeonggi-do, Korea 461-701 (Phone:	
+82-31-750-5562; Fax: +82-31-750-5491; e-mail:chw@kyungwon.ac.kr)	
Study on the Changes of Surface Property of Grown C-TiO <sub>2</sub> Films by O <sub>2</sub> Plasma Treatment	
Kang Suk Lee, Sang-Hun Nam, Hyun Ook Seo, Sang Duck Lee, Young Dok Kim*, and Jin-Hyo	
Boo*	
Department of Chemistry, Sungkyunkwan University, Suwon 440-476, Republic of Korea	ED457
*Contacting author: Jin-Hyo Boo and Young Dok Kim are with Department of Chemistry,	FP457
Sungkyunkwan University, 300 Cheoncheon-dong, Jangan-gu, Suwon 440-746 Republic of Korea	
(phone: +82-31-290-5972, +82-31-290- 5963; fax: +82-31-290-7075; e-mail: jhboo@skku.edu,	
ydkim91@skku.edu ).	
A Novel Design of Stacked CNT Based Embedded Inductors	
Omar F. Mousa	FP458
University of Alabama Tuscaloosa, AL 35487 Email:ofmousa@crimson.ua.edu	
Characterization of nanostructured dendritic silver bismuth sulfide produced by	
solvothermal reactions	
Titipun Thongtem*, <sup>1</sup> , Narongrit Tipcompor <sup>1</sup> , Somchai Thongtem <sup>2</sup>	
<sup>1</sup> Department of Chemistry and Center for Innovation in Chemistry, Faculty of Science, Chiang Mai	FP459
University, Chiang Mai 50200, Thailand <sup>2</sup> Department of Physics and Materials Science, Faculty of	
Science, Chiang Mai University, Chiang Mai 50200, Thailand * Corresponding author:	
ttpthongtem@yahoo.com; ttpthongtem@hotmail.com	
Growth and Properties III-V Films and Multilayered Structures on Fianite Substrates and	FP460
Buffer Layers	11400

Yu.N. Buzynin<sup>a</sup>, A.N. Buzynin<sup>b</sup>, V.V. Osiko<sup>b</sup>, M.N. Drozdov<sup>a</sup>, E.E. Lomonova<sup>b</sup>, O.I. Khrykin<sup>a</sup>, B.N.Zvonkov c <sup>a</sup> Institute for Physics of Microstructure, Russian Academy of Sciences, Nizhni Novgorod, Russia; <sup>b</sup> A.M. Prokhorov General Physics Institute, Russian Academy of Sciences, Moscow, Russia; c Physicotechnical Research Institute, Nizhni Novgorod State University, Russia yury buzynin@mail.ru Effect of Annealing on the Properties of P-Type Nano Zn<sub>0.92</sub>Mn<sub>0.08</sub>O:N Films H.B.Ruan, L.Fang\*, G.P.Qin, C.Y.Kong Department of Applied Physics, Chongqing University and Optical Engineering Key Lab, FP461 Chongqing Normal University, Chongqing 400030, China \* Corresponding author: L.Fang is with Department of Applied Physics, Chongqing University, Chongqing 400044,PR China (phone.:+86 023-65105870, E-mail: fangliangcqu@yahoo.com.cn Fabrication and Photoelectrochemical Properties of Nanoporous WO<sub>3</sub> Film Xuming Zhang<sup>1,2</sup>, Kaifu Huo<sup>1,2</sup>\*, Liangsheng Hu<sup>1</sup>, and Paul K Chu<sup>2</sup> <sup>1</sup>The Hubei Province Key Laboratory of Refractories and Ceramics, , Wuhan University of Science and Technology, Wuhan 430081, China. <sup>2</sup>Department of Physics & Materials Science, City FP462 University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong, China \*Contacting Author: Tel.: 852-34425460; FAX: 852-34420264. Electronic mail: kaifuhuo@cityu.edu.hk or kfhuo@wust.edu.cn Direct growth of Nb<sub>2</sub>O<sub>5</sub> Nanobelts on Nb Foil Biao Gao<sup>1</sup>, Kaifu Huo<sup>1,2</sup>\*, Jijiang Fu<sup>1</sup>, and Paul K Chu<sup>2</sup> <sup>1</sup>The Hubei Province Key Laboratory of Refractories and Ceramics, College of Materials and FP463 Metallurgy, Wuhan University of Science and Technology, Wuhan 430081, China. <sup>2</sup>Department of Physics & Materials Science, City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong, China \*Contacting Author: Tel: 852-34425460; FAX: 852-34420264; Electronic mail: kaifuhuo@cityu.edu.hk or kfhuo@wust.edu.cn. Preparation and properties of p-type semi-transparent conductive nickel oxide films Sheng-Chi Chen\*, Tsung-Yen Kuo, and Yu-Chin Lin Department of Materials Engineering, Ming Chi University of Technology, Taipei 243, Taiwan FP464 \*Contacting Author: Sheng-Chi Chen is with the Department of Materials Engineering, Ming Chi University of Technology, Taipei 243, Taiwan (phone: +886-2-29089899 # 4679; fax: +886-2-29084091; email: chensc@mail.mcut.edu.tw). Investigations on Growth and Hydrogen Gas Sensing Property of ZnO Nanowires Prepared by Hydrothermal Growth Jung-Hyun Kim<sup>1</sup>, Dong-Suk Kang<sup>1</sup>, Soon-Ku Hong<sup>1</sup>,\*, Hyojin Kim<sup>1</sup>, Dojin Kim<sup>1</sup>, Jae Wook Lee<sup>2</sup>, Jeong Yong Lee<sup>2</sup> <sup>1</sup>Department of Advanced Materials Engineering, Chungnam National University, Daejeon FP465 305-764, Korea2Department of Materials Science and Engineering, KAIST, Daejeon 305-701, Korea \*Contacting Author: Soon-Ku Hong is with the department of Advanced Materials Engineering, Chungnam National University, Daejeon 305-764, Korea; (phone: 82-42-821-6640; fax: 82-42-822-3206; email:soonku@cnu.ac.kr). Growth and Optical Properties of ZnO Nanorods Prepared through Hydrothermal Growth Followed by Chemical Vapor Deposition

Song<sup>2</sup>, Hyojin Kim<sup>1</sup>, Dojin Kim<sup>1</sup>, Jae Wook Lee<sup>3</sup>, Jeong Yong Lee<sup>3</sup>

Seok Kyu Han<sup>1</sup>, Dong-Suk Kang<sup>1</sup>, Soon-Ku Hong<sup>1</sup>,\*, Min-Jung Kim<sup>2</sup>, Jae-Ho Song<sup>2</sup>, Jung-Hoon

FP466

305-764, Korea<sup>2</sup>Department of Physics, Kongju National University, Gongju 314-701, Korea<sup>3</sup>Department of Materials Science and Engineering, KAIST, Daejeon 305-701, Koreasoonku@cnu.ac.kr Modification of Surface Wetting and Related Properties of Polyethylene by Enhanced Glow **Discharge Plasma Immersion Ion Implantation** Oiuyuan Lu<sup>1</sup>, Huaiyu Wang<sup>1</sup>, Liuhe Li<sup>1,2</sup>, Paul K. Chu<sup>1,\*</sup> <sup>1</sup> Department of Physics and Materials Science, City University of Hong Kong, Tat Chee Avenue, FP467 Kowloon, Hong Kong <sup>2</sup> Department 702, School of Mechanical and Automation Engineering, Beijing University of Aeronautics and Astronautics, Beijing, China E-mail: qiuyualu@student.cityu.edu.hk; paul.chu@cityu.edu.hk Fabrication of Nanocrystalline CuO Powder and Giant Dielectric Properties of Its Ceramic Thanin Putjuso<sup>1</sup>,\*, Prapun Manyum<sup>1</sup>, Rattikorn Yimnirun<sup>1</sup>, Teerapon Yamwong<sup>2</sup>, and Santi Maensiri<sup>3</sup> <sup>1</sup>School of Physics, Institute of Science, Suranaree University, Nakhon Ratchasima, 30000, FP468 Thailand<sup>2</sup>National Metals and Materials Technology Center (MTEC), Thailand Science Park, Pathumthani, 12120, Thailand<sup>3</sup>Small & Strong Materials Group (SSMG), Department of Physics, Faculty of Science, Khon Kaen University, Khon Kaen, 40002, Thailand \*Contacting Author: Mr. Thanin Putjuso; Email address: pasjusota@hotmail.com; Effect of Mn doping on magnetic properties of BiFeO<sub>3</sub> Nanopowders Sitchai Hunpratub<sup>1</sup>, Rattikorn Yimnirun<sup>2</sup>, and Santi Maensiri<sup>1</sup> <sup>1</sup>Small & Strong Material Group (SSMG), Department of Physics, Faculty of Science, Khon Kaen University, Khon Kaen, 40002 Thailand. School of Physics, Suranaree University of Technology, FP469 Nakhon Ratchasima, Thailand. \*Contacting Author: Sitchai Hunpratub; Email address: boboltzmann@hotmail.com, Dr. Santi Maensiri; Tel.: +66-43-202222 to 9 ext. 2248; Fax: +66-43-202374; Email address: sanmae@kku.ac.th; santimaensiri@gmail.com The Study Of Y<sub>2</sub>O<sub>3</sub>-doping-induced size diversification of ZrO<sub>2</sub> Nanocrystals Jingchao Tao, Fei Li, Haiyan Chen, and Jun Wang FP470 The State Key Laboratory of Metal Matrix Composites, Shanghai Jiao Tong University, Shanghai 200240, China, Jun Wang Email: junwang@sjtu.edu.cn Preparation and Characterization of A Novel Silica Fluorescent Nanoparticles with DPPDA-Eu<sup>3+</sup> doped Dongguang Yin\*, Li Zhang, Chunjuan Xie, Binhu Liu, Le Zhang FP471 College of Environmental and Chemical Engineering, Shanghai University, Shanghai 200444, People's Republic of China \*ydg@shu.edu.cn Controlled Growth and Magnetic Property of FePt Nanostructure: Cuboctahedron, Octapod and Nanocube FP472 Shang-Wei Chou, Chun Ling Zhu and Chia-Chun Chen National Taiwan Normal University cichen@ntnu.edu.tw Effects of Ti and Li doping on Synthesis of Nanocrystalline (Li, Ti)-doped NiO Powders Tanachat Eknapakul<sup>1</sup>,\*, Prasit Thongbai<sup>1</sup>, Teerapon Yamwong<sup>2</sup>, and Santi Maensiri<sup>1</sup> <sup>1</sup>Small & Strong Materials Group (SSMG), Department of Physics, Faculty of Science, Khon Kaen University, Khon Kaen, 40002, Thailand <sup>2</sup>National Metals and Materials Technology Center FP473

(MTEC), Thailand Science Park, Pathumthani, 12120, Thailand \*Contacting Author: Mr. Tanachat Eknapakul; Email address: atomic e spirit@hotmail.com; Tel.: +66-43-202222 to 9 ext. 2248; Fax:

+66-43-202374

FP474

	Synthesis and Characterization of Ultrathin Single-Crystalline Cerium Oxide Nanorods Yefeng Yang*, Yizheng Jin, Zhizhen Ye, Yao Tu, and Qingling Wang State Key Lab of Silicon Materials, Department of Materials Science and Engineering, Zhejiang University, Hangzhou, China. *Contacting Author: Yefeng Yang is with State Key Lab of Silicon Materials, Department of Materials Science and Engineering, Zhejiang University, China. (phone: +86 571-87952625; fax: +86 571-87952625; email: ZnO@zju.edu.cn).	FP474
	Nanoelectronics Oral Session I	LT-17
	Chair: Gaowu QIN, Northeastern University	
8:30	Anisotropic Scattering of Elongated GaSb/GaAs Quantum Dots Embedded near	
	Two-Dimentional Electron Gas	
	Guodong Li <sup>1</sup> , Chao Jiang <sup>1</sup> *, Hiroyuki Sakaki <sup>2</sup>	EC401
	<sup>1</sup> National Center for Nanoscience and Technology, No. 11, Beiyitiao Zhongguancun, Beijing, China <sup>2</sup> Toyota Technological Institute, 2-12-1 Hisakata, Tempaku-ku, Nagoya, Japan *Contacting Author: email: jiangch@nanoctr.cn	LC401
8:45	Effect of Annealing on Magnetic Properties of Ni <sub>80</sub> Fe <sub>20</sub> Permalloy Nanoparticles with Various	
	Sizes Prepared by Polyol Method	
	G. W. Qin <sup>1</sup> *, W. L. Pei <sup>1</sup> , Y. P. Ren <sup>1</sup> , Y. Shimada <sup>2</sup> , Y. Endo <sup>2</sup> , M. Yamaguchi <sup>2</sup> , S. Okamoto <sup>3</sup> and O.	
	Kitakami <sup>3</sup>	
	<sup>1</sup> Key Laboratory for Anisotropy and Texture of Materials (MOE), NortheasternUniversity,	
	Shenyang 110004, China <sup>2</sup> Department of Electrical and Communication Engineering, Tohoku	EC402
	University, Aramaki-aza, Aoba, Sendai 980-6569, Japan <sup>3</sup> Institute of Multidisciplinary Research for	
	Advanced Materials, Tohoku University, Katahira 2-1-1, Sendai 980-8755, Japan *Contacting	
	Author: G.W. Qin is with Key Laboratory for Anisotropy and Texture of Materials (MOE),	
	Northeastern University, Shenyang 110004, China (phone:+86- 24-83683772; fax:	
	+86-24-83686455; email:qingw@smm.neu.edu.cn)	
9:00	Defect Engineering in Semiconductors for Nanoelectronic Devices	
	Edmund G Seebauer	KS416
	Department of Chemical & Biomolecular Engineering, University of Illinois Urbana, IL, 61801,	
0.20	USA. Email: eseebaue@illinois.edu	
9:30	Ferromagnetic carbon-doped ZnO nanoneedles	
	S. P. Lau <sup>1</sup> *, T. S. Herng <sup>2</sup> , C. Q. Wei <sup>1</sup> and M. Tanemura <sup>3</sup>	
	<sup>1</sup> Department of Applied Physics, The Hong Kong Polytechnic University, Hung Hom, Hong Kong	EC403
	<sup>2</sup> School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore	
	639798 <sup>3</sup> Graduate School of Engineering, Nagoya Institute of Technology, Gokiso-cho, Showa-ku,	
0.45	Nagoya 466-8555, Japan *E-mail: apsplau@polyu.edu.hk	
9:45	Bound Magnetic Polarons Induced Ferromagnetism in Transition-Metal-Doped Oxide Nanostructures	
	G. Z. Xing, J. B. Yi, D. D. Wang, L. Liao, T. Yu, Z. X. Shen, C. H. A. Huan, T. C. Sum, J.	
	Ding, <sup>2</sup> and T. Wu <sup>1</sup> ,*	EC404
	<sup>1</sup> Division of Physics and Applied Physics, School of Physical and Mathematical Sciences, Nanyang	LC704
	Technological University, Singapore 637371, Singapore <sup>2</sup> Department of Materials Science and	
	Engineering, National University of Singapore, Singapore 119260, Singapore <sup>3</sup> Department of	
	Engineering, radional our versity of our gapore, our gapore 11,200, our gapore Department of	

Chemistry and Biochemistry, University of California, Los Angeles, California 90095 \*Contacting Author: Tel.: +65 65141047. E-mail address: tomwu@ntu.edu.sg

10:00 Break

Chair: Zhisong XIAO, Beihang University

### 10:15 High frequency characteristics of Fe<sub>65</sub>Co<sub>35</sub> alloy cluster-assembled films prepared by energetic cluster deposition

Dong-Liang Peng<sup>1</sup>\*, Xuan Wang<sup>1</sup>, Lai-Sen Wang<sup>1</sup>, Yuanzhi Chen<sup>1</sup>, Guang-Hui Yue<sup>1</sup>, Kenji Sumiyama<sup>2</sup>, and Takehiko Hihara<sup>2</sup>

<sup>1</sup>Department of Materials Science and Engineering, College of Materials, Xiamen University, Xiamen 361005, P. R. China; <sup>2</sup>Department of Materials Science and Engineering, Graduate School of Engineering, Nagoya Institute of Technology, Nagoya 466-8555, Japan \*Contacting Author: Dong-Liang Peng is with Department of Materials Science and Engineering, College of Materials, Xiamen University, P. R. China. (phone: +86-592-2180155; fax:+86-592-2180155; email: dlpeng@xmu.edu.cn).

EC405

EC409

## 10:30 Magnetostrictive Properties of Amorphous TbFe/FeB Multilayer Thin Films by DC Magnetron Sputtering

Wei Wang\*, Yiming Mi, Shiqiang Qian and Xiying Zhou
School of Materials Engineering, Shanghai University of Engineering Science, 333 Longteng Road, EC406
Shanghai 201620, China. \*Contacting Author: Wei Wang is with Shanghai University of
Engineering Science, China. (phone: +8621 67791203; fax:+8121 67791233; email: wangwei200173@sina.com).

#### 10:45 Reversible resistive switching behaviors in NiO nanowires

Sung In Kim<sup>1</sup>, Jae Hak Lee<sup>1</sup>, Young Wook Chang<sup>1</sup>, and Kyung-Hwa Yoo<sup>1,2\*</sup>

<sup>1</sup>Department of Physics, Yonsei University, Seoul 120-749, Republic of Korea <sup>2</sup>National Core

Research Center for Nanomedical Technology, Yonsei University, Seoul 120-749, Republic of
Korea \*Contacting Author: khyoo@yonsei.ac.kr

## $11:00 \quad \textbf{Room Temperature Ferromagnetism of } \textbf{Zn}_{\textbf{0.92}}\textbf{Co}_{\textbf{0.08}}\textbf{O} \ \textbf{Nanocrystalline Thin Film Annealed in } \\ \textbf{Hydrogen Atmosphere}$

Q. He, <sup>1</sup> Hao Wang, <sup>1</sup>, \* H. B. Wang, <sup>1</sup> X. N. Wang, <sup>1</sup> J. Zhang, <sup>1</sup> Y. Jiang <sup>2</sup>

<sup>1</sup> Faculty of Physics and Electronic Technology, Hubei University, Wuhan 430062, PR China

<sup>2</sup> School of Materials Science and Engineering, and Technology Beijing, Beijing 100083, China

\*Contact Author: Hao Wang, Tel:+86 27 88662550; Fax:+86 27 88663390; Email:
nanoguy@126.com (Hao Wang); hanbinwang77@yahoo.com.cn (H. B. Wang)

## 11:15 A Unified Drain Current Model for Nanoscale Double-Gate and Surrounding-Gate MOSFETs Incorporating Velocity Saturation

Lining Zhang, Xingye Zhou, Yiwen Xu, Lin Chen, Wang Zhou, Yingxue Li, Frank He and Mansun Chan

<sup>1</sup>The Key Laboratory of Integrated Microsystems, Peking University Shenzhen Graduate School, Shenzhen, China <sup>2</sup>TSRC, School of Electronic Engineering and Computer Science, Peking University, Beijing, China <sup>3</sup>Department of Electrical and Electronic Engineering, Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong \*Contacting Author: Lining Zhang is with TSRC, School of Electronic Engineering and Computer Science, Peking University, Beijing 100871, China (phone: +86-10-62765916, fax: +86-10-62751789, email:

liningzhang@pku.edu.cn)

## 11:30 Microstructural Evaluation of Sn-3.8Ag-0.7Cu Solder Reinforced with Co Nanoparticles during High Temperature Storage

S.L. Tay, A.S.M.A. Haseeb and Mohd. Rafie Johan
Department of Mechanical Engineering, University of Malaya 50603 Kuala Lumpur, Malaysia
E-mail:clengtay@yahoo.com \*Contacting Author: S.L.Tay (phone: +603-79675281;
email:clengtay@perdana.um.edu.my

EC410

#### 11:45 Silicon Nanocrystals Floating Gate Non-Volatile Semiconductor Memory

Shibing Long, Qin Wang, Yong Wang, Xiaonan Yang, Jiang Liu, Manhong Zhang, Bo Zhang, Weiran Kong, and Ming Liu\*

Laboratory of Nano-fabrication and Novel Devices Integrated Technology, Institute of

Microelectronics, Chinese Academy of Sciences, No.3, BeiTuCheng West Road, ChaoYang District, Beijing, 100029, China; Grace Semiconductor Manufacturing Corporation, No. 1399, Zu Chong Zhi Road, Zhangjiang Hi-Tech Park, Shanghai, 201203, China. \* Contacting Author: Ming Liu (E-mail: liuming@ime.ac.cn, Tel: +86-10-62007699, Fax: +86-10-82995583)

EC411

### 12:00 **Synthesis, Morphology Evolution and Magnetic Properties of Magnetite Nanoparticles** Xi'an Fan<sup>1,2</sup>, Jianguo Guan\*<sup>1</sup>, Fangzhi Mou<sup>1</sup>, Wei Wang<sup>1</sup>

<sup>1</sup>State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, 122 Luoshi Road, Wuhan 430070,People's Republic of China <sup>2</sup> Key Laboratory of Ferrous Metallurgy and Resources Utilization of Ministry of Education, Wuhan University of Science and Technology, 947 Heping Avenue, Wuhan 430081, People's Republic of China \*Contacting Author: Tel: 86-27-87218832, Fax: 86-27-87879468, E-mail: guanjg@whut.edu.cn

EC412

## 12:15 Controlling Conductive Filament Growth by Metal Nanocrystal to Improve the Resistive Switching Properties of ReRAM

Qi Liu<sup>1,2</sup>, Shibing Long<sup>1</sup>, Wei Wang<sup>3</sup>, S. Tanachutiwat<sup>3</sup>, Junning Chen<sup>2</sup>, and Ming Liu<sup>1</sup>
<sup>1</sup>Institute of Microelectronics, Chinese Academy of Science, Beijing, China, 100029, <sup>2</sup>College of Electronics and Technology, Anhui University, Hefei, China, 230039, <sup>3</sup>College of Nanoscale Science and Eng., University at Albany, NY, 12203 Tel: 86-10-62007699, Fax: 86-10-82995583, Email: liuming@ime.ac.cn

EC413

- 12:30 Lunch
- 14:00 Poster Session
- 16:00 Break

Chair: Xiaolin WANG, University of Wollongong

#### 16:15 A Compact Model for Multi-Island Single Electron Transistors

Yaqing Chi\*, Haiqin Zhong, Chao Zhang, and Liang Fang
National Key Laboratory for Parallel and Distributed Processing, School of Computer, National
University of Defense Technology, Hunan, 410073, China \*Contacting Author: Yaqing Chi is with
National Key Laboratory for Parallel and Distributed Processing, School of Computer, National
University of Defense Technology, Hunan, 410073, China. (phone: +8613875956416,
fax:+8673184573293 E-mail: yachi@nudt.edu.cn).

	Contributed Presentations – Thursday – Jan 7, 2010 - IEEE INEC 2010	
16:30	A Compact Model incorporating Quantum Effects for Ultra-Thin-Body Double-Gate	
	MOSFETs	
	AdityaSankar Medury*, Kausik Majumdar, Navakanta Bhat, and K.N.Bhat	EC415
	Department of Electrical and Communication Engineering, Microelectronics Lab, Indian Institute	EC413
	of Science, Bangalore, 560012, India *Contacting Author: AdityaSankar Medury(Affiliation as	
	shown above) aditya.medury@ece.iisc.ernet.in	
16:45	Impact of Random Dopant Fluctuation Effect on Surrounding Gate MOSFETs: from Atomic	
	Level Simulation to Circuit Performance Evaluation	
	Hao Wang <sup>1,2</sup> , Chenyue Ma <sup>2</sup> , Chenfei Zhang <sup>2</sup> , Frank He <sup>1,2</sup> , Member, IEEE, Xing Zhang <sup>2</sup> , Xinnan Lin <sup>1</sup>	
	<sup>1</sup> Key Laboratory of Integrated Microsystems, Peking University Shenzhen Graduate School,	EC416
	Shenzhen, China <sup>2</sup> TSRC, School of Electronic Engineering and Computer Science, Peking	
	University, Beijing, China *Contacting Author: Frank He is with School of Electronic Engineering	
	and Computer Science, Peking University, Beijing 100871, China (phone: +86-10-62767915, fax:	
	+86-10-62751789, email: hejin@szpku.edu.cn)	
17:00	In place growth of vertical Si nanowires for surround gated MOSFETs with self aligned	
	contact formation	
	A. Lugstein*, M. Steinmair, C. Henkel and E. Bertagnolli	EC417
	Institute for Solid State Electronics, Vienna University of Technology Floragasse 7, A-1040 Vienna,	
	Austria Contacting Author: alois.lugstein@tuwien.ac.at	
17:15	Synthesis and Characterization of Templated Si-based Nanowires via Vapor-liquid-solid	
	(VLS) Growth for Electrical Transport	
	Jae Ho Lee, Isaac N. Lund, Eric T. Eisenbraun, Yongqiang Xue, and Robert E. Geer*	EC418
	College of Nanoscale Science and Engineering, University at Albany–SUNY, 257 Fuller Road,	
	Albany, NY 12205, USA Contacting Author: RGeer@uamail.albany.edu	
17:30	Synthesis of Size- and Site-Controlled SiGe Nanorods on Epitaxial Si <sub>0.8</sub> Ge <sub>0.2</sub> Virtual	
	Substrates	
	Shao-Liang Cheng <sup>1</sup> ,*, Cheng-Hsuan Chung <sup>1</sup> , and Sheng-Wei Lee <sup>2</sup>	E0446
	<sup>1</sup> Department of Chemical and Materials Engineering, National Central University, Chung-Li City,	EC419
	Taoyuan, Taiwan, R.O.C. <sup>2</sup> Institute of Materials Science and Engineering, National Central	
	University, Chung-Li City, Taoyuan, Taiwan, R.O.C. *Contacting Author: Shao-Liang Cheng	
17.45	(phone: +886-3-4227151 ext.34233; email: slcheng@ncu.edu.tw).	
17:45	Variable Range Hopping Conduction in n-Si NWs with Focus-Ion-Beam-induced	
	Amorphization	
	Jr-Jian Ke and Jr-Hau He*	
	School of National Taiwan University, Institute of Photonics and Optoelectronics & Department of	EC420
	Electrical engineering, Taipei, Taiwan, Republic of China. *Contacting Author: Jr-Hau He is with	
	the School of National Taiwan University, Institute of Photonics and Optoelectronics & Department	
	of Electrical engineering, Taipei, Taiwan, Republic of China. (phone: +886-2-33669646; email: jhhe@cc.ee.ntu.edu.tw).	
18:00	General Route of Nanowire Field Effect Transistor	
10.00	Tae Il Lee <sup>a</sup> , Won Jin Choi <sup>b</sup> , Kyung-Ju Moon <sup>a</sup> , Joohee Jeon <sup>a</sup> , Hong Koo Baik <sup>b</sup> and Jae-Min	
	The IT Lee, With an end, ixyang sa widdi, sounce soon, Hong Kou Daik and sac-will	

<sup>a</sup> Contacting Author: Jae-Min Myoung is with the Information and Electronic Materials Research Laboratory, Department of Materials Science and Engineering, Yonsei University, Korea. (phone:

Myoung<sup>a</sup>\*

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+82 2 2123 2843; fax: +82 2 365 2680; email: jmmyoung@yonsei.ac.kr). <sup>b</sup> Information and Display Materials Research Laboratory, Department of Materials Science and Engineering, Yonsei University, Korea. (phone: +82 2 2123 2838; fax: +82 2 312 5375; email: thinfilm@yonsei.ac.kr).

