Life-Cycle Engineering and Assembly (A)

Tuesday, 19 August 2025, Session Room: M8		
09:00–09:30	A-1	An LLM-enabled human demonstration-assisted hybrid robot skill synthesis approach for Human-Robot collaborative assembly *Yue Yin, Ke Wan, Chengxi Li, Pai Zheng (2)*
09:30–10:00	A-2	Generative AI for automated task modelling and task allocation in human robot collaborative applications *Nikos Dimitropoulos, Michalis Kaipis, Stavros Giartzas, George Michalos (2)*
10:30–11:00	A-3	Vision intelligence-conditioned reinforcement learning for precision assembly *Sichao Liu, Lihui Wang (1)*
11:00–11:30	A-4	Beyond proxies: a direct time-optimal approach to robot cell layout optimization *Jan Baumgärtner, Alexander Puchta, Jürgen Fleischer (1)*
11:30–12:00	A-5	Design and control of flexible handling systems based on mobile cooperative multi-robot-systems *Tobias Recker, Annika Raatz (2)*

CIRP STOCKHOLM 2025

M8–Tuesday–AM

Life-Cycle Engineering and Assembly (A)

Tuesday, 19 August 2025, Session Room: M8		
13:30–14:00	A-6	Increasing object flexibility of vacuum gripper systems through a common grasp search *Rüdiger Daub, Paul Geng / G. Reinhart (1)*
14:00–14:30	A-7	Conceptualisation of a multimodal, non-intrusive, generative AI-based assistive system for assembly *Alessandro Simeone, Yuchen Fan, Dario Antonelli, Paolo C. Priarone (2), Luca Settineri (1)*
14:30–15:00	A-8	Constellation-based robotic visual servoing method for fault diagnosis of used printed circuit board assemblies *Bence Tipary, Gabor Erdos (2), Zsolt Kemény*
15:00–15:30	A-9	Random wavelet kernels for interpretable fault diagnosis in industrial systems *Haoxuan Deng, Samir Khan, John Ahmet Erkoyuncu (2)*
16:00–16:30	A-10	Vision-based robotic disassembly of aircraft engines with YOLO-SAM: a novel method for task orientation estimation *Angelo Moroncelli, Sylvain Populus, Armand Rossi, Emanuele Carpanzano (1), Loris Roveda*
16:30–17:00	A-11	Sustainability of polycarbonate recycling via additive manufacturing *Nan Yu, Yifan Yuan, Zicheng Zhu, Ruslan Melentiev, Long Ye, James Tinkler, Lukas Raddatz, Stephen T. Newman (1)*
17:00–17:30	A-12	Impacts of circular economy strategies on product carbon footprint: a lithium-ion battery case *Haiwei Zhou, Wen Li, Sami Kara (1), Michael Zwicky Hauschild (1)*
17:30–18:00	A-13	A cradle-to-grave life-cycle-assessment of dry-processed Li-ion batteries for electric vehicles *Yu Gu, Runming Tao, Chris Yuan (2), Hongchao Zhang (1), Michael Hauschild (1)*

CIRP STOCKHOLM 2025

M8–Tuesday–PM

Cutting (C)

Monday, 18 August 2025, Session Room: M7		
16:00–16:30	C-1	Towards understanding the surface strengthening mechanism in negative rake angle cutting of additively manufactured stainless steel *Tingyue Bai, Chao Wang, Guangyuan Yu, Maxim Kolmanovskyi, Jannis Saelzer, Toru Kizaki (2), Dirk Biermann (1), Zhenglong Fang*
16:30–17:00	C-2	Directional-adaptive approach in machining of additively manufactured Inconel 718 *Amin Bagherzadeh, Ozkan Gokcekaya, Erhan Budak (1)*
17:00–17:30	C-3	Ultrasonic vibration-assisted machining of Invar 36 alloy manufactured by wire arc additive manufacturing *Ramazan Hakkı Namlu, Korcan Küçüköztaş, Hakan Kalkan, Bilgin Kaftanoğlu (1)*
17:30–18:00	C-4	Sub-surface sinking effect of reinforcement particle in laser assisted machining of metal matrix composites *Omkar Mypati, Zhirong Liao (2), Shusong Zan, Rachid M'Saoubi (1), Dragos Axinte (1)*

CIRP STOCKHOLM 2025

M7–Monday–PM

Cutting (C)

