



9th IAPLE Conference & AGM

Conference Programme



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21-23 September, 2025



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Shangri-La Rasa Sentosa Hotel, Singapore

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Venue: Shangri-La Rasa Sentosa Hotel
101 Siloso Road, Sentosa 098970 Singapore
Telephone (+65) 6275 0100
E-mail: sen@shangri-la.com
Web: <https://www.shangri-la.com/singapore/rasasentosaresort/about/>

Chairman: Professor Yongfeng Lu (USA)

Co-chairmen: Professor Lin Li (UK), Dr. Keming Du (Germany)

Organiser: International Academy of Photonics and Laser Engineering (IAPLE)

Conference Secretary: Ms. Jing Wang



Conference Programme

20 September 2025: Arrival

Welcome Dinner: 6:30pm start, *Casserole, Level 3,
Shangri-La Rasa Santosa Hotel*

**Day 1: Sunday, 21 September 2025, Boardroom (Level 6, Rasa Suites
Shangri-La Rasa Santosa Hotel)**

9:00 – 9:30: 9th IAPLE Conference Opening: Professor Yongfeng Lu (Conference
Chairman)

1. Welcome address (Professor Yongfeng Lu)
2. Introduction to IAPLE (Professor Lin Li)
3. Group photo

■ Plenary Session 1 Chair: Professor Chunlei Guo, University of Rochester
(USA)

9:30 am – 10:00 am: Plenary Keynote Presentation 1: “*Femtosecond Laser
Nanofabrication for Industrial Applications*”, Professor
Hongbo Sun, Tsinghua University, China

10:00 am – 10:30 am: Plenary Keynote Presentation 2: “*Ultrashort Pulsed Laser
Processing in Liquid Environment*”, Professor Andreas
Ostandorf, Ruhr University Bochum, Germany

10:30 am – 10:45 am: Tea/Coffee break

■ Plenary Session 2 Chair: Professor Andreas Ostandorf, Ruhr University Bochum (Germany)

10:45 am – 11:15 am: Plenary Keynote Presentation 3: “*Laser Processing of Carbon Fibre Reinforced Polymer Composite (CFRP)*”,
[Professor Lin Li](#), The University of Manchester, UK

11:15 am – 11:45 am: Plenary Keynote Presentation 4: “*Laser 3D Printing and Femtosecond Laser Polishing of Diamond-based Composites for Next-generation Thermal Management*”,
[Professor Yongfeng Lu](#), University of Nebraska-Lincoln , USA

11:45 am – 12:15 am: Plenary Keynote Presentation 5, “*Advancing Renewable Energy and Sustainability through Laser- and Non-Laser-based Material Functionalization*” [Professor Chunlei Guo](#), University of Rochester University, USA

12:30 – 13:30 Lunch, [Silver Shell Café, Level 3, Shangri-La Rasa Santosa Hotel](#)

2:00 pm – 6:00 pm: **Breakout session.**

Topics to consider:

- 1) challenges of laser micro/nano fabrication
- 2) challenges of laser additive manufacturing
- 3) challenges of laser welding

6:30 pm – 8:00 pm: **Conference dinner**, [Yue Private Dining, Amara Sancturay Resort Santosa](#)

Day 2: Monday, 22 September 2025, Boardroom (Level 6, Rasa Suites)

Plenary Session 3 Chair: Professor Hongbo Sun, Tsinghua University, China

9:00 am – 9:30 am: Plenary Keynote Presentation 6: “*Laser-flame Hybrid Cutting for Large Thickness Steel Places: Principles and Applications*”, [Professor Xiaoyan Zeng](#), Huazhong University of Science and Technology, China

9:30 am – 10:00 am: Plenary Keynote Presentation 7: “*Laser-based Solid-Phase Fabrication of Membrane Electrodes*”, [Professor Zhu Liu](#), University of Chinese Academy of Sciences, China

10:00 am – 10:15 am: Tea/Coffee break

Young Persons Session (Invited) Chair: Professor Lin Li, The University of Manchester (UK)

10:15 am – 10:35 am: “*Ultrafast Laser Micro-nanomanufacturing for Bionic Device Application*”, [Professor Wei Xiong](#), Huazhong University of Science and Technology, China

10:35 am – 10:55 am: “*Multi-material Laser Additive Manufacturing of Temperature-sensing Electromagnetic-mechanical Integrated Metastructures*”, [Professor Chao Wei](#), University of Chinese Academy of Sciences, China

10:55 am – 11:15 am: “*Non-Abelian Thouless Pumping in Photonic Waveguides via Femtosecond Laser Direct Writing*”, [Miss Yi-Ke Sun](#), Jilin University, China