## 18:15 One voltage transparent thin-film transistors with ITO nanocrystal channel processed at room temperature

Qing Wan\*, Aixia Lu, Jia Sun Key Laboratory for Micro-Nano

EC422

Key Laboratory for Micro-Nano Optoelectronic Devices of Ministry of Education, Hunan University, Changsha, 410082, People's Republic of China. \*Contacting Author: Tel: +86-731-88823407, Fax: +86-731-88822137 E-mail: a) wanqing7686@hotmail.com

#### **Nanoelectronics Oral Session II**

LT-13

EC423

Chair: Hao WANG, Hubei University

#### 8:30 Magnetic Tunnel Junction Magnetic Field Sensor Design Tool

Ronald C. L. Li<sup>1</sup>, J. Unguris<sup>2</sup>, Alan S. Edelstein<sup>3</sup>, J. E. Burnette<sup>3</sup>, G. A. Fischer<sup>3</sup>, Edmund R. Nowak<sup>4</sup>, William F. Egelhoff, Jr.<sup>5</sup>, and Philip W. T. Pong<sup>1</sup>

<sup>1</sup>Department of Electrical and Electronic Engineering, University of Hong Kong, Pokfulam Road, Hong Kong <sup>2</sup> Center for Nanoscale Science and Technology, National Institute of Standards and Technology (NIST), Gaithersburg, Maryland MD 20899, USA <sup>3</sup> Army Research Laboratory, Adelphi, Maryland MD 20783, USA <sup>4</sup> Department of Physics and Astronomy, University of Delaware, Newark, Delaware 19716, USA <sup>5</sup> Metallurgy Division, National Institute of Standards and Technology (NIST), Gaithersburg, Maryland MD 20899, USA

## 8:45 Growth and Characterization of Ni<sub>3</sub>FeN Thin Films by Reactive Gas Timing RF Magnetron Sputtering

Wicharn Techitdheera<sup>1\*</sup>, Chewa Thassana<sup>1</sup>, Wisanu Pecharapa<sup>2</sup> and Jiti Nukaew<sup>2</sup>

<sup>1</sup> Department of Applied Physics, Faculty of Science, King Mongkut's Institute of Technology

Ladkrabang, Bangkok, Thailand. <sup>2</sup> College of KMITL Nanotechnology, King Mongkut's Institute of

Technology Ladkrabang, Bangkok, Thailand. \*Contacting Author: Wicharn Techitdheera is with the

Department of Physics, Faculty of Science, King Mongkut's Institute of Technology Ladkrabang,

Bangkok, Thailand, 10520. (e-mail: wdheera@gmail.com)

## 9:00 The Effect of Quantum Dot Shape and Position on Electron Confinement in Dot-in-a-Well Structures

N. Batenipour<sup>1</sup>, K. Saghafi<sup>2</sup>, M. K. Moravvej-Farshi<sup>3</sup>

EC425

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<sup>1</sup> Department of Electrical Engineering, Sciences & Research Branch, Islamic Azad University, Tehran, Iran <sup>2</sup> Department of Electrical Engineering, Shahed University, Tehran, Iran <sup>3</sup> Department of Electrical and Computer Engineering, Tarbiat Modares University, Tehran, Iran.

## 9:15 Vertical Epitaxial Co<sub>5</sub>Ge<sub>7</sub> Nanowires and Nanobelts Arrays on a Thin Graphitic Layer for Flexible FED

Hana Yoon, Kwanyong Seo, Nitin Bagkar, Juneho In, Jeunghee Park, Jaemyung Kim, and Bongsoo Kim\*

<sup>1</sup>Department of Chemistry, KAIST, Daejeon, Korea <sup>2</sup> Department of Chemistry, Korea University, Chungnam, Korea <sup>3</sup> Corporate R&D Center, Samsung SDI, Gyeonggi-do, Korea \*Contacting Author: Bongsoo Kim is with the Department of Chemistry, KAIST, Daejeon, Korea (phone: +82-42-350-2836; fax: +82-42-350-2810; email: bongsoo@kaist.ac.kr).

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### $Contributed\ Presentations-Thursday-Jan\ 7,\ 2010-IEEE\ INEC\ 2010$

9:30	Multiple NaNbO <sub>3</sub> /Nb <sub>2</sub> O <sub>5</sub> Nanotubes: A New Class of Ferroelectric/Semiconductor	
	Heterostructures	
	Chenglin Yan, *Liliya Nikolova, Afshin Dadvand, Catalin Harnagea, Dmitrii F. Perepichka,	EC427
	Dongfeng Xue, and Federico Rosei *Contacting Author: INRS-EMT, Université du Québec 1650	
	Boul. Lionel Boulet, J3X 1S2 Varennes (QC) Canada (e-mail: chenglin@emt.inrs.ca)	
9:45	Self-assembly of Low Dimensional Organic Nanomaterials Based on Ni(TCNQ)2(H2O)2	
	Zhuoyu Ji, Ming Liu,*Liwei Shang, Xinghua Liu, Hong Wang, Yingping Chen, and	
	Maixing Han	
	Key Laboratory of Nano-Fabrication and Novel Devices Integrated Technology, Institute of	EC428
	Microelectronics, Chinese Academy of Sciences, Beijing, 100029, China. *Contacting Author: Key	20.20
	Laboratory of Nano-Fabrication and Novel Devices Integrated Technology, Institute of	
	Microelectronics, Chinese Academy of Sciences, Beijing, 100029, China Fax: +86-010-82995583;	
	Tel: +86-010-82995579; E-mail: liuming@ime.ac.cn	
10:00	Break	
	Chair: Dong-Liang PENG, Xiamen University	
10:15	Synthesis and One-Dimensional Self-Assembly of Aligned Ni Nanochains under Magnetic	
	Fields	
	Rongming Wang*, Pengwei Li	EC429
	Key Laboratory of Micro-nano Measurement, Manipulation and Physics (Ministry of Education)	
	and Department of Physics, Beijing University of Aeronautics and Astronautics, Beijing 100191, P.	
10.20	R. China.	
10:30	TEM Study and Magnetic Measurements of Precipitates Formed in Cu–Fe–Ni Alloy Sung Kang <sup>a</sup> *, Mahoto Takeda <sup>a</sup> , Masaki Takeguchi <sup>b</sup> , and Dong–Sik Bae <sup>c</sup>	
	a*Department of Materials Science and Engineering (SEISAN), Yokohama national university,	
	Yokohama, 240-8501, Japan <sup>b</sup> Advanced Electron Microscopy Group, National Institute for	EC430
	Materials Science (NIMS), Tsukuba, 305–0047, Japan <sup>c</sup> School of nano & Advanced Materials	
	Engineering, Changwon National University, Gyeongnam, 641 – 773, Korea.	
10:45	Synthesis and Characterization of Gd-doped InGaN Thin Films and Superlattice Structure	
101.0	Siti Nooraya Mohd Tawil, Daivasigamani Krishnamurthy, Rina Kakimi, Manabu Ishimaru, Shuichi	
	Emura, Shigehiko Hasegawa and Hajime Asahi*	
	Institute of Scientific and Industrial Research, Osaka University, Osaka, Japan. *Contacting Author:	EC431
	Hajime Asahi is with the Institute of Scientific and Industrial Research, Osaka University, 8-1	
	Mihagaoka, Ibaraki, Osaka 567-0047, Japan (phone: +81-6-6879-8405; fax: +81-6-6879-8409;	
	e-mail: asahi@sanken.osaka-u.ac.jp)	
11:00	Controlled Synthesis of Conducting Polymer Nanostructures	
	Yong Yan, Mei Li, Jiyong Huang, and Zhixiang Wei*	EC432
	National Center for Nanoscience and Technology, Beijing 100190, China. *Contacting Author:	EC432
	(phone: 86-10-82545565; fax: 86-10-62656765; E-mail: weizx@nanoctr.cn)	
11:15	Organic Thin Films for High Density Information Storage	
	Yanlin Song	EC433
	Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China	_ 5 .55
	E-mail: ylsong@iccas.ac.cn	
11:30	Effects of Laser Drilling through Silicon Substrate on MOSFET Device Characteristics	EC434

### $Contributed\ Presentations-Thursday-Jan\ 7,\ 2010-IEEE\ INEC\ 2010$

11:45	Youngkyu Song <sup>1</sup> , Chulhyun Park <sup>1</sup> , Junghan Kang <sup>1</sup> , Ik-Bu Sohn <sup>2</sup> , Young-Chul Noh <sup>2</sup> , Jongmin Lee <sup>2</sup> , Eung Jang Lee <sup>3</sup> , Seung-Han Park <sup>3</sup> , Soogil Lee <sup>4</sup> , Jongill Hong <sup>4</sup> and Ilgu Yun <sup>1,*</sup> <sup>1</sup> School of Electrical and Electronic Engineering, Yonsei University, Korea <sup>2</sup> Advanced Photonics Research Institute, GIST, Oryong-dong 1, Buk-gu, Gwangju 500-712, Republic of Korea <sup>3</sup> Physics, Pioneer Research Center for Neurodevice, Yonsei University <sup>4</sup> Materials Science and Engineering, Pioneer Research Center for Neurodevice, Yonsei University *Contacting Author: (phone: +82-2-2123-4619; fax: +82-2-313-2879; email: iyun@yonsei.ac.kr)  Vertical Growth of Mn:Ge Nanowires and Their Magnetic Properties  Ungkil Kim, <sup>1</sup> Tae-Eon Park, <sup>1</sup> Il-Soo Kim, <sup>1</sup> Han-Kyu Seong, <sup>1</sup> Myuong-Ha Kim, <sup>1</sup> YongHee Park, <sup>1</sup>	
	Joonyeon Chang, <sup>2</sup> Jae-Gwan Park, <sup>2</sup> and Heon-Jin Choi <sup>1</sup> * <sup>1</sup> Department of Materials Science and Engineering, Yonsei University, Seoul 120-749, Korea <sup>2</sup> Department of Physics, Jeonju 561-756, Chonbuk National University, Korea 3Pohang Accelerator  Laboratory, Pohang University of Science and Technology, Pohang 790-784, Korea *Contacting  Author: Heon-Jin Choi is with the Department of Materials Science and Engineering, Yonsei  University, Seoul, Korea (phone: +82-2-2123-5849; email: hjc@yonsei.ac.kr	EC435
12:00	Tuning Exchange Bias Effects by Ion-beam Bombardment in NiFe/NiO bilayers  Ko-Wei Lin <sup>1</sup> , HR. Huang <sup>1</sup> , HF. Hsu <sup>1</sup> , YC. Yang <sup>1</sup> , JY. Guo <sup>1</sup> , T. Suzuki <sup>2</sup> , and J. van Lierop <sup>3</sup> Department of Materials Science and Engineering, National Chung Hsing University, Taichung 402, Taiwan <sup>2</sup> ISML, Toyota Technological Institute, Nagoya 468-8511, Japan <sup>3</sup> Department of Physics and Astronomy, University of Manitoba, Winnipeg, MB, R3T 2N2, Canada  *Corresponding Author: Ko-Wei Lin (kwlin@dragon.nchu.edu.tw) TEL/FAX: 886-4-22851068	EC436
12:30	Lunch	
14:00	Poster Session	
	Nanoelectronics Oral Session III	LT-15
	Chair: Jianbin XU, The Chinese University of Hong Kong	
8:30	Al Doped ZnO Nanogranular Film Fabricated by LBL Method and Its Application for Gas Sensors  Weichang Hao <sup>1*</sup> , Meng Sun <sup>1</sup> , Huaizhe Xu <sup>2</sup> , Tianmin Wang <sup>1</sup> ¹Center of Materials Physics and Chemistry, Beihang University, Beijing 100191, P R China²Department of Physics, Beihang University, Beijing 100191, P R China *Corresponding author: E-mail, Whao@buaa.edu.cn	EC438
8:45	Effect of Doping Concentration on the Thermolectric Properties of Nano Ga-doped ZnO Films  L.Fang*, K.Zhou, F.Wu, Q.L.Huang, X.F.Yang, and C.Y. Kong  Department of Applied Physics, Chongqing University, Chongqing, China *Corresponding author: L.Fang is with Department of Applied Physics, Chongqing University, Chongqing 400044, PR China (phone.: +86 023-65105870, E-mail: fangliangcqu@yahoo.com.cn	EC439
9:00	Electrical and Optoelectronic Characterization of a ZnO Nanowire Contacted by	
	Focused-Ion-Beam-Deposited Pt C. Y. Chen, P. H. Chang, K. T. Tsai, and J. H. He*	EC440

Institute of Photonics and Optoelectronics, and Department of Electrical Engineering, National \*Contacting Author: J. H. He, E-mail: jhhe@cc.ntu.edu.tw TaiwanUniversity, Taipei, 106 Taiwan (ROC)

#### 9:15 Controllable Synthesis of PbTe Nanosheets via an Alkaline Hydrothermal Method

Xi Chen, Tie-Jun Zhu\*, and Xin-Bing Zhao

State Key Laboratory of Silicon Materials, Department of Materials Science and Engineering, Zhejiang University, Hangzhou 310027, China. \*Contacting Author: Tie-Jun Zhu is with State Key EC441 Laboratory of Silicon Materials, Department of Materials Science and Engineering, Zhejiang University, Hangzhou 310027, China (phone:+81-571-87952181; fax:+81-571-87951451; email: zhuti@ziu.edu.cn)

#### Photoconductive Enhancement of Au Nanoparticles-Decorated Single ZnO Nanowire 9:30 Photodetector Through Formation of Local Schottky Junction

Ming-Wei Chen, Cheng-Ying Chen, and Jr-Hau He\*

Small Lab of Institute of Photonics and Optoelectronics, & Department of Electrical Engineering, National Taiwan University, Taipei, 106, Taiwan, ROC \*Contacting Author: Jr-Hau He is with Institute of Photonics and Optoelectronics, & Department of Electrical Engineering, National Taiwan University, Taipei, 106. (phone: +886-2-33669646; email: jhhe@cc.ee.ntu.edu.tw).

10:00 Break

Chair: Jianbin XU, The Chinese University of Hong Kong

#### Enhanced Performance of ZnO Nanocomposite Transistor by External Mechanical Force

Ji-Hyuk Choi, Kyung-Ju Moon, Joohee Jeon, Jyoti Prakash Kar, Dahl-Young Khang, Tae Il Lee and Jae-Min Myoung\*

Information and Electronic Materials Research Laboratory, Department of Materials Science and Engineering, Yonsei University, Korea. (phone: +82 2 2123 2843; fax: +82 2 365 2680; email: jmmyoung@yonsei.ac.kr). \*Contacting Author: Jae-Min Myoung is with the Information and Electronic Materials Research Laboratory, Department of Materials Science and Engineering, Yonsei University, Korea. (phone: +82 2 2123 2843; fax: +82 2 365 2680; email: jmmyoung@yonsei.ac.kr).

#### 10:30 Flash Memory Thin-film Transistor with Organic-inorganic Nano-hybrid Dielectric

Sung Hoon Cha, \*Seongil Im, Byung H. Lee and Myung M. Sung Institute of Physics and Applied Physics, Yonsei University, Seoul 120-749, Korea Department of Chemistry, Hanyang University, Seoul 133-791, Korea. \*Contacting Author: Seongil Im is with the Institute of Physics and Applied Physics, Yonsei University, Korea (phone: +82-2-2123-4928; fax: +82-2-392-1592; email: semicon@yonsei.ac.kr)

### 10:45 Nonvolatile memory properties in ZnO-based thin-film transistors with polymer ferroelectric and thin buffer layer

C. H. Park, K. H. Lee B.H. Lee and Myung M. Sung and Seongil Im\* C. H. Park, K. H. Lee and S. Im are with the Institute of Physics and Applied Physics, Yonsei University, Seoul 120-749, Korea B. H. Lee and M. M. Sung are with the Department of Chemistry, Hanyang University, Seoul 133-791, Korea. \*Contacting Author: Seongil Im is with the Institute of Physics and Applied Physics, Yonsei University, Korea (phone: +82-2-2123-4928; fax:

+82-2-392-1592; email: semicon@yonsei.ac.kr)

11:00 Optical and Electrical Properties of Ga-doped ZnO Nanorod Arrays Fabricated by EC447

EC446

EC442

EC444

EC445

#### **Catalyst-free Thermal Evaporation**

P.Y. Yang, 1 Hao Wang, 1, \* X. N. Wang, 1 J. Zhang 1 Y. Jiang 2

<sup>1</sup>Faculty of Physics and Electronic Technology, Hubei University, Wuhan 430062, PR China;

<sup>2</sup>School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing 100083, China \*Contacting Author: Hao Wang, Tel:86 27 88662550; Fax:86 27 88663390;

Email: nanoguy@126.com (Hao Wang); xnwang2006@hotmail.com(X.N. Wang)

### 11:15 Synthesis of Water Soluble Chitosan/CdS Composite Nanoparticles in Aqueous Solution by a Simple Method

Suli Wu\*, Lian Li, Jun Dou, Shufen Zhang

EC448

State Key Laboratory of Fine Chemicals, Dalian University of Technology \*Contacting Author: Suli Wu (wusuli@dlut.edu.cn)

#### 11:30 Functional Inorganic Nanostructures, New Opportunities for Future Electronics

**Xiangfeng Duan** 

KS404

Department of Chemistry and Biochemistry, University of California, Los Angeles, Los Angeles CA 9095.

#### 12:00 The Effects of High Work Function Electrodes on the Electrical Properties of Solution Processed ZnO Thin Film Transistor

Tao Chen, Shu-Yi Liu, Shao-Ren Deng, Bing-Zong Li and Xin-Ping Qu\*, Senior

State Key Lab of ASIC and System, Department of Microelectronics, Fudan University, Shanghai

200433, China. \*Contacting Author: Xin-Ping Qu is with the State Key Lab of ASIC and System,

Department of Microelectronics, Fudan University, Shanghai 200433, China

(e-mail:xpqu@fudan.edu.cn).

## 12:15 Single-Crystalline ZnS Nanobelts with Sharp Ultraviolet (UV) Emission at Room Temperature as UV-Light Sensors

Xiaosheng Fang,\* Yoshio Bando, Meiyong Liao, Ujjal K. Gautam, Tianyou Zhai, and Dmitri Golberg

International Center for Young Scientists (ICYS), International Center for Materials Nanoarchitectonics (MANA), Sensor Materials Center, National Institute for Materials Science (NIMS), Tsukuba, Ibaraki, Japan \*Contacting Author: Xiaosheng Fang, International Center for Young Scientists (ICYS), International Center for Materials Nanoarchitectonics (MANA), Sensor Materials Center, National Institute for Materials Science (NIMS), Namiki 1-1, Tsukuba, Ibaraki 305-0044, Japan (phone: 81-29-851-3354 ext 8632; fax: 81-29-851-6280; email: Fang.Xiaosheng@nims.go.jp).

EC450

- 12:30 Lunch
- 14:00 Poster Session
- 16:00 Break

Chair: Hao WANG, Hubei University

#### 16:15 Electrical and Photoelectrical Properties of p-SWNT/n-ZnO Heterojunction Structure

Min Ji Park<sup>1</sup>, Young Wook Chang<sup>1</sup>, Bong Keun Kang<sup>1</sup>, Min-Soo Son<sup>1</sup>, Jae Sang Lee<sup>3</sup>, Sang Yeol Lee<sup>3</sup> and Kyung-Hwa Yoo1<sup>2\*</sup>

EC451

<sup>1</sup>Department of Physics, Yonsei University, Seoul 120-749, Republic of Korea <sup>2</sup>National Core Research Center for Nanomedical Technology, Yonsei University, Seoul 120-749, Republic of

	Korea <sup>3</sup> Center for Energy Materials Research, Korea Institute of Science and Technology, Seoul 136-791, Republic of Korea *Contacting Author: khyoo@yonsei.ac.kr	
16:30	Electrical characterization of single nanowire based ZnO Schottky diodes	
	S. N. Das <sup>1</sup> , J. P. Kar, J. H. Choi, K. J. Moon, T. I. Lee and J. M. Myoung*	
	Information and Electronic Materials Research Laboratory, Department of Material Science and	EC452
	Engineering, Yonsei University, Seoul 120-749, Republic of Korea.*Contacting Author:	
	jmmyoung@yonsei.ac.kr	
16:45	Electron Transport Properties of ZnO, InP, GaP, and Pb <sub>1-x</sub> Mn <sub>x</sub> Se Nanowires By Two-Probe	
	Measurements	
	Yen-Fu Lin <sup>1</sup> , Jiye-Fang <sup>2</sup> , and Wen-Bin Jian <sup>1*</sup> , Member, IEEE	
	<sup>1</sup> Department of Electrophysics, National Chiao Tung University, Hsinchu 30010, Taiwan	EG452
	<sup>2</sup> Department of Chemistry, State University of New York at Binghamton, Binghamton, NY	EC453
	13902-6000 *Contacting Author: Wen-Bin Jian is with the Department of Electrophysics, National	
	Chiao Tung University, 1001 Ta Hsueh Road, Hsinchu 30010, Taiwan (email:	
	wbjian@mail.nctu.edu.tw)	
17:00	Structural Characterization and Field Emission of Stacked-cone GaN Nanorods	
	Chun Li*, Yang Huang, Yoshio Bando, and Dmitri Golberg	
	World Premier International Center for Materials Nanoarchitectonics (MANA), National Institute	
	for Materials Science, Japan; National Institute for Materials Science, Namiki 1-1, Tsukuba, Ibaraki	EC454
	305-004, Japan *Contacting Author: National Institute for Materials Science, Namiki 1-1, Tsukuba,	
	Ibaraki 305-004, Japan (Phone: (+81)-29-851-3354 ext8028, fax: (+81)-29-851-6280, e-mail:	
	LI.Chun@nims.go.jp)	
17:15	Thermoelectric properties of individual single-crystalline PbTe nanowires	
	Seung Hyun Lee <sup>1</sup> , So Young Jang <sup>2</sup> , Jong Wook Roh <sup>1</sup> , Jeunghee Park <sup>2</sup> , and Wooyoung Lee <sup>1,*</sup>	
	<sup>1</sup> Nanomedical National Core Research Center (NCRC) and Department of Materials Science and	EC455
	Engineering, Yonsei University, 134 Shinchon, Seoul 120-749, Korea <sup>2</sup> Department of Chemistry,	EC455
	Korea University, Jochiwon, Chungnam 339-700, Korea * E-mail: wooyoung@yonsei.ac.kr	
	(Wooyoung Lee). Telephone: +82-2-2123-2834	
17:30	Epitaxial growth and characterisation of nonpolar m-plane GaN on LaAlO <sub>3</sub> substrate	
	Guoqiang Li <sup>1,2,*</sup> , and Shao-Ju Shih <sup>1</sup>	
	<sup>1</sup> Department of Materials, University of Oxford, Parks Road, Oxford OX1 3PH, United Kingdom <sup>2</sup>	EC456
	State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan	
	University of Technology, Wuhan 430070, China *Email: guoqiang.li@materials.ox.ac.uk	
17:45	InN Nanowire Transistors: Growth & Electronics & Photonics	
	Guosheng Cheng <sup>1*</sup> , Haibin Liu <sup>1</sup> , Xiumei Geng <sup>1</sup> , Jia Chen <sup>2</sup>	
	<sup>1</sup> Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences, Suzhou Industrial	EC457
	Park, Suzhou, Jiangsu 215125, China <sup>2</sup> IBM T. J. Watson Research Center, Yorktown Heights, NY	
	10598, USA *Corresponding author, E-mail: gscheng2006@sinano.ac.cn	
	Nanoelectronics Poster Session II	ATRIUM

14:00

## Low Temperature Aqueous Solution Growth and Field-emission Gas Ionization Sensing Properties of ZnO nanowires

EP401

Chien-Sheng Huang\*, Chen-Huan Yuan and Zong-Xian Zheng

### $Contributed\ Presentations-Thursday-Jan\ 7,\ 2010-IEEE\ INEC\ 2010$

Graduate school of Optoelectronics, National Yunlin University of Science and Technology, Douliou 64002, Taiwan *Contacting Author: Dr. Chien-Sheng Huang is with Graduate school of Optoelectronics, National Yunlin University of Science and Technology, Douliou 64002, Taiwan. (Phone: +886-5-5342601 ext.4392, Fax: +886-5-5312063, E-Mail: huangchs@yuntech.edu.tw)  Magnetic Properties and Microstructure of Fe/FePt Films with Perpendicular Magnetization  Jai-Lin Tsai*, Hsin-Te Tzeng, Bing-Fong Liu	ED402
Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan * E-mail: tsaijl@dragon.nchu.edu.tw	EP402
Magnetic Properties and Microstructure of FePt/Ag <sub>2</sub> Te Nanoparticles	
Jai-Lin Tsai*, Hsin-Te Tzeng, Guo-Bin Lin	EP403
Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan * E-mail:tsaijl@dragon.nchu.edu.tw	
Memory Characteristics of Multilayer Structures with Lanthanum-Aluminate Charge Trap	
by Fowler-Nordheim Tunneling	
Seung-Yong Cha, Hyo-June Kim and Doo-Jin Choi*	
Department of Materials Science and Engineering, Yonsei University, 134 Sinchon-dong,	EP404
Seodaemun-gu, Seoul, Republic of Korea. *Contacting Author: Doo-Jin Choi is with the	
Department of Materials Science and Engineering, Yonsei University, Seoul, Republic of Korea	
(Phone: +82-2-2123-2852; email: drchoidj@yonsei.ac.kr)	
Metal Nanocrystal Memory with Sol-Gel Derived HfO <sub>2</sub> High-k Tunneling Oxide	
Shih-Tang Chen <sup>1</sup> , Kun-Cheng Huang <sup>1</sup> , Hua-Chiang Chen <sup>1</sup> , Fu-Ken Liu <sup>2</sup> , and Ching-Chich Leu <sup>1,*</sup> <sup>1</sup> Department of Chemical and Materials Engineering, National University of Kaohsiung,	
Kaohsiung, Taiwan, R.O.C. <sup>2</sup> Department of Applied Chemistry, National University of Kaohsiung,	EP405
Kaohsiung, Taiwan, R.O.C. Department of Applied Chemistry, National University of Kaohsiung, Kaohsiung, Taiwan, R.O.C. *Contacting Author: Ching-Chich Leu is with the Department of	EF403
Chemical and Materials Engineering, National University of Kaohsiung, Kaohsiung, Taiwan, R.O.C.	
(phone: +886-7-5919456; email:ccleu@nuk.edu.tw)	
Microstructure and Phase Transformation of Zinc Titanate Thin Films	
Ying-Chieh Lee <sup>1‡</sup> , Yen-Lin Huang <sup>1†</sup> , Wen-His Lee <sup>2</sup> , Bao-Hsing Chen <sup>1</sup> , and Fuh-Sheng Shieu <sup>3</sup>	
<sup>1</sup> Department of Materials Engineering, National PingTung University of Technology & Science,	
Ping-Tung 91201, Taiwan; <sup>2</sup> Department of Electrical Engineering, National Cheng Kung	ED 40.6
University, Tainan 701, Taiwan; <sup>3</sup> Department of Materials Engineering, National Chung Hsing	EP406
University, Taichung 402, Taiwan. †Presenter: Yen-Lin Huang ‡Contacting Author: Ying-Chieh	
Lee is with the Department of Materials Engineering, National PingTung University of Technology	
& Science, Ping-Tung Taiwan (E-mail:YCLee@mail.npust.edu.tw)	
Microstructure and Thermal Properties of Phase Change (GeSbSn) <sub>100-x</sub> Co <sub>x</sub> Optical Recording	
Films	
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Chiang <sup>3</sup> , and Chao-Te Lee <sup>3</sup>	
<sup>1</sup> Institute of Material Science and Engineering, National Taiwan University, Taipei 106, Taiwan	EP407
<sup>2</sup> Department of Chemistry, National Tsing Hua University, Hsinchu 300, Taiwan <sup>3</sup> Instrument	
Technology Research Center, National Applied Research Laboratories, Hsinchu 300, Taiwan	
*Contacting Author: Sin-Liang Ou is with the Institute of Material Science and Engineering,	
National Taiwan University; No. 1, Sec. 4, Roosevelt Road, Taipei, 10617 Taiwan (phone:	
+886-2-23648881; fax: +886-2-23634562; email: d94527017@ntu.edu.tw)  Microstructures and Magnetic Properties of Single-layered FePt Films by in situ Annealing	EP408
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S. C. Chen <sup>1,*</sup> , T. H. Sun <sup>1</sup> , C. L. Chang <sup>1</sup> , W. H. Hong <sup>1</sup> , and P. C. Kuo <sup>2</sup>	
<sup>1</sup> Department of Materials Engineering, Ming Chi University of Technology, Taipei 243, Taiwan	
<sup>2</sup> Institute of Materials Science and Engineering, National Taiwan University, Taipei 106, Taiwan	
*Contacting Author: S. C. Chen is Department of Materials Engineering, Ming Chi University of	
Technology (Tel: + 886-2-29089899#4679; Fax: +886-2-29084091; E-mail address:	
chensc@mail.mcut.edu.tw)	
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Meipin Ma, Xiaolin Jia* and Wei Liu	
College of Materials Science and Engineering, Zhengzhou University, Zhengzhou 450052, PR	ED 400
China *Corresponding author: College of Materials Science and Engineering, Zhengzhou	EP409
University, Zhengzhou 450052, PR China. Tel: +86 37167763194. E-mail address:	
jiaxlin@zzu.edu.cn (X. Jia)	
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Department of Engineering and System Science, National Tsing-Hua University, 300, Hsinchu,	
Taiwan email: yunhwu@mx.nthu.edu.tw	
Mixed Spacer Effect of Hybrid White Organic Light-Emitting Diodes for Reduced Efficiency	
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and Young Kwan Kim <sup>1,*</sup>	ED 411
<sup>1</sup> Department of Information Display, Hongik University, Seoul 121-791, Korea <sup>2</sup> Department of	EP411
Chemistry, Sungkyunkwan University, Suwon, Kyeonggi-do 440-746, Korea *Contacting Author:	
I-309, 72-1, Hongik University, Sangsu-dong, Mapo-ku, Seoul 121-791, Korea	
kimyk@hongik.ac.kr	
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Huolin Huang, Yannan Xie, and Zhengyun Wu*	EP412
Department of Physics, Xiamen University, Xiamen, China (Tel: +86-592-2180522; Fax:	
+86-592-2189426; email: zhywu@xmu.edu.cn)	
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Yih-Chien Chen*, Wei-Yu Hsu, Kuei-Chien Chen and Jing-Yuan Lin	ED412
Department of Electrical Engineering, Lunghwa University of Science and Technology Phone:	EP413
886-2-8209-3211 ext. 5541; Fax:886-2-82099721; E-mail address: EE049@mail.lhu.edu.tw	
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<sup>1</sup> Department of Chemical Engineering, Chongqing University, Chongqing, 400030, P.R.China	EP414
<sup>2</sup> Physics Department, Chongqing University, Chongqing, 400030, P.R. China Phone: +86	
13883077781; Fax: +86-023 65102031; Email: xiaohuning@yahoo.cn	
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<sup>1</sup> Graduate school of Optoelectronics, National Yunlin University of Science and Technology,	EP415
Douliou 64002, Taiwan <sup>2</sup> Institute of Electro-Optical and Materials Science, National Formosa	

