

Plenary Speakers



"Plasma-liquid Interactions: New opportunities for Plasma Physics and Organic Chemistry"

Prof. Felipe Iza
Loughborough Univ., UK



"Emerging Nanoassemblies and Their Functions"

Prof. Shu-Hong Yu
Univ. of Sci. and Tech. of China, China



"Plasma Biology and Chemistry for Innovations in Agriculture and the Food Cycle"

Prof. Peter Bruggeman
Univ. of Minnesota, USA



"Plasma Jets above or inside Liquids: Basic but Tricky and Promising Setups"

Prof. Eric Robert
Univ. Orleans, France



"Status of Research and Development for Demonstration of Fusion Energy"

Vice-President. Hyeon Gon Lee
NFRI, Korea



"Plasma Technology Trends in Semiconductor Equipment Industry"

CEO. Changjin Kang
SEMES, Korea

Keynote & Invited Speakers

0. 6th International Plasma Farming Workshop (IPFW)

Keynote Wonho Choe (KAIST, Korea)

Keynote Choncharoen Sawangrat (Chiang Mai Univ., Thailand)

Keynote Masaharu Shiratani (Kyushu Univ., Japan)

Gregory Fridman (AAPlasma, LLC, USA)

Cheorun Jo (Seoul Nat'l Univ., Korea)

Young Sun Mok (Jeju Nat'l Univ., Korea)

Gyungsoon Park (Kwangwoon Univ., Korea)

Sanghoo Park (NFRI, Korea)

Chan Suk Yoon (Foodpolis, Korea)

1. Plasma Bioscience & Medicine

Ihn Han (Kwangwoon Univ., Korea)

Dong Ping Liu (Dalian Univ. of Tech., China)

Masaharu Shiratani (Kyushu Univ., Japan)

2. Plasma Processing for Semiconductor and Display Devices

Keynote Hyoungcheol Kwon (SK hynix, Korea)

Keynote Jong Chul Park (Samsung Electronics Co., Ltd., Korea)

Roldolphe Mauchauffe (Jeonbuk Nat'l Univ., Korea)

3. Plasma Processes for Nanomaterial Development

Sooseok Choi (Jeju Nat'l Univ., Korea)

Ye Daiqi (South China Univ. of Tech., China)

Jaeho Kim (Nat'l Inst. of Advanced Industrial Sci. and Tech., Japan)

Chang-jun Liu (Tianjin Univ., China)

Tomohiro Nozaki (Tokyo Inst. of Tech., Japan)

4. Plasma Diagnostics and Process Monitoring Technology

Jianping Zhao (TEL, USA)

5. Plasma Sources and Technology

Keynote Mark Kushner (Univ. of Michigan, USA)

Birk Berger (Ruhr-Univ. Bochum, Germany)

Hyo-Chang Lee (KRISS, Korea)

Yong-Xin Liu (Dalian Univ. of Tech., China)

Thomas Mussenbrock (Univ. of Cottbus, Germany)

6. Plasma Modeling and Simulation Techniques

Keynote Julian Schulze (Ruhr-Univ. Bochum, Germany)

Yan Feng (Soochow Univ., China)

Satoshi Uchida (Tokyo Metropolitan Univ., Japan)

Haixing Wang (Beihang Univ., China)

Yuan-Tao Zhang (Shandong Univ., China)

Yuru Zhang (Dalian Univ. of Tech., China)

7. 2D Materials and Their Application to Nano/Micro Devices

Jaebum Choo (Chung-Ang Univ., Korea)

Maxime Darnon (Univ. de Sherbrooke, Canada)

Seongil Im (Yonsei Univ., Korea)

Atul Kulkarni (Symbiosis Centre for Nanosci. and Nanotech., Symbiosis Int'l Univ., India)

Jae Dong Lee (DGIST, Korea)

Won Jong Yoo (Sungkyunkwan Univ., Korea)

8. Flexible and Stretchable Displays & Sensors

Shimano Kengo (Kyushu Univ., Japan)

Taeyoon Lee (Yonsei Univ., Korea)

Andreas Ruediger (Univ. du Quebec, Canada)

9. Energy Related Devices

Keynote Lu Li (NUS, Singapore)

Ruediger-A. Eichel (RWTH Aachen Univ. & Research Inst.