Tuesday, 19 August 2025, Session Room: M7		
09:00–09:30	C-5	Sensorless in-process runout monitoring in milling via an industrial Edge device *Mohammadreza Chehrehzad, Ismail Lazoglu (1)*
09:30–10:00	C-6	An experimental methodology to improve the robotic drilling of aluminium alloys *François Ducobu (2), Thomas Beuscart, Valentin Dambly, Edouard Rivière-Lorphèvre, Gorka Ortiz-de-Zarate, Pedro-José Arrazola (1)*
10:30–11:00	C-7	Physics-based modelling and validation of dynamically varying thermal and mechanical residual stress fields in finish machining of aerospace alloys *Julius Schoop, I.S. Jawahir (1)*
11:00–11:30	C-8	A physics-based flow stress model for cutting simulation of additively manufactured Alloy 718 *Amir Malakizadi, Rachid M'Saoubi (1)*
11:30–12:00	C-9	A novel approach to milling cutter temperature analysis with cutting fluid consideration *Thomas Bergs (2), Hui Liu*

CIRP STOCKHOLM 2025

M7–Tuesday–AM

Cutting (C)

Tuesday, 19 August 2025, Session Room: M7		
13:30–14:00	C Kn	Revisiting machinability assessment: Towards total machining performance *I.S. Jawahir (1), Helmi Attia (1), Martin Dix (3), Hassan Ghadbeigi, Zhirong Liao (2), Julius Schoop, Alborz Shokrani (2)*
14:00–14:30	C-10	Tool failure – a method for stress calculation of worn cutting tools *Benjamin Bergmann (2), Jan Schenzel, Malte Kraeft*
14:30–15:00	C-11	A novel multi-harmonic and phase-independent estimation of cutting force coefficients *Zekai Murat Kilic, Joshua Priest, Sabino Ayvar-Soberanis, Srichand Hinduja (1)*
15:00–15:30	C-12	Model for temperature evolution in CO2 jets by Background Oriented Schlieren method for applications in cryogenic-assisted machining *Koffi Samuel Koulekpa, Michael Deligant, Hélène Elias-Birembaux, Frédéric Rossi, Gérard Poulachon (1)*
16:00–16:30	C-13	Improving the cutting characteristics of pure tungsten using a halogenated cutting fluid *Kaveh Rahimzadeh Berenji, Shreyes N. Melkote (1)*
16:30–17:00	C-14	Improving cutting performance of nickel-based alloy by graphene modified diamond tools *Ni Chen, Huiwen Chen, Bo Yan, Zhiyuan Mao, Ahsan Imran, Guolong Zhao, Ning He / K.K.B. Hon (1)*

CIRP STOCKHOLM 2025

M7–Tuesday–PM

Design (Dn)

Wednesday, 20 August 2025, Session Room: M8		
09:00–09:30	Dn-1	Augmented geometry assurance digital twin with physics-based incremental learning *Roham Sadeghi Tabar, Rikard Söderberg (1), Dariusz Ceglarek (1), Pasquale Franciosa, Lars Lindkvist*
09:30–10:00	Dn-2	Enhancing tolerance stack-up analysis with variable-dependent admissible limits *Mattia Maltauro, Roberto Meneghello, Gianmaria Concheri / N. Anwer (1)*
10:30–11:00	Dn-3	Design optimization of graded cellular structures for additive manufacturing via differentiable Voronoi diagram *Nanya Li, Changkun Sun, Hanlin Zheng, S.K. Ong (1)*
11:00–11:30	Dn-4	2D profile-based surface repair and 3D pattern generative design via material jetting *Pushkar Kamble, Hao Chen, Hanlin Liao, Yicha Zhang (2)*
11:30–12:00	Dn-5	Implicit geometry representation via neural operators on Riemannian manifolds for topology optimization *Qinglu Meng, Yingguang Li (2), Xu Liu, Gengxiang Chen, Yicheng Zhang, Lihui Wang (1)*

Design (Dn)