University, Huwei, Yunlin, 63208, Taiwan Phone: +886-5-5342601 ext.4392, Fax: +886-5-5312063,

E-Mail: huangchs@yuntech.edu.tw Novel Magnetic Generation of Ultrathin Co/ZnO (002) Surface by Post Low-Energy N<sup>+</sup> **Sputtering** S. C. Chang, Y. C. Chang, T. H. Tsai, and C. W. Su\* EP416 Department of Applied Physics, National Chiayi University, 300 Syuefu Rd., Chiayi 60004, Taiwan, R.O.C. E-mail: cwsu@mail.ncyu.edu.tw Novel Sol-gel Derived SONOS-type Nanocrystal Memory Chi-Chang Wu<sup>1</sup>, Hsin-Chiang You<sup>2</sup>, Fu-Hsiang Ko<sup>1</sup>, and Wen-Luh Yang<sup>3,\*</sup> <sup>1</sup>INSTITUTE OF NANOTECHNOLOGY AND DEPARTMENT OF MATERIAL SCIENCE AND ENGINEERING, NATIONAL CHIAO TUNG UNIVERSITY, HSINCHU, TAIWAN. EP417  $^2$ DEPARTMENT OF ELECTRONIC ENGINEERING, NATIONAL CHIN-YI UNIVERSITY OF TECHNOLOGY, TAICHUNG, TAIWAN. <sup>3</sup>Department of Electronic Engineering, Feng Chia University, Taichung, Taiwan. \*Contacting Author: Wen-Luh Yang is with Feng Chia University, Taichung, Taiwan. (Phone: 886-4-24517250 ext.; E-mail: wlyang@fcu.edu.tw) Optical Properties of Zn<sub>2</sub>TiO<sub>4</sub> Prepared by Thermal Oxidation Method Theerapong Santhaveesuk, Duangmanee Wongratanaphisan, and Supab Choopun\* Applied Physics Research Laboratory, Department of Physics and Materials Science, Faculty of Science, Chiang Mai University, Chiang Mai 50200, Thailand and ThEP Center, Commission Higher on Education, Ministry of Education, 328 Si Ayutthaya Rd., Ratchathewi, Bangkok 10400, EP418 Thailand \*Contacting Author: Supab Choopun is with the Applied Physics Research Laboratory, Department of Physics and Materials Science, Faculty of Science, Chiang Mai University, Chiang Mai 50200, Thailand (phone: +66-53 943375; fax:+66-53 357511; email: supab@science.cmu.ac.th). Optimization of Electro-Luminescence Performance of Silicon Quantum Dots Based **Light-Emitting-Diode** Wei-Jr Tzeng, and Chih-Cheng Kao EP419 Department of Electro-Optical Engineering, Southern Taiwan University, Tainan, R.O.C.Phone:886-6-253-3131; Fax:886-6-2432912; email:whezaie@hotmail.com Ordered FePt Nanoparticle Arrays Prepared by a Micellar Method Y. Gao, X. W. Zhang\*, S. Qu, J. B. You, Z. G. Yin, and N. F. Chen EP420 Key Lab of Semiconductor Materials Science, Institute of Semiconductors, Chinese Academy of Sciences, Beijing, P. R. China email: xwzhang@semi.ac.cn; phone: +86-10-82304569 Pd Nanoparticles Modified ITO Electrode and its Electrocatalytic Oxidation for Ethanol and **Methanol in Alkaline Solution** Zhongping Li, Xuwen Ma, Shaomin Shuang and Chuan Dong\* EP421 Research Center of Environmental Science and Engineering, School of Chemistry and Chemical Engineering, Shanxi University, Taiyuan 030006, P.R. China Tel: (86) 351-7018613. Fax: (86) 351-7018613. E-mail: dc@sxu.edu.cn Physical, Electrical Properties and Reproducible Resistance switching of ZrO<sub>2</sub>-TiO<sub>2</sub> Dielectric **Films** Cheng-Hsing Hsu\* and Shih-Yao Lin Department of Electrical Engineering, National United University, Miao-Li, Taiwan EP422

\*Contacting Author: Cheng-Hsing Hsu is with Department of Electrical Engineering, National United University, 1 Lien-Da, Kung-Ching Li, Miao-Li 36003, Taiwan (phone:886-37-381401; fax:

886-37-327887; email: hsuch@nuu.edu.tw).

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Yue Shen*, Fei Zheng, Wanxi Cheng, Feng Gu, Jiancheng Zhang and Linjun Wang	
Department of Electronic Information Materials, School of Materials Science and Engineering,	EP423
Shanghai University, Shanghai 200072, China *Corresponding author Tel: +86-21-56334743 Fax:	
+86-21-56332694 (Yue Shen) E-mail address: yueshen@staff.shu.edu.cn	
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Department of Material Science and Engineering, Chungnam National University, Daejeon	L1 727
305-764, Republic of Korea. *Contacting Author: Dojin Kim (Tel:82-42-821-6639; Fax:	
82-42-823-7648; Email: dojin@ cnu.ac.kr)	
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Department of Chemical and Materials Engineering, Chang Gung University, Kwei-Shan,	
Tao-Yuan, 333, Taiwan, R.O.C.	
Preparation of SnO <sub>2</sub> nanoparticles by Hard Template Method for High Selectivity Gas Sensor	
Haijiao Zhang, Lin Wang, Zhijin Tan, Zhiyong Li, Cong Wang and Zheng Jiao*	
Institute of Nanochemistry and Nanobiology, School of Environmental and Chemical Engineering,	EP426
Shanghai University, Shanghai 200444, P. R. China Phone:+86-21-66137803;	
Fax: :+86-21-66135275; Email: zjiao@shu.edu.cn	
Radial Microstructure and Optical Properties of Porous Silicon Layer	
Yong-fu Long <sup>1</sup> and Jin Ge <sup>2</sup>	
<sup>1</sup> Department of Physics and Electronics, Hunan University of Arts and Science, changde 415000,	EP427
China <sup>2</sup> Physics laboratory (national Key Laboratory), Fudan University, Shanghai 200433, China	
*Contacting Author: Yong-fu Long E-mail: yongfulong@163.com	
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Nano-Floating Gate Memory Applications	
Sung-Jin Choi <sup>1</sup> , Jun-Hyuk Lee <sup>1</sup> , Dong-Hyoun Kim <sup>2</sup> , Seul-ki Oh <sup>1</sup> , Wangyu Song <sup>2</sup> , Seon-Jun Choi <sup>2</sup> ,	
and Seung-Beck Lee <sup>1,2*</sup>	
<sup>1</sup> Department of Nanoscale Semiconductor Engineering, and Institute of Nano Science and	EP428
Technology, Hanyang University, Seoul, Korea 2Department of Electronics and Computer	L1 420
Engineering, Hanyang University, Seoul, Korea *Contacting Author: Seung-Beck Lee is with the	
Nanoelectronic Devices Laboratory, Department of Nanoscale Semiconductor Engineering, and	
Institute of Nano Science and Technology, Hanyang University, 133-791, Seoul, Korea (phone:	
82-2-2220-1676; fax: 82-2-2294-1676; email: sbl22@hanyang.ac.kr).	
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D.X.Xia <sup>1</sup> , F.Y.Xie <sup>2</sup> , W.H.Zhang <sup>2</sup> , J.Chen <sup>2</sup> and J.B.Xu <sup>1*</sup>	
<sup>1</sup> Electronic Engineering Department, The Chinese University of Hong Kong, Shatin, Hong Kong;	EP429
<sup>2</sup> Instrumental Analysis & Research Center, Sun Yat-sen (Zhongshan) University, Guangzhou	
510275, P R China *Contacting Author: jbxu@ee.cuhk.edu.hk	
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Zhiguo Li, Jianyuan Dai, Yanqing Shi, and Shuping Bi*	
Department of Chemistry, Nanjing University, Nanjing, 210093, China * Contacting Author:	

Shuping Bi is with Department of Chemistry, Nanjing University, Nanjing, 210093, China (phone: 011-86-25-86205840; fax: 011-86-25-83317761; e-mail: bisp@nju.edu.cn)	
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Institute of Analytical Chemistry, Department of Chemistry, Suzhou University, Industrial	EP431
Park, Suzhou, 215123, P.R.China *(phone: +86-13812768378; fax:+86-512-65101162; email:	EF431
tuyf@suda.edu.cn) rark, Suzhou, 213125, F.R. China (phone: +80-13812/085/8, 1ax. +80-312-03101102, email: tuyf@suda.edu.cn)	
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<sup>1</sup> Department of Electronics Engineering, National Kaohsiung University of Applied Sciences,	
Taiwan <sup>2</sup> Department of Physics, University of Massachusetts Boston, Massachusetts2125 3Sensors	EP432
Directorate, Air Force Research Laboratory, Hanscom AFB, Massachusetts 01731E-mail:	
hhcheng@ntu.edu.tw	
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Hayan Park, Hong-Lae Park and Yong-Chae Chung*	
Department of Materials Science and Engineering, Hanyang University, Seoul, Republic of Korea	EP433
*Contacting Author: Yong-Chae Chung (phone: +82-2-2296-5308; fax: +82-2281-5308 email:	EF433
yongchae@hanyang.ac.kr)	
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Yu-Wei Liu <sup>2</sup> , Chih-Wei Hsu <sup>2</sup>	EP434
<sup>1</sup> Department of Mechatronic Technology, National Taiwan Normal University, Taiwan, R.O.C.	E1 434
<sup>2</sup> Department of Materials Engineering, Ming Chi University of Technology, Taiwan, R.O.C. E-mail:	
liuch@ntnu.edu.tw	
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Fa-Min Liu <sup>a,*</sup> , Peng Dinga, Jian-Qi Li <sup>b</sup>	
<sup>a</sup> Department of Physics, School of Physics and Nuclear Energy Engineering, Beijing University of	
Aeronautics and Astronautics, Beijing 100191, People's Republic of China <sup>b</sup> Beijing National	EP435
Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of	L1 433
Sciences, Beijing 100190, People's Republic of China * Contacting Author: Tel.: +86-10-8233-8602;	
Fax: +86-10-8233-8602; E-mail:fmliu@buaa.edu.cn.	
Study of Carbon Nanotube Field Effect Transistor Performance based on Changes in Gate	
Parameters	
Shaahin G. Shirazi <sup>1</sup> , and Sattar Mirzakuchaki <sup>2*</sup>	
<sup>1</sup> Qazvin Azad University, Electrical, Computer & IT College, Qazvin, Iran <sup>2</sup> Electronic Research	
Center and EE Dep., Iran University of Science & Technology, Tehran, Iran *Contacting Author:	EP436
Sattar Mirza Kuchaki is with the Electronic Research Center, Iran University of Science &	
Technology, Tehran, Iran (phone: +98- 21-77240487; fax: +98-21-77240486; e-mail:	
m_kuchaki@iust.ac.ir)	
Surface Modifications of Organic Buffer Layer /Inorganic Dielectric in Zinc Oxide	
Transistors	
Jin-Woo Yang <sup>1</sup> , Jun-Ho Kim <sup>1</sup> , Ho-Won Lee <sup>1</sup> , Gun-Woo Hyung <sup>2</sup> and Young Kwan Kim <sup>1*</sup>	EP437
<sup>1</sup> Dep. of Information display, Hongik University, Seoul 121-791, Korea <sup>2</sup> Dept. of Materials Science	
and Engineering, Hongik University, Seoul 121-791, Korea Corresponding authors: E-mail	
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addresses: kimyk@wow.hongik.ac.kr Synthesis and NO2-sensing Properties of One-dimensional Tungsten Oxide Nanowire Bundles Yuxiang Qin\*, Ming Hu, and Jie Zhang School of Electronic Information Engineering, Tianjin University, Tianjin 300072, China. EP438 \*Contacting author: Yuxiang Qin is with the School of Electronic Information Engineering, Tianjin University, Tianjin 300072, China. (phone: +86-22-27402372; email: qinyuxiang@tju.edu.cn). Synthesis and Self-assembly of Ultrathin β-Nickel Hydroxide Nanodisks via a Wet-chemistry Method Dan Zhou<sup>1</sup>, Rongming Wang<sup>1\*</sup>, Markus Boese<sup>2</sup>, and Hongzhou Zhang<sup>2</sup> <sup>1.</sup> Key Laboratory of Micro-nano Measurement, Manipulation and Physics (Ministry of EP439 Education) and Department of Physics, Beijing University of Aeronautics and Astronautics, Beijing 100191, P. R. China. <sup>2</sup> Department of Physics and the Center for Research on Adaptive Nanostructures and Nanodevices (CRANN), TrinityCollege Dublin, Dublin 2, Ireland E-mail: rmwang@buaa.edu.cn Synthetic Characterization and Surface Modification of FePt Monodispersive Nanoparticles H. C. Wu<sup>1</sup>, D. H. Wei<sup>2\*</sup>, P. H. Chen<sup>2</sup>, Y. D. Yao<sup>3</sup>, K. J. Ma<sup>1</sup>, and H. H. Chien<sup>1</sup> <sup>1</sup>School of Science and Engineering, Chung Hua University, Hsin-Chu 300, Taiwan <sup>2</sup>Department of Mechanical Engineering, National Taipei University of Technology, Taipei 106, Taiwan <sup>3</sup>Institute of EP440 Applied Science and Engineering, Fu Jen University, Taipei 242, Taiwan \*Contacting Author: Da-Hua Wei is with the Department of Mechanical Engineering, National Taipei University of Technology, Taipei 106, Taiwan (phone: +886-2-27712171-2022; fax: +886-2-27317191; email: dhwei@ntut.edu.tw). Technology CAD Simulation Study for Self-Heating Effects in Si/SiGe HBTs on Thin-Film **SOI Substrates** Shu-Hui Liao\*, Shu-Tong Chang, and Wei-Ching Wang <sup>1</sup>Shu-Hui Liao is with the Department of Electronic Engineering, Chung Chou Institute of EP441 Technology, Changhwa, Taiwan. <sup>2</sup>Shu-Tong Chang and Wei-ChingWang are with the Department of ElectricalEngineering, National Chung Hsing University, Taichung, Taiwan. \*Contacting Author: Shu-Hui Liao (Phone: 886-4-8311498; E-mail: liao@dragon.ccut.edu.tw). The Influences of Annealing Process on the Characteristics of 0.95 (Na<sub>0.5</sub>Bi<sub>0.5</sub>)TiO<sub>3</sub>-0.05 BaTiO<sub>3</sub> Thin Films Chien-Chen Diao<sup>1</sup> and Cheng-Fu Yang<sup>2</sup> EP442 <sup>1</sup>Department of Electronic Engineering, Kao Yuan University, Kaohsiung, Taiwan, R.O.C. <sup>2</sup>Department of Chemical and materials Engineering, National University of Kaohsiung, Kaohsiung, Taiwan, R.O.C. \*Contacting Author: Cheng-Fu Yang, cfyang@nuk.edu.tw The Influences of Particle Sizes on the Dielectric Properties of PEI/(Ba<sub>0.8</sub>Sr<sub>0.2</sub>)(Ti<sub>0.9</sub>Zr<sub>0.1</sub>)O<sub>3</sub> **Composites** Chia-Ching Wu, Chien-Chen Diao, Cheng-Fu Yang, Cheng-Shong Hong Chia-Ching Wu and Chien-Chen Diao are with the Department of Electronic Engineering, Kao EP443 Yuan University, Kaohsiung, Taiwan, R.O.C. Cheng-Fu Yang is with the Department of Chemical and materials Engineering, National University of Kaohsiung, Kaohsiung, Taiwan, R.O.C. Cheng-Shong Hong is with the Department of Electronic Engineering, National Kaohsiung Normal

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University, Kaohsiung, Taiwan, R.O.C. \*Contacting Author: Cheng-Fu Yang, cfyang@nuk.edu.tw The Influences of Rapid-Thermal Annealing on the Characteristics of Sr<sub>0.6</sub>Ba<sub>0.4</sub>Nb<sub>2</sub>O<sub>6</sub> Thin

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Cheng-Fu Yang and Ching-Chich Leu are with the Department of Chemical and materials	
Engineering, National University of Kaohsiung, Kaohsiung, Taiwan, R.O.C. Chien-Chen Diao and	
Chia-Ching Wu are with the Department of Electronic Engineering, Kao Yuan University,	
Kaohsiung, Taiwan, R.O.C. *Contacting Author: Cheng-Fu Yang, cfyang@nuk.edu.tw	
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Zhiqing Xin, Luhai Li *, Xiaojun Tang, Wen Zhao and Peng Du	
Key Lab of Printing and Packaging Materials and Technology, Beijing Institute of Graphic	EP445
Communication, 25 Xinghua North Road, Beijing Daxing 102600, China. *Contacting Author:	L1 443
Luhai Li is with Beijing Institute of Graphic Communication China. (phone: +86-10 60261107;	
fax:+86-1060261108; email: liluh6@yahoo.com.cn ).	
The study of individual ZnO nanowires I-V characteristics	
Huifeng Li <sup>1</sup> , Yunhua Huang <sup>2</sup> , Xiaoqin Yan <sup>2</sup> , Xiujun Xing <sup>2</sup> , Jia Su <sup>2</sup> and Yue Zhang <sup>1,2,*</sup>	
<sup>1</sup> State Key Laboratory for Advanced Metals and Materials, University of Science and Technology	
Beijing, Beijing 100083, China. <sup>2</sup> Department of Materials Physics and Chemistry, University of	ED446
Science and Technology Beijing, Beijing 100083, China. *Contacting Author: Yue Zhang is with the	EP446
State Key Laboratory for Advanced Metals and Materials, Department of Materials Physics and	
Chemistry, University of Science and Technology Beijing, China. (phone: +86-10	
62333113;fax:+86-10 62332118; e-mail: yuezhang@ustb.edu.cn ).	
The Study on the Carrier Mobility of Organic Light-Emitting Diodes	
Na Li <sup>*</sup> Min Cai	ED 445
School of Electronic and Information Engingeering of the South China University of	EP447
Technology.GuangZhou,China Email:lina@scut.edu.cn	
Theoretical Study of the Effect of Conjugation Path on the Electron Transport through	
Molecular Wires	
Yanwei Li <sup>1,*</sup> , Jinhuan Yao <sup>1</sup> , Changjiu Liu <sup>1</sup> , and Chuanlu Yang <sup>2</sup>	
<sup>1</sup> Key Laboratory of New Processing Technology for Nonferrous Metals and Materials of Ministry	
of Education, Department of Material and Chemical Engineering, Guilin University of Technology,	EP448
Guilin 541004, Guangxi Province, China. <sup>2</sup> College of Physics and Electronic Engineering, Ludong	
University, Yantai 264025, Shandong Province, China. *Contacting Author: Yanwei Li is with	
Department of Material and Chemical Engineering, Guilin University of Technology, Guilin, China.	
(phone: +86-773-5896446; fax:+86-773-5896671;email: lywhit@glite.edu.cn).	
Toluidine Red Nanoparticles and Their Application in Electrophoretic Display	
Wu-Wei An <sup>1</sup> , Yuan Le <sup>1*</sup> and Jian-Feng Chen <sup>2*</sup>	
<sup>1</sup> Key Lab for Nanomaterials, Ministry of Education, <sup>2</sup> Research Center of the Ministry of	ED 440
Education for High Gravity Engineering and Technology Beijing University of Chemical	EP449
Technology, Beijing 100029, China. *Corresponding authors: leyuan@mail.buct.edu.cn (Yuan Le)	
or chenjf@mail.buct.edu.cn (Jian-feng Chen)	
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Dong Hyun Lee, Jae Woong Choung, Yong Bum Pyun, Kwangsoo Son, and Won Il Park*	
Department of Material Science and Engineering, Hanyang University, Seoul, Korea phone:	EP450
+82-2-2220-0504; email: wipark@hanyang.ac.kr	
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Zefang Zhang*, Weili Liu, Zhitang Song and Xiaokai Hu	EP451
<sup>1</sup> State Key Laboratory of Functional Materials for Informatics, Laboratory of Nanotechnology,	
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Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences <sup>2</sup>Graduate School of the Chinese Academy of Sciences \*Contacting Author: Zefang Zhang is with the Shanghai Institute of Microsystem and Information Technology and Graduate School of the Chinese Academy of Sciences, Chinese Academy of Sciences; Shanghai, 200050, China (mail: zfzhang@mail.sim.ac.cn) Study on the Structural and Photoluminescence Properties of Er-doped ZnO Films Guoke Wei, Jinliang Wang\*, Hengxing Xu, Ning Tang, and Chao Fan Department of Physics, Beihang University, Beijing, China. \*Contacting author: Jinliang Wang is EP452 with the Department of Physics, Beihang University, Beijing, China. (phone:+86-10-82316484;email: wangjinliang@buaa.edu.cn.) Fabrication and photoluminescence of Er-doped Al<sub>2</sub>O<sub>3</sub> thin films deposited by sol-gel method Chao Fan, Jinliang Wang\*, Ning Tang, Hengxing Xu, Guoke Wei Department of Physics, Beihang University, Beijing, China. \*Contacting author: Jinliang Wang is EP453 with the Department of Physics, Beihang University, Beijing, China. (phone:+86-10-82316484; email: wangjinliang@buaa.edu.cn.) **Data Retention of Partial-SET States in Phase Change Memories** Stefania Braga\*, Alessandro Cabrini, and Guido Torelli EP454 University of Pavia, Department of Electronics, Via Ferrata 1, 27100, Pavia, Italy stefania.braga@unipv.it Formation and Electrochemical Behaviour of Polyoxometalate-Capped Gold Nanoparticles **Assembly Electrode** Yu Cheng<sup>1</sup>, Liu Liu<sup>1</sup>, Zhenping Wang<sup>1</sup>, Junwei Zheng<sup>1</sup>, Jianping Yang<sup>2</sup> and Ying Wu<sup>1\*</sup> <sup>1</sup> College of Chemistry, Chemical Engineering and Materials Science, Soochow University, Suzhou EP455 215123, China <sup>2</sup> Department of Anesthesiology of First Affiliated Hospital of Soochow University, Suzhou 215006, China \*Contacting Author: Ying Wu is with the College of Chemistry, Chemical Engineering and Materials Science, Soochow University, Suzhou, China (phone: +86-512 65880089; email: yingwu@suda.edu.cn). Mechanical and Electrical Properties of Cu-Ag nanocomposites Processed by Equal Channel **Angular Pressing (ECAP)** Kyu-Jin Cho and Sun Ig Hong\* EP456 Department of Advanced Materials Engineering, Chungnam National University, Daejeon, Korea E-mail address:sihong@cnu.ac Electrical Characterization and Reliability Analysis of HfO2-TiO2-Al MOSCAPs Shibesh Dutta\*, Sivaramakrishnan Ramesh, Sundar Gopalan and Balakrishnan Shankar\*\* Centre of Excellence in Nanotechnology (CEN), Indian Institute of Technology, Bombay, India. \*\* Balakrishnan Shankar is with the Mechanical Engineering Department, Amrita Vishwa EP457 Vidyapeetham, INDIA (email: bala@amritapuri.amrita.edu). All other authors are with the

\*Contacting Author: Shibesh Dutta is a student of the Electronics & Communication Engineering Department, Amrita Vishwa Vidyapeetham, INDIA (email: shibesh\_06ec53@students.amrita.ac.in).

Electronics & Communication Engineering Department, Amrita Vishwa Vidyapeetham, INDIA.

## Memory and negative photoconductivity effects of Ni nanocrystals embedded in MOS structure

Henan Ni<sup>1,\*</sup>, Liangcai Wu<sup>2</sup>, Zhitang Song<sup>2</sup>, Chun Hui<sup>3</sup>

EP458

<sup>1</sup>Research Institute of Micro/Nano Science and Technology, Shanghai Jiaotong University, Shanghai 200030, China; <sup>2</sup>Shanghai Institute of Microsystem and Information Technology, Chinese

Academy of Sciences, Shanghai, 200050, China; <sup>3</sup>College of Life Science Biotechnology, Shanghai Jiaotong University, Shanghai 200030, China \*Contacting Author: H.N. Ni is with Research Institute of Micro/Nanometer Science and Technology, Shanghai Jiaotong University, China. (phone: 86-21-62511070-8406; fax:+86-21-62823631; e-mail: nihenan2005@tom.com; nihenan@mail.sim.ac.cn).

Field emission from zinc oxide nanorods grown on screen-printed carbon nanotube thin film Chi Li, 1,2,†, Yan Zhang<sup>2,†</sup>, Ke Qu<sup>1</sup>, Wei Lei<sup>1</sup>, Baoping Wang<sup>1</sup>

<sup>1</sup>Display Reseach Center, School of Electronic Science and Engineering, Southeast University, Nanjing 210096, People's Republic of China <sup>2</sup>Electrical Engineering Division, Engineering Department, University of Cambridge, 9 JJ Thomson Avenue, CB3 0FA, Cambridge, UK \*Contacting Author: Dr. Chi Li, lichi@seu.edu.cn

EP459

## Electrochemical behaviors of composite electrode of TiO2 nanotube arrays and carbon

Rongsheng Chen<sup>1</sup>, Liangsheng Hu<sup>1</sup>, Kaifu Huo\* <sup>1, 2</sup>, Paul K Chu<sup>2</sup>

<sup>1</sup>Key Laboratory of Coal Conversion and New Carbon Materials of Hubei Province, College of Chemical Engineering and Technology, School of Materials and Metallurgy, Wuhan University of Science and Technology, Wuhan 430081, China. <sup>2</sup>Department of Physics & Materials Science, City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong, China. \*Contacting Author: Kaifu Huo. E-mail: kfhuo@wust.edu.cn

**Nanophotonics Oral Session** 

LT-11

EP460

Chair: Daniel H C ONG, The Chinese University of Hong Kong

8:30 Design Optimization of Nanoreplicated Photonic Crystal Label-free Biosensor

Seok-min Kim\* and Sungwook Park

Nano Photonic Device Lab, School of Mechanical Engineering, Chung-Ang University, 221 Heukseok-dong, Dongjak-gu, Seoul 156-756, Korea. \*Contacting Author: Seok-min Kim is with School of Mechanical Engineering, Chung-Ang University, Korea. (phone: +82-2-820-5877; fax: +82-814-9476; email:smkim@cau.ac.kr).