Juelich, Germany)

Chong Kwok Feng (Universiti Malaysia Pahang, Malaysia)

10. Functional Materials - Synthesis, Characterizations, and Application

Keynote Myoung Hoon Song (UNIST, Korea)

Shinuk Cho (Univ. of Ulsan, Korea)

Teiichi Kimura (Japan Fine Ceramics Center, Japan)

Seokin Na (Jeonbuk Nat'l Univ., Korea)

Dongfeng Xue (CAS, China)

Shu Yin (Tohoku Univ., Japan)

As of March 5, 2020

ICMAP 2020 & ISFM 2020 Secretariat

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Call for Abstract
icmap2020.org

Joint International Conference on ICMAP 2020 & ISFM 2020

6th International Plasma Farming Workshop

The 8th International Conference on Microelectronics and Plasma Technology

August 16~20, 2020 /

Phoenix JEJU Hotel & Resort, Jeju, Korea

The 9th International Symposium on Functional Materials

August 16~19, 2020 /

Phoenix JEJU Hotel & Resort, Jeju, Korea

Important Dates

Abstract Submission

From February 3, 2020 to May 15, 2020

Notification of Abstract Acceptance

From March 16, 2020

** Notification of acceptance will be sent by email within one month after submission

Pre-Registration

From May 1, 2020 to June 30, 2020

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Welcome Message

The Joint Conference on the 8th International Conference on Microelectronics and Plasma Technology (ICMAP 2020) and the 9th International Symposium on Functional Materials (ISFM 2020) will be held during August 16-19, 2020 at Phoenix JEJU, Jeju, Korea.

The ICMAP 2020 is initiated to provide an open forum for the discussion of the current status of scientific and technological achievements in the various fields of plasma applied research and developments including microelectronic devices. The ISFM2020 is a biennial multidisciplinary meeting bring together scientists, researchers, and engineering applications of functional materials, and will cover a broad spectrum of key topics related to energy, environmental, biomedical, electronic and nanostructure materials.

On behalf of the organizing committee, we would like to express our warmest welcome to all of you who are participating in ICMAP 2020 & ISFM 2020. We believe that the conference will provide wonderful scientific and social programs with your active participation in beautiful Jeju Island to remain as long-lasting memories.

We thank you for your participation in advance and look forward to seeing you at ICMAP 2020 & ISFM 2020 in Jeju, Korea!

Conference Chairs of ICMAP 2020 & ISFM 2020

Suk Jae Yoo (NFRI, Korea)

Jin-Hyo Boo (Sungkyunkwan Univ., Korea)

Submission Guideline

- You are required to submit abstract via Online Abstract Submission System. Please input your abstract into the system directly.
- Abstract should be written a minimum of 200 words (with space).
- Before the submission, please select your preferred type of your presentation (Oral or Poster).
- The accepted presentation and type will be notified after review process accordingly.

**** Online Abstract Submission System:**

<https://www.cy-mice.org/icmap2020>

Manuscripts for Proceedings

The submitted regular manuscripts will be published in Journal of Nanoscience and Nanotechnology (JNN), Science of Advanced Materials (SAM), Thin Solid Films, and Functional Materials Letters, Materials Express, Applied Science and Convergence Technology (ASCT) after peer reviews. Other journals will be added soon.

Organizing Committee

Honorary Chair

Chi Kyu Choi (Jeju Nat'l Univ., Korea)

Conference Chair

ICMAP 2020 : Suk Jae Yoo (NFRI, Korea)

ISFM 2020 : Jin-Hyo Boo (Sungkyunkwan Univ., Korea)

Committee Members

HeeHwan Choe (Korea Aerospace Univ., Korea)

Bert Ellingboe (Dublin City Univ., Ireland)

David B. Graves (Univ. of California Berkley, USA)

Satoshi Hamaguchi (Osaka Univ., Japan)

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Yuan-Hong Song (Dalian Univ. of Tech., China)

Jung-Sik Yoon (NFRI, Korea)

Shin Jae You (Chungnam Nat'l Univ., Korea)

[ISFM] Chang Lyoul Lee (GIST, Korea)

[ISFM] Jaehyeong Lee (Sungkyunkwan Univ., Korea)

[ISFM] Changsik Song (Sungkyunkwan Univ., Korea)

Conference Topics

6th International Plasma Farming Workshop (IPFW)

Wonho Choe (KAIST, Korea)

Seong Bong Kim (NFRI, Korea)

- Overviews of Plasma Agriculture and Food Cycle
- Plasma Sources and Characterization for Agriculture and Food Cycle
- Case Studies, Diagnostics, Modeling and Mechanism Studies
- Application Feasibility and Commercialization Issues

1. Plasma Bioscience & Medicine

Session Chairs

Eun-Ha Choi (Kwangwoon Univ., Korea)

Sungmo Moon (KIMS, Korea)

