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2025 GENERAL ASSEMBLY

Stockholm - Sweden

CIRP-2025-M-3

**SCIENTIFIC TECHNICAL COMMITTEE "M"
(MACHINES)**

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

You are kindly invited to participate in the next MACHINES Scientific Technical Committee meeting to be held in Stockholm.

Draft Agenda

1. 14:00 - 14:08 Opening welcome, introduction of invited guests
2. 14:08 - 14:10 Approval of agenda and STC-M minutes from CIRP WM 2025
3. 14:10 - 14:20 Discussion of the STC-M Keynote Paper 2025
“Fixtures and workpiece clamping systems in machining”
by H.-C. Möhring (University of Stuttgart, Germany)
- 4. 14:20 - 16:00 Technical presentations (8 min/talk, 4 min/Q&A)**
 - 4.1 14:20 - 14:32 “Part distortion monitoring in additive manufacturing using machining”
by J. Karandikar (Oak Ridge National Laboratory, USA)
 - 4.2 14:32 - 14:44 “Closed loop control in milling by sensory tool signals and federated learning approach”
by F. Bleicher (Technical University of Vienna, Austria)
 - 4.3 14:44 - 14:56 “Force-sensitive retrofit solutions for process monitoring during grinding”
by H. Buhl (Leibniz University of Hannover, Germany)
 - 4.4 14:56 - 15:08 “Vibro-impacts and chatter stability of an impact-damped tool”
by M. Law (Indian Institute of Technology Kanpur, India)
 - 4.5 15:08 - 15:20 “Wireless excitation device for on-machine measurement of workpiece compliance”
by D. Kono (Kyoto University, Japan)
 - 4.6 15:20 - 15:32 “Enhancing part-to-part feedrate optimization in CNC machining using data-driven cutting force constraints”
by C. Okwudire (University of Michigan, USA)

- 4.7 15:32 - 15:44 “Integrated digital modelling and surrogate optimization for robot-based manufacturing cells”
by P. Stavropoulos (University of Patras, Greece)
- 4.8 15:44 - 15:56 “Dynamic Digital Twin Based Evaluation of Surface Quality in High Speed Milling”
by C.-J. Kim (Korea Institute of Machinery & Materials, Korea)
- 4.9 15:56 - 16:00 Concluding discussion on technical presentations

16:00-16:30 Coffee break

5. 16:30 - 17:20 Future STC-M keynote papers

- 5.1 16:30 - 16:45 Progress Report on STC-M Keynote Paper 2026
“Digital twins for machine tools”
by A. Verl (University of Stuttgart, Germany)
- 5.2 16:45 - 16:55 Progress Report on STC-M Keynote Paper 2027
“Machining of metallic flexible parts”
by L.T. Tunç (UNC Charlotte, USA)
- 5.3 16:55 - 17:05 Progress Report on STC-M Keynote Paper 2028
“From reactive maintenance to prescriptive maintenance”
by S. Ihlenfeldt (Fraunhofer Institute for Machine Tools and Forming Technology IWU, Germany)
- 5.4 17:05 - 17:20 Discussion on future keynote proposals

6. 17:20 - 17:55 Update on CIRP Novel Topics in Prod. Eng. (CNTPE)

- 6.1 17:20 - 17:25 Introduction by Y. Kakinuma (Keio University, Japan)
- 6.2 17:25 - 17:35 “Energy efficient machining by green transformation”
by K. Mori (Kyoto University, Japan)
- 6.3 17:35 - 17:45 “Algorithms in CNC-kernels”
by A. Verl (University of Stuttgart, Germany)
- 6.4 17:45 - 17:55 Discussion on future CNTPE proposals

7. 17:55 - 18:00 Miscellaneous

- 7.1 Conference sponsorship

8. 18:00 Closure