



CIRP Office : 9 rue Mayran - 75009 Paris - Tel. (33) 1 45 26 21 80  
E-Mail: [cirp@cirp.net](mailto:cirp@cirp.net) Web : [www.cirp.net](http://www.cirp.net)

2025 GENERAL ASSEMBLY

---

Stockholm - Sweden

### **CIRP-2025-E-3**

#### **SCIENTIFIC TECHNICAL COMMITTEE "E" (ELECTRO-PHYSICAL, CHEMICAL, LASER & RELATED ADDITIVE MANUFACTURING PROCESSES)**

Meeting to be held on Friday, August 22, 2025  
**14.00 - 18.00**

---

You are kindly invited to participate in the next ELECTRO-PHYSICAL, CHEMICAL, LASER and RELATED ADDITIVE MANUFACTURING PROCESSES Scientific Technical Committee meeting to be held in Stockholm.

#### **Draft Agenda**

**14.00 – 14.03 Opening, welcome, introduction of invited guests, approval of agenda**

**14.03 – 14:05 Approval of the minutes of the last meeting, matters arising**

**14:05 – 14:50 Keynote Paper Discussion**

- STC E Keynote Paper for 2025: Update on Progress (Status: Presented) [5 min.]  
Multi-material additive manufacturing: Overcoming barriers to implementation  
Organizer: Adam Clare
- STC E Keynote Paper for 2026 (Status: Approved) [10 min.]  
Laser based manufacturing for electric traction and energy storage systems: State of the art and new challenges  
Organizer: Alessandro Fortunato
- STC E Keynote Paper for 2027 (Status: Approved) [10 min.]  
Interlayer reinforced domains enabled by additive manufacturing  
Organizer: Michael Sealy
- STC E Keynote Paper for 2028 (Status: Approved) [10 min.]  
In-space Manufacturing (ISM) for Earth and Space: Materials, Processes, and Testing  
Organizer: Ajay Malshe
- STC E Keynote Paper for 2029 (Status: Approved) [10 min.]  
Recycling [metal] production waste through additive manufacturing  
Organizers: Sarah Wolff and Frederik Zanger

**14.50 – 14.55 CIRP and CIRP Sponsored Conferences**

#### **14.55 – 15.00 CIRP Novel Topics in Production Engineering**

- Authors are encouraged to propose potential topics for new essays  
Editor: Tullio Tolio

#### **15.00 – 16:00 Technical presentations #1 - #4 (10 min. + 5 min. discussion)**

1. Novel biomanufacturing process using cyanobacteria and fungi to bond granular particles together into various structures  
By: Congrui Grace Jin (presenter, guest)
2. Effect of process parameters on the ion beam enhanced etching of silicon carbide  
By: Jinshi Wang (presenter, AM), Nanya Li, Jianling Lu, Min Lai, Fengzhou Fang
3. Optimal thermal field formulation for laser cladding by solving the inverse problem approach  
By: Yoshihiro Kitagawa, Zhirong Liao (presenter, AM), Shusong Zan, Dragos Axinte
4. Laser structuring to enhance performances of fuel cells electrodes  
By: Leonardo Orazi (presenter, AM), V. Siciliani

#### **16:00 – 16:30 Coffee Break**

#### **16.30 – 18:00 Technical presentations #5 - #10 (10 min. + 5 min. discussion)**

5. Managing Residual Stress and Geometric Distortion in Directed Energy Deposition Components via Computationally Efficient Modeling  
By: Xiaoliang Jin (presenter, guest)
6. Toward intelligent monitoring of Directed Energy Deposition from powder flow to quality inspection  
By: Kandice Suane Barros Ribeiro (presenter, guest)
7. Prediction of the bead shape of a directed energy deposition process using machine learning with limited point data  
By: Kwang-Kyu Lee, Jungyeon Kim, Seung Ki Moon, Dong-Gyu Ahn (presenter, AM)
8. Implications of Beam Shaping in Laser Powder Blown Directed Energy Deposition through High-speed Schlieren Imaging  
By: Sam Webster (presenter, guest)
9. Real-time image processing based controls to achieve dimensional accuracy for robotic wire arc additive manufacturing  
By: Amber Shrivastava (presenter, guest)
10. A Preliminary Study on Sustainable Hybrid Manufacturing Chains Combining Material Extrusion Additive Manufacturing, In-Process Monitoring, and Subtractive Methods for Defect Correction and Repair  
By: Maria Grazia Guerra (presenter, RA)

**18:00**

**Closure**