

# Batch Process Automation

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**Date:** 19 April 2023 (Wednesday)

**Time:** 2:30 pm

**Venue:** B6605, College of Engineering Conference Room  
6/F, Yeung Kin Man Academic Building (Lift No.3)

### Abstract

Batch process is the preferred choice for the manufacturing of specialty chemicals or other high value-added products. The differences between a continuous process and a batch process call for the need of modeling, monitoring, control, and optimization methods to be developed in harmony with the batch process nature. In this talk, the speaker will firstly take a thermoplastic injection molding, a process converting plastic granules into various molded parts, as an illustrating process to highlight the batch process nature. Secondly, the speaker will present progresses of these automation methodology developments by exploring or addressing the batch nature. Thirdly, the application of these methods to injection molding will be demonstrated. Finally, some personal views of batch process automation future development particularly on injection molding will be given.

### Biography

Dr Furong Gao is a Chair Professor of Chemical and Biological Engineering, Hong Kong University of Science and Technology (HKUST), he also serves HKUST as the Founding Director, Center for Polymer Processing and Systems (CPPS) since 2007 and international molding communities as the President, Society of Advanced Molding Technology (SAMT) since 2017.

Professor Gao received his BEng in Automation from China University of Petroleum in 1985, MEng and PhD, both in Chemical Engineering, from McGill University in 1989 and 1993, respectively. Before joining HKUST in 1995, he worked as a Senior Research Engineer from 1993 to 1995 in charge of Intelligent Process Control (IPC) project at Moldflow Pty Ltd (now, a part of Autodesk Inc), Melbourne, Australia. His research interest is in process automation method developments and their applications to polymer processing and energy management areas. To date, he has authored more than 550 journal and conference papers, 7 books, and 80 patents. Some of his technologies have been licensed to several major molding and control companies.