Wednesday, 20 August 2025, Session Room: M8		
13:30–14:00	Dn-6	Optimization of segment topology and surface form for efficient illumination with freeform lens arrays *Atsushi Sasaki, Okiharu Kirino, Kazunori Watanabe, Anthony Beaucamp (2)*
14:00–14:30	Dn-7	Bio-inspired multifunctional end effectors for In-space Servicing, Assembly and Manufacturing (ISAM) *Salil Bapat, Tanvi Arey, John Vickers, Ajay P. Malshe (1)*
14:30–15:00	Dn-8	Customization and personalization of large language models for engineering design *Zhoumingju Jiang, Ang Liu (2), Dawen Zhang, Xiwei Xu, Yun Dai*
15:00–15:30	Dn-9	Learning of design for environment with large language models: An interactive system using GPT-4 *Tatsunori Hara (2), Taisei Kawamura, Miwako Goto, Jun Ota*
16:00–16:30	Dn-10	Ecodesign of lithium-ion battery systems for e-mobility: a model-based LCA approach *Téo Lavisse, Peggy Zwolinski, Daniel Brissaud (1), Rémy Panariello, Fabien Perdu*
16:30–17:00	Dn-11	Enabling sustainability-by-design with multi-disciplinary computer aided systems *Iñigo Flores Ituarte, Emanuele Pagone, Amirmohammad Daareyni, Samniroshan Thayapararajah, Guido Tosello (2)*
17:00–17:30	Dn-12	Sim2Know: new paradigm of digital twins to design and inform human-centric knowledge system *Bingbing Li, Haolin Fan, Zhen Fan, John Ahmet Erkoyuncu (2), Hong-Chao Zhang (1), Haihong Huang*

CIRP STOCKHOLM 2025

M8–Wednesday–PM

Electro-Physical, Chemical, Laser, and related Additive Manufacturing Processes (E)

Monday, 18 August 2025, Session Room: M1		
16:00–16:30	E-1	Electrochemical finishing of internal channels in additively manufactured components using in-situ channel-conformal sacrificial tool electrodes *Xiaoming Duan, Kun Zhang, Xiaodong Yang, Masanori Kunieda (1)*
16:30–17:00	E-2	Segmented 5-axis flank milling: a fast electrical discharge milling strategy for diffuser-shaped film cooling holes *Bin Li, Zhuohang Yao, Huanyu Lu, Qiang Gao, Juncheng Lu, Xuecheng Xi, Wansheng Zhao (2)*
17:00–17:30	E-3	Mitigating thermal damages in the electrochemical discharge machining of carbon fiber-reinforced polymer *Murali Sundaram, Yu-Jen Chen, K.P. Rajurkar (1)*
17:30–18:00	E-4	Spatially resolved Wire EDM discharge analysis for dynamic part strength evaluation *Andreas Klink (2), Lukas Welschof, Kai Osswald, Tim Herrig*

CIRP STOCKHOLM 2025

M1–Monday–PM

Electro-Physical, Chemical, Laser, and related Additive Manufacturing Processes (E)

Tuesday, 19 August 2025, Session Room: M1		
09:00–09:30	E-5	Removal mechanism of diamond/Al composites in Blasting Erosion Arc Machining *Lin Gu (2), Lijie Jiang, Kelin Li, Xiaoka Wang*
09:30–10:00	E-6	Efficient processing with removal of modification in ultrashort pulse laser processing of diamond *Reina Yoshizaki, Shogo Kitamura, Yuta Teshima, Masayuki Nakao (1)*
10:30–11:00	E-7	Enhanced Magnet-aided Laser Induced Plasma Micromachining (E-MLIP) for expanded geometric capabilities *Rajiv Malhotra, Anandkumar Patel, Kiarash Naghavi Khanghah, Hongyi Xu / A. Donmez (1)*
11:00–11:30	E-8	Improvement of anodic oxide film characteristics of Al-Cu alloy by refinement of IMCs with large-area electron beam irradiation *Togo Shinonaga, Ayano Sebe, Masanori Taniguchi, Toshinori Fujii, Akira Okada (1)*
11:30–12:00	E-9	Mechanism and dynamics of transient and selective laser processing revealed through high-speed observation combined with precision timing control *Yusuke Ito, Guoqi Ren, Naohiko Sugita (1)*

CIRP STOCKHOLM 2025

M1–Tuesday–AM

Electro-Physical, Chemical, Laser, and related Additive Manufacturing Processes (E)