PC401

Multimode Rate-equation-based VCSEL Thermal and Spatial Model of Circuit Level 8:45

Xinzhi SHI\*, Chang Qi, Gaofeng WANG, Jicheng HU and Feng LIU Institute of Microelectronics & Information Technology, Wuhan University, Wuhan 430079, China \*E-mail: shi xinzhi@163.com

PC402

9:00 Optical Characteristics of Al/Si structure and Ag/Al<sub>2</sub>O<sub>3</sub>/Ag Plasmonic Thermal Emitter with Square and Hexagonal Lattice

Yi-Tsung Chang\*, Hung-Hsin Chen, I-Cheng Tung, Hao-Fu Huang, Pei-En Chang and Si-Chen Lee\*

PC403

Graduate Institute of Electronics Engineering, National Taiwan University \*Contacting Author: Si-Chen Lee<sup>1</sup> and Yi-Tsung Chang<sup>2</sup>, Graduate Institute of Electronics Engineering, National Taiwan University (E-mail: \(^1\)sclee@cc.ee.ntu.edu.tw and \(^2\)d90943016@ntu.edu.tw).

9:15 Enhanced Middle-Infrared Light Transmission Through Au/SiOxNy/Au Aperture Arrays

Gongli Xiao<sup>1,2</sup>, Xiang Yao<sup>1</sup>, Xinming Ji<sup>1</sup>, Jia Zhou<sup>1</sup>, Zongming Bao<sup>1</sup>, and Yiping Huang<sup>1,\*</sup> <sup>1</sup> The State Key Laboratory of ASIC & System, Department of Microelectronics, Fudan University, Shanghai 200433, China <sup>2</sup> Information & Communications College, Guilin University of Electronic Technology, Guilin 541004, China \*Contacting Author: Yiping Huang is with Department

PC404

of Microelectronics, FudanUniversity, Shanghai, China (phone: 021-61440275; email: yphuang@fudan.edu.cn).

## 9:30 Modification of the Optical Properties of Polydimethylsiloxane (PDMS) for Photonic Crystal Biosensor Application

Sakon Rahong<sup>1,3</sup>, Bunpot Saekow4, Suppanit Porntheerapat<sup>2\*</sup>, Jiti Nukeaw<sup>3,4</sup>, Chandech Hruanun<sup>2</sup>, and Amporn Poyai<sup>2</sup>

<sup>1</sup> National Nanotechnology Center (NANOTEC) National Science and Technology Development Agency (NSTDA) 130, Thailand Science Park, Phahonyothin Road., Klong 1, Klong Luang, Pathumthani 12120 Thailand <sup>2</sup> Thai Microelectronic Center (TMEC) National Electronics and Computer Technology Center (NECTEC) <sup>3</sup> ThEP Center, CHE, 328 Si Ayutthaya Road, Bangkok 10400, Thailand <sup>4</sup> College of Nanotechnology, King Mongkut's Institute of Technology Ladkrabang, Chalongkrung Road, Ladkrabang, Bangkok 10520, Thailand <sup>\*</sup>Email:Supanit.porntheeraphat@nectec.or.th

PC405

10:00 Break

Chair: Daniel H C ONG, The Chinese University of Hong Kong

## 10:15 Optical Reflectometry and Ellipsometry Measurements of Graphene and Thin Graphitic Films on Bulk Low-Index Substrates

Peter E. Gaskell\*, Helgi S. Skulason and Thomas Szkopek

PC407

Department of Electrical & Computer Engineering, McGill University, Montreal, Canada \*Email: peter.gaskell@mail.mcgill.ca

#### 10:30 Fianite in Electronics and Photonics

A.N. Buzynin <sup>a</sup>, V.V. Osiko <sup>a</sup>, Yu.N. Buzynin b M.N. Drozdov <sup>b</sup> ,E.E. Lomonova <sup>a</sup>, O.I. Khrykin <sup>b</sup>, M.A. Trishenkov <sup>c</sup>, B.N.Zvonkov <sup>d</sup>

<sup>a</sup>A.M.Prokhorov General Physics Institute, Russian Academy of Sciences, Moscow, Russia;

<sup>b</sup>Institute for Physics of Microstructure, Russian Academy of Sciences, Nizhni Novgorod, Russia;

<sup>c</sup>Federal State Unitary Enterprise "Research and Production Assoc. ORION", Moscow, Russia;

<sup>d</sup>Physicotechnical Research Institute, Nizhni Novgorod State University, Nizhni Novgorod, Russia

\*Email:buzynin@lst.gpi.ru

PC408

#### 10:45 Sub-Wavelength Imaging from Multilayer Superlens

Guixin Li, Jensen Li, Hoi Lam Tam, Che Ting Chan and Kok Wai Cheah. The Department of Physics, Hong Kong Baptist University, 224 Waterloo Road Kowloon Tong, Hong Kong, China. Department of Physics, Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong, China. NSF Nanoscale Science and Engineering Center (NSEC), 5130 Etcheverry Hall, University of California, Berkeley, CA 94720-1740, USA Contacting Author: Kok Wai Cheah is with the Department of Physics, Hong Kong Baptist University, 224 Waterloo Road, Kowloon Tong, Hong Kong, China, Phone: 852-34117033, Fax: 852-34115183, Email: kwcheah@hkbu.edu.hk.

#### 11:00 Ultra Compact Microring with Resonator Cavities inside

Wei Hong and Xiaohan Sun\*
Lab of Optical Communications and Photonics, Southeast University, Nanjing, 210096, China
\*Contacting Author: xhsun@seu.edu.cn,

#### 11:15 Tunable Magnetic Resonance in Metal-Dielectric-Metal Layered Structures

L. Zhou and Y. Y. Zhu\* PC411

National Laboratory of Solid State Microstructures and Department of Physics, Nanjing University,

	Nanjing, China. Contacting Author: Y. Y. Zhu is with Department of Physics, Nanjing University,	
	Nanjing, China. (phone: +86-25-83621240; email: yyzhu@nju.edu.cn)	
11:30	Miniaturized large-grating-clearance linear encoder based on beam-splitting optical system	
	with MOEMS LD and wireless moving part for rebound nondestructive testing	
	Rao Yao*, Xiaoxing Li, Lipei Jiang, Peng Yao, and Xiaohong Li	
	<sup>1</sup> School of Mechanical Engineering & Automation, Beihang University, Beijing, China <sup>2</sup>	DC412
	Opto-Mechatronic Equipment Technology Beijing Area Major Laboratory, Beijing, China <sup>3</sup> Beihua	PC412
	University, Jilin, China <sup>4</sup> Jilin Teacher's Institute of Engineering and Technology, Jilin, China	
	*Contacting Author: Rao Yao is with the School of Mechanical Engineering & Automation, Beihang	
	University, Beijing, China (phone: +86 010-82310338; email:yaorao760307@sina.com)	
11:45	Solution-Grown CdTe Nanowires: Self-Assembly, Optical Properties and Strong Temperature	
	Dependent Electronic Coupling	
	Jianhong Zhang <sup>1</sup> , Andrey A. Lutich <sup>1</sup> , Andrei S. Susha <sup>1</sup> , Markus Döblinger <sup>2</sup> , Yury P. Rakovich <sup>3</sup> , Yuri	
	Volkov <sup>4</sup> , John F. Donegan <sup>3</sup> , Frank Jäckel <sup>1</sup> , Jochen Feldmann <sup>1</sup> , and Andrey L. Rogach <sup>5*</sup>	
	<sup>1</sup> Photonics and Optoelectronics Group, Department of Physics & CeNS,	
	Ludwig-Maximilians-University Munich, Amalienstr. 54, 80799 Munich, Germany <sup>2</sup> Department of	
	Chemistry & CeNS, Ludwig-Maximilians-University Munich, Butenandtstr. 11, 81377 Munich,	PC413
	Germany <sup>3</sup> Semiconductor Photonics Group, School of Physics & CRANN Research Centre, Trinity	
	College Dublin, Dublin 2, Ireland <sup>4</sup> Dublin Molecular Medicine Centre and Department of Clinical	
	Medicine, Trinity College Dublin, Dublin 8, Ireland <sup>5</sup> Department of Physics and Materials Science,	
	City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong *Corresponding author.	
	E-mail: andrey.rogach@cityu.edu.hk	
12:00	Wavefront Engineering of Semiconductor Lasers Using Plasmonics	
	Nanfang Yu, Romain Blanchard, Jonathan A. Fan, Qi Jie Wang, Mikhail Kats, and Federico	
	Capasso	KS401
	School of Engineering and Applied Sciences, Harvard University, Cambridge, Massachusetts	
	02138, U.S.A. E-mail: nyu@fas.harvard.edu, capasso@seas.harvard.edu	
12:30	Lunch	
14:00	Poster Session	
16:00	Break	
	Chair: Ping SHENG, The Hong Kong University of Sciecne and Technology	
16:15	Demonstration of Super-Collimation in SOI Photonic Crystal Fabricated by 0.13μm CMOS	
	Technology	
	Aimin Wu, Zhifeng Yang, Xulin Lin, Xunya Jiang, Fuwan Gan, Miao Zhang, Xi Wang, Shichang	
	Zou	PC414
	State Key Laboratory of Functional Materials for Informatics, Shanghai Institute of Microsystem	
	and Information Technology, Chinese Academy of Sciences, China *Contacting	
	Author:wuaimin@mail.sim.ac.cn	
16:30	Metal-Based Photonic Coatings from Electrochemical Methods	
	Chun Kwan Tsang <sup>a</sup> , Zhengtao Xu <sup>b</sup> , and Yang Yang Li <sup>a*</sup>	PC415
	<sup>a</sup> Department of Physics and Materials Science, <sup>b</sup> Department of Biology and Chemistry, City	

University of Hong Kong, 83 Tat Chee Avenue, Kowloon, Hong Kong \* Contacting Author: yangli@cityu.edu.hk

#### Atom/Molecule Transportation using a Dark Soliton Pulse 16:45

C. Vongchumyen<sup>1</sup>, S.Authasing<sup>1</sup>, S. Mitatha<sup>1</sup>, J. Ali<sup>2</sup> and P. P. Yupapin<sup>3</sup>

<sup>1</sup> Hybrid Computing Research Laboratory, Faculty of Engineering, King Mongkut's Institute of Technology Ladkrabang, Bangkok 10520, Thailand Institute of Advanced Photonics Sciences, Science Faculty Universiti Teknologi Malaysia, 81310 Skudai, Johor Bahru, Malaysia <sup>3</sup> Advanced Research Center for Photonics, Faculty of Science, King Mongkut's Institute of Technology Ladkrabang, Bangkok 10520, Thailand \*Corresponding author: kmsomsak@kmitl.ac.th

PC416

#### Photonic nanostructures self-assembled from organoplatinum(II) complexes 17:00

V. A. L. Roy, Mai-Yan Yuen, Wei Lu, Steven C. F. Kui, Glenna So Ming Tong, Man-Ho So, Stephen Sin-Yin Chui, and Chi-Ming Che

Department of Physics and Materials Science, City University of Hong Kong, Kowloon Tong, Hong Kong Department of Chemistry and HKU-CAS Joint Laboratory on New Materials The University of Hong Kong, Pokfulam Road, Hong Kong CNR-ISMN, Istituto per lo Studio dei Materiali Nanostrutturati, Bologna (Italy) Department of Physics, The University of Hong Kong, Pokfulam Road, Hong Kong

PC417

#### 17:15 Ultrasmall Optical Beam Splitters Assembled by Polymer Nanowires

Xiaobo Xing and Baojun Li\*

State Key Laboratory of Optoelectronic Materials and Technologies, School of Physics and Engineering, Sun Yat-Sen University, Guangzhou 510275, China \*Corresponding author: stslbj@mail.sysu.edu.cn

PC418

#### 17:30 **Dynamic Optical Tweezers: Experiment**

S. Mitatha<sup>1</sup>, S. Noppanakeepong<sup>1</sup>, J. Ali<sup>2</sup> and P.P. Yupapin<sup>3</sup>

<sup>1</sup> Faculty of Engineering, King Mongkut's Institute of Technology Ladkrabang, Bangkok 10520, Thailand <sup>2</sup> Institute of Advanced Photonics Sciences, Science Faculty Universiti Teknologi Malaysia 81310 Skudai, Johor Bahru, Malaysia <sup>1</sup> Faculty of Science, King Mongkut's Institute of Technology Ladkrabang, Bangkok 10520, Thailand \*Contacting Author: P.P. Yupapin(kypreech@kmitl.ac.th)

PC419

#### 17:45 Electrical, Optical and Electrochromic Properties of VO<sub>2</sub>-WO<sub>3</sub> Nanocomposite Thin Films Ajay Kaushal<sup>1</sup>, Rajendra N.Goyal<sup>2</sup> and Davinder Kaur<sup>1</sup>.

<sup>1</sup> Department of Physics and Center of Nanotechnology, Indian Institute of Technology Roorkee, India <sup>2</sup> Department of Chemistry and Center of Nanotechnology, Indian Institute of Technology PC420 Roorkee, India \*Dr. Davinder Kaur Assistant Professor Department of Physics & Center of Nanotechnology, Indian Institute of Technology Roorkee, Roorkee, India Tel: 91-1332-285407; Fax: 91-1332-273560 Email: dkaurfph@iitr.ernet.in

#### **Nanophotonics Poster Session II**

ATRIUM

14:00

#### Photoelectric Properties of Novel Conjugated Copolymers Based on 3,

#### 4-Ethylenedioxythiophene and $\pi$ -deficient aromatic rings

De-Lin Wu<sup>a</sup>, Bo Shena, Li-Min Liu<sup>a</sup>, Guo-Yuan Lu<sup>a</sup>,\*, Ting-Chao He<sup>b</sup>, Qiang Zhang<sup>b</sup>, Chang-Shun PP401 Wang<sup>b</sup>

<sup>&</sup>lt;sup>a</sup> Department of Chemistry, State Key Laboratory of Coordination Chemistry, Nanjing University,

Nanjing, 210093, People's Republic of China <sup>b</sup> Department of Physics, Shanghai Jiao Tong	
University, Shanghai, 200240, People's Republic of China * Corresponding authors. Tel:	
+86-025-83317761. Fax: +86-025-83317761. E-mail: lugyuan@nju.edu.cn (Guo-Yuan. Lu.).	
Properties of Al-doped ZnO thin films prepared by ion-beam sputtering deposition under	
different plasma power	
Guang-Xing Liang, Ping Fan*, Xing-Min Cai, Dong-Ping Zhang, Zhuang-Hao Zheng	PP402
Institute of Thin Film Physics and Application, College of Physics Science and Technology,	11402
Shenzhen University, Shenzhen, 518060, China Corresponding author. E-mail address:	
fanping@szu.edu.cn (Prof. Fan). Fax: +86-755-26536021; Tel: +86-755-26536021	
Strained Ge <sub>1-x</sub> Sn <sub>x</sub> thin film on Ge (100) with low temperature Ge buffer layer	
I.S. Yu, K.Y. Wu, K.Y. Wang, T.H. Wu, H.H. Cheng*, V. Ulyanov, V.I. Mashanov, O.P. Pchelyakov	
<sup>1</sup> Graduate Institute of Electronics Engineering, National Taiwan University, Taipei, Taiwan	DD402
<sup>2</sup> Institute of Semiconductor Physics, Russian Academy of Sciences, Siberian Branch, Novosibirsk,	PP403
Russia Center for Condensed Matter Science, 1, Roosevelt Road, Section 4, National Taiwan	
University, Taipei, Taiwan E-mail: hhcheng@ntu.edu.tw	
Study of the drug release kinetics in nanoscale micelle to micelle system	
Wang Hong and Hongyu Chen*	
Division of Chemistry and Biological Chemistry, School of Physical and Mathematical Sciences,	PP404
Nanyang Technological University (phone: +65-63168795; fax: +65-67911961; e-mail:	
hongyuchen@ntu.edu.sg)	
Synthesis and Optical Properties of Eu <sup>3+</sup> -doped CaSnO <sub>3</sub> Nanocrystals by Hydrothermal	
method	
Zuoling Fu, Hyun Kyoung Yang, Byung Chun Choi, Jung Hyun Jeong*	
Department of Physics, Pukyong National University, Busan 608-737, Republic of Korea	PP405
*Contacting Author: J. H. Jeong is with the Department of Physics, Pukyong National University,	
Busan 608-737, Republic of Korea (phone: 82-51-629-5564; fax: 82-51-629-5549; e-mail:	
jhjeong@pknu.ac.kr).	
Synthesis of N-doped TiO <sub>2</sub> nanotubes on titanium substrate by anodic oxidation and	
implantation	
Li Jinlong *, Song Zhenlun	DD 40.6
Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo,	PP406
China Contacting author: Li Jinlong, Tel.:+86-0574-86685171 E-mail address:	
lijinlong1998@yahoo.com.cn	
The effect of thermal treatment on the self-ordered luminescence properties of porous anodic	
alumina structure	
Chia-Hui Fang, Jen-Cheng Wang, and Tzer-En Nee*	
Department of Electronic Engineering, Chang Gung University, Tao-Yuan 333, Taiwan, Republic of	PP407
China. *Contacting Author: Tzer-En Nee is with the Department of Electronic Engineering,	
Chang Gung University, Tao-Yuan 333, Taiwan, Republic of China. (phone: +886-3-2118800 ext.	
5791; fax: +886-3-2118507, E-mail: neete@mail.cgu.edu.tw)	
The Study on Preparation of ZnO Nanowire in AAO by Electrodeposition Method	
Danli Wang, Yongfeng Ruan*, Lingcui Zhang, Shouchao Zhang, and Pengfei Ma	DD 100
School of Science, Tianjin University, Tianjin 300072, China. *Contacting Author: Yongfeng Ruan,	PP408
E-mail:ruanyf@tju.edu.cn	
Transparent conductive IZO films prepared by atomic layer deposition using DEZn/TMIn	PP409

#### and N2O

Chi-Ying Hsiao<sup>1</sup>, Jing-Hsung Yang<sup>1</sup>, Jyh-Rong Gong<sup>1</sup>\*, Dong-Yuan Lyu<sup>2</sup>, Tai-Yuan Lin<sup>2</sup>, Cheng-Tao Lu<sup>3</sup>, and Der-Yuh Lin<sup>3</sup>

<sup>1</sup> Department of Physics, National Chung Hsing University, Taichung 402, Taiwan, Republic of China <sup>2</sup> Institute of Optoelectronic Sciences, National Taiwan Ocean University, Keelung 202, Taiwan, Republic of China <sup>3</sup> Department of Electronic Engineering, National Changhua University of Education, Changhua 500, Taiwan, Republic of China \*Electronic mail: irgong@phys.nchu.edu.tw; Tel: +886-4-2284-0427; Fax: +886-4-2285-8583.

#### Well-alligned Polymer Nanowires for Amplified Sensory Response to TNT

Changmin Deng, Qingguo He\*, Jiangong Cheng\*, Huimin Cao, Chao He and Liqi Shi Lab of Nanotechnology, Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, 865 Changning Road, Shanghai 200050, China. \*Contacting Author: Qingguo He and Jiangong Cheng are with Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, China. (phone: +86-21-62511070-8967;

PP410

PP413

## fax:+86-21-62511070-8714; email: hqg@mail.sim.ac.cn, jgcheng@mail.sim.ac.cn). Characterization of Er-doped ZnO nanorod arrays for broadband antireflection

Cheng-Ying Chen, Yen-Chun Chao, Chin-An Lin, Jian-Wei Lo, and Jr-Hau He\*

Institute of Photonics and Optoelectronics, and Department of Electrical Engineering, National

Taiwan University, Taipei, 106 Taiwan (ROC) \*Contacting Author: Jr-Hau He; E-mail:
jhhe@cc.ee..ntu.edu.tw

## Enhancing the contrast ratio of organic light emitting diode by organic-metal lightabsorbing cathode as black layer

Peng Yu Chen<sup>1</sup>, Meiso Yokoyama<sup>2</sup> and Herng Yih Ueng<sup>1</sup>,\*

<sup>1</sup>Department of Electrical Engineering, National Sun Yat-Sen University, Kaohsiung, 80424 Taiwan, Republic of China <sup>2</sup>Department of Electronic Engineering, I-Shou University, Kaohsiung County, Taiwan, Republic of China \*Contacting Author: Herng Yih Ueng is with the School of National Sun Yatsen University, Department of Electrical Engineering, Taiwan, ROC (phone: 886-7-5252000 #4181 Email: hueng@ee.nsysu.edu.tw)

## Polymer Encapsulated AuNP SERS Probes and Ligand Exchange Kinetics Monitored by SERS

Yuhua Feng, Hongyu Chen\*

Division of Chemistry and Biological Chemistry, School of Physical and Mathematical Sciences, Nanyang Technological University, 21 Nanyang Link, Singapore 637371, Singapore \*Contacting Author: Hongyu Chen is with the Division of Chemistry and Biological Chemistry, School of Physical and Mathematical Sciences, Nanyang Technological University, 21 Nanyang Link, Singapore 637371, Singapore (phone: +65-63168795; fax: +65-67911961; e-mail: hongyuchen@ntu.edu.sg; website: http://www.ntu.edu.sg/home/hongyuchen/).

## Highly Sensitive Sensor for Detecting Refractive Index Change of Liquids Using Single Microfiber

Chenghua Sui<sup>1,\*</sup>, Pinghui Wu<sup>1</sup>, and Biging Ye<sup>2</sup>

<sup>1</sup>Department of Applied Physics, Zhejiang University of Technology, Hangzhou, China

<sup>2</sup>Department of Science, Zhijiang College of Zhejiang University of Technology, Hangzhou, China

\*Contacting Author: Chenghua Sui is with Department of Applied Physics, Zhejiang University of Technology, Hangzhou, 310023, China (Phone: +86-571-85290327; email: suich@zjut.edu.cn).

Plasmon-Enhanced Luminescence in MEH-PPV Coupled Silver Nanoantenna Arrays and the PP415

#### **Potential for Photovoltaics** Lifang Si<sup>1</sup>, Teng Qiu<sup>1</sup>\*, Wenjun Zhang<sup>2</sup>, and Paul K. Chu<sup>2</sup> <sup>1</sup> Department of Physics, Southeast University, Nanjing 211189, P. R. China <sup>2</sup> Department of Physics and Materials Science, City University of Hong Kong, Kowloon, Hong Kong, P. R. China \*Contacting Author: Teng Qiu is with Department of Physics, Southeast University, Nanjing 211189, P. R. China. Tel.: +86 25 52090600x8305; fax: +86 25 52090600x8204. Controlled Assembly of Sliver Nanocap Arrays with Tunable Gaps for Molecular Sensing **Using SERS** Xianzhong Lang<sup>1</sup>, Teng Qiu<sup>1</sup>\*, Wenjun Zhang<sup>2</sup>, and Paul K. Chu<sup>2</sup> <sup>1</sup> Department of Physics, Southeast University, Nanjing 211189, P. R. China <sup>2</sup> Department of PP416 Physics and Materials Science, City University of Hong Kong, Kowloon, Hong Kong, P. R. China \*Contacting Author: Teng Qiu is with Department of Physics, Southeast University, Nanjing 211189, P. R. China. Tel.: +86 25 52090600x8305; fax: +86 25 52090600x8204. Hot Spots in Silver Nano-Dendrites Fabricated by Self-Selective Electroless Plating Yan Zhang<sup>1</sup>, Teng Qiu<sup>1</sup>\*, Wenjun Zhang<sup>2</sup>, and Paul K. Chu<sup>2</sup> <sup>1</sup> Department of Physics, Southeast University, Nanjing 211189, P. R. China <sup>2</sup> Department of PP417 Physics and Materials Science, City University of Hong Kong, Kowloon, Hong Kong, P. R. China \*Contacting Author: Teng Qiu is with Department of Physics, Southeast University, Nanjing 211189, P. R. China. Tel.: +86 25 52090600x8305; fax: +86 25 52090600x8204. Optimization of Periodic Nanopore Surface Texturing for Silicon Thin Film Photovoltaic Application Fei Wang, Junshuai Li, and HongYu Yu\* PP418 School of Electrical and Electronic Engineering, Nanyang Technological University, Nanyang Avenue, Singapore 639798 \*Contacting Author: hyyu@ntu.edu.sg A Novel Thermal Controlled Optical Attenuator Peng-Qin Wu<sup>a</sup>, Tong Zhang<sup>a,\*</sup>, An-ming Hu<sup>b</sup>, Xiaojun Xue<sup>a</sup>, Xiao-yang Zhang<sup>a</sup>, and Qiu-yue Chen<sup>a</sup> <sup>a</sup>. School of Electronic Science and Engineering, Southeast University, Nanjing 210096, China PP419 b. Department of Mechanical and Mechatronics Engineering, University of Waterloo, Waterloo, 200 University Avenue West, ON, Canada N2L 3G1 \*E-mail: tzhang@seu.edu.cn Tunable Microring Resonator Based On Dielectric-Loaded Surface Plasmon-Polariton Waveguides Xiao-yang Zhang<sup>a</sup>, Tong Zhang<sup>a,\*</sup>, An-ming Hu<sup>b</sup>, Xiao-jun Xue<sup>a</sup>, Peng-Qin Wu<sup>a</sup>, and Qiu-yue Chen<sup>a</sup> PP420

Xiao-yang Zhang<sup>a</sup>, Tong Zhang<sup>a,\*</sup>, An-ming Hu<sup>b</sup>, Xiao-jun Xue<sup>a</sup>, Peng-Qin Wu<sup>a</sup>, and Qiu-yue Chen<sup>a</sup>
<sup>a</sup>School of Electronic Science and Engineering, Southeast University, Nanjing 210096, China
<sup>b</sup>Department of Mechanical and Mechatronics Engineering, University of Waterloo, Waterloo, 200
University Avenue West, ON, Canada N2L 3G1 \*Contacting Author: tzhang@seu.edu.cn

#### Nanobiology Oral Session I

LT-1

Chair: Huang Nan, Southwest Jiaotong University

## 8:30 The Nanofabrication of CD34 Antibody-VEGFHeparin on Titanium Surface via Layer-by-Layer Assembly for Biofunctionalization

Shihui Liu, Junying Chen\*, Cheng Chen, and Nan Huang

Key Laboratory of Advanced Technology of Materials, Education Ministry of China, School of

Material Science and Engineering, Southwest Jiaotong University, Chengdu, China, 610031.

\*Contacting Author: Junying Chen is with the Key Laboratory of Advanced Technology of Materials, Education Ministry of China, School of Material Science and Engineering, Southwest Jiaotong University, Chengdu, China, 610031. (phone: +86-28 87634148; email: chenjy@263.net

## 8:45 Metal Nanoparticles Formed by Direct Deposition on Liquid-crystalline Phospholipid Membrane

Jung H. Kim, Nuri Oh, Hyeun H. An and Chong S. Yoon\*, Member, IEEE

Division of Materials Science and Engineering, Hanyang University, Seoul, 133-791, Korea

\*Contacting Author: Chong S. Yoon is with the Division of Materials Science and Engineering,
Hanyang University, Seoul, 133-791, Korea. (Phone: +82-2-2220-0384; e-mail: csyoon@hanyang.ac.kr)

#### 9:00 Photonic Nano-Structure of R. Gigantea

Suet Ying Ching<sup>1</sup>, Gui Xin Li<sup>1</sup>, Hoi Lam Tam<sup>1</sup>, David T. P. Goh<sup>2</sup>, Joseph K. L. Goh<sup>2</sup> and Kok Wai Cheah<sup>1\*</sup>

<sup>1</sup> Department of Physics, Hong Kong Baptist University, 224 Waterloo Road, Kowloon Tong, Hong Kong, China. <sup>2</sup> Penang Butterfly Farm, P. Penang, Malaysia. \*Contacting Author: Kok Wai Cheah is with the Department of Physics, Hong Kong Baptist University, 224 Waterloo Road, Kowloon Tong, Hong Kong, China, Phone: 852-34117033, Fax: 852-34115183, Email: kwcheah@hkbu.edu.hk.

#### 9:15 Antibacterial, Antiviral, and Antibiofilms Nanoparticles

Aharon Gedanken

Department of Chemistry, Bar-Ilan University, Ramat-Gan 52900, Israel \*Contacting Author:

Aharon Gedanken

## 9:30 Bionic Nanocomposite Actuator Based on Carbon Nanotube and Ionic Biopolymer Wei Chen\*, and Luhua Lu

Department of Nanobiomedicine, Suzhou Institute of Nanotech and Nanobionics, Chinese Academy of Science, Suzhou, 215125, China. \*Contacting Author: Wei Chen is with the Suzhou Institute of Nanotech and Nanobionics, Chinese Academy of Science, China (phone: 86-512-62872528; fax: 86-512-62872553; email: wchen2006@sinano.ac.cn).

