

## **International Symposium on Ultraprecision Engineering and Nanotechnology (ISUPEN2015)**

“Manufacturing” is still key point of Japan, while the world is changing rapidly. Japan Society for Precision Engineering (JSPE) has responsibility on this field. To attract attentions of manufacturing engineers, JSPE should play the role of one of leaders in the world and present variable information. Aiming to promoting international relationship in manufacturing field and enhancing collaboration among North America (ASPE), Europe (euspen) and Asia, the international symposium will be held during JSPE spring meeting 2015 at Hakusan Campus, Toyo University.

The symposium consists of two sections. In the first one, two speakers as delegates of ASPE and euspen as well as a speaker from JSPE will give us plenary lectures. In the second section, young researchers who are expected as next generation leaders will present their latest results as the cutting edge technology. Access to this symposium is available free of charge. Registration will not be required.

**[Date]** March 17, 2015

**[Venue]** Room 8B11, Building No.8, Hakusan Campus, Toyo University

### **[Program]**

#### **First Section: State-of-the-art and Future Trends in Ultraprecision Engineering & Nanotechnology**

Chair: Prof. Masaya Takasaki (Saitama University)

9:25-9:30 Introduction Talk

Akimitsu Nagae (Yamazaki Mazak/President of JSPE)

9:30-10:20 Recent advances in precision choppers and goniometers for synchrotron applications

Dr. Byron Knapp (Professional Instruments Company / President of ASPE)

10:20-11:10 High Performance Ultraprecision Machining

Dr. Oltmann Riemer (Universität Bremen / euspen Council)

11:10-12:00 Current and Future Trends in 3D CAD/CAM

Prof. Hideki Aoyama (Keio University / JSPE)

#### **Second Section: The Cutting Edge Technology of the Next Generation**

Session [Design]

Chair: Koji Komita (Tokyo Metropolitan University)

13:40-14:00 A Computational Design Environment for Product Lifecycle Design

Shinichi Fukushige (Osaka University), et al.

14:00-14:20 An End-milling Condition Decision Support System Using Hierarchical and Non-hierarchical clustering method for Difficult-to-cut Materials

Hiroyuki Kodama (University of Hyogo), et al.

14:20-14:40 Scenario Approach to Designing Sustainable Futures - The Future of Manufacturing

Industries to 2050

Yusuke Kishita (Osaka University), et al.

14:40-15:00 Calculation of Intersection Points between Triangulated Mesh and Point Cloud Data \*  
Saurabh S. Bhide (Tokyo Institute of Technology), et al.

(Break)

Session [Machining]

Chair: Masaki Michihata (Osaka University)

15:20-15:40 Process Planning of NC Machining based on Parallel Processing with GPGPU  
Junichi Kaneko (Saitama University), et al.

15:40-16:00 Sensor-less process monitoring with disturbance observer  
Yasuhiro Kakinuma (Keio University), et al.

16:00-16:20 On-machine tool resharpening process for dry machining of aluminum alloys  
Tatsuya Sugihara (Osaka University), et al.

16:20-16:40 A New Method for Registration Laser Data Sets and CMM Data Sets in Reverse  
Engineering of Accurate Part \*  
Muslimin (Tokyo Institute of Technology), et al.

16:40-16:45 Closing Remarks

Prof. Kazunori Umeda (Chuo University)

\*: presentation from JSPE spring meeting 2015