Tuesday, 19 August 2025, Session Room: M1		
13:30–14:00	E-10	Study on field emission characteristics of carbon nanotube arrays patterned via laser welding of dissimilar materials *Hung-Yin Tsai, Yi-Hung Chen, Kuan-Ching Wang, Paul W. Leu, Ming C. Leu (1)*
14:00–14:30	E-11	Polishing of fused silica by laser-enhanced plasma at the atomic and close-to-atomic scale *Peng Lyu, Jiyu Pan, Ze Liu, Fengzhou Fang (1)*
14:30–15:00	E-12	Printability assessment and modelling for process optimization of 3D Aerosol Jet® printed high aspect ratio microstructures *Elisabetta Ceretti (2), Mohit Sharma, Eleonora Ferraris (2), Paola Serena Ginestra, Miriam Seiti*
15:00–15:30	E-13	Effect of layer thickness in laser powder bed fusion of HWTS 50 hot work tool steel *Sasan Dadbakhsh, Sinesh Vadakkekkara, Ashik Mansingh Anila, Lorena Emanuelli, Massimo Pellizzari, Faraz Deirmina / B. Lindström (1)*
16:00–16:30	E-14	Laser powder directed energy deposition and substrate-free single layer powder bed fusion under micro- and lunar gravity conditions *Ludger Overmeyer (2), Marvin Raupert, Matthias Pusch, Tjorben Griemsmann, André Katterfeld, Christoph Lotz*
16:30–17:00	E-15	Circular manufacturing of binder jetting additive parts from Ti-6Al-4V machining chips *Debajyoti Bhaduri, Karan A. Baramate, Soumya Gangopadhyay, Thomas E. Davies / T.H.C. Childs (1)*
17:00–17:30	E-16	Laser powder bed fusion process parameters for the fabrication of unsupported overhang structures of metamaterial lattices *Wessel W. Wits (2), Camill de Vos, Maria Montero-Sistiaga, Marc de Smit*
17:30–18:00	E-17	Design and analyses of powder deposition, gas flow, and productivity for a rotary laser powder bed fusion system *Markus Bambach (2), Michael Robert Tucker*
18:00–18:30	E-18	Comparison of three hybrid metal additive-subtractive manufacturing processes *Christian Baumann, Manisha Yerranagu, Weijun Zhang, Aishwarya Deshpande, Severin Maier, Stefan Gössinger, Masakazu Soshi, Friedrich Bleicher (1), Frank E.*

CIRP STOCKHOLM 2025

M1–Tuesday–PM

Electro-Physical, Chemical, Laser, and related Additive Manufacturing Processes (E)

Wednesday, 20 August 2025, Session Room: M1		
09:00–09:30	E-19	Accelerated degradation of 3D-printed PETG bone–tissue scaffolds via geometrical control *Hussein Mishbak, Mohamed H. Hassan, Evangelos Daskalakis, Abdalla M. Omar, Dino M. Freitas, Wajira Mirihanage, Paul Mativenga (2), Prasad Potluri, Paulo Bartolo (1)*
09:30–10:00	E-20	Characterization of the high-pressure suspension jet for efficient cutting and abrasive circularity *Florian Morczinek, Martin Dix (3), Rafael Wertheim (1)*

CIRP STOCKHOLM 2025

M1–Wednesday–AM

Forming (F)

Wednesday, 20 August 2025, Session Room: M6		
08:30–09:00	F Kn	Cut the scrap: making more use of less metal *Julian Mark Allwood (1), Omer Music, Evripides G Loukaides, Markus Bambach (2)*
09:00–09:30	F-1	Exploring the feasibility of a closed-loop industrial symbiosis link through Friction Stir Extrusion-based Additive Manufacturing *Kirill Kalashnikov, Davide Campanella, Giuseppe Ingarao, Gianluca Buffa, Fabrizio Micari (1), Livan Fratini (1)*
09:30–10:00	F-2	Sub-Zero temperature blanking of non-oriented electrical steels *Enrico Simonetto, Stefania Bruschi (1), Andrea Ghiotti (1), Agnes Schrepfer, Wolfram Volk (1)*
10:30–11:00	F-3	Consideration of Bauschinger effect based on a reduced texture approach for improved springback prediction with computational efficiency *Donghwan Noh, Jeong Whan Yoon (2) / D.Y. Yang (1)*
11:00–11:30	F-4	Mechanisms driving accelerated formability recovery in forming of ultra-thin titanium sheets with intermediate electropulsing treatment *Junying Min, Xianglu Zhang, Bo Chen, Xiaolong Ma / D. Banabic (1)*
11:30–12:00	F-5	Mold liners produced by incremental sheet forming *Putong Kang, Brett Wadman, Kornel Ehmann, Jian Cao (1)*

CIRP STOCKHOLM 2025

M6–Wednesday–AM

Forming (F)