## 9:45 Osteoinduction and Proliferation Evaluation of Nano-Sr-HAP as A Novel Orthopedic Biomaterial

Yongqiang Hao<sup>1\*</sup>, Huanqing Yan<sup>1</sup>, Xuepeng Wang<sup>1</sup>, Bangshang Zhu<sup>2</sup>, and Congqin Ning<sup>3</sup>

<sup>1</sup> Department of orthopaedics, Ninth People's Hospital, Shanghai Key Laboratory of Orthopaedic Implant, Shanghai Jiao Tong University School of Medicine, Shanghai, China <sup>2</sup> Instrumental Analysis Center, Shanghai Jiao Tong University, Shanghai, China <sup>3</sup> Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai, China \*Contacting Author: Yongqiang Hao is Department of orthopaedics, Shanghai Key Laboratory of Orthopaedic Implant, Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, China (phone: +86-21 23271133; fax:+86-21 63137020; email:hao\_yongqiang@hotmail.com).

#### 10:00 Break

Chair: Won-Gun KOH, Yonsei University

William Weijia LU, The University of Hong Kong

## 10:15 Preparation and Formation Mechanism of Porous and Nanostructured TiO<sub>2</sub>/BCP Coatings on Titanium

Hongjie Hu, Xuanyong Liu\*, and Chuanxian Ding

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Key Laboratory of Inorganic coating materials, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 200050, China \*Contacting Author: Xuanyong Liu is with Shanghai Institute of Ceramics, Chinese Academy of Science, China. (Phone: +86-21 52412409; fax: +86-21 52412409; email: xyliu@mail.sic.ac.cn).

## 10:30 The Antibacterial Activities of Nano-Ag Synthesized by PAMAM on PET Film Surfaces After DBD Plasma Treatment

Juan Li, Qiang Chen\*, and Lizhen Yang Laboratory of Plasma Physics and Materials, Beijing Institute of Graphic Communication, 102600, Beijing, China. \*corresponding author: Qiang Chen (Email:lppmchenqiang@hotmail.com Tel: 0086-10-6026-1099)

BC408

#### 10:45 Bio-inspired Energy Conversion Systems Based on Ion Channel

Center of Molecular Sciences, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, P. R. China E-mail: jianglei@iccas.ac.cn

BC409

#### 11:00 Learning from Nature about Principles of Hierarchical Materials

<u>Huajian Gao</u>\*
Division of Engineering, Brown University, Providence, RI 02912,USA.

KS405

Email: huajian gao@brown.edu

## 11:30 Nickel ion level in scoliotic patients implanted with nitrogen plasma surface modified nickel-titanium superelastic spinal implant

KWK Yeung<sup>1</sup>, WN Lam<sup>1</sup>, D Natarajan<sup>1</sup>, SL Wu<sup>2</sup>, T Hu<sup>2</sup>, PK Chu<sup>2</sup>, CY Chung<sup>2</sup>, WW Lu<sup>1</sup>, KDK Luk<sup>1</sup>, KMC Cheung<sup>1\*</sup>

<sup>1</sup>Division of Spine Surgery, Department of Orthopaedics and Traumatology, The University of

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<sup>1</sup>Division of Spine Surgery, Department of Orthopaedics and Traumatology, The University of Hong Kong, Pokfulam, Hong Kong, China <sup>2</sup>Department of Physics and Materials Science, City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong, China e-mail: wkkyeung@hku.hk

## 11:45 The effect of Ethylene Vinyl Acetate and Poly(methyl methacrylate) substrates that contain organo clay and adsorbed Fe<sub>2</sub>O<sub>3</sub> nanoparticles on cell growth and proliferation

Hilana M. Lewkowitz-Shpuntoff<sup>a,\*</sup>, Mary C. Wen<sup>b,</sup> Avtar Singh<sup>c</sup>, Nicole Brenner<sup>d</sup>, Richard Gambino<sup>d</sup>, Nadine Pernodet<sup>d</sup>,Rebecca Isseroff<sup>e</sup>, Miriam Rafailovich<sup>d,\*</sup>, Jon Sokolov<sup>d</sup>

<sup>a</sup> Department of Chemistry, Princeton University, Princeton, NJ 08544, USA <sup>b</sup> Department of Electrical Engineering, Princeton University, Princeton, NJ 08544, USA <sup>c</sup> Department of Physics, Cornell University, Ithaca, NY14850, USA <sup>d</sup> Department of Material Science and Engineering, SUNY at Stony Brook, Stony Brook, NY11794, USA <sup>c</sup> Lawrence High School, Cedarhurst, NY11516, USA hlewkowi@princeton.edu

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12:30 Lunch

14:00 Poster Session

16:00 Break

Chair: Yingchun ZHU, Shanghai Institute of Ceramics, CAS

Hairong LIU, Hunan University

#### 16:15 Chitosan-PEI graft copolymers for pDNA delivery: Fabrication and in vitro properties

Wing-Fu Lai and Marie C. M. Lin

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Department of Chemistry, University of Hong Kong, Hong Kong Special Administrative Region, China. \*Correspondence: W. F. Lai (e-mail: rori0610@graduate.hku.hk) and M. C. M. Lin (phone:

2299 0776, fax: 2817 1006, e-mail: mcllin@hkusua.hku.hk)

#### 16:30 Control Release of Bactericidal Ion by an Electronically Driven System

Kuo Hsiung Tseng, Chih Yu Liao\*, Der Chi Tien, and Jen Kuang Lung
Kuo Hsiung Tseng is with the Department of Electrical Engineering, National Taipei University of
Technology, Taipei 10608, Taiwan, R.O.C. Der Chi Tien is with the Graduate Institute of
Mechanical and Electrical Engineering, National Taipei University of Technology, Taipei 10608,
Taiwan, R.O.C. Jen Kuang Lung is with the Department of Electrical Engineering, National Taipei
University of Technology, Taipei 10608, Taiwan, R.O.C. \*Contacting Author: Chih Yu Liao is with
the Department of Electrical Engineering, National Taipei University of Technology, Taipei 10608,
Taiwan, R.O.C. (phone: +886-926-645-301; fax: +886-2-2731-7187,

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e-mail: t5319016@ntut.edu.tw).

## 16:45 Preparation of a new nanosized As<sub>2</sub>O<sub>3</sub>/Mn<sub>0.5</sub>Zn<sub>0.5</sub>Fe<sub>2</sub>O<sub>4</sub> thermosensitive magnetoliposome and its antitumor effect on MDA\_MB\_231 cells

Li Wang, Ziyu Wang, Dongsheng Zhang School of Medicine, Southeast University, Jiangsu Province Key Laboratory of Biomaterial, Southeast University, Nanjing 210009 \*Contacting Author Dongsheng Zhang, male, professor, b7712900@jlonline.com Tel:86-25-83272502

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#### 17:00 Preparation and Characterized of Polyethylenimine-coated Magnetic Nanoparticles

Cheng K Li, Biao Yan\*, Chun F Du, Hong Z Qi

School of Material Science and Engineering, Shanghai Key Lab. of D&A for Metal-Functional Materials, Tongji University, 1239 Siping Road, Shanghai 200092, China \*Contacting Author: Biao BC417 Yan is with the School of Material Science and Engineering, Shanghai Key Lab. of D&A for Metal-Functional Materials, Tongji University, China(phone:+86-21 65981178; email: yanbiao@vip.sina.com)

## 17:15 The Research of RGD-conjugated PLA-PLL Nanoparticles Carriers on Targeted Delivery to Tumor

Peifeng Liu1, <sup>2</sup>, Xuelian Qi<sup>2</sup>, Ying Sun<sup>2</sup>, Hongzhi Wang<sup>1</sup>, Yaogang Li<sup>1\*</sup> and Yourong Duan<sup>2\*</sup>

<sup>1</sup>State Key Lab for Modification of Chemical Fibers & Polymer Materials, Donghua University,
Shanghai, China, 2Cancer Institute of Shanghai Jiao Tong University, Shanghai, China

\*Corresponding Author: Yaogang Li is with State Key Lab for Modification of Chemical Fibers &
Polymer Materials, Donghua University, Shanghai, China (phone/ fax:+86-21-67792324; email: yaogang\_li@dhu.edu.cn). Yourong Duan is with Cancer Institute of Shanghai Jiao Tong University,
Shanghai, China (phone/fax: +86-21 64437139; email: yrduan@sci.shmu.edu.cn).

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#### 17:30 Molecular-Nanotechnology for Signal-Stimulated Drug Release Control

Yingchun Zhu,<sup>1,\*</sup> Fang Li,<sup>1</sup> and Masahiro Fujiwara<sup>2</sup>

<sup>1</sup> The key Lab of Inorganic Coating Materials, Shanghai Institute of Ceramics, Chinease Academy of Sciences, Shanghai, China 2 National Institute of Advanced Industrial Science and Technology (AIST), Ikeda, Osaka, Japan \*Contacting Author: Yingchun Zhu is with the key Lab of Inorganic Coating Materials, Shanghai Institute of Ceramics, CASS, Dingxi Road 1295, Shanghai 200050 China (Phone: 86-21-52412632; Fax: 86-21-52412632; E-mail: yzhu@mail.sic.ac.cn, yingchunzhu@yahoo.com)

BC419

## 17:45 Synthesis of A Novel Biodegradable Amphiphilic and Cationic Copolymers for Dual Gene and Drug Delivery

Shutao Guo<sup>1,3</sup>, Weiwei Wang1, Jing Zhao<sup>2,</sup> Jinfeng Xing<sup>1</sup>, Liandong Deng<sup>1</sup>, Youguo Huang<sup>2</sup>, Xing-Jie Liang<sup>3\*</sup>, Anjie Dong<sup>1\*</sup>

BC420

<sup>1</sup> School of Chemical Engineering and Technology, Tianjin University, Tianjin, China; <sup>2</sup> National

	Laboratory of Biomacromolecules, Institute of Biophysics, Academia Sinica, Beijing, 100101, China, and 3 CAS Key Laboratory for Biomedical Effects of Nanomaterials and Nanosafety, National Center for Nanoscience and Technology of China, Beijing, 100190, China Corresponding authors: Xing-Jie Liang works at National Center for Nanoscience and Technology of China (liangxj@nanoctr.cn) and Anjie Dong is with Tianjin University(ajdong@tju.edu.cn).	
18:00	Core-shell Mesostructured Materials for Bio-separation and Drug Delivery	
	Shizhang Qiao*	
	ARC Centre of Excellence for Functional Nanomaterials, Australian Institute for Bioengineering	
	and Nanotechnology, The University of Queensland, QLD 4072, Australia *Contacting Author:	BC421
	Shizhang Qiao is with ARC Centre of Excellence for Functional Nanomaterials, Australian Institute	
	for Bioengineering and Nanotechnology, The University of Queensland, QLD 4072, Australia	
	(phone: 61-7-22463815; fax: 61-7-33463973; e-mail:s.qiao@uq.edu.au)	
18:15	Platinum(IV) coordinated PEG-PEI, a gene delivery vector having antitumoral activity itself	
	Zhaolu <sup>a</sup> , Hu Xiurong <sup>a</sup> , Li zonghai <sup>b</sup> ,Tang Guping <sup>a*</sup>	
	<sup>a</sup> Institute of Chemical Biology and Pharmaceutical Chemistry, Zhejiang University; Hangzhou,	BC422
	310028, China. <sup>b</sup> Shanghai Cancer Institute of Shanghai JiaoTong 50 University, Shanghai and	
	2Shanghai Medical College Fudan University; Shanghai, 200032, China	
	Nanobiology Oral Session II	LT-3
	Chair: Zhihao BAO, Tongji University	
16:15	Long-term Antibacterial Effect of Nano-skeletoned Cu-TiN Films by Dual Magnetron	
	Sputtering	
	Xiubo Tian*, Chunbei Wei, Chunzhi Gong and Shiqin Yang	
	State Key Lab of Advanced Welding Production & Technology, Harbin Institute of Technology, 92	BC423
	West Dazhi street, Harbin, China *Corresponding author:Xiubo Tian, with State Key Lab of	
	Advanced Welding Production & Technology, Harbin Institute of Technology, 92 West Dazhi street,	
	Harbin, China (86-451-86418791, xibotian@163.com)	
16:30	Protein-Ligand Interaction Revealed at Microsecond Time Scale	
	Mingdong Dong, Ozgur Sahin	BC424
	Rowland Institute at Harvard University 100 Edwin H. Land Blvd. Cambridge, MA 02142	
16:45	Mass sensitive sensor, a comparative study between PVC and PEI coated on quartz crystal	
	microbalance	
	K. Wong-ek*, N. Nuntawong, K. Jaruwongrungsee and A. Tuantranont	
	*Corresponding Author: K. Wong-ek is with Nanoscience and Technology Graduate Program,	BC425
	Chulalongkorn University, Thailand (phone: +66 2 561 6756; email: wongek@tu.ac.th) N.	DC 123
	Nuntawong, K. Juruwongrungsri and A. Tuantranont are with Photonics Technology,	
	Nanoelectronics and MEMS Laboratory, National Electronics and Computer Technology Center,	
	Pathumthani Thailand	
17:00	Detection of DNA Using Sodium Octanesulfonate as the Probe by Resonance Light Scattering	
	Technique	
	Yingxi Wang <sup>1</sup> , Ling Li <sup>1</sup> , Quan Pan <sup>1</sup> , Gongwu Song <sup>1</sup> , Shuilin Wu <sup>1,2,</sup> Paul K. Chu <sup>2*</sup> , and Zushun	
	$Xu1^{,2*}$	BC426

Molecules, Hubei University, Wuhan 430062, China. <sup>2</sup>Department of Physics & Materials Science, City University of Hong Kong, Tat Chee Avenur, Kowloon, Hong Kong, China \*Corresponding

<sup>1</sup>Ministry-of-Education Laboratory for the Synthesis and Application of Organic Function

	Authors: Prof. Paul Chu fei: 852-3442//24, Fax: 852-2/889349; Email: paul.chu@chyu.edu.nk;	
	Prof. Xu Zushun: Tel +86-2761120608; tax:+86- 2788663043 Email: zushunxu@hubu.edu. Cn	
17:15	Porous titanium coating with sub-micro structure from anodic oxidation  Qingshan Fu, Xiaoguang Liu, Zhanwen Xiao, Xiangdong Zhu, Hongsong Fan*, Xingdong Zhang  National Engineering Research Center for Biomaterials, Sichuan University, Chengdu 610064,	BC427
	China *Contacting Author: Hongsong Fan, hsfan@scu.edu.cn	
17:30	Multifunctional Vectors System for Cancer Therapy Using Single-walled Carbon Nanotubes	
	and Antisense Oligonucleotide-modified Gold Nanoparticles Composite Materials  Yingyue Zhu <sup>1, 2#</sup> , Wei Chen <sup>1, 2#</sup> , Ruirui Qiao <sup>3</sup> , Zhengyu Jin <sup>1</sup> and Chuanlai Xu <sup>1</sup> ¹State Key Laboratory of Food Science and Technology, Jiangnan University, Wuxi, JiangSu, 214122, PRC ²School of Food Science and Technology, Jiangnan University, Wuxi, JiangSu, 214122, PRC ³Institute of Chemistry, Chinese Academy of Sciences, Zhong Guan Cun, Bei Yi Jie 2, Beijing 10008, PRC *Contacting Author: C. L. Xu is with the School of Food Science and Technology, Jiangnan University, Wuxi, China. (phone: +86 510-85329076; email: xcl@jiangnan.edu.cn).	BC428
17:45	Synthesis of Fe <sub>3</sub> O <sub>4</sub> Magnetic Fluid Used For Magnetic Resonance Imaging and Hyperthermia X. Cao <sup>1</sup> , R.Y. Hong <sup>1,2*</sup> , G.H. Liu <sup>3</sup> , Y.M. Chen <sup>3</sup> , X.F. Chen <sup>4</sup> and H.Z. Li <sup>2</sup> <sup>1</sup> College of Chemistry, Chemical Engineering & Materials Science, and Key Laboratory of Organic Synthesis of Jiangsu Province, Soochow University, SIP, Suzhou 215123, China <sup>2</sup> State Key Laboratory of Multi-phase Complex Systems, Institute of Process Engineering, Chinese Academy of Sciences, Beijing 100080, China <sup>3</sup> Resparation Department, the Affliated Suzhou Municipal Hospital(East-section) of Nanjing Medical University, <sup>4</sup> Chemical Engineering Department, Chien-shiung Institute *Contacting Author: R.Y. Hong is with College of Chemistry, Chemical Engineering & Materials Science, Soochow University, SIP, Suzhou 215123, China	BC429
	Nanobiology Poster Session II	ATRIUM
14:00	Nucleotide-Mediated Size Fractionation of Gold Nanoparticles in Aqueous Solution Wenting Zhao, #1 Li Lin, #1 and I-Ming Hsing *1,2  1 Bioengineering Graduate Program, and 2 Department of Chemical and Biomolecular Engineering, the Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong S.A.R., China *Contacting Author: I-Ming Hsing, E-mail: kehsing@ust.hk. Telephone: (852)	ATRIUM BP401
14:00	Nucleotide-Mediated Size Fractionation of Gold Nanoparticles in Aqueous Solution  Wenting Zhao, ** Li Lin, ** and I-Ming Hsing ** 1,2  ¹ Bioengineering Graduate Program, and ² Department of Chemical and Biomolecular Engineering, the Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong S.A.R., China *Contacting Author: I-Ming Hsing, E-mail: kehsing@ust.hk. Telephone: (852) 2358-7131. Fax: (852) 3106-4857.  Photoelectrochemical Immunosensor by a Ru-bipy Label on a Nanostructured TiO2 Electrode Liqiong Wu*, Qingqing Miao, Wei Guo, Huizhi Zhou, and Tingli Ma*  State Key Laboratory of Fine Chemicals, Dalian University of Technology, Dalian, China.  *Contacting Author: Tingli Ma is with the State Key Laboratory of Fine Chemicals, Dalian University of Technology, Dalian, China. (phone: +86-411-39893820; email: tinglima@dlut.edu.cn)  Polyacrylic Acid-Derivatized Superparamagnetic Iron Oxide Nanoparticles for Delivery of	
14:00	Nucleotide-Mediated Size Fractionation of Gold Nanoparticles in Aqueous Solution  Wenting Zhao, **1 Li Lin, **1 and I-Ming Hsing **1,2  1 Bioengineering Graduate Program, and 2 Department of Chemical and Biomolecular Engineering, the Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong S.A.R., China *Contacting Author: I-Ming Hsing, E-mail: kehsing@ust.hk. Telephone: (852) 2358-7131. Fax: (852) 3106-4857.  Photoelectrochemical Immunosensor by a Ru-bipy Label on a Nanostructured TiO <sub>2</sub> Electrode Liqiong Wu*, Qingqing Miao, Wei Guo, Huizhi Zhou, and Tingli Ma*  State Key Laboratory of Fine Chemicals, Dalian University of Technology, Dalian, China.  *Contacting Author: Tingli Ma is with the State Key Laboratory of Fine Chemicals, Dalian University of Technology, Dalian, China. (phone: +86-411-39893820; email: tinglima@dlut.edu.cn)	BP401

and Poly(caprolactone) As a Drug Carrier

Sang Hyo Lee<sup>1</sup>, Jae Min Oh<sup>2</sup>, Jin Soo Son<sup>1</sup>, Jae Hyeok Lee<sup>1</sup>, Jae Il Kim<sup>3</sup>, Doo Yeon Kwon<sup>3</sup>, Bong Lee<sup>3</sup>, Jae Ho Kim<sup>1</sup> and Moon Suk Kim<sup>1</sup>,\* <sup>1</sup>Department of Molecular Science and Technology, Ajou University, Korea <sup>2</sup>BK-21 Polymer BIN Fusion Research Team, Chonbuk National University, Korea <sup>3</sup>Department of Polymer Engineering, Pukyung National University, Korea \*Corresponding author. Tel.+82-31-219-2608; fax. +82-31-219-3931. E-mail: moonskim@ajou.ac.kr Preparation of Composite Electrospun Nanofibers of Polycaprolactone and Nanohydroxyapatite for Osteogenic Differentiation of Stem Cells Jyh-Ping Chen,\* Guo-Chun Lai, and Yin-Shin Chang **BP405** Department of Chemical and Materials Engineering, Chang Gung University, Kwei-San, Taoyuan 333, Taiwan, ROC. \* Contacting author (e-mail: jpchen@mail.cgu.edu.tw). Protein immobilization on nanostructured surfaces with different wettability Z. J. Han,\* M. Shakerzadeh, B. K. Tay, and C. M. Tan **BP406** Nanoelectronics Lab 1, School of Electrical and Electronic Engineering, Nanyang TechnologicalUniversity, Singapore 639798, Singapore \*Electronic mail address: zjhan@ntu.edu.sg Self Emulsified Systems to Enhance Stability of Paclitaxel Ju Young Lee<sup>1</sup>, E Sle Kim<sup>2</sup>, Yun Mi Kang<sup>2</sup>, Kkot Nim Kang<sup>2,3</sup>, Da Yeon Kim<sup>3</sup>, Sung Joo Hwang<sup>1</sup>, Bong Lee<sup>3</sup>, Hai Bang Lee<sup>2</sup>, JaeHo Kim<sup>2</sup> and Moon Suk Kim<sup>2,\*</sup> **BP407** <sup>1</sup>Pharmaceutical engineering, Chungnam National University, Korea <sup>2</sup>Department of Molecular Science and Technology, Ajou University, Korea <sup>3</sup>Department of Polymer Engineering, Pukyong National University, Korea \*Electronic mail address: zjhan@ntu.edu.sg Stainless steel induced DNA damage and reduced by nitrogen plasma immersion ion implantation Jiang Jiang a, Zhigang Ke a, Xi Su a, Qing Huanga\* **BP408** <sup>a</sup> Key Laboratory of Ion Beam Bioenginegering, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei 230031, China \*Corresponding author Prof. Oing Huang Email: huangq@ipp.ac.cn Structure Recoverability and Dynamic Rheological Behavior of Injectable Calcium Phosphate Cement Paste Modified by Polyethylene Glycol-6000 Fangping Chen, Changsheng Liu \*, Yuhao Mao Key Laboratory for Ultrafine Materials of Ministry of Education, and Engineering Research Center for Biomedical Materials of Ministry of Education, School of Materials Science and Engineering, **BP409** East China University of Science and Technology, China \*Contacting Author: Changsheng Liu is with School of Materials Science and Engineering, East China University of Science and Technology, China, (phone:86-21-64251308; fax: 86-21-64251358; email: chenfangping06@yahoo.com.cn). Structure, Mechanical and Bioactive Behaviors of Polyamide 6/Hydroxyapatite **Nanocomposites** Kai Li, Sie Chin Tjong Department of Physics and Materials Science, City University of Hong Kong, Hong Kong, China. **BP410** \* Contacting Author: Prof. Tjong Sie Chin is with the Department of Physics&Materials Science, City University of Hong Kong; 83# Tat Chee Avenue, Kowloon, Hong Kong, China. (phone:+852 27887702; e-mail: aptjong@cityu.edu.hk)

**BP411** 

Synthesis and Characterization of Magnetic MCM-48 and MCM-41 for Drug Targeting and

Shanshan Huang, a Piaoping Yang, b Yong Fan, a Ziyong Cheng, a Chunxia Lia and Jun Lin\*

**Delivery** 

<sup>a.</sup> State Key Laboratory of Rare Earth Resource Utilization, Changchun Institute of Applied Chemistry, 5625 Renmin Street, Changchun, China. b. College of Materials Science and Chemical Engineering, Harbin Engineering University, Harbin 150001, P. R. China (phone: +86 431-85262031; E-mail: jlin@ciac.jl.cn). Synthesis of Fe<sub>3</sub>O<sub>4</sub>/Hesperetin Compound Jih-Chao Yeh, Jhao-Ming Su, Shyh-Liang Lou **BP412** Department of Biomedical Engineering, Chung Yuan Christian University, Chung Li, Taiwan. The Biocompatibility of the Temperature Sensitive pHsp-HSV-TK/As<sub>2</sub>O<sub>3</sub> Magnetic Complex and Its Anti-tumor Effect on HepG2 cells Jia Zhang<sup>1, 2</sup> Dongsheng Zhang<sup>1, 2, \*</sup> **BP413** <sup>1</sup>School of Clinical Medical Science <sup>2</sup> School of Basic Medical Science \* Correspond to: Dongsheng Zhang (corresponding author), male, professor, b7712900@ jlonline.com Tel:86-25-83272502 The bio-labeled nanodiamond arrays on silicon templates for bio-sensing applications Y.L. Liu and K.W. Sun\* **BP414** Department of Applied Chemistry, National Chiao Tung University, Hsinchu, Taiwan \*Email: kwsun@mail.nctu.edu.tw The Molecular Mechanism of the Nature/Denature for Glucose Oxidase Adsorbed on **SWCNTs** Yi-jian Ding<sup>1</sup>, Feng Liu<sup>2†</sup>, Xue-song Ye<sup>2\*</sup>, Tao Zhou<sup>2</sup>, Jun Liu<sup>2</sup>, and Ling Xia<sup>2</sup> <sup>1</sup>The 1st Affiliated Hospital of Medical Collage, Zhejiang University, Hangzhou, Zhejiang, China. **BP415** <sup>2</sup>The Department of Biomedical Engineering, Biosensors National Special Laboratory, Zhejiang University, HangZhou, Zhejiang, China. †\*Corresponding Authors: Phone: +86-571-879-527-56; Fax: +86-571-879-516-76; e-mail: † bmilyf@gmail.com; \* yexs@mail.bme.zju.edu.cn. The Technology of Improving the Optical Property for the Zirconia Dental Ceramic Li Jiang, Yunmao Liao, Wei Li\*, Qianbing Wan, and Yongqi Zhao State Key Laboratory of Oral Diseases, West China College of Stomatology, Sichuan University, **BP416** Chengdu, China \*Corresponding author: Prof. Wei Li Tel: -86-28-85501233 E-mail: weilisklod@yahoo.cn Tissue Distribution of Intravenously Administrated Hydroxyapatite Nanoparticles Labeled with 125I Jiao Sun\*, Guangping Xie Ninth People's Hospital, School of Medicine, Shanghai Jiaotong University / Shanghai **BP417** Biomaterials Research & Testing Center, Shanghai ,China \* Corresponding author: E-mail: jiaosun59@yahoo.com .Address: No.716, Xie-tu Road, Shanghai 200023, P.R. China. Phone: 0086-21-63034903 Fax: 0086-21-63011643 Analysis on Nano Biomedical Components of Acetic Ether Extractives of Cunninghamia lanceolata Biology by Py-GC/MS BP418 MA Qing-zhi, ZHANG Zhong-feng, PENG Wan-xi, WU Yi-qiang, ZHANG Xu, QI Hong-chen Central South University of Forestry and Technology, City Changsha, P.R. China Electrochemical impedance sensor for Levobupivacaine using Conducting Polypyrrole doped with SWCNTs as sensing material Ren-Jang Wu\*,a, Te-Chin Tsaia, Hsiang-Ning Lukb, Murthy Chavalic BP419 <sup>a</sup>. Department of Applied Chemistry, Providence University <sup>b</sup>. Department of Anesthesia, Taichung Veterans General Hospital <sup>c.</sup> Department of Applied Chemistry, VIT University

Crosslink Poly(ethylenimine) with α,ω-Dicarboxylic Acid for Plasmid DNA Delivery	
Leo K. S. Siu*, Z. H. Xu, Samuel S. M. Ng and M. C. M. Lin	DD420
Department of Chemistry, The University of Hong Kong, Hong Kong, China *Contacting Author:	BP420
Leo K. S. Siu is with Department of Chemistry, The University of Hong Kong, Hong Kong, China	
(tel. +852 2299 0772) email: leosiu81@hotmail.com)	
Effect of Collagen Treatment on the Biocompatibility of β –Ti-14Mo-3Nb-3Al-0.2Si alloy	
Jun-Young Song and Tae-Ho Kim and Sun Ig Hong*	BP421
Department of Advanced Materials Engineering, Chungnam National University, Daejeon, Korea	
Nano-Structured Titanium Coating for Improving Its Biological Performance	
Youtao Xie <sup>a, b*</sup> , Fei Yang <sup>c, d</sup> , Kerong Dai <sup>c, d</sup> , Xuebin Zheng <sup>a, b*</sup> , Chuanxian Ding <sup>a, b</sup>	
<sup>a</sup> Key Laboratory of Inorganic Coating Materials, Chinese Academy of Sciences, 1295 Dingxi Road,	
Shanghai 200050, People's Republic of China <sup>b</sup> Shanghai Institute of Ceramics, Chinese Academy	
of Sciences, 1295 Dingxi Road, Shanghai 200050, People's Republic of China Department of	
Orthopaedics, Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine, 639	
Zhizaoju Road, Shanghai 200011, People's Republic of China <sup>d</sup> Orthopaedic Cellular & Molecular	BP422
Biology Laboratory, Institute of Health Sciences, Shanghai Institutes for Biological Sciences,	
Chinese Academy of Sciences & Shanghai Jiao Tong University School of Medicine, 225 South	
Chongqing Road, Shanghai 200025, People's Republic of China *Corresponding authors: Youtao	
Xie (Tel.: +862152414102; Fax: +862152414104; E-mail address: xieyoutao@mail.sic.ac.cn);	
Xuebin Zheng (Tel.: +862152414104; Fax: +862152414104; E-mail address:	
xbzheng@mail.sic.ac.cn)	
Preliminary Study of Biological Evaluation on Hydroxyapatite Nanoparticles	
Huangzhe Wei <sup>1</sup> , Tingting Ding <sup>1</sup> , Jiao Sun <sup>2</sup> and Dongjing Xu <sup>3</sup>	
Shanghai Ninth People's Hospital, School of Medicine, Shanghai Jiaotong University, Shanghai	BP423
Biomaterials Research & Testing Center, Shanghai , China. *Contacting	
Author:jiaosun59@yahoo.com	
Immobilization of Layered double Hydroxides in the Fluidic System for Nanoextraction of	
Specific DNA Molecules	
Jem-Kun Chen <sup>1*</sup> , Chia-Hao Chan <sup>2</sup> , Feng-Chih Chang <sup>2</sup>	
<sup>1</sup> Department of Polymer Engineering, National Taiwan University of Science and Technology, 43,	BP424
Sec 4, Keelung Rd, Taipei, 106, Taiwan, R.O.C. <sup>2</sup> Institute of Applied Chemistry, National	
Chiao-Tung University, Hsinchu, Taiwan, 30043, R.O.C. *Contacting Author: Jem-Kun	
Chen(e-mail: jkchen@mail.ntust.edu.tw. tel:+886-2-27376523, fax:+886-2-27376544).	
The Milling Procedure Influences of a CAD-CAM Zirconia Framework	
Yongqi Zhao,Wei Li,Yunmao Liao,Li Jiang,Yu Feng	
State Key Laboratory of Oral Diseases, Sichuan University, Chengdu, China	BP425
(phone:+86-28-85501233; email:hxkqzyq@163.com)	
Fabrication of Nanoporous Surface on Biomedical NiTi Alloy by Surface Dealloying of Ni	
Yunchang Xin *	
School of Materials Science and Engineering, Chongqing University, Chongqing 400030, China	
Corresponding author: Yunchang Xin is with School of Materials Science and Engineering,	BP426
Chongqing University, Chongqing 400030, China (Phone:086-2365112205; e-mail:	
xyc05@mails.tsinghua.edu.cn)	
Addition of PEG and the Effect on Carbonated Nano-Hydroxyapatite Synthesis	
	BP427
HuaiF Zhang, Zhe Wang, Youliang Hong, Zhanwen Xiao, Hongsong Fan*, Xingdong Zhang	

National Engineering Research Center for Biomaterials, Sichuan University, 29# Wangjiang Rd., Chengdu, China. \*Contacting Author: Hongsong Fan (email: hsfan@scu.edu.cn).