- Fundamentals of Atmospheric Plasmas
- Plasma Sources for Biomedical Applications
- Plasma-cell and Plasma-tissue Interactions – Biological and Biochemical Reactions
- Plasma-surface Interactions/Modifications for Biomedical Applications
- Plasma-based Decontamination and Sterilization
- Plasma for Pharmaceutical Applications, Biochemical and Biomolecular Engineering
- Plasma Modeling and Numerical Simulation

2. Plasma Processing for Semiconductor and Display Devices

Session Chairs

Heeyeop Chae (Sungkyunkwan Univ., Korea)

Hyeongtag Jeon (Hanyang Univ., Korea)

Junghoon Joo (Kunsan Nat'l Univ., Korea)

Se Hun Kwon (Pusan Nat'l Univ., Korea)

- Plasma-Enhanced Chemical Vapor Deposition (PECVD)
- Plasma-Enhanced Atomic Layer Deposition (PEALD)
- Plasma Sputtering for TSV Applications
- Plasma Etching
- Atomic Layer Etching (ALE)/Plasma Atomic Layer Etching
- Atomic Layer Cleaning
- Plasma Ashing
- Environment-friendly Plasma Processing

3. Plasma Processes for Nanomaterial Development

Session Chairs

Goo-Hwan Jeong (Kangwon Nat'l Univ., Korea)

Li Oi Lun (Pusan Nat'l Univ., Korea)

- Plasma-Assisted Nanomaterial Synthesis and Functionalization
- Atmospheric Plasma Processes for Nanomaterial Development
- Solution Plasma Processes for Nanomaterial Development

4. Plasma Diagnostics and Process Monitoring Technology

Session Chair

Shin Jae You (Chungnam Nat'l Univ., Korea)

- Plasma Parameter Diagnostics
- Processing Monitoring (Film Thickness, Collision Frequency, Wafer Temperature, etc.)
- AI Based Plasma Diagnostics/Monitoring

5. Plasma Sources and Technology

Session Chair

Julian Schulze (Ruhr Univ. Bochum, Germany)

- Plasma Sources (RF Plasma, DC Plasma, Plasma Propulsion, Thermal Plasma, Laser Plasma, Magnetized Plasma, etc.)

6. Plasma Modeling and Simulation Techniques

Session Chair

Yuan-Hong Song (Dalian Univ. of Tech., China)

Sub Session Chair

Mi-Young Song (NFRI, Korea)

- Sheaths / Plasma Physics / Plasma Kinetics / Fundamental Plasma Physics
- Modeling / Numerical Analysis / Plasma Simulations
- Dusty Plasmas / Strongly Coupled Plasmas
- Fundamental Processes in Plasma

7. 2D Materials and Their Application to Nano/Micro Devices

Session Chairs

Taesung Kim (Sungkyunkwan Univ., Korea)

Won Jong Yoo (Sungkyunkwan Univ., Korea)

- Issues on Plasma Processing of 2D Materials
- Characterization of 2D Materials and Devices
- Application to Flexible Devices
- Application to Energy Devices

8. Flexible and Stretchable Displays & Sensors

Session Chair

Nae-Eung Lee (Sungkyunkwan Univ., Korea)

Sub Session Chairs

Munpyo Hong (Korea Univ., Korea)

Sungsoo Kim (Paichai Univ., Korea)

Wansoo Yun (Sungkyunkwan Univ., Korea)

- Flexible and Stretchable Display Devices
- Flexible and Stretchable Physical, Chemical and Biological Sensors
- Flexible and Stretchable Thin-film Transistors
- Flexible and Stretchable Materials for Soft Electronics

9. Energy Related Devices

Session Chairs

Dong Chan Lim (KIMS, Korea)

Donggun Lim (Korea Nat'l Univ. of Transportation, Korea)

- Energy Harvesting Materials and Devices
- Power to Gas (Fuel cell, Hydrogen, CO₂ Conversion)
- Energy Storage and Conversion Materials and Devices

10. Functional Materials - Synthesis, Characterizations, and Application

Session Chair

Chang Lyoul Lee (GIST, Korea)

Sub Session Chairs

Eun-Ha Choi (Kwangwoon Univ., Korea)

Mun Seok Jeong (Sungkyunkwan Univ., Korea)

Yong-Cheol Kang (Pukyong Nat'l Univ., Korea)

Joo-Hyung Kim (Inha Univ., Korea)

Young Dok Kim (Sungkyunkwan Univ., Korea)

Jaehyeong Lee (Sungkyunkwan Univ., Korea)

- Perovskite Materials and Devices
- Organic and Inorganic Transistor
- Display (OLED, Phosphorescent LEDs, II-VI, III-V Devices)
- Organic and Inorganic Memories
- Epitaxial & Chemically Synthesized Dots
- Hybrid Organic/Inorganic QDs and Devices
- Emerging Organic and Inorganic Electronics