Wednesday, 20 August 2025, Session Room: M6		
13:30–14:00	F-6	Hybrid modelling predicting forming behaviour with variations in AlMgSi1 alloys *Kristian Martinsen (3), Thawin Hart-Rawung, Jon Holmestad, Johan Andreas Stendal, Sverre Gulbrandsen-Dahl, Ole Runar Myhr / F. O. Rasch (1)*
14:00–14:30	F-7	Slipline solution to asperity deformation under combined high normal pressure and subsurface deformation *Chris V. Nielsen (2), Paulo A.F. Martins (1), Niels Bay (1)*
14:30–15:00	F-8	Hot extrusion of aluminium-polymer profiles with axially-graded cross-sections *Yannis P. Korkolis, Patrick Schindler, Enno Henn, Johannes Gebhard, Markus Stommel, A. Erman Tekkaya (1)*
15:00–15:30	F-9	Rotary tube flaring using a conical punch with grooves for high forming limit and productivity *Shohei Kajikawa, Kiwamu Uchida, Takashi Kuboki (1)*
16:00–16:30	F-10	Tailored multi-material systems with thickness distribution by orbital forming *Arnold Harms, Simon Wituschek, Michael Lechner, Marion Merklein (1)*
16:30–17:00	F-11	Advanced double-flush riveting for multistage forming tools *Carlos M.A. Silva, João P.M. Pragana, Rui F.V. Sampaio, Ivo M.F. Bragança, Paulo A.F. Martins (1)*
17:00–17:30	F-12	A new joint with versatile properties based on a Reuleaux triangle geometry *Christian Steinfelder, Clemens Acksteiner, Alexander Brosius (2)*
17:30–18:00	F-13	Towards large-scale production of improved magnetic flux guidance structures in non-grain-oriented electrical steel *Phillip Stöcks-Morgan, Tobias Neuwirth, Achref Douiri, Simon R. Sebold, Anders Kaestner, Christoph Hartmann, Nora Leuning, Michael Schulz, Wolfram Volk (1)*

CIRP STOCKHOLM 2025

M6–Wednesday–PM

Abrasive Process (G)

Wednesday, 20 August 2025, Session Room: M1		
10:30–11:00	G Kn	Advances in magnetic field-assisted finishing *Hitomi Yamaguchi (1), Fukuo Hashimoto (1), Eraldo da Silva (2), Chi Fai Cheung (1)*
11:00–11:30	G-1	Materials removal mechanism in laser-assisted grinding of SiC fibre reinforced Titanium alloy composite *Dongdong Xu, Tiancheng Ai, Zifu Shen, Shuan Ma, Md Saddam Hossen, Zhirong Liao (2)*
11:30–12:00	G-2	Consideration of thermally induced material modification depth for grinding process cycle design *Gerrit Kuhlmann, Lars Langenhorst, Tobias Hüsemann, Carsten Heinzel (2)*

CIRP STOCKHOLM 2025

M1–Wednesday–AM

Abrasive Process (G)

Wednesday, 20 August 2025, Session Room: M1		
13:30–14:00	G-3	Electromagnetic field-assisted ultra-precision grinding of single-crystal Ni-based superalloy *Te Zhao, Suet To (2), Tengfei Yin, Xiangqian Jiang (1)*
14:00–14:30	G-4	Kinetic analysis of workpiece rotation behavior during double-sided polishing *Urara Satake, Yuta Seguchi, Toshiyuki Enomoto (1)*
14:30–15:00	G-5	Atomic-level flat polishing of polycrystalline diamond by combining plasma modification and chemical mechanical polishing *Song Yuan, Benny C.F. Cheung (1), Alborz Shokrani (2), Zejin Zhan, Chunjin Wang*
15:00–15:30	G-6	High-efficiency modification mechanism of GaN(0001) in plasma-assisted polishing using hydrogen plasma *Tong Tao, Rongyan Sun, Yuji Ohkubo, Kazuya Yamamura (2)*
16:00–16:30	G-7	Robust estimation of chip clogging with supervised learning using tool surface image *Tatsuya Furuki, Koichi Nishigaki, Takashi Suda, Hirofumi Suzuki (1)*
16:30–17:00	G-8	Ultrasonic assisted abrasive nano-blasting *Ashwani Pratap, Wule Zhu (2), Mori Yuka, Anthony Beaucamp (2)*
17:00–17:30	G-9	Mitigation of Cu dishing in chemical mechanical polishing using micro-structured pads *Seulah Park, Sukkyung Kang, Dong Geun Kim, Sanha Kim (2)*
17:30–18:00	G-10	A glycerol-based slurry for Cs_2LiYCl_6 crystal polishing *Jiang Guo, Ankang Yuan, Jing Li, Zhe Yang, Zili Zhang, Lin Li (1)*

CIRP STOCKHOLM 2025

M1–Wednesday–PM

Machines (M)