#### Effect of Sintering Temperature on Microscopic and Mechanical Properties of 3Y-TZP Dental Ceramic

Jingchao Zhang, Yunmao Liao, Wei Li\*, Anchun Mo

**BP428** 

State Key Laboratory of Oral Diseases, Sichuan University, Chengdu, China (phone.

-86-28-85503494; email: leewei2000@sina.com)

#### Possible role of p21 and Hus1 in carbon nanotube induced genotoxicity

Liping Tong<sup>1</sup>, WenWen Zhang<sup>1</sup>, Haiying Hang<sup>2</sup>, Lijun Wu<sup>1</sup> and An Xu<sup>1,\*</sup>

<sup>1</sup>Key Laboratory of Ion Beam Bioengineering, Institute of Plasma Physics, Chinese Academy of

Sciences, Hefei, Anhui, P.R. China; <sup>2</sup>Institute of Biophysics, Chinese Academy of Sciences, Beijing,

China \* Corresponding author at: Key Laboratory of Ion Beam Bioengineering Institute of

Plasma Physics, Chinese Academy of Sciences P.O.Box 1126, Hefei, Anhui 230031, PRC Tel.:

+865515593336; Fax: +865515591310email: anxu@ipp.ac.cn

#### Minocycline Nano-liposome Inhibit the Production of TNF-α in LPS-stimulated Macrophages

Di Liu, Deyu Hu, Xue Li \*, and He Ma

**BP430** 

BP431

**BP432** 

**BP433** 

Department of Oral Prevention, West China College of Stomatology, Sichuan University, Chengdu,

China. phone: -86-028-85501457; email: gloria0608@163.com

#### Preparation and Characterization of a Functional Magnetic Fluid

Y.M. Wang<sup>1</sup>, J. H. Li<sup>2</sup>, R. Y. Hong<sup>1,3,\*</sup>, H. Z. Li<sup>3</sup>, Y. Zheng<sup>4</sup>

<sup>1</sup> Chem. Eng. Dept. & Key Lab. of Organic Synthesis of Jiangsu Prov., Soochow Univ., SIP, Suzhou 215123, China <sup>2</sup> Tangshan Zhongrun Coal Chemical Company Limited, Seaport Economic

Development Zone, Tangshan 063611, China <sup>3</sup> State Key Lab. of Multiphase Reaction, Inst. of Proc. Eng., Chinese Academy of Sciences, Beijing 100080, China <sup>4</sup> Dept. of Chem. Eng., Univ. of

New Brunswick, Fredericton, N.B., E3B 5A3, Canada \*Contacting Author: R. Y. Hong is with Chem. Eng. Dept. Soochow Univ. Suzhou, SIP, 215123 China (phone: -86-512-66000797; email:

rhong@suda.edu.cn).

## Preparation of Dextran-coated Magnetic Nanoparticles and Applications in Hyperthermia

G. Liu1, R.Y. Hong1, 2,\*, B. Feng<sup>1</sup>

1 College of Chemistry, Chemical Engineering and Materials Science, Soochow University, Suzhou

215123, China 2 State Key Laboratory of Multiphase Reaction, Institute of Process Engineering,

Chinese Academy of Sciences, Beijing 100080, China

#### A Disposable Polydimethylsiloxane (PDMS) Microdevices for DNA Amplification with Low **Power Consumption**

A. Lekwichai<sup>1</sup>\*, S. Porntheeraphat<sup>2,4</sup>, W. Bunjongpru<sup>1,2,4</sup>, J. Supadech<sup>2</sup>, W. Sripumkhai<sup>1</sup>, S. Rahong<sup>3,4</sup>, C. Hruanun<sup>2</sup>, A.Poyai<sup>2</sup>, AND J. Nukeaw<sup>1,4</sup>

<sup>1</sup>College of KMITL Nanotechnology, King Mongkut's Institute of Technology Ladkrabang,

Chalongkrung Rd., Ladkrabang, Bangkok 10520, Thailand <sup>2</sup>Thai Microelectronics Center, National

Electronics and Computer Technology Center, Prathumthani, Thailand <sup>3</sup>National Nanotechnology Center (NANOTEC), National Science and Technology Development Agency,111 Thailand Science

Park, Phahon Yothin Road, Klong 1, Klong Luang, Pathumthani, 12120 Thailand <sup>4</sup>ThEP Center,

CHE, 328 Si Ayutthaya Rd., Bangkok 10400, Thailand \*E-mail: amornratlek@moj.go.th

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BP429

	Nanophysics Oral Session	LT-12
	Chair: Tsu-Yi FU, National Taiwan Normal University	
8:30	Thermionic and Field Electron Emission Devices from Diamond and Carbon Nanostructures	
	Robert J. Nemanich, Griff L. Bilbro, , Eugene N. Bryan, Franz A. Koeck, Joshua R. Smith,	
	Yingjie Tang	KS410
	Arizona State University, Tempe AZ; North Carolina State University, Raleigh, NC 27695-8202.	
	E-mail: robert.nemanich@asu.edu	
9:00	Adaptive OFDM Modulation Techniques Over Fading Channel for Wireless Communication	
	Systems with an 80 MHz Bandwidth	
	Donekeo LAKANCHANH <sup>1</sup> , Suthichai NOPPANAKEEPONG <sup>1</sup> , Shingo Yoshizawa <sup>2</sup> and Yoshikazu	
	Miyanaga <sup>2</sup>	TC401
	<sup>1</sup> Faculty of Engineering, King Mongkut's Institute of Technology Ladkrabang, Chalongkrung Road,	10401
	Ladkrabang, Postal Code 10520, Bangkok, Thailand E-mail: s0060027@kmitl.ac.th,	
	suthi@kmitl.ac.th,Tel: +66-2-326-4238.2Graduate School of Information Science and Technology,	
	Hokkaido University Hokkaido University, Sapporo-shi, 060-0814 Japan.	
9:15	Analysis of AC Electric Induced Fluid Flow in Point-Plane Electrode Microsystem	
	Yukun Ren, Hongyuan Jiang, Shanshan Li and Ye Tao	TC402
	Department of Mechanical Design, School of Mechatronics Engineering, Harbin Institute of	10402
	Technology, Harbin, China.	
9:30	Analysis of Governing Error in Active Vibration Isolation	
	Tao Zhang <sup>1,2,3</sup> , Fang Liu <sup>1,2</sup> , Hongbiao Huang <sup>1</sup> , Jianqiang Zhu <sup>1</sup>	
	<sup>1</sup> Joint Laboratory for High Power Laser Physics, Shanghai Institute of Optical and Fine Mechanics,	TC403
	CAS. <sup>2</sup> Graduate University of Chinese Academy of Science. <sup>3</sup> Contacting Author: P.O.Box. 800-211,	
	shanghai, 201800, PRC	
9:45	Throughput Optimization for Interleaved Repeater-Inserted Interconnects in VLSI Design	
	Mahmoud Zangeneh,	TC404
	Advanced VLSI Lab, School of Electrical and Computer Engineering, University of Tehran,	10404
	Tehran, Iran (e-mail:m.zangene@ece.ut.ac.ir; nmasoumi@ut.ac.ir).	
10:00	Break	
	Chair: Xiuxia ZHANG, Xi'an Jiaotong University	
	Chuan YANG, Xi'an Jiaotong University	
10:15	Effect of Two -Dimensional Fractal Rough Surface on the Waveguide Power dissipation	
	Na Li <sup>*</sup>	TC405
	Research Institute on Mechatronics, Xidian University, Xi'an 710071, China *Contacting Author:	
	lina@mail.xidian.edu.cn	
10:30	Experiments and Simulation of Electron Emission Form Screen printed Nanostructure ZnO	
	film	
	Zhang Xiuxia <sup>12</sup> , Wei Shuyi <sup>3</sup> , Lu Bingheng <sup>2</sup> , Zhu Changchun <sup>2</sup> ( <sup>1</sup> School of Mechanical Engineering, Xi'an Jiaotong university, China 710049) ( <sup>2</sup> School of	TC406
	Electronics and Information Engineering, North national university, Yinchuan 750021) ( <sup>3</sup> Graduate	
	School of the Chinese Academy of Sciences, Beijing 100049	
	*Contacting Author: xxuazh@yahoo.com.cn	

#### $Contributed\ Presentations-Thursday-Jan\ 7,\ 2010-IEEE\ INEC\ 2010$

10:45	A New Circuit Model of Multi-Quantum Well Vertical-Cavity Surface-Emitting Lasers Chang Qi, Xinzhi Shi, Gaofeng Wang, Jicheng Hu Chang Qi, Xinzhi Shi, Gaofeng Wang Inst. of Microelectronics and Information Technology Wuhan University Wuhan, China State Key Lab of Softeware Engineering Wuhan University Wuhan China	TC407
11:00	Size Effects of Microstructure during Plasma Immersion Ion Implantation	
	Chunzhi Gong, Zhijian Wang, Xiubo Tian*, Shiqin Yang	
	State Key Laboratory of Advanced Welding Production and Technology, School of Materials	TC408
	Science and Engineering, Harbin Institute of Technology, Harbin 150001, China	
	*Contacting Author:xiubotian@163.com	
11:15	Scientific Arguments Upon Patent Litigation	
	Mei-Hsin Wang,* Fu-Tsung Wang	
	*Graduate School of Materials Science, National Yunlin University of Science & Technology	TC409
	Graduate School of Finance & Law, South Taiwan University of Science & Technology	
	Maywang3@yuntech.edu.tw	
11:30	Orientation Controlment of Disperse Red 1 Molecules in Matrix of Zeolite Crystals	
	Irene Ling Li*, Ling Fu, Hui Zhen Wang, Jian Pang Zhai, Jing Zhen Huang, Shuang Chen Ruan,	
	and Zi Kang Tang	
	<sup>1</sup> Shenzhen Key Lab of Laser Engineering, College of Electronic Science and Technology,	TC410
	Shenzhen University, Guangdong, China. <sup>2</sup> Department of Physics, Hong Kong University of	10410
	Science and Technology, Clear Water Bay, Kowloon, Hong Kong * Contacting author: Irene Ling	
	Li is with College of Electronic Science and Technology, Shenzhen University, Guangdong, China.	
	(phone:+86-755-26558252; email:phyirene@163.com)	
11:45	ZnO/Al <sub>2</sub> O <sub>3</sub> Core-Shell Nanorod Arrays: Growth, Structural Characterization, and	
	<b>Luminescent Property</b>	
	C. Y. Chen <sup>1</sup> , C. A. Lin <sup>1</sup> , M. J. Chen <sup>2</sup> , G. R. Lin <sup>1</sup> , and J. H. He <sup>1*</sup>	TC411
	<sup>1</sup> Institute of Photonics and Optoelectronics, and Department of Electrical Engineering, National	TC411
	Taiwan University, Taipei, 106 Taiwan (ROC) <sup>2</sup> Department of Materials Science and Engineering,	
	National Taiwan University, Taipei, 10617 Taiwan	
12:00	Deformation Behaviour of Nanocrystalline Mg-Al Alloys during Nanoindentation	
	Hui Diao <sup>1</sup> , Cheng Yan <sup>1*</sup> , John Bell <sup>1</sup> , Li Lu <sup>2</sup> , Shengtao Deng <sup>3</sup> , Haifeng Zhang <sup>3</sup> and Guangping	
	Zhang <sup>3</sup>	
	<sup>1</sup> School of Engineering Systems, Faculty of Built Environment and Engineering, Queensland	TC412
	University of Technology, Brisbane, QLD 4001, Australia <sup>2</sup> Department of Mechanical Engineering,	TC412
	National University of Singapore, Singapore 3Shenyang National Laboratory for Materials Science,	
	Institute of Metal Research, Chinese Academy of Sciences, 72 Wenhua Road, Shenyang 110016,	
	China	
12:15	Maleic Anhydride-terminated Fluorinated Polyimides with Changeable Refractive Indices	
	Dongdong Luo, Zhibao Qing, Aiqing Zhang*, Hanfan Liu	
	Key Laboratory of Catalysis and Materials Science of the State Ethnic Affairs Commission &	TC413
	Ministry of Education, Hubei Province, South-Central University for Nationalities, Wuhan 430074,	
	P.R. China aizhang@scuec.edu.cn	
12.20	Lymah	
12:30	Lunch	

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14:00 Poster Session

14:00

	Nanophysics Poster Session II	ATRIUM
)		
	Meander structure GMI-based sensor fabricated by MEMS technology Lei Chen, Yong Zhou*, Chong Lei and Zhi-Min Zhou Institute of Micro/Nano Science and Technology, Shanghai Jiao Tong University Contacting Author: Yong Zhou Telephone: +86-21-34204312 E-mail: leon_chen@sjtu.edu.cn	TP401
	Intrinsic Kinetics of Polycondensation reaction for Bisphenol A Polycarbonate in Supercritical CO <sub>2</sub>	
	Xiao Yang* Aiqing Zhang	
	Key Laboratory of Catalysis and Material Science of the State Ethnic Affairs Commission & Ministry of Education, South-Central University for Nationalities, Wuhan 430074, Hubei, China E-mail:xiaoyang@mail.scuec.edu.cn	TP402
	Patterned Co/Pd Multilayer Structure for High-density Magnetic Recording Media	
	Hyunsu Kim <sup>1</sup> , Sungman Kim <sup>2</sup> , Jong Wook Roh <sup>1</sup> , Dong Won Chun <sup>2</sup> , Won Yong Jeung <sup>2</sup> and Wooyoung Lee <sup>1</sup> *	
	<sup>1</sup> Department of Materials Science and Engineering, Yonsei University, Shinchon Dong, Seodaemun Gu, Seoul 120-749, Korea <sup>2</sup> Korea Institute of Science and Technology (KIST), 39-1 Haweolgog-dong, Seongbuk-gu, Seoul 136-761, Republic of Korea *E-mail: wooyoung@yonsei.ac.kr (Wooyoung Lee). Telephone: +82-2-2123-2834	TP403
	Photoluminescence and Energy Transfer Studies of Er <sup>3+</sup> and Dy <sup>3+</sup> Co-doped Tellurite Glasses	
	Feng Zhang, Zhisong Xiao*, Lu Yan, Fang Zhu, Anping Huang	TP404
	Beihang University	
	Quasicrystal Phase in a Zr-based Glass Forming Alloy Induced by Oxygen	
	Ji Liang Zhang <sup>1</sup> , Ying Min Wang <sup>2</sup> , Jun Xia Lu <sup>1</sup> , Chan Hung Shek <sup>1*</sup>	
	<sup>1</sup> Department of Physics and Materials Science, City University of Hong Kong, Hong Kong, P.R.	TP405
	China <sup>2</sup> School of Materials Science and Engineering, Dalian University of Technology, Dalian, P.R.	11 105
	China *Contacting Author: Chan Hung Shek is with Department of Physics and Materials Science,	
	City University of Hong Kong (phone: 852-27887798, email: apchshek@cityu.edu.hk)	
	Quick Characterization of Layer Thickness of 4H-SiC Homo-epilayers based on Linear	
	Fitting Model	TD406
	Li Zhi-Yun*, Zhang Yu-Ming, Zhang Yi-Men, and Tang Xiao-Yan School of Microelectronics, Xidian University, Key Laboratory of Wide Band-Gap Semiconductor	TP406
	Materials and Devices, Xi'an 710071, China Email: moyu164@yahoo.com.cn	
	Research and Applications of some newly Piezoelectric Ceramics	
	Li Quanlu, Li Yuan and Huang Zhaohui	
	<sup>1</sup> Institute of Applied Acoustics, School of Physics and Information Technology, Shaanxi Normal	
	University, Xi'an, 710062, the People's Republic of China <sup>2</sup> Department of High Altitude Military	TP407
	Medicine, the Third Military Medical University, Sha ping-ba District, Chongqing municipality	
	400038, China	
	Reversibly Surface Tackiness Switchable between Two Superhydrophobic States	
	Lan Zhou	TP408
	Ningbo Institute of Material Technology and Engineering (NIMTE), Chinese Academy of Sciences	
	Structure Design On NEMS TiN Resonant Pressure Sensors	
	Chuan Yang Can Guo Xiaowei Yuan	TP409
	State key laboratory of Mechanical Manufacturing systems, Xi'an , Shanxi and the department of mechanical engineering in Xi'an JiaoTong University. Xi'an China.(phone:029-82668616-149;	

email: guocan5085@126.com or yangchuan@mail.xjtu.edu.cn)	
Study on Photocatalytic Degradation of 4-Bromodiphenyl Ether Using TiO <sub>2</sub> /MWCNTs	
Composites	
Liang Tang, Minghong Wu*, Gang Xu, Wenjing Wu, and Wenyan Shi	TP410
Shanghai Applied Radiation Institute, Shanghai University, Shanghai 200444, P.R.China *	
Corresponding author. E-mail address: mhwu@staff.shu.edu.cn	
Study on the Technological Conditions of Nanoscale Silver Palmitate	
Yaling Li <sup>1*</sup> , Shui Wang <sup>2</sup> , Xiaoling Yang <sup>1</sup> and Xu Zhang <sup>1</sup>	
<sup>1.</sup> Beijing Key Laboratory of Printing & Packaging Materials and Technology, Beijing Institute of	TD 411
Graphic Communication, Beijing 102600, P.R China <sup>2.</sup> College of Chemical Engineering, Beijing	TP411
University of chemical and Technology, Beijing 100029, P.R. China *Contacting Author: (phone:	
+86-10-60261108; email: liyaling@bigc.edu.cn).	
Synthesis and Characterization of Semiconductive In <sub>2</sub> O <sub>3</sub> Hollow Particles	
Tzu-Tsung Tseng and Wenjea J. Tseng*	
<sup>1</sup> Department of Materials Science and Engineering, National Chung Hsing University, Taichung,	FFD 44.0
Taiwan. *Contacting Author: Wenjea J. Tseng is with the Department of Materials Science	TP412
and Engineering, National Chung Hsing University, Taichung 402, Taiwan. (phone:	
+886-4-2284-0500 502; e-mail: wenjea@dragon.nchu.edu.tw)	
Synthesis of Vanadium-doped TiO <sub>2</sub> Hollow Spheres as Efficient Visible-Light-Responsive	
Photocatalysts	
Jingbing Liu*, Lin Chang, and Jinshu Wang	
College of Materials Science and Engineering, Beijing University of Technology, Beijing 100124,	TP413
China *Contacting Author: Jingbing Liu is with the College of Materials Science and	
Engineering, Beijing University of Technology, Beijing 100124, China. (phone:	
+86 10-67391137; email: liujingbing@bjut.edu.cn)	
The effect of nano-TiO <sub>2</sub> addition on Portland cement properties	
Thanongsak Nochaiya and Arnon Chaipanich*	
Cement and Concrete Research Laboratory, Department of Physics and Materials Science, Faculty	TP414
of Science, Chiang Mai University, Chiang Mai, Thailand, 50200 (email: arnon@chiangmai.ac.th)	
Two-dimensional Inductively Coupled Argon Plasma Simulations with Experiment	
Wen F Zhao 1, 2, Jun F Chen 1,*, Tie M Zhang2 ,R Meng 1,H WANG1, Y WANG1	
1. School of Physics and Telecommunication Engineering, Laboratory of Quantum Information	
Technology, South China Normal University, Guangzhou, China, 510006, People's Republic of	TP415
China2. College of Engineering, south china agricultural university, Guangzhou, 510642, People's	11 115
Republic of China * Contacting Author. Tel./fax: +86-20-85214371. E-mail address:	
chenjf@scnu.edu.cn (CHEN Jun-fang).	
Long-range Electronic Correlation Studies for Organic Electronic And Inorganic Electronic	
Systems	TP416
Hua Zhao	11410
Department of Physics and Institute for Condensed Matter Physics, ChongQing University, 400044,	
ChongQing,P.R.China  Effects of appropriate and price of appropriate and appropriate anotation and appropriate and appropriate and appropriate and appro	
Effects of current density on coating kinetic and micro-structure of microarc oxidation	
coatings fabricated on pure aluminum	TD 417
Xin-Meng Zhang, Xiu-Bo Tian*, Chun-Zhi Gong and Shi-Qin Yang	TP417
School of Materials Science & Engineering, Harbin Institute of Technology, Harbin 150001, China	

Corresponding author. Tel: +86 451 86418791; E-mail address: Xiubotian@163.com (Tian Xiu-bo)

Friday - Jan 8, 2010

<u>09:30-10:30</u> Lab Tour Team A

<u>10:30-11:30</u> Lab Tour Team B



#### Objective

Current and future nanofabrication challenges require controlled and reproducible fabrication of nanostructured materials. The increasing demand for ever-smaller feature sizes and reliable fabrication processes for the semiconductor, telecommunications and biomedical R&D sectors are driving the development of innovative manufacturing concepts.

Electron and ion beam lithography, are key cornerstone technologies to help realize complex 1D - to 3D nanostructures, with high resolution which can be gainfully combined with bottom-up methods for novel engineering and characterization techniques.

The development of effective nanofabrication tools and processes are seen as the path to future advancement of nano-metric components and devices, thus enabling novel breakthroughs in inventive R&D projects.

The aim of the workshop is to identify how pioneering nanofabrication schemes enable innovative R&D projects. The workshop will be held parallel with the conference and all are welcomed to attend the workshop.

#### Presentation Schedule

The workshop will be held on 5th January 2010 (Tuesday) starting from 2 pm to 3 pm. Venue:LT17

- 2.00 2.20 Complex Self-Assembled Structures Guided by Sparse Physical Nanotemplates
   Professor Karl K. Berggren
   Department of Electrical Engineering and Computer Science, Research Laboratory of Electronics, Massachusetts Institute of Technology
- 2.20 2.40 Fabrication of opto-electronic nanodevices with Electron Beam Lithography
  Prof. Fuhua Yang
  Director of Engineering Research Center for Semiconductor Integrated Technology,
  Institute of Semiconductors, CAS, Beijing
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Andre Linden, Raith Asia Ltd.

#### Contact

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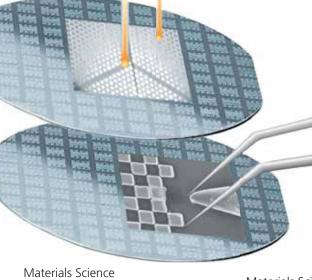
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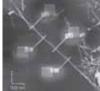
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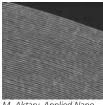
Wiring of CNTs on SiO<sub>2</sub>-sample



S. Bauerdick, Raith GmbH



zone plate after gold electroplating



M. Aktary, Applied Nanotools Inc., Canada



A. Geim, University of Manchester, Great Britain



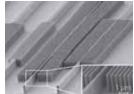
Neale, University of St Andrews, Scotland





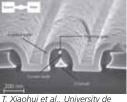
J. Kettle, Cardiff University, Wales, United Kingdom

Optoelectronics Photonic crystal pillars etched into InP substrate

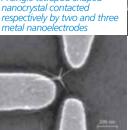


B. Docter et al., COBRA / TU Eindhoven, The Netherlandds

Electrical Engineering Single-electron device



T. Xiaohui et al., University de Catholique de Louvain, Belgium



A single tetrapod-shaped

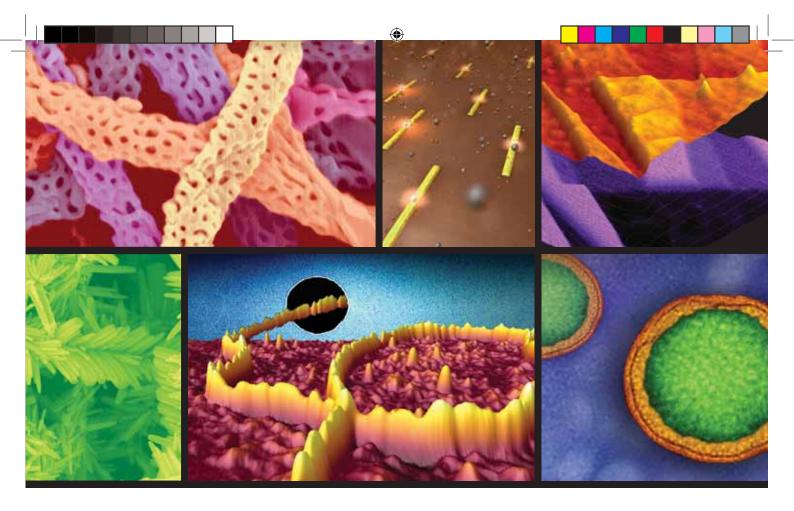
A. Della Torre, CNR-INFM, University of Lecce, Italy

Physics





T. Dillon, University of Delaware, USA



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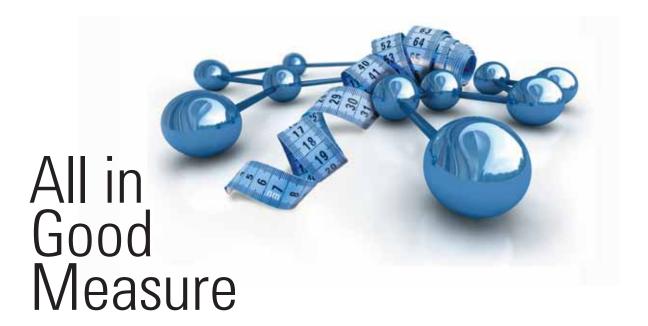
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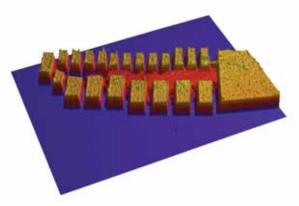
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Graphene layer (red) suspended between gold contacts. Left end of graphene has collapsed.