11:15 am – 11:35 am: “*Multi-channel In-situ Monitoring of Laser Additive Manufacturing for Defect Recognition and Process Optimisation*”, [Dr. Wei Li](#), University of Chinese Academy of Sciences, China

12:00 pm – 1:00 pm: Lunch, *Trapizza, Leve 1, Shangri-La Rasa Santosa Hotel*

2:00 pm – 4:00 pm: **Breakout Sessions.**

Topics to consider:

- 1) challenges in laser cutting
- 2) challenges in laser sources and system
- 3) Opportunities in industrial applications of laser processing

■ Plenary Session 4 Chair: Professor Yongfeng Lu, University of Nebraska-Lincoln (USA)

4:00 pm – 4:30 pm: Plenary Keynote Presentation 8: “*Advances in Ultrafast Pulsed Laser Deposition of Thin Films*”, [Professor William O’Neill](#), Cambridge University, UK

4:30 pm – 5:00 pm: Plenary Keynote Presentation 9: “*TPP-Molding process Fabricating 3D CYTOP Microfluidic Chips for Super-Resolution Live Imaging of Cells*”, [Professor Koji Sujioka](#), RIKEN, Japan

5:00 pm – 5:30 pm: Plenary Keynote Presentation 10: “*Ultrafast Laser Micro-nanostructuring of Ultra-thin Vapour Chamber for High Efficient Cooling in Microelectronics*”, [Professor Minlin Zhong](#), Tsinghua University, China

5:30 pm – 6:00 pm: Plenary Keynote Presentation 11: “*Recent Topics of Laser Applications in Japan and Effects of Beam Control in Laser Material Processing*”, [Professor Yasuhiro Okamoto](#), Hiroshima University, Japan

6:30 pm – 8:00 pm: Conference Dinner, *Ocean Restaurant, Equarius Hotel, Santosa*

Day 3: Tuesday, 23 September 2025, Boardroom (Level 6, Rasa Suites)

Plenary Session 5 Chair: Professor Xiaoyan Zeng, Huangzhong University of Science and Technology (China)

9:00 am – 9:30 am: Plenary Keynote Presentation 12: “*Modular High Power Ultrashort Pulse Lasers for Industrial Applications*”, [Dr. Keming Du](#), Edgewave Photonics, Germany

9:30 am – 10:00 am: Plenary Keynote Presentation 13: “*kW Average Power Ultrafast Industrial Thin-disk Laser*”, [Mr. Yongzhen Yan](#), Glory Photonix, China

10:00 am – 10:15 am: Tea/Coffee break

10:00 am – 11:30 am: IAPLE AGM – IAPLE fellows and corporate members only, Boardroom (Level 6, Rasa Suites) – Chair: Professor Yongfeng Lu (Chairman of IAPLE)

1. Annual review
2. Finance report
3. IAPLE web
4. Election of IAPLE officers
5. IAPLE new Fellow nominations
6. Recommendation for new corporate (associate) members
7. Recommendation for IAPLE members
8. The venue and date for the 10th IAPLE conference in 2026
9. Any other business

Technical Discussion Chair: Keming Du, Edgewave Photonics (Germany), Boardroom (Level 6, Rasa Suites)

11: 30 am – 12:00

Topics:

- 1) Future development opportunities in laser sources and systems

- 2) Opportunities in industrial applications of laser processing
- 3) Emerging technologies in laser processing

12:10 – 1:30 pm: Lunch, *Silver Shell Café, Leve 3, Shangri-La Rasa Santosa Hotel*

1:40 pm – 5:30 pm : Visting SIMech (Singapore Institute of Manufacturing Technology) and ARTC (Advanced Remanufacturing Technology Centre)

1:30pm assemble at the Shangri-La hotel lobby

Departure from hotel (Sangri-La): 1:40 pm

Arrival: 2:20 pm

2:30 pm – 2:55 pm: Introduction to SIMTech and ARTC (meeting room CT2)

3:00 pm – 4:30 pm: Facility Tour

- 1. Directred Energy Deposition Laboratory (20 min). – CT2B, L2
- 2. Laser Cleaning Laboratory (20min) – CT2B, L2
- 3. Laser Assisted Incremental Sheet Forming Laboratory (20 min) – CT2B, L2
- 4. Additive Innovation Centre (AIC) – 30 min – CT2B, L3

4:30 pm – 5:00 pm: IAPLE Special Session Decicated to Professor Jonathan Lawrence, AIC, CT2B, L3

5:00 pm Group photo

5:10 pm Departure

6:00 pm – 8:00 pm: **Conference farewell dinner**, *Imperial Treasure Fine Chinese Cuisine, Marina Bay Sands, The Shoppes, #02-04, 8 Bayfront Avenue*

Notes

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