Tuesday, 19 August 2025, Session Room: M6		
16:00–16:30	M-1	Finding hidden spindle bearing defect periods using Ramanujan filter banks *Mohit Law (2)*
16:30–17:00	M-2	Automatic preload adjustment for ball screw drives by means of a spring-loaded mechanism *Alexander W. Verl (2), Oliver Jud*
17:00–17:30	M-3	Automated identification of joints dynamic parameters in moving industrial robots for milling applications *Jihyun Lee, Ali Khishtan / Simon S. Park (1)*
17:30–18:00	M-4	Thermal displacement reduction based on heat transfer characteristics under environmental temperature changes *Koji Ota, Daisuke Kono (2), Masahiko Mori (1)*
18:00–18:30	M-5	Material hybrid and sensor integrated lightweight machine tool components *Hans-Christian Moehring (2), Michelle Engert, Kim Torben Werkle*

CIRP STOCKHOLM 2025

M6–Tuesday–PM

Machines (M)

Wednesday, 20 August 2025, Session Room: M2		
08:30–09:00	M-6	AI-based sensor layout for predicting thermal deformations of CFRP machine tools *Felix Finkeldey, Makoto Kato, Petra Wiederkehr (2), Yasuhiro Kakinuma (2)*
09:00–09:30	M-7	Large-scale functional patterning using mobile robot swarms and ergodic control *Malachi Landis, Muye Jia, Annalisa T. Taylor, Todd D. Murphey, Ping Guo (2)*
09:30–10:00	M-8	Cutting force reconstruction in milling by multi-sensor fusion with hybrid aid of process and data-driven models *Shuntaro Yamato / T. Moriwaki (1)*
10:30–11:00	M-9	Compensation of blank warpage in punching processes through an innovative adaptive control system for adjusting part holder forces *Mathias Liewald (2), Stephan Nießner*
11:00–11:30	M-10	Entangled chip removal utilizing mass-spring model with mobile manipulator *Ryuki Takahashi, Hayato Kimura, Yasuhiro Kakinuma (2)*
11:30–12:00	M-11	Low frequency feed modulation assisted milling for chatter avoidance *Yutaro Kawana, Seyed Mahmood Shantiaeezade, Burak Sencer (2), Ryosuke Ikeda, Norikazu Suzuki (2)*

CIRP STOCKHOLM 2025

M2–Wednesday–AM

Machines (M)

Wednesday, 20 August 2025, Session Room: M2		
13:30–14:00	M-12	A novel electromagnetic end-effector with adaptive force-stiffness coordinated control for robotic grinding with variable workpiece stiffness *Jixiang Yang, Xu Tang, Han Ding, Yuehong Yin (1)*
14:00–14:30	M-13	Increasing milling stability predictions accuracy considering speed dependent spindle behaviour with an automated measurement device *Omer Ozkirimli, Erdem Ozturk (2)*
14:30–15:00	M-14	Directional factor as the key factor for chatter free robotic milling of light alloys *Zoltan Dombovari, Iñaki Laka, Andras Bartfai, Ali Karaca, Erhan Budak (1), Gabor Stepan (1), Jokin Munoa (1)*
15:00–15:30	M-15	Cascaded FIR and half-sine filter-based smooth trajectory generation algorithm *Yusuf Altintas (1), Mobin Abdar Esfahani, Behnam Karimi, Owen Gatenby*
16:00–16:30	M-16	Tool path generation for precision roughing of blisks via abrasive waterjet machining *Lutfi Taner Tunc (2)*
16:30–17:00	M-17	Feedrate optimization based on part-to-part learning in repeated machining *Cheng-Hao Chou, Chenhui Shao, Chinedum E. Okwudire (2)*
17:00–17:30	M-18	Interaction between forced and chatter vibrations through flank-workpiece interference *Takehiro Hayasaka (2), Hayato Murai, Kyungki Lee, Eiji Shamoto (1)*
17:30–18:00	M-19	Overcoming sparse run-to-failure data dhallenges in manufacturing: A contrastive mixer framework for remaining useful life prediction *Eunseob Kim, Hojun Lee, Yuseop Sim, Jiho Lee, Martin B.G. Jun / F. E. Pfefferkorn (1)*

CIRP STOCKHOLM 2025

M2–Wednesday–PM

Production Systems and Organizations (O)

Monday, 18 August 2025, Session Room: M6		
16:00–16:30	O Kn	Future-proof production scheduling and control *Marcello Urgo (2), Gisela Lanza (1), Rok Vrabic (2), David Gyulai*
16:30–17:00	O-1	Adaptive production control for agile disassembly systems in remanufacturing *Marco Wurster, Fabian Erlenbusch, Finn Bail, Gisela Lanza (1), Nicole Stricker*
17:00–17:30	O-2	Optimal control of remanufacturing systems with uncertainty in quality identification *Maria Chiara Magnanini, Tullio Tolio (1)*
17:30–18:00	O-3	Predictive maintenance optimization for manufacturing systems considering perfect and imperfect inspections: application to injection molding machine *Duc-Hanh Dinh, Phuc Do, Benoit Iung (1), Tao Quang Bang*