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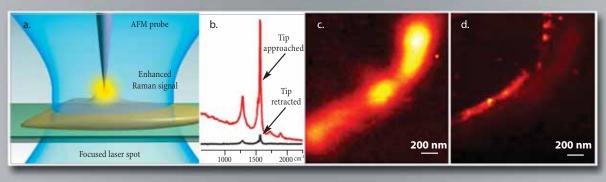
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wavelength — 633 nm), d — TERS image of the same bundle — now the observed width is ~70 nm.

Note, in this example, TERS provides more than 4-times better spatial resolution as compared to confocal microscopy. Resolution down to 10 nm and less is theoretically possible. Measurements are done with NTEGRA Spectra in Inverted configuration.

Data courtesy of Dr. S. Kharintsev, Dr. J. Loos, Dr. G. Hoffmann, Prof. G. de With, TUE, the Netherlands and Dr. P. Dorozhkin, NT-MDT Co.



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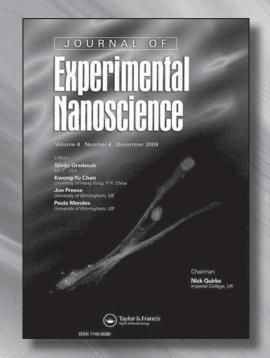
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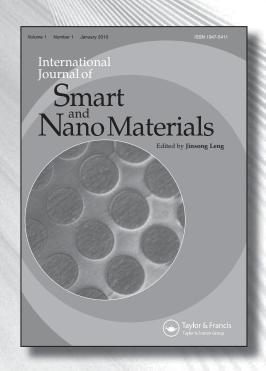
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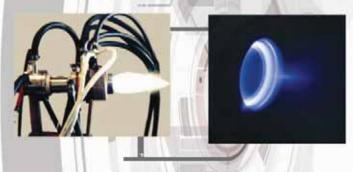
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CHIEN-NENG Liao	EC150		PP417	DENG He-ping	BC204
CHIN T. S.	TP208		BP202	DENG Hong	FC232
CHIN Tsung-Shune	EP216		FC201	DENG Liandong	BC420
	EP232		FP274	DENG Shao-Ren	EC449
CHING Suet Ying	BC403		FP451		FC407
CHIU C. H.	PP210	CHU Wangsheng	BP226	DENG Shengtao	TC412
CHIU Han-Sheng	BC119	CHU Yung-Ching	EP232	DENG Xueran	FC232
CHIU S. S.	EP215	CHUA Daniel H. C.	BC216	DEVILEE C.	PC102
CHIU Yu-Min	FP229		FC116	DI Junwei	BP215
CHO Edward Namkyu	EC142		FC443	DIAO Chien-Chen	EP442
CHO Edward Namkyu	EC142	CHUANG Fu-Hsiang	EP415	DIAO emen-enen	EP443
CHO Eikhyun	BC109	CHUI Stephen Sin-Yin	PC419		EP444
•		CHOI Stephen Sin-Yin		DICKERTE	
CHO H. S.	BC113		PC126	DICKERT Franz L.	BC114
CHO Hyung Hee	EP234	CHUN Dong Won	TP403	DIERRE Benjamin	FC140
CHO Junghyun	FC448	CHUNG C. Y.	BC410	DING B. D.	EP204
CHO Kyu-Jin	EP456	CHUNG Cheng-Hsuan	EC419		TP216
CHOI Byung Chun	PP405	CHUNG I-Cheng	BC119	DING Chuanxian	BC407
CHOI Dong Joo	EC145	CHUNG Jen-Chieh	FP428		BP213
CHOI Doo Jin	EP234	CHUNG Jong Won	PP209		KA303
	EP404		PP215		BP422
CHOI Eun Young	EP206	CHUNG Yong-Chae	EP433	DING J.	EC404
S	TP214	8	TP211	DING Jian-Ning	FP448
CHOI Heon-Jin	EC435		FP420	DING Kejian	BP226
	FP442	CI Pengliang	FC201	DING Peng	EP435
CHOI Hyang Hee	EP221	COBLEY Claire M.	KS119	DING Qianqian	TC211
CHOI Hyang Hee					
CHOLH	FP248	CUI Jin-Ming	PC119	DING Tingting	BP423
CHOI Hyoung Jin	FP235	CUI Ping	EC141	DING wen	EC138
CHOI Hyung Wook	FP456	CUI Y. P.	FC241	DING X. D.	FC151
СНОІ Ј. Н.	EC452	CUI Yi	KS102	DING Xun-Lei	FC218
	FC412	CUI Yongzhi	FP212	DING Yi-jian	BP415
CHOI Ji-Hyuk	EC444	CUI Yuanjin	PC125	DING Zhanyong	FC102
CHOI Jinil	EP221	CUI Yuanjing	PC109		FC113
CHOI Seon-Jun	EP428	CUI Yuming	FC136		FP201
CHOI Sung-Jin	EP428	CUI Zhanzhong	EC230		FP202
CHOI Sungwoo	BC109			DING Zongling	EC129
CHOI Won Jin	EC421			DJURIŠIĆ A. B.	FP251
CHOI Won Seok	FC104	D			FC242
CHOOPUN Supab	EP418	DADVAND Afshin	EC427		KA308
CITO CI CI Capac	EC148	DAI Chenglong	BC213	DJURIŠIĆ Aleksandra B.	FC230
CHOPRA Siddheshwar	TC107	DAI HaiYang	FP210	DÖBLINGER Markus	PC413
CHOU Hsiung	FP247	DAI Hai rang DAI J.	FC241	DONEGAN John F.	PC413
CHOU Jui-Sheng				DONEGAN John F.  DONG Anjie	
_	EP225	DALI.	EP245	9	BC420
CHOU LW.	EP210	DAI Jianyuan	EP430	DONG Binghai	EP214
CHOU Shang-Wei	FP472	DAI Kerong	BP422	DONG Chuan	EP421
CHOU Yi-Chia	KA309	DAI L.	KA306	DONG Chun-Hua	PC119
CHOU Yi-Hsien	EP219	DAI Liming	KS103	DONG Ki-Young	EP221
CHOUDHARY Nitin	FC454	DAI Lun	PC205	DONG Mingdong	BC424
CHOUNG Jae Woong	EP450	DAI Y. A.	EP215	DONG Y. S.	FC444
CHRISTIANSEN Silke H.	PC104	DAI Ying	TC203	DONG Z. Y.	BC113
CHU C. L.	FC444		FC203	DÖRENKÄMPER M.	PC102
	FP274		FC224	DOU Jun	EC448
CHU Dewei	FC411	DAI Yu-An	FP217	DOU Zengpei	FP220
CHU Jun-Hao	KA302	DAI Zhao	PP203	DOU Zhongshang	PC125
CHU Min-Ching	FC451	<del>-</del>	BC108	DROZDOV M. N.	PC408
CHU Paul K.	FP253		FC222	5110220 1 III. I I.	FP460
CITO I dui IX.	BC410		PC132	DU Chaoling	PC137
	FC444	DAN Min		DU Chaoning DU Chun F.	
			FP451		BC417
	EP460	DANG Feng	BP217	DU Chunfeng	TC204
	FP462	D. C. D. C. C.	EP260		TC210
	FP463	DAS Ritwick	PC206		FC425
	BC203	DAS S. N.	EC452	DU Gang	EC106
	BP231		FC412	DU Haiyan	PP211

DU J.	EP218	FANG Jiye	EC453	GAPONENKO Nikolai V.	PC133
DU JiFu	FP210	FANG L.	EC439	GAPONIK N.	TC106
DU Jingjing	FC203		FP461	GASKELL Peter E.	PC407
DU Jun	KA309	FANG Liang	EC115	GAUTAM Ujjal K.	EC450
DU Mingliang	FP208	Z .	EC116	GE Haiyan	FP407
2 2	FP424		EC414	GE Jin	EP427
	FP424	FANG Liu	FC154	GE W. K.	TP216
DU Ning	BC116	FANG Tan	PC127	GEBURT S.	KS111
DU Peng	EP445	FANG X.	FC138	GEDANKEN Aharon	BC404
DU Piyi	FC126	FANG Xiaosheng	EC450	GENG Xiumei	EC457
DU Xianfeng	EC120	THI (G That onling	FC135	GESSNER Thomas	EC107
DU You-Wei	KA304	FANG Yaoguo	FP204	GHOSH P.	FC202
DUAN Wen-Hui	KA314	FELDMANN Jochen	PC413	GHOSH Pradip	FC229
DUAN Xiangfeng	KS404	FENG B.	BP432	GHOSH Sanatanu	PP217
DUAN Yourong	BC418	FENG Chen	BC101	GOH David T. P.	BC403
DOMY founding	BP210	FENG Mao	FC143	GOH Joseph K. L.	BC403
DUTTA Shibesh	EC224	FENG Tielin	PP203	GOHY J.F.	FC221
DUTU C.A.	FC221	FENG Wei	TP204	GOLBERG Dmitri	EC450
DOTO C.A.	FC221	FENG Ying	EP217	GOLBERG Dillitil	EC450 EC454
		FENG Yu	BC201		FC135
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EDELSTEIN Alan S.	EC423	FENG Yuanming	FC145	COLDOMETH D. # D	KS206
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		FU Yong	PC105	GU Mingxia	EC118
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			EC132	GUAN Leding GUAN Yan	TC210
FAIBUT Narit	EC125	FUKUZAWA Kentaro	FC431		BP222
FAN Chao	EP452	FUNG M. K. FUSTIN CA.	KA308 FC221	GUANGPING Zhang	TC412
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FAN Chun	EC106 PC208			GOO Baochun	FP208
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FAN Jonathan A.	KS401	GAMBINO Richard	BC411	GUO Bin	BP204
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FAN Ting	FC427	GAO Biao	FP463	GUO F. M.	PC112
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HAN Min	FC220	HE Qingguo	PP410	HSU Cheng-Yi	PP213
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HUANG Nan HUANG NingKang	FP242 PC138 BC401 FP210 FP421	IKEGAMI T. IM Seongil IMAI Hiroaki IN Juneho	FC118 EC445 EC446 EP260 EC426	JIAN Wen-Bin JIANG Yanfeng JIANG Anquan JIANG Chao JIANG Chengzhi	FP224 EC453 EC220 FC440 EC401 FC430
HUANG Nan HUANG NingKang HUANG Ping	FP242 PC138 BC401 FP210 FP421 FC447	IKEGAMI T. IM Seongil IMAI Hiroaki IN Juneho INTARASIRI S.	FC118 EC445 EC446 EP260 EC426 FP253	JIAN Wen-Bin JIANG Yanfeng JIANG Anquan JIANG Chao JIANG Chengzhi JIANG Guoshun	FP224 EC453 EC220 FC440 EC401 FC430 FC130
HUANG Nan HUANG NingKang HUANG Ping HUANG Q. L.	FP242 PC138 BC401 FP210 FP421 FC447 EC439	IKEGAMI T. IM Seongil  IMAI Hiroaki IN Juneho INTARASIRI S. ISHIBASHI Yoshifumi	FC118 EC445 EC446 EP260 EC426 FP253 FP214	JIAN Wen-Bin JIANG Yanfeng JIANG Anquan JIANG Chao JIANG Chengzhi JIANG Guoshun JIANG Hongyuan	FP224 EC453 EC220 FC440 EC401 FC430 FC130 TC402
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HUANG Nan HUANG NingKang HUANG Ping HUANG Q. L.	FP242 PC138 BC401 FP210 FP421 FC447 EC439 BP408 EC218	IKEGAMI T. IM Seongil  IMAI Hiroaki IN Juneho INTARASIRI S. ISHIBASHI Yoshifumi	FC118 EC445 EC446 EP260 EC426 FP253 FP214 EC431 EC158	JIAN Wen-Bin JIANG Yanfeng JIANG Anquan JIANG Chao JIANG Chengzhi JIANG Guoshun JIANG Hongyuan JIANG J. JIANG JC.	FP224 EC453 EC220 FC440 EC401 FC430 FC130 TC402 FC406 EP210
HUANG Nan HUANG NingKang HUANG Ping HUANG Q. L. HUANG Qing HUANG S. M.	FP242 PC138 BC401 FP210 FP421 FC447 EC439 BP408 EC218 PC136	IKEGAMI T. IM Seongil  IMAI Hiroaki IN Juneho INTARASIRI S. ISHIBASHI Yoshifumi ISHIMARU Manabu	FC118 EC445 EC446 EP260 EC426 FP253 FP214 EC431 EC158 EC211	JIAN Wen-Bin JIANG Yanfeng JIANG Anquan JIANG Chao JIANG Chengzhi JIANG Guoshun JIANG Hongyuan JIANG J. JIANG JC. JIANG Jianwen	FP224 EC453 EC220 FC440 EC401 FC430 FC130 TC402 FC406 EP210 FC213
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HUANG Nan HUANG NingKang  HUANG Ping HUANG Q. L. HUANG Qing HUANG S. M.  HUANG Shanshan HUANG Shengbin	FP242 PC138 BC401 FP210 FP421 FC447 EC439 BP408 EC218 PC136 BP411 BC206	IKEGAMI T. IM Seongil  IMAI Hiroaki IN Juneho INTARASIRI S. ISHIBASHI Yoshifumi ISHIMARU Manabu ISLAM Raisul	FC118 EC445 EC446 EP260 EC426 FP253 FP214 EC431 EC158 EC211 EC158 BC411	JIAN Wen-Bin JIANG Yanfeng JIANG Anquan JIANG Chao JIANG Chengzhi JIANG Guoshun JIANG Hongyuan JIANG J. JIANG JC. JIANG Jianwen JIANG Jiang	FP224 EC453 EC220 FC440 EC401 FC430 FC130 TC402 FC406 EP210 FC213 BP408 TC202
HUANG Nan HUANG NingKang  HUANG Ping HUANG Q. L. HUANG Qing HUANG S. M.  HUANG Shanshan HUANG Shengbin HUANG Shihua	FP242 PC138 BC401 FP210 FP421 FC447 EC439 BP408 EC218 PC136 BP411 BC206 EP217	IKEGAMI T. IM Seongil  IMAI Hiroaki IN Juneho INTARASIRI S. ISHIBASHI Yoshifumi ISHIMARU Manabu ISLAM Raisul  ISSEROFF Rebecca IWASAKI Y.	FC118 EC445 EC446 EP260 EC426 FP253 FP214 EC431 EC158 EC211 EC158 BC411 FC118	JIAN Wen-Bin JIANG Yanfeng JIANG Anquan JIANG Chao JIANG Chengzhi JIANG Guoshun JIANG Hongyuan JIANG J. JIANG JC. JIANG Jianwen JIANG Jiang	FP224 EC453 EC220 FC440 EC401 FC430 FC130 TC402 FC406 EP210 FC213 BP408 TC202 FC239
HUANG Nan HUANG NingKang  HUANG Ping HUANG Q. L. HUANG Qing HUANG S. M.  HUANG Shanshan HUANG Shengbin HUANG Shihua HUANG W.	FP242 PC138 BC401 FP210 FP421 FC447 EC439 BP408 EC218 PC136 BP411 BC206 EP217 EP240	IKEGAMI T. IM Seongil  IMAI Hiroaki IN Juneho INTARASIRI S. ISHIBASHI Yoshifumi ISHIMARU Manabu ISLAM Raisul	FC118 EC445 EC446 EP260 EC426 FP253 FP214 EC431 EC158 EC211 EC158 BC411	JIAN Wen-Bin JIANG Yanfeng JIANG Anquan JIANG Chao JIANG Chengzhi JIANG Guoshun JIANG Hongyuan JIANG J. JIANG JC. JIANG Jianwen JIANG Jiang  JIANG Juan JIANG Jun	FP224 EC453 EC220 FC440 EC401 FC430 FC130 TC402 FC406 EP210 FC213 BP408 TC202 FC239 EC129
HUANG Nan HUANG NingKang  HUANG Ping HUANG Q. L. HUANG Qing HUANG S. M.  HUANG Shanshan HUANG Shengbin HUANG Shihua HUANG W. HUANG Wei	FP242 PC138 BC401 FP210 FP421 FC447 EC439 BP408 EC218 PC136 BP411 BC206 EP217 EP240 PC121	IKEGAMI T. IM Seongil  IMAI Hiroaki IN Juneho INTARASIRI S. ISHIBASHI Yoshifumi ISHIMARU Manabu ISLAM Raisul  ISSEROFF Rebecca IWASAKI Y.	FC118 EC445 EC446 EP260 EC426 FP253 FP214 EC431 EC158 EC211 EC158 BC411 FC118	JIAN Wen-Bin JIANG Yanfeng JIANG Anquan JIANG Chao JIANG Chengzhi JIANG Guoshun JIANG Hongyuan JIANG J. JIANG JC. JIANG Jianwen JIANG Jiang  JIANG Juan JIANG Jun JIANG Jun	FP224 EC453 EC220 FC440 EC401 FC430 FC130 TC402 FC406 EP210 FC213 BP408 TC202 FC239 EC129 BC409
HUANG Nan HUANG NingKang  HUANG Ping HUANG Q. L. HUANG Qing HUANG S. M.  HUANG Shanshan HUANG Shengbin HUANG Shihua HUANG W.	FP242 PC138 BC401 FP210 FP421 FC447 EC439 BP408 EC218 PC136 BP411 BC206 EP217 EP240	IKEGAMI T. IM Seongil  IMAI Hiroaki IN Juneho INTARASIRI S. ISHIBASHI Yoshifumi ISHIMARU Manabu ISLAM Raisul  ISSEROFF Rebecca IWASAKI Y.	FC118 EC445 EC446 EP260 EC426 FP253 FP214 EC431 EC158 EC211 EC158 BC411 FC118	JIAN Wen-Bin JIANG Yanfeng JIANG Anquan JIANG Chao JIANG Chengzhi JIANG Guoshun JIANG Hongyuan JIANG J. JIANG JC. JIANG Jianwen JIANG Jiang  JIANG Juan JIANG Jun	FP224 EC453 EC220 FC440 EC401 FC430 FC130 TC402 FC406 EP210 FC213 BP408 TC202 FC239 EC129
HUANG Nan HUANG NingKang  HUANG Ping HUANG Q. L. HUANG Qing HUANG S. M.  HUANG Shanshan HUANG Shengbin HUANG Shihua HUANG W. HUANG Wei HUANG Wei	FP242 PC138 BC401 FP210 FP421 FC447 EC439 BP408 EC218 PC136 BP411 BC206 EP217 EP240 PC121 EC109	IKEGAMI T. IM Seongil  IMAI Hiroaki IN Juneho INTARASIRI S. ISHIBASHI Yoshifumi ISHIMARU Manabu ISLAM Raisul  ISSEROFF Rebecca IWASAKI Y. IWATA Daisuke	FC118 EC445 EC446 EP260 EC426 FP253 FP214 EC431 EC158 EC211 EC158 BC411 FC118	JIAN Wen-Bin JIANG Yanfeng JIANG Anquan JIANG Chao JIANG Chengzhi JIANG Guoshun JIANG Hongyuan JIANG J. JIANG JC. JIANG Jianwen JIANG Jiang  JIANG Juan JIANG Jun JIANG Jun	FP224 EC453 EC220 FC440 EC401 FC130 TC402 FC406 EP210 FC213 BP408 TC202 FC239 EC129 BC409 BP416
HUANG Nan HUANG NingKang  HUANG Ping HUANG Q. L. HUANG Qing HUANG S. M.  HUANG Shanshan HUANG Shengbin HUANG Shihua HUANG W. HUANG Wei HUANG Wei HUANG Wei Huang HUANG YS.	FP242 PC138 BC401 FP210 FP421 FC447 EC439 BP408 EC218 PC136 BP411 BC206 EP217 EP240 PC121 EC109 EP208	IKEGAMI T. IM Seongil  IMAI Hiroaki IN Juneho INTARASIRI S. ISHIBASHI Yoshifumi ISHIMARU Manabu ISLAM Raisul  ISSEROFF Rebecca IWASAKI Y. IWATA Daisuke	FC118 EC445 EC446 EP260 EC426 FP253 FP214 EC431 EC158 EC211 EC158 BC411 FC118 FP214	JIAN Wen-Bin JIANG Yanfeng JIANG Anquan JIANG Chao JIANG Chengzhi JIANG Guoshun JIANG Hongyuan JIANG J. JIANG JC. JIANG Jianwen JIANG Jiang  JIANG Juan JIANG Jun JIANG Lei JIANG Li	FP224 EC453 EC220 FC440 EC401 FC430 FC130 TC402 FC406 EP210 FC213 BP408 TC202 FC239 EC129 BC409 BP416 BP425
HUANG Nan HUANG NingKang  HUANG Ping HUANG Q. L. HUANG Qing HUANG S. M.  HUANG Shanshan HUANG Shengbin HUANG Shihua HUANG W. HUANG Wei HUANG Wei HUANG Wei Huang HUANG YS.	FP242 PC138 BC401 FP210 FP421 FC447 EC439 BP408 EC218 PC136 BP411 BC206 EP217 EP240 PC121 EC109 EP208 EC454	IKEGAMI T. IM Seongil  IMAI Hiroaki IN Juneho INTARASIRI S. ISHIBASHI Yoshifumi ISHIMARU Manabu ISLAM Raisul  ISSEROFF Rebecca IWASAKI Y. IWATA Daisuke	FC118 EC445 EC446 EP260 EC426 FP253 FP214 EC431 EC158 EC211 EC158 BC411 FC118 FP214	JIAN Wen-Bin JIANG Yanfeng JIANG Anquan JIANG Chao JIANG Chengzhi JIANG Guoshun JIANG Hongyuan JIANG J. JIANG JC. JIANG Jianwen JIANG Jiang  JIANG Juan JIANG Jun JIANG Lei JIANG Li	FP224 EC453 EC220 FC440 EC401 FC430 FC130 TC402 FC406 EP210 FC213 BP408 TC202 FC239 EC129 BC409 BP416 BP425 PC412
HUANG Nan HUANG NingKang  HUANG Ping HUANG Q. L. HUANG Qing HUANG S. M.  HUANG Shanshan HUANG Shengbin HUANG Shihua HUANG Wei HUANG Wei HUANG Wei Huang HUANG YS. HUANG Yang	FP242 PC138 BC401 FP210 FP421 FC447 EC439 BP408 EC218 PC136 BP411 BC206 EP217 EP240 PC121 EC109 EP208 EC454 FC140	IKEGAMI T. IM Seongil  IMAI Hiroaki IN Juneho INTARASIRI S. ISHIBASHI Yoshifumi ISHIMARU Manabu ISLAM Raisul  ISSEROFF Rebecca IWASAKI Y. IWATA Daisuke  J JÄCKEL Frank JAISUTTI Rawat	FC118 EC445 EC446 EP260 EC426 FP253 FP214 EC431 EC158 EC211 EC158 BC411 FC118 FP214	JIAN Wen-Bin JIANG Yanfeng JIANG Anquan JIANG Chao JIANG Chengzhi JIANG Guoshun JIANG Hongyuan JIANG J. JIANG JC. JIANG Jianwen JIANG Jiang  JIANG Juan JIANG Jun JIANG Lei JIANG Lipei JIANG Lipei	FP224 EC453 EC220 FC440 EC401 FC130 TC402 FC406 EP210 FC213 BP408 TC202 FC239 EC129 BC409 BP416 BP425 PC412
HUANG Nan HUANG NingKang  HUANG Ping HUANG Q. L. HUANG Qing HUANG S. M.  HUANG Shanshan HUANG Shengbin HUANG Shihua HUANG Wei HUANG Wei HUANG Wei HUANG Yang  HUANG Yang  HUANG Yanyi HUANG Yen-Lin HUANG Ying-Chia	FP242 PC138 BC401 FP210 FP421 FC447 EC439 BP408 EC218 PC136 BP411 BC206 EP217 EP240 PC121 EC109 EP208 EC454 FC140 FP220 EP406 FP433	IKEGAMI T. IM Seongil  IMAI Hiroaki IN Juneho INTARASIRI S. ISHIBASHI Yoshifumi ISHIMARU Manabu ISLAM Raisul  ISSEROFF Rebecca IWASAKI Y. IWATA Daisuke  J JÄCKEL Frank JAISUTTI Rawat JAITANONG Nittaya JANG B. JANG Dong Kyu	FC118 EC445 EC446 EP260 EC426 FP253 FP214 EC431 EC158 EC211 EC158 BC411 FC118 FP214  PC413 EC112 FP257 EC128 EP231	JIAN Wen-Bin JIANG Yanfeng JIANG Anquan JIANG Chao JIANG Chengzhi JIANG Guoshun JIANG Hongyuan JIANG J. JIANG JC. JIANG Jianwen JIANG Jiang  JIANG Juan JIANG Jun JIANG Lei JIANG Lei JIANG Lipei JIANG Peng JIANG Shih-Fan JIANG Tao JIANG X. Y.	FP224 EC453 EC220 FC440 EC401 FC430 FC130 TC402 FC406 EP210 FC213 BP408 TC202 FC239 EC129 BC409 BP416 BP425 PC412 PC214 BC119 EP214 EP204
HUANG Nan HUANG NingKang  HUANG Ping HUANG Q. L. HUANG Qing HUANG S. M.  HUANG Shanshan HUANG Shengbin HUANG Shihua HUANG Wei HUANG Wei HUANG Wei HUANG Yang  HUANG Yanyi HUANG Yanyi HUANG Yen-Lin	FP242 PC138 BC401 FP210 FP421 FC447 EC439 BP408 EC218 PC136 BP411 BC206 EP217 EP240 PC121 EC109 EP208 EC454 FC140 FP220 EP406 FP433 EC123	IKEGAMI T. IM Seongil  IMAI Hiroaki IN Juneho INTARASIRI S. ISHIBASHI Yoshifumi ISHIMARU Manabu ISLAM Raisul  ISSEROFF Rebecca IWASAKI Y. IWATA Daisuke  J JÄCKEL Frank JAISUTTI Rawat JAITANONG Nittaya JANG B.	FC118 EC445 EC446 EP260 EC426 FP253 FP214 EC431 EC158 EC211 EC158 BC411 FC118 FP214  PC413 EC112 FP257 EC128 EP231 TP207	JIAN Wen-Bin JIANG Yanfeng JIANG Anquan JIANG Chao JIANG Chengzhi JIANG Guoshun JIANG Hongyuan JIANG JC. JIANG Jianwen JIANG Jiang  JIANG Juan JIANG Juan JIANG Lei JIANG Lei JIANG Lipei JIANG Peng JIANG Shih-Fan JIANG Tao JIANG X. Y. JIANG Xin	FP224 EC453 EC220 FC440 EC401 FC430 FC130 TC402 FC406 EP210 FC213 BP408 TC202 FC239 EC129 BC409 BP416 BP425 PC412 PC214 BC119 EP214 EP204 BC213
HUANG Nan HUANG NingKang  HUANG Ping HUANG Q. L. HUANG Qing HUANG S. M.  HUANG Shanshan HUANG Shengbin HUANG Shihua HUANG Wei HUANG Wei HUANG Wei HUANG Yang  HUANG Yang  HUANG Yanyi HUANG Yen-Lin HUANG Ying-Sheng	FP242 PC138 BC401 FP210 FP421 FC447 EC439 BP408 EC218 PC136 BP411 BC206 EP217 EP240 PC121 EC109 EP208 EC454 FC140 FP220 EP406 FP433 EC123 EP212	IKEGAMI T. IM Seongil  IMAI Hiroaki IN Juneho INTARASIRI S. ISHIBASHI Yoshifumi ISHIMARU Manabu ISLAM Raisul  ISSEROFF Rebecca IWASAKI Y. IWATA Daisuke  J JÄCKEL Frank JAISUTTI Rawat JAITANONG Nittaya JANG B. JANG Dong Kyu	FC118 EC445 EC446 EP260 EC426 FP253 FP214 EC431 EC158 EC211 EC158 BC411 FC118 FP214  PC413 EC112 FP257 EC128 EP231 TP207 TP213	JIAN Wen-Bin JIANG Yanfeng JIANG Anquan JIANG Chao JIANG Chengzhi JIANG Guoshun JIANG Hongyuan JIANG JC. JIANG Jianwen JIANG Jiang  JIANG Juan JIANG Juan JIANG Lei JIANG Lei JIANG Lipei JIANG Peng JIANG Shih-Fan JIANG Tao JIANG Xi JIANG Xu JIANG Xi JIANG Xi JIANG Xu JIANG Xu JIANG Xi JIANG Xu	FP224 EC453 EC220 FC440 EC401 FC430 FC130 TC402 FC406 EP210 FC213 BP408 TC202 FC239 EC129 BC409 BP416 BP425 PC412 PC214 BC119 EP214 EP204 BC213 PC416
HUANG Nan HUANG NingKang  HUANG Ping HUANG Q. L. HUANG Qing HUANG S. M.  HUANG Shanshan HUANG Shengbin HUANG Shihua HUANG Wei HUANG Wei HUANG Wei HUANG Yang  HUANG Yang  HUANG Yanyi HUANG Yen-Lin HUANG Ying-Chia HUANG Ying-Sheng  HUANG Yiping	FP242 PC138 BC401 FP210 FP421 FC447 EC439 BP408 EC218 PC136 BP411 BC206 EP217 EP240 PC121 EC109 EP208 EC454 FC140 FP220 EP406 FP433 EC123 EP212 PC404	IKEGAMI T. IM Seongil  IMAI Hiroaki IN Juneho INTARASIRI S. ISHIBASHI Yoshifumi ISHIMARU Manabu ISLAM Raisul  ISSEROFF Rebecca IWASAKI Y. IWATA Daisuke  J JÄCKEL Frank JAISUTTI Rawat JAITANONG Nittaya JANG B. JANG Dong Kyu JANG Eunji	FC118 EC445 EC446 EP260 EC426 FP253 FP214 EC431 EC158 EC211 EC158 BC411 FC118 FP214  PC413 EC112 FP257 EC128 EP231 TP207 TP213 FC215	JIAN Wen-Bin JIANG Yanfeng JIANG Anquan JIANG Chao JIANG Chengzhi JIANG Guoshun JIANG Hongyuan JIANG JC. JIANG Jianwen JIANG Jiang  JIANG Juan JIANG Juan JIANG Lei JIANG Lei JIANG Lipei JIANG Peng JIANG Shih-Fan JIANG Tao JIANG X. Y. JIANG Xin	FP224 EC453 EC220 FC440 EC401 FC430 FC130 TC402 FC406 EP210 FC213 BP408 TC202 FC239 EC129 BC409 BP416 BP425 PC412 PC214 BC119 EP214 EP204 BC213 PC416 EC408
HUANG Nan HUANG NingKang  HUANG Ping HUANG Q. L. HUANG Qing HUANG S. M.  HUANG Shanshan HUANG Shengbin HUANG Shihua HUANG Wei HUANG Wei HUANG Wei HUANG Yang  HUANG Yang  HUANG Yanyi HUANG Yen-Lin HUANG Ying-Sheng	FP242 PC138 BC401 FP210 FP421 FC447 EC439 BP408 EC218 PC136 BP411 BC206 EP217 EP240 PC121 EC109 EP208 EC454 FC140 FP220 EP406 FP433 EC123 EP212	IKEGAMI T. IM Seongil  IMAI Hiroaki IN Juneho INTARASIRI S. ISHIBASHI Yoshifumi ISHIMARU Manabu ISLAM Raisul  ISSEROFF Rebecca IWASAKI Y. IWATA Daisuke  J JÄCKEL Frank JAISUTTI Rawat JAITANONG Nittaya JANG B. JANG Dong Kyu	FC118 EC445 EC446 EP260 EC426 FP253 FP214 EC431 EC158 EC211 EC158 BC411 FC118 FP214  PC413 EC112 FP257 EC128 EP231 TP207 TP213	JIAN Wen-Bin JIANG Yanfeng JIANG Anquan JIANG Chao JIANG Chengzhi JIANG Guoshun JIANG Hongyuan JIANG JC. JIANG Jianwen JIANG Jiang  JIANG Juan JIANG Juan JIANG Lei JIANG Lei JIANG Lipei JIANG Peng JIANG Shih-Fan JIANG Tao JIANG Xi JIANG Xu JIANG Xi JIANG Xi JIANG Xu JIANG Xu JIANG Xi JIANG Xu	FP224 EC453 EC220 FC440 EC401 FC430 FC130 TC402 FC406 EP210 FC213 BP408 TC202 FC239 EC129 BC409 BP416 BP425 PC412 PC214 BC119 EP214 EP204 BC213 PC416

