

# International Symposium on Upcoming Prominent ENgineering solutions

August 31, 2021 Online, The Japan Society for Precision Engineering (JSPE)

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

9:05 **Message from the president of JSPE**



**Prof. Kiyoshi Takamasu**

President of JSPE

Emeritus professor  
The University of Tokyo

9:10 **Special lecture: *Significance and expectation of ISUPEN  
for International Activities of JSPE***



**Prof. Hideki Aoyama**

Professor  
Department of System Design Engineering  
Keio University

9:25 **Keynote 1: *Research highlights of the BELLA Center,  
Lawrence Berkeley National Laboratory***



**Dr. Kei Nakamura**

Associate Deputy Director for Experiment  
Lead scientist for High field experiments  
Lawrence Berkeley National Laboratory  
Accelerator Technology and Applied Physics Division  
BELLA Center (bella.lbl.gov)

9:55 **Keynote 2: *Soft and Smart Manufacturing***



**Prof. Sung-Hoon Ahn**

Professor  
Department of Mechanical Engineering  
Seoul National University  
President of Academic Society for Appropriate Technology  
Conference Chair, ICEAS 2021

10:25 Break

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10:35

10:35 **Session1: Additive Manufacturing Trends and Latest Technologies**



***Productive and quality Directed Energy Deposition (DED) using powder flow control***

**Prof. Masakazu Soshi**

Associate Professor  
Department of Mechanical and Aerospace Engineering  
University of California Davis

10:55



***The application and future challenges for additive manufacturing***

**Dr. Yohei Oda**

Ph.D Group Manager  
IGA Global Solution Center  
AM Processing Technology Group  
DMG Mori Co., Ltd.

11:15



***Super-High Performance Metal Additive Manufacturing based on Analogy of Different Gravitational Fields***

**Prof. Ryo Koike**

Assistant Professor  
Department of System Design Engineering  
Faculty of Science and Technology  
Keio University

11:35 **Session2: JSPE Affiliate session**  
**– frontier research of JSPE young researchers –**

**Introduction of JSPE Affiliate**

**Prof. Yukie Nagai**

Associate Professor, Tokyo Metropolitan University

11:40



***Filmotics: mechatronics changing with film welding***

**Prof. Daisuke Yamaguchi**

Assistant Professor  
Natural Science and Technology  
Institute of Academic and Research  
Okayama University

12:00



***Rationalization of safety validation on the automated driving vehicles using simulation***

**Dr. Masao Nakagawa**

Researcher  
Automotive Safety Research Department  
National Traffic Safety and Environment Lab.

12:20



***Advanced machining process based on in-process measurement***

**Dr. Toru Kizaki**

Research Associate  
Department of Mechanical Engineering  
School of Engineering  
The University of Tokyo

12:40 Lunch time

|  
13:20

13:20

**Keynote 3: Smart Manufacturing in Taiwan**



**Prof. Hung-Yin Tsai**

Professor  
Department of Power Mechanical Engineering  
National Tsing Hua University

Executive Director, Board of Directors  
Taiwan Society for Precision Engineering

13:50

**Session 3: Mechanism Design and its Application for the Establishment of Sustainable Societies**



***Sensing and Processing of Visual / Tactile information based on Various Mechatronics Systems***

**Prof. Daisuke Matsuura**

Specially Appointed Associate Professor  
Department of Mechanical Engineering, School of Engineering  
Tokyo Institute of Technology

14:10



***Gravity compensation design for robotics - Minimizing the motor sizes for your powerful robot arms***

**Prof. Chin-Hsing Kuo**

Senior Lecturer  
School of Mechanical, Materials, Mechatronic and Biomedical Engineering  
Faculty of Engineering and Information Sciences  
University of Wollongong

14:30



***Robot performance evaluation for optimal mechanism design***

**Dr. Matteo Russo**

Research Fellow  
The Rolls-Royce University Technology Centre in Manufacturing and On-wing Technology  
Faculty of Engineering  
The University of Nottingham

14:50

**Break**

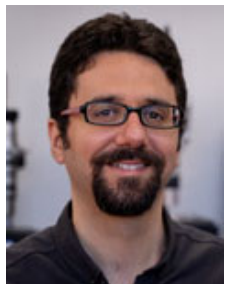
15:00

**15:00 Session 4: Biological and Medical Applications of Advanced Microsystems*****Precise analysis of single molecules and cells using microsystems*****Prof. Soo Hyeon Kim**

Lecturer  
Institute of Industrial Science  
The University of Tokyo

**15:20 *Microphysiological systems based on microfluidics for cell-based assays*****Prof. Hiroshi Kimura**

Associate professor  
Department of Mechanical Engineering  
Tokai University

**15:40 *Silicon actuators for biological applications*****Prof. Mehmet Cagatay Tarhan**

Associate professor  
Univ. Lille, CNRS, Centrale Lille, Junia,  
Univ. Valenciennes, UMR 8520-IEMN, Lille

LIMMS/CNRS-IIS IRL2820  
The University of Tokyo

16:00



***Report of euspen tallent program: Design of 3D printed cost-effective adjustment stage for CERN's particle accelerator: Challenge to "euspen talent programme"***

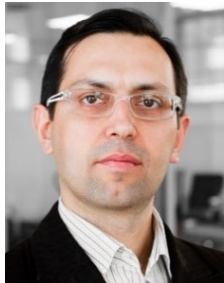
**Dr. Shuzo Masui**

Specially Appointed Researcher

The Research Center for Advanced Science and Technology  
The University of Tokyo

16:30

**Keynote 4:**



***An overview on euspen activities and recent trends in precision engineering in Europe***

**Prof. Ing. Enrico Savio**

Former president of euspen (The European Society for Precision Engineering and Nanotechnology)

Professor  
University of Padua

17:00

Closing

**Organizing committee**

Chair

<b>Kazutoshi Katahira</b>	RIKEN
<b>Yukie Nagai</b>	Tokyo Metropolitan University
<b>Takazo Yamada</b>	Nihon University
<b>Daisuke Matsuura</b>	Tokyo Institute of Technology
<b>Soo Hyeon Kim</b>	The University of Tokyo
<b>Tatsuya Sugihara</b>	Osaka University
<b>Ryo Koike</b>	Keio University
<b>Masakazu Soshi</b>	University of California Davis
<b>Atsuko Murakoshi</b>	Sumitomo Heavy Industries, Ltd.

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