CIRP STOCKHOLM 2025

M6–Monday–PM

Production Systems and Organizations (O)

Tuesday, 19 August 2025, Session Room: M6		
09:00–09:30	O-4	Bridging planning silos: A cross-functional decision support system for capacity, order, and supplier decisions in global production networks *Martin Benfer, Moritz Hörger / Harmut Weule (1)*
09:30–10:00	O-5	Joint optimization of logistics operations and reliability-based replacement policies in a geographically distributed service parts logistic system *Po-Han Wang, Dragan Djurdjanovic (2)*
10:30–11:00	O-6	Simultaneous design of reconfigurable manufacturing systems and their production plans using hierarchical reinforcement learning *Soham S. Purohit, Anirudh Kanchi, Haochen Wu, Bogdan I. Epureanu (2)*
11:00–11:30	O-7	A large manufacturing decision model for human-centric decision-making *Xingyu Li, Aydin Nassehi (1), S. Jack Hu (1), Byung Gun Joung, Robert X. Gao (1)*
11:30–12:00	O-8	Factory layout planning using Quantum Annealing *Xiangqian Wu, Philipp Schworm, Matthias Klar, Jan C. Aurich (1)*

CIRP STOCKHOLM 2025

M6–Tuesday–AM

Production Systems and Organizations (O)

Tuesday, 19 August 2025, Session Room: M6		
13:30–14:00	O-9	Economic valuation of flexibility in production capacity using real options valuation *Günther Schuh (1), Seth Schmitz, Calvin Kuhn, Tobias Simon*
14:00–14:30	O-10	Integrating digital factory twin and AI for monitoring manufacturing systems through synthetic data generation and vision transformers *Marcello Urgo (2), Walter Terkaj*
14:30–15:00	O-11	Multidimensional perceived quality: Extended level model and case study including sustainability as a quality dimension in the perception of plastic packaging *Jan A. Körkemeyer, Hanna Brings, Benjamin Montavon, Robert H. Schmitt (1)*
15:00–15:30	O-12	Advancing quality prediction in polymer PBF-LB: a hybrid AI and physics-guided approach *Matteo Calaon, Hao-Ping Yeh, Shuo Shan, Yang Zhang (2), Jesper Henri Hattel, Hans Nørgaard Hansen (1)*

CIRP STOCKHOLM 2025

M6–Tuesday–PM

Precision Engineering & Metrology (P)

Monday, 18 August 2025, Session Room: M8		
16:00–16:30	P-1	Measurement of spindle-related geometric errors by multilateration *Kotaro Mori (2), Masahiro Shimoike, Keito Abe*
16:30–17:00	P-2	Traceability and uncertainty of defects automated measurements by CNN-powered Machine Vision Systems *Giacomo Maculotti, Lorenzo Giorio, Gianfranco Genta, Maurizio Galetto (2)*
17:00–17:30	P-3	Transferability of compliance error compensation parameters in articulated robots *Monica Katherine Gonzalez, Theodoros Laspas, Hung-Ching Lin, Kanako Harada, Andreas Archenti (2)*
17:30–18:00	P-4	Comparison of measuring methods for the dimension-over-balls parameter M_{dK} using modified gear standards *Anke Guenther (2), Gert Goch (1)*

CIRP STOCKHOLM 2025

M8–Monday–PM

Precision Engineering & Metrology (P)

Wednesday, 20 August 2025, Session Room: M7		
09:00–09:30	P Kn	Dimensional metrology based on ultrashort pulse laser and optical frequency comb *Wei Gao (1), Seung-Woo Kim (1), Harald Bosse (3), Kaoru Minoshima*
09:30–10:00	P-5	Frequency-comb-referenced Terahertz Fabry-Pérot interferometry for monitoring semiconductor wafer thinning process with a nanometer precision *Guseon Kang, Jaeyoon Kim, Jun Hyung Park, Sukkyung Kang, Dong Geun Kim, Young-Jin Kim (2)*
10:30–11:00	P-6	Multiscale optical surface integrating multifocal imaging and wavelength filtering for compact snapshot spectral imaging *Xinquan Zhang (2), Yaoke Wang, Hao Wu, Limin Zhu, Ping Guo (2)*
11:00–11:30	P-7	A non-Michelson type three-axis grating interferometer using linear scale gratings *Ryo Sato, Yifan Hong, Hiraku Matsukuma, Wei Gao (1)*
11:30–12:00	P-8	Three-dimensional measurement of structures with smooth-steep-surfaces using autofluorescence confocal signal *Masaki Michihata, Motoya Yoshikawa, Shuzo Masui, Satoru Takahashi (1)*