HANG V-1	TP201	VANCE V	FC104	KIM D. V	BP407
JIANG Yulong		KANG Eun Kyu		KIM Da Yeon	
JIANG Zheng	FC421	KANG H. C.	EC132		BP224
	FP409	KANG Hyun Ju	EP251	KIM Do Hyun	FC123
JIANG Zhuangde	EP220	KANG Jinfeng	EC106	KIM Dojin	EP248
Jirii (G Zhuangue		_		Kilvi Bojin	
	FC152	KANG Joohoon	EC234		EP424
JIANG Zuimin	FC414		FC128		FC235
JIAO Xinbing	FC158	KANG Junghan	EC434		FP465
e e	EP218	KANG Kkot Nim			FP466
JIAO Z.		KANG KKUI NIIII	BP407		
JIAO Zheng	EP426		BP224	KIM Dong Ha	FC226
	EC232	KANG L.	KA311	KIM Dong Hoe	FP438
JIMBO Takashi	FC446	KANG Shinill	BC109	KIM Dong-Hyoun	EP428
		KANG SIIIIIII			
JIN Fanya	FP451		PP201	KIM E Sle	BP407
JIN Hai-yun	FP263	KANG Sung	EC430		BP216
•	TP210	KANG Tay Beng	FC153		BP224
				KD CD 1	
	FP403	KANG Weimin	FP241	KIM Eunkyoung	PP204
JIN Hehua	EC135		FC211	KIM Gi-Hyeon	FP248
JIN P.	PC123	KANG Yun Mi	BP407	KIM Gyeong Hae	BP216
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JIN Song	KS108		BP216	KIM Gyung Hae	BP224
JIN Wei	FC224		BP224	KIM Hoe Min	EP206
JIN Woo-Min	FP243	KANG Yu-Ting	BC207	KIM Hoe Min	TP214
JIN Yi Zheng	FC403	KANIEWSKA Maria	EP235	KIM Hyojin	FC235
•				Kiivi Tiyojiii	
JIN Yizheng	FP474	KANJANACHUCHAI Songphol	EC229		FP465
JIN Young Sam	FP456	KAO Chih-Cheng	EP419		FP466
JIN Zhengyu	BC428	KAO Kin-Fu	EP216	KIM Hyo-June	EP404
		TO TO THE TO		•	
JING H. Y.	EC130		EP232	KIM Hyung Keun	EP234
JING Junjun	BC206	KAR J. P.	EC452	KIM Hyuns	TP403
JING Weiping	FP206		FC412	KIM Il-Soo	EC435
JING Weixuan	FC152	KAR Jyoti Prakash	EC444		FP442
		•			
JOHAN M. R.	EC157	KARASAWA H.	EC132	KIM Inho	FP248
	TC118	KARIMI Fatemeh	EC214	KIM Jae Ho	BP404
JOHAN Mohd Rafie	TC208	KARUWAN C.	EP246		BP216
John II Willia Rane					
	EC410	KATAYAMA Ryuji	FC204		BP224
JOHN Bell	TC412	KATAYANAGI Hikaru	TP203	KIM Jae Hong	FC236
JOHNSON A.T. Charlie	EC126	KATO Kazumi	EP260	KIM Jae Il	BP404
JONES Martin O.	FC421		FC408	KIM JaeHo	BP407
JONES Martin O.					
	FP409		FC411	KIM Jaekwang	FC104
JONG Lee Hyun	TP213	KATS Mikhail	KS401	KIM Jaemyung	EC426
JONGILL Hong	EC434	KAUR Davinder	PC422	KIM Jeehoon	FC223
JOU Min	EP219	In fore Buyingui			
			FC454	KIM Jeonghun	PP204
JU Byeong-Kwon	EP221	KAUSHAL Ajay	PC422	KIM Ji-Hong	EP237
JU Seonghwa	EC127	KE Jr-Jian	EC420		EP256
JUAN Pi-Chun	EP434	KE Pu-Chun	BC202		FP226
JOAN H-Chun				TAB C E	
	EP219	KE Zhigang	BP408	KIM Jiman	BC209
JUNG Hooncheol	FC235	KEI T. C.	EP215		EC143
JUNG Hyuck	EP248	KERDCHAROEN Teerakiat	FC101		EC153
JUNG Hyun Suk	FP438		FC434	KIM Jin Hyock	EP234
-		WILLIAM III		•	
JUNG Hyungil	BC109	KHALID Waqas	EC244	KIM Jong-sung	BP211
JUNG Jinwoo	BC209	KHALIL Ahmed S. G.	FC231	KIM Jun Ho	EP206
	EC143		FP418		EP250
		VHAMCHWANT			
	EC153	KHAMSUWAN J.	FP253		TP214
JUNG Wojciech	EP235	KHAN Hanif Muhammad	FC141	KIM Jung H.	BC402
JUNG Yeongri	EC127	KHANG Dahl-Young	EC444	KIM Jung Hoon	FP414
e e		KHEDARI J.	EC240	KIM Jung Hwan	PP215
		KHOSRU Quazi D. M.	EC211	KIM Jung-Hyun	FP465
K			EC158	KIM Jun-Ho	EP437
K Rajshekar.	EC154	KHRYKIN O. I.	PC408	KIM Kyung Hwan	FP456
KAHATTHA Chokchai					
	FP427		FP460	KIM Min-Jung	FP466
KAKIMI Rina	EC431	KHUN N.W.	BC104	KIM Miroo	BC109
KAN C. X.	FP426	KIATPATHOMCHAI Wansika	EC156	KIM Moon Suk	BP404
	FP426	KIM Sang-Cheol	EP237		BP407
VANC D. V					
KANG Bong Keun	EC451	KIM Baek Mann	FC236		BP216
KANG Byung-Woo	FC236	KIM Bongsoo	EC426		BP224
KANG Chen-Fang	EP259	KIM Byungwook	PP201	KIM Myoungha	FP442
- · · · · · ·	EP259	J 6.1 * * * * * * * * * * * * * * * * * * *	BC109	KIM Myoung-Hwa	FP269
WANG D. C.		WD COL			
KANG Dong-Suk	FP465	KIM Chang Eun	EC142	KIM Myuong-Ha	EC435
	FP466		EC144	KIM Nam-Kyun	EP237
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KIM Namtae	BC209	KOO Sang-Mo	EP237	LARD Mercy	BC202
Trivi i vainae	EC143	KOSALATHIP V.	EC240	LAU Hon-Kit	EP257
	EC153	KOSTYUK G. I.	FP412	LAU S. P.	EC403
KIM Sehwan	PP204	KOTAK Pawan Kumar	EC242	LE Yuan	EP449
KIM Seok-min	PC401	KOTOV Nicholas A.	KS209	LEE B. H.	EC446
KIWI SCOK IIIIII	BC109	KOU Kaichang	EC225	LEE Bong	BP216
KIM Seong Dong	FP248	KRETININ Andrey	FC122	LEE Bolig	BP404
KIM Seul Ong	EC245	KRISHNAMURTHY Daivasigamani			BP407
Kiwi Seui Olig	EP206	KROTO Harold	KV103		BP224
	EP222		BC216	LEE Drawe H	EC445
		KUA Huiyi		LEE Byung H.	
VIM Coor Voca	EP250	KUDO Masato	FC229	LEE Character	EP208
KIM Sun Kug	EP231	KUI Steven C. F.	PC419	LEE Chaol Fin	EP407
KIM Sung In	EC407	WHI WADNII O H	PC126	LEE Cheol Jin	EP231
KIM Sung-Gaun	FC141	KULKARNI G. U.	FP221	LEE Dong Hyun	EP450
KIM Sung-Jin	EC127	MIDWAD D ' 1	FC129	LEE Eung Jang	EC434
KIM Sungman	TP403	KUMAR Rajesh	TC103	LEE Eung-Kwan	FP420
KIM Sungyeon	EC144	KUMPEERAPUN T.	EC240	LEE Hai Bang	BP407
KIM Tae-Ho	BP421	KUNG Hsiang-fu	BP218	LEE Hak-Joo	EP256
KIM Taekwon	PC133	KUO Chong-Chi	EP225	LEE Ho-Won	EP437
KIM Ungkil	EC435	KUO Chun-Chih	TC214	LEE Huan	EP434
KIM Woochul	EC234	KUO Chun-Hong	FP242	LEE Hwan Soo	EP256
KIM Woong-Sun	FC236	KUO Dong-Hau	FP445	LEE Hyun Jong	FC215
KIM Yeonju	EP252	KUO H. C.	PP210		TP207
KIM Yoon	EC152	KUO Hong-Shi	FC147	LEE Inho	FP410
KIM Young Dok	FP269	KUO Jer-lai	EC118	LEE J. Y.	FC404
	FP457	KUO P. C	FP223		FC405
KIM Young Keun	FP414		FP232	LEE Jae Hak	EC407
KIM Young Kwan	EP251		EP408	LEE Jae Ho	EC418
	EP411		FP237	LEE Jae Hyeok	BP404
	EP437	KUO Po-Cheng	EP407	LEE Jae Sang	EP237
	EC245		EP230		EC451
	EP206	KUO Tsung-Yen	FP464	LEE Jae Wook	FP465
	EP222	KUTSUNA Masaki	FC229		FP466
	EP250	KUWABARA Makoto	EP260	LEE Jae-Hyeoung	FC104
	TP214	KWOK Robert	EP224	LEE Jeong Yong	FP465
KIM Young-Ho	EC145	KWOK Chi Tat	BC208		FP466
KIM Yuna	PP204	KWOK H. L.	EC235	LEE Jewon	BC209
KIMURA Shinji	TP203	KWOK Robert	EP223		EC143
KIN Liao	FC117	KWON Bomin	BC209		EC153
KIRKBY K.	FP253		EC143	LEE Jinwoo	EP221
KITAKAMI O.	EC402		EC153	LEE Jong-Heun	EP221
KLADSOMBOON Sumana	FC434	KWON Doo Yeon	BP404	LEE Jongmin	EC434
KLANGTAKAI Pawinee	FC204	KWON Hyuck Joo	EP222	LEE Ju Young	BP407
KLINKAEWNARONG Jutharatana	FP225	KWON Soon-Ju	EP256	C	BP224
KO Fu-Hsiang	BP230		FP226	LEE Jun Min	EC127
C	EP417	KWON Tae-Suk	FC236		EP252
	BC103			LEE Jun-Hyuk	EP428
	FC451			LEE K. H.	EC446
	FP444	L		LEE Kang Suk	FP457
KO Jae Hoon	BP216	LAI Guan-Ting	EP434	LEE Kuei-Yi	EP241
KO Ki-han	FC104	LAI Guo-Chun	BP405		EC123
KOBAYASHI Hiroki	TC213	LAI J. K. L.	EP218		EP212
KOCH C. C.	FC419	LAI Mei-Feng	FP246	LEE Kum Hee	EP411
KOECK Franz A.	KS410	LAI Quan-Ting	EP415	222 1200 1100	EC245
KOH Won-Gun	TP207	LAI Wai-Kit	EP425		EP206
Hoff won Gun	FC215	LAI Wing-Fu	BC414		EP222
KOIZHAIGANOVA Raushan	EP231	LAI Wuxing	TC109		EP247
KOMIN K.	EP246	LAKANCHANH Donekeo	TC401		EP250
ROMINIA.	EC121	LAM W. N.	BC410		EP251
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KOMORI T.	EC132	LAMBA V. K. LAN Chune	EC208	LEE Li-Ying	FP216
KONG C. Y.	EC439		FP231		FP227
VONC C C	FP461	LAN Jin	EP258	LEE M. II	FP435
KONG C. S.	FC435	LANC View 1	EC102	LEE M. H.	EP208
KONG Weiran	EC411	LANG Xianzhong	PP416	LEE Mei-Hwa	BC119
KOO Ja Ryong	EP411	LANGSAM Christoph	BC114	LEE Ming-Hong	EC216
	EP247	LAOKUL P.	FC415	LEE Nae-Eung	EC146

LEE Pooi See	FC207	LI Bo-Syuan	BP230	LI Luhai	EP445
LEE S. H.	FP238	LI C.	FC151	LI Mei	EC432
LEE Sang Duck	FP269	LI Can	FP215	LI Mi	EC141
	FP457	LI Cen	FP422	LI Min	FP273
LEE Sang Hyo	BP404	LI Cheng K.	BC417	LI Minqiang	TC115
LEE Sang Yeol	EC451	LI Chengkui	TC209	LI Na	EP447
LEE Sangwook	FP438	LI Chengzhi	EP258		TC405
LEE Sang-Yup	FP410	LI Chenkui	FC425	LI Pengwei	EC429
LEE Seung Hyun	EC455	LI Chi	EP459	LI Ping	FC222
	EP252	LI Chi-Shing	EC227		BC108
LEE Seung-Beck	EP243	LI Chun	EC454		PC132
	EP428	LI Chunxia	BP411	LI Qingwen	EC135
LEE Seunghyn	EC234	LI Chunyan	FC112	LI Quan	EP238
LEE Seunghyun	FC128	LI D. F.	EP245	LI Quanlu	TP407
	FC123	LI Dai	FP447	LI Quanxiang	FC211
LEE Sheng-Wei	EC419	LI Dan	FC209		FP241
LEE Shih-Fong	FP216	LI Dong Hua	EC152	LI Ronald C. L.	EC423
	FP227	LI Fang	BC419	LI Run-Wei	EC141
	FP435	LI Fei	FP470	LI Shanshan	TC402
LEE Shin	EP226	LI Fushan	EP249	LI Shao-Cian	PP216
LEE Si-Chen	PC403	LI Gui Xin	BC403	LI Shaozi	TC119
LEE Soogil	EC434	LI Guixin	PC409	LI Shi-kai	FP435
LEE Suk Jae	EP251	LI Guodong	EC401	LI Shuang	EC231
LEE T. I	EC452	LI Guoqiang	EC456	LI W.	FC401
	FC412	LI H. B.	EC218	LI Wei	BC201
LEE T.M.	FC404	LI H. Z.	BP431		BP416
	FC405		BC429		BP425
LEE Tae II	EC421	LI Hangquan	FP245		BP428
	EC444	LI Ho Sueb	PP209		EP424
LEE V. S.	BC210	LI Hong	FP423		FC124
LEE Wen-His	EP406		FP423		FC102
LEE William	FC159	LI Hongbo	EC135		FC113
LEE Won-Jae	FC239	LI Huifeng	EP446		FP202
LEE Wooyoung	EC455	LI Irene Ling	TC410		TC116
EEE Wooyoung	EP252	El nelle Ellig	FP268	LI X. F.	PC115
	FC123	LI J. H.	BP431	E171.1.	PC116
	FC128	LI Jensen	PC409	LI Xiang	TC204
	TP403	LI Ji	FC130	El Alung	FC425
	EC127	LI Jian	FC416	LI Xiaocheng	EC221
	EC127 EC234	Li Jian	FP408	LI Xiaohong	PC412
LEE YR.	EP210	LI Jianpeng	FC429	LI Xiao-ning	FC214
LEE Ying-Chieh	EP210 EP406		EP435	C	PC412
LEE Ying-Chien LEE Yu sung		LI Jian-Qi	PC214	LI Xiaoxing LI Xincun	
•	FC104	LI Jiaqi			FC450
LEI Chong	TP217	LI Jin	FP260	LI Xingong	TP209
IPIW.	TP401	LI Jing	FC120	LI Xinming	FC112
LEI Wei	EP459	LI Jinling	FP270	LI Xue	BP430
LEI Xiao-Lin	KA305	LI Jinlong	PP406	****	PP208
LEI Yanda	FP252	LI Jiong	FP451	LI Y. R.	EP240
LEKSAKUL Komgrit	FC156	LI Juan	BC408	LI Y. S	FP232
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LESNYAK V.	TC106	LI Jun	TC117	LI Yang Yang	PC417
LEU Ching-Chich	EP239	LI Junshuai	PP418	LI Yanwei	EP448
	EP405	LI Kai	BP410	LI Yaogang	BC418
	EP444		BP221		BC107
	FP415	LI Kejie	EC230		EC231
	FP271	LI Kuan-Wei	EP241	LI Yingtao	EC134
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LI C. C.	PC118		FC432	LI Yiu	EP224
LI X. D.	EC218		PC129	LI Yuan	TP407
LI B.	EC139	LI Ling	BC426	LI Yuanli	PP202
LI Baojun	PC420	LI Long-Tu	TP205		FC432
LI Bing	FC227	LI Lu	EP414	LI Yuchao	EP223
LI Bingzong	TP201		TC412		EP224
LI Bing-Zong	EC449		FP404	LI Yun-Jui	FP246
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LI Zhen	FP204	LIN Jium-Ming	BC110	LIU H. J.	EC226
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LI Zhiguo	EP430	LIN Jun-You	EP219	LIU Hanfan	TC413
LI Zhiyong	EP426	LIN Ko-Wei	EC436	LIU Jia	FC233
LI Zhi-Yun	TP406	LIN Li	BP401	ETC JIU	FC409
LI Zhongping	EP421	LIN LinWei	BP220	LIU Jiang	EC411
LI Zilong	PC127	LIN M. C. M.	BP420	LIU Jing	EC151
LI Zonghai	BC422	LIN Marie C.	BP218	Lie Jing	FC158
LIAN Guo-Yuan	PC128	LIN Marie C. M.	BC414	LIU Jingbing	TP413
LIAN Guo-Tuan LIAN Huan-Bin	EP241	LIN Mane C. M.	FC449	LIU Jinhuai	TC115
LIAN J.	BC113	LIN Rung-Jiun	FC147	LIU Jiun-Shing	EC241
LIAN J. LIAN Qian	FP224	LIN Shih-Yao	EP422	LIU Jun	BP223
LIANG Guang-Xing	PP402	LIN Sijie	BC202	LIO Juli	BP227
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LIANCE	FP211	LIN Tzu-Ching	FP249	LIU Kou-Chen	FP413
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LIANG Shih-Chang	PP216	LIN Wei-Keng	FP229	LIU Lei	FC136
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LIANG Xiaofei	BP210	LIN Xinnan	EC111	LIU Lingyun	PP202
LIANG Xing-Jie	BC420		EC416		FC432
LIANG Z. W.	FC151	LIN Xiuzhu	FC120	LIU Liu	EP455
LIAO CY	FP230	LIN Xulin	PC416	LIU Liying	PC109
LIAO Cheng Zhu	FP244	LIN Yen-Fu	EC453	LIU Meitang	FC150
LIAO Chih Yu	BC415	LIN Yi-Ruei	FP236		FC155
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LIAO Yan	BC212	LIU Aihua	BC118		EC413
LIAO Yunmao	BC201	LIU Aiping	BC104	LIU N.	PC123
	BP416	LIU Bin-Da	BC119	LIU P. S.	TP216
	BP425	LIU Bing-Fong	EP402		EP204
	BP428	LIU Binhu	FP408	LIU Peifeng	BC418
LIAU Chung-Chi	FC439	LIU Binhu	FP471	LIU Peisheng	FP206
LIEBER Charles M.	KV204	LIU Bo	EP255	LIU Qi	EC134
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LIM Jiseok	BC109		TP215		FC440
LIMCHAROEN Alonggot	FC156	LIU Changjiu	EP448	LIU Rongrong	BC111
LIMSUWAN P.	EC240	LIU Changsheng	BC213	LIU Sheng	FP215
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LIN P. H.	FC444		BP409	LIU Shiyuan	FC149
LIN C. A.	TC411	LIU Chenglong	BP214		TC109
LIN Chenglu	FP419	LIU Chenmin	FC133	LIU Shu-Yi	EC449
LIN Chia-Chun	EP410	LIU Ching-Chun	EP415		FC407
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LIN Chin-Che	FP444	LIU Chunliang	EC138	LIU Tiebing	FP204
LIN Ching-Fu	FP452	LIU Dan	TC202	LIU Wei	EP409
LIN Der-Yuh	PP409	LIU Di	BP430		BP232
LIN G. P.	FP223	LIU Donghong	TC203	LIU Weifeng	FC130
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LIN G. R.	TC411	LIU Fa-Min	EP435		FC453
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LIU Xuyan	FP419	LU Kejie	EC103	MA Shih-Hsien	EP407
LIU Y. L.	BP414	LU Kuo-Chang	KA309	MA Tingli	BP402
LIU Yang	FC222	LU L. P.	EC226		PP206
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LIU Yixing	FP212		FP440	MA Xiaobo	FP419
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LIU Yuanchao	FC113	LU T. C.	PP210	MA Yan-Ping	FC218
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LO Jian-Wei	PP411	LUMDEE Chatdanai	FC219	MAJUMDAR Arun	EC234
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LOH G. C.	EP202	LUO Nianjun	FP409	MAN Hau Cheung	BC208
LOH Owen Y.	FC217	LUO X. D.	TP216	MANDELLA M. J.	TC120
LOMAS Tanom	EC156		EP204	MANYUM Prapun	FP468
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LU Aixia	EC422	LYU Dong-Yuan	PP409	WINTELL LEWILLELS.	FC121
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LU Cheng-Tao	PP409	M	EC110		EC415
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LU Fu-Hsing	FC445	MA Chen	FC111	MEENA Jagan Singh	FC451
LU GN.	EC104	MA Chenyue	EC416	MEI Shenglin	BP225
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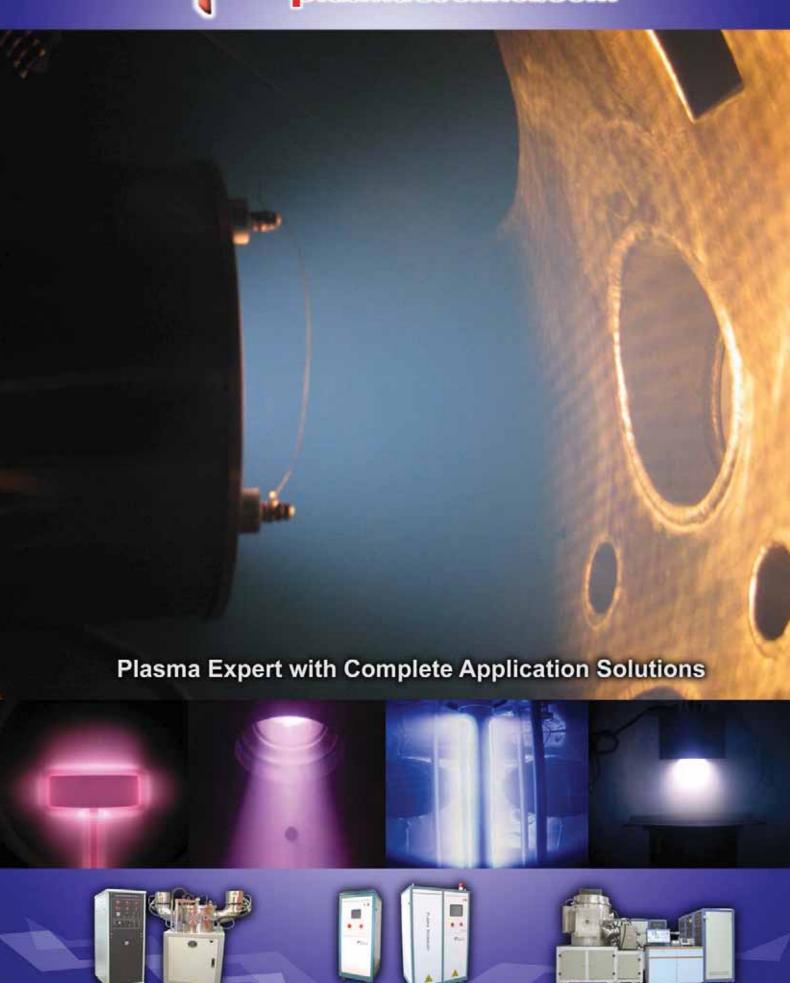
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