Liu Bie Ju Centre for Mathematical Sciences
City University of Hong Kong

Mathematical Analysis and its Applications Colloquium

Organized by Prof. Ya Yan LU and Prof. Wei Wei SUN

Math & Music: Connecting Theory and Practice

by

Professor Dave Kung

St. Mary's College of Maryland, USA

Visiting Scholar, Lingnan University, Hong Kong

Date : Apr 29, 2014 (Tuesday)
Time : 4:30 pm to 5:30 pm
Venue : Room B6605 (College Conference Room)
Blue Zone, Level 6, Academic 1 (AC1)
City University of Hong Kong

ABSTRACT:

The two subjects of math and music are connected in myriad ways, from the rhythm of notes to the frequencies of the pitches. At the advanced level, both mathematical theories and music theories help us understand the other subject. In this talk, we first explore what PDEs tell us about musical instruments, the basic tools of musical practice. In the second half, we flip sides, looking at music theory and how the structure of chords gives us another way to understand topological structures (circles, Möbius strips and higher dimensional tori), some of the basic tools of mathematical practice. Thus the first "movement" connects mathematical theory to musical practice, and the second "movement" connects musical theory to mathematical practice. Throughout, examples played on the violin will illustrate all of these beautiful and surprising connections.

Light refreshments will be provided at Room B6605 before the colloquium from 4:00 pm to 4:30 pm. Please come and join us!

** All interested are welcome **

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