

Event report

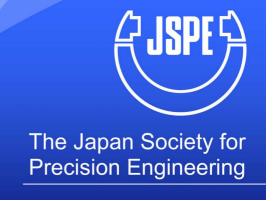
International Symposium on Upcoming Prominent Engineering solutions

The International Symposium on Upcoming Prominent Engineering solutions (ISUPEN) was held online on September 29 2023. The symposium aims to strengthen cooperation with related overseas organizations and further promote the internationalization of JSPE. In this symposium, innovative R&D activities of researchers and engineers in the field of precision engineering were introduced to reveal prominent engineering solutions for various recent social issues. The direction in which precision engineering should move toward to form an international community in the future was also discussed. The symposium consisted of a special talk, 4 keynote lectures and 14 invited talks. The symposium program is posted on the next page.

There were more than 250 registrations from 15 countries and regions. There were many vigorous discussion and the symposium was successfully closed. The organizing committee would like to express our sincere gratitude to the attendees.

Contact: kokusai@jspe.or.jp
International Affairs Committee
Japan Society for Precision Engineering





International Symposium on Upcoming Prominent Engineering solutions

September 29, 2023 Online, The Japan Society for Precision Engineering (JSPE)

International Symposium on Upcoming Prominent Engineering Registration FREE solutions (ISUPEN) will be held online on September 29, 2023. The symposium aims to strengthen cooperation with related overseas organizations and further promote the internationalization of JSPE. In this symposium, innovative R&D activities of researchers and engineers in the field of precision engineering will be introduced to reveal prominent engineering solutions for various recent social issues. The direction in which precision engineering should move toward to form an international community in the future will also be discussed. The symposium will consist of a special talk, 4 keynote lectures and 14 invited talks.

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Japan Time (GMT+9:00)

9:00

Opening address and Introduction to ISUPEN



Dr. Kazutoshi Katahira

Chairman of International Affair Committee of JSPE Senior Research Scientist **RIKEN** Japan

9:05

Special talk: Message from the president of JSPE



Dr. Makoto Fujishima

President of JSPE Vice President DMG MORI CO., LTD. Japan

9:15

Keynote 1:

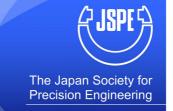
Courage to step into a new realm to be a global precision engineer



Prof. Masakazu Soshi

Professor University of California Davis U.S.A.





Session1:

Think about "how to make micro-structure (texture)", "how to analyze them" and "phenomena at the interfaces"

9:45

Texturing for biomaterials and its application to enhance surface function



Prof. Masayoshi Mizutani

Professor Tohoku University Japan

10:05





Prof. Yi-Chin Toh

Associate Professor The Queensland University of Technology Australia

10:25

Recent Advance and Future Potential in Synchrotron X-ray Tomography



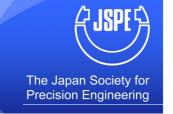
Prof. Wataru Yashiro

Professor Tohoku University Japan

10:45

Break





Session2:

How can we understand "what is happening" during the metal cutting process?

11:00



Direct observation of plastic deformation behavior in metal cutting process

Prof. Tatsuya Sugihara

Associate Professor Osaka University Japan

11:20



Surface integrity estimation in end milling by utilizing model-based inverse analysis of cutting force

Prof. Norikazu Suzuki

Professor Chuo University Japan

11:40



Complex plastic flows and the simulation of machining of ductile polycrystalline aggregates

Prof. Narayan K Sundaram

Associate Professor Indian Institutes of Technology India

12:00

Keynote 2:

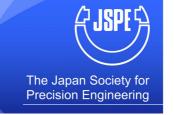


Visions of Korean Society for Precision Engineering (KSPE): Smart & Green

Prof. Sang Won Lee

Professor Sungkyunkwan University South Korea





Session 3:

JSPE Affiliate session

- frontier research of JSPE young researchers -

13:10



Vision of deployment of automated driving vehicles and their validation

Dr. Masao Nakagawa

Researcher National Traffic Safety and Environment Laboratory Japan

13:30



Plasma-electrolysis hybrid process for micro-/nanostructuring applications

Prof. Yonghua Zhao

Associate Professor Southern University of Science and Technology China

13:50



Vacuum pressure measurements through the use of laser and dimensional measurement techniques

Dr. Yoshinori Takei

Senior Researcher National Institute of Advanced Industrial Science and Technology (AIST) Japan

14:10



Microsensors: A New Toolkit for Understanding Cellular Metabolism

Professor Ganesh Kumar Mani

Research Assistant Professor (Former JSPS Fellow) Korea Advanced Institute of Science and Technology (KAIST) South Korea

14:30

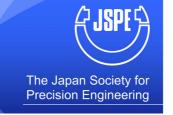


Highly efficient slurryless electrochemical mechanical polishing of SiC wafers

Professor Yang Xu

Associate Professor Xi'an Jiaotong University China





15:00

Keynote 3:

Al-powered OCD metrology on high aspect ratio structures in semiconductor manufacturing



Prof. Liang-Chia Chen

Professor National Taiwan University Taiwan

Session 4:

Prominent technologies for industrial x-ray CT

15:30

Trend of industrial x-ray CT and its applications



Prof. Yukie Nagai

Associate Professor Tokyo Metropolitan University Japan

15:50



XXL-CT – a holistic 3D object capture method for valuable insights

Dipl.-Ing. Michael Salamon

Group Leader Fraunhofer IIS Germany

16:10

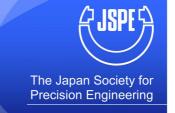
Data and software challenges in X-ray CT



Dr. Richard Boardman

Principal Scientist University of Southampton U.K.





16:30

Keynote 4:

Brief introduction of euspen and current research activities of Bremen University (LFM)



Dr.-Ing. Oltmann Riemer

Group Leader of Laboratory for Precision Machining (LFM) Leibniz Institute for Materials Engineering - IWT Germany

17:00

Closing

Organizing committee

Chair

Kazutoshi Katahira RIKEN

Yukie Nagai Tokyo Metropolitan University

Soo Hyeon Kim The University of Tokyo

Ryo Koike Keio University

Daisuke Matsuura Tokyo Institute of Technology

Masayoshi Mizutani Tohoku University

Masakazu Soshi University of California Davis

Tatsuya Sugihara Osaka University

Co-sponsors

Machine Tool Engineering Foundation

The AMADA Foundation

Mazak Foundation