

Introduction to Precision Engineering



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Abstract

The mission of The Institute of Precision Engineering is to invent, develop and deploy new and able technologies in precision engineering for the well-being of Hong Kong, the nearby Pearl River Delta area, China and the world. The institute is directly under the university involving both the Faculty of Engineering and Faculty of Science. Currently, it has 34 team members, including 4 faculty members, 12 post doctoral researchers, 12 post graduate students, as well 5 technician / support staff. The annual budget is about HK\$20 million. It also has a mirror operation in Shenzhen with 16 people. The current research projects include:

- Design and build mechanical watch movement;
- Energy efficient controllable mechanical metal forming press;
- Micro CNC gear hobbing machine;
- Micro Wire EDM machine;
- Micro assembly; and
- Solar air conditioning systems.

Details about the IPE could be found at <http://www.ipe.cuhk.edu.hk>

Biography of Speaker

Professor Ruxu Du was born in China in 1955. He received his Master's degree in Automation from the South China University of Technology in 1983 and his PhD degree in Mechanical Engineering from the University of Michigan in 1989. He taught in the University of Windsor, in Windsor, Ontario (1991 – 1998) and University of Miami, in Coral Gables, Florida (1999 – 2001). Currently, he is a Professor in the Department of Mechanical and Automation Engineering at The Chinese University of Hong Kong (CUHK). He is also the Director of the Institute of Precision Engineering at the CUHK and the Director of the Center for Precision Engineering at the Chinese Academy of Sciences / CUHK Shenzhen Institute of Advanced Integration Technology in Shenzhen, China. Over the years, he has received over HK\$93 million research grants. Currently, his research team consists of over 30 members in Hong Kong and over 18 members in Shenzhen, with an annual budget over HK\$20 million.

His research interests include precision engineering, condition monitoring and fault diagnosis, manufacturing processes (metal forming, machining, plastic injection molding and etc.), as

well as energy and materials. He has published over 180 papers in international journals and international conferences. He also has a number of patents and has won a number of awards. He is Associate Editor of three journals: International Journal of Control and Intelligent Systems, Computer-Aided Design and Applications, and Journal of Machine Design and Mechanisms, and is a member of editorial board of International Journal of Power and Energy Systems. He has been in the organizing committees of many international conferences and is the Co-Chair of the Second Asian International Symposium on Mechantronics (AISM 2006).