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M7–Wednesday–AM

Precision Engineering & Metrology (P)

Wednesday, 20 August 2025, Session Room: M7		
13:30–14:00	P-9	Spectral imaging for 2-D wavelength mapping by chromatic phase retardation *Ki-Nam Joo, Seongwook Jang / S.-W. Kim (1)*
14:00–14:30	P-10	Local heat transfer detection via passive dual probe near-field microscopy *Yusuke Kajihara (2), Ryoko Sakuma, Yoshiki Nagai, Kuan-Ting Lin*
14:30–15:00	P-11	Investigation of the correlation between radiographic image quality and surface measurement quality of XCT using frequency response analysis *Xiao Chen, Shan Lou, Wenjuan Sun, Paul Scott, Xiangqian Jiang (1)*
15:00–15:30	P-12	Investigating the effects of machine learning generalisation for enhancing accuracy in fast X-ray computed tomography for industrial metrology *Filippo Zanini, Nicolò Bonato, Diego Pentucci, Simone Carmignato (1)*
16:00–16:30	P-13	X-oscillation-coordinated fly-cutting of highly uniform microlens arrays *Zhiwei Zhu, Tianxiao Chang, Rongjing Zhou, Peng Huang / W.S. Lau (1)*
16:30–17:00	P-14	Ultra precision analytical toolpath calculation for aspherical mirror surface machining *Eloïse Jeanroy, Julien Chaves-Jacob, Jean-Marc Linares (1), Santiago Arroyave-Tobon, Stephan Imperiali*
17:00–17:30	P-15	In-process reconstruction of 3D surface profile for ultra-precision cutting of microstructured surfaces from cutting force monitoring and compensation *Liang An, Yuan-Liu Chen (2), Zhongwei Li, Genshen Liu*

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M7–Wednesday–PM

Surfaces (S) Keynote

Tuesday, 19 August 2025, Session Room: M2		
09:00–09:30	S Kn	Surface finishing by shape-adaptive processes *Jiwang Yan (1), Brigid Mullany (1), Anthony Beaucamp (2), Daniel Meyer (2), Naohiko Sugita (1)*

Surfaces (S)

Tuesday, 19 August 2025, Session Room: M2		
13:30–14:00	S-1	Modulated-ellipse servo cutting of micro-structured surfaces with high-steep slopes *Zhanwen Sun, Suet To (2), Waisze Yip, Sujuan Wang, Shanshan Chen, Guanlong Chen*
14:00–14:30	S-2	Aliased beating helix induced by dual-frequency vibrations in turning *Monica Gil-Inchaurza, Xavier Beudaert (2), Maria Garcia, Jose Antonio Sanchez, Jokin Munoa (1)*
14:30–15:00	S-3	On-machine laser polishing of diamond turned metal surfaces *XinQuan Zhang (2), JinChi Wu, WenBin Zhong, WenHan Zeng, Zhe Zhang, MingJun Ren*
15:00–15:30	S-4	Investigation of hydrogen embrittlement prevention effect on electropolished 316L austenitic stainless steel *Sun-Ho Chang, Jun-Young Kim, Hyun-Taek Lee, Eun-Sang Lee / S.-H. Ahn (1)*
16:00–16:30	S-5	The role of PEEK viscoelasticity in chip formation, surface finish and geometrical accuracy *Rachele Bertolini, Anna Bottin, Caterina Zanella, Stefania Bruschi (1), Andrea Ghiotti (1), Enrico Savio (1)*
16:30–17:00	S-6	Fabrication of cell orientation control surface on Co–Cr alloy by polycrystalline diamond micromilling *Kazutoshi Katahira (2), Shinya Morita, Chikahiro Imashiro, Atsushi Ezura, Jun Komotori*
17:00–17:30	S-7	Liquid-phase plasma machining with floating discharge tool *Wule Zhu (2), Fang Han, Jingyuan Wang, Weijian Zhang, Wei Gao, Cao-Yang Xue, Bing-Feng Ju*
17:30–18:00	S-8	A novel method for high-volume manufacturing of self-protective plastic surfaces to ensure durable anti-counterfeiting functionality *Marco Sorgato, Giacomo Baruffa, Keltoum Oubellaouch, Giulia Zaniboni, Giovanni Lucchetta (2)*

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M2–Tuesday–PM