# 2025 CIRP Annals' papers

## Life-Cycle Engineering and Assembly (A)

**A1 - 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)*

**A2 - Generative AI for automated task modelling and task allocation in Human Robot Collaborative applications**
*Nikos Dimitropoulos, Michalis Kaipis, Stavros Giartzas, George Michalos (2)*

**A3 - Vision intelligence-conditioned reinforcement learning for precision assembly**
*Sichao Liu, Lihui Wang (1)*

**A4 - Beyond proxies: a direct time-optimal approach to robot cell layout optimization**
*Jan Baumgärtner, Alexander Puchta, Jürgen Fleischer (1)*

**A5 - Design and control of flexible handling systems based on mobile cooperative multi-robot-systems**
*Tobias Recker, Annika Raatz (2)*

**A6 - Increasing object flexibility of vacuum gripper systems through a common grasp search**
*Rüdiger Daub, Paul Geng / G. Reinhart (1)*

**A7 - 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)*

**A8 - Constellation-based robotic visual servoing method for fault diagnosis of used printed circuit board assemblies**
*Bence Tipary, Gabor Erdos (2), Zsolt Kemény*

**A9 - Random wavelet kernels for interpretable fault diagnosis in industrial systems**
*Haoxuan Deng, Samir Khan, John Ahmet Erkoyuncu (2)*

**A10 - 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*

**A11 - 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)*

**A12 - 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)*

**A13 - 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)*

# 2025 CIRP Annals' papers

## Cutting (C)

**C1 - 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*

**C2 - Directional-adaptive approach in machining of additively manufactured Inconel 718**
*Amin Bagherzadeh, Ozkan Gokcekaya, Erhan Budak (1)*

**C3 - Ultrasonic vibration-assisted machining of Invar 36 alloy manufactured by wire arc additive manufacturing**
*Ramazan Hakkı Namlu, Korcan Küçüköztaş, Hakan Kalkan, Bilgin Kaftanoğlu (1)*

**C4 - 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)*

**C5 - Sensorless in-process runout monitoring in milling via an industrial Edge device**
*Mohammadreza Chehrehzad, Ismail Lazoglu (1)*

**C6 - 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)*

**C7 - 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)*

**C8 - A physics-based flow stress model for cutting simulation of additively manufactured Alloy 718**
*Amir Malakizadi, Rachid M'Saoubi (1)*

**C9 - A novel approach to milling cutter temperature analysis with cutting fluid consideration**
*Thomas Bergs (2), Hui Liu*

**C10 - Tool failure – a method for stress calculation of worn cutting tools**
*Benjamin Bergmann (2), Jan Schenzel, Malte Kraeft*

**C11 - A novel multi-harmonic and phase-independent estimation of cutting force coefficients**
*Zekai Murat Kilic, Joshua Priest, Sabino Ayvar-Soberanis, Srichand Hinduja (1)*

**C12 - 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)*

**C13 - Improving the cutting characteristics of pure tungsten using a halogenated cutting fluid**
*Kaveh Rahimzadeh Berenji, Shreyes N. Melkote (1)*

**C14 - 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)*

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## Design (Dn)

**Dn1 - Augmented geometry assurance digital twin with physics-based incremental learning**
*Roham Sadeghi Tabar, Rikard Söderberg (1), Dariusz Ceglarek (1), Pasquale Franciosa, Lars Lindkvist*

**Dn2 - Enhancing tolerance stack-up analysis with variable-dependent admissible limits**
*Mattia Maltauro, Roberto Meneghello, Gianmaria Concheri / N. Anwer (1)*

**Dn3 - Design optimization of graded cellular structures for additive manufacturing via differentiable Voronoi diagram**
*Nanya Li, Changkun Sun, Hanlin Zheng, S.K. Ong (1)*

**Dn4 - 2D profile-based surface repair and 3D pattern generative design via material jetting**
*Pushkar Kamble, Hao Chen, Hanlin Liao, Yicha Zhang (2)*

**Dn5 - 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)*

**Dn6 - Optimization of segment topology and surface form for efficient illumination with freeform lens arrays**
*Atsushi Sasaki, Okiharu Kirino, Kazunori Watanabe, Anthony Beaucamp (2)*

**Dn7 - Bio-inspired multifunctional end effectors for In-space Servicing, Assembly and Manufacturing (ISAM)**
*Salil Bapat, Tanvi Arey, John Vickers, Ajay P. Malshe (1)*

**Dn8 - Customization and personalization of large language models for engineering design**
*Zhoumingju Jiang, Ang Liu (2), Dawen Zhang, Xiwei Xu, Yun Dai*

**Dn9 - Learning of design for environment with large language models: An interactive system using GPT-4**
*Tatsunori Hara (2), Taisei Kawamura, Miwako Goto, Jun Ota*

**Dn10 - 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*

**Dn11 - Enabling sustainability-by-design with multi-disciplinary computer aided systems**
*Iñigo Flores Ituarte, Emanuele Pagone, Amirmohammad Daareyni, Samniroshan Thayapararajah, Guido Tosello (2)*

**Dn12 - 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*

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

**E1 - 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)*

**E2 - 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)*

# 2025 CIRP Annals' papers

**E3 - Mitigating thermal damages in the electrochemical discharge machining of carbon fiber-reinforced polymer**
*Murali Sundaram, Yu-Jen Chen, K.P. Rajurkar (1)*

**E4 - Spatially resolved Wire EDM discharge analysis for dynamic part strength evaluation**
*Andreas Klink (2), Lukas Welschof, Kai Osswald, Tim Herrig*

**E5 - Removal mechanism of diamond/Al composites in Blasting Erosion Arc Machining**
*Lin Gu (2), Lijie Jiang, Kelin Li, Xiaoka Wang*

**E6 - Efficient processing with removal of modification in ultrashort pulse laser processing of diamond**
*Reina Yoshizaki, Shogo Kitamura, Yuta Teshima, Masayuki Nakao (1)*

**E7 - 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)*

**E8 - 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)*

**E9 - 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)*

**E10 - 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)*

**E11 - 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)*

**E12- 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*

**E13 - 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)*

**E14 - 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*

**E15 - 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)*

**E16 - 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*

**E17 - Design and analyses of powder deposition, gas flow, and productivity for a rotary laser powder bed fusion system**
*Markus Bambach (2), Michael Robert Tucker*

**E18 - 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. Pfefferkorn (1)*

**E19 - 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)*

**E20 - Characterization of the high-pressure suspension jet for efficient cutting and abrasive circularity**
*Florian Morczinek, Martin Dix (3), Rafael Wertheim (1)*

## Forming (F)

**F1 - 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)*

**F2 - Sub-Zero temperature blanking of non-oriented electrical steels**
*Enrico Simonetto, Stefania Bruschi (1), Andrea Ghiotti (1), Agnes Schrepfer, Wolfram Volk (1)*

**F3 - 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)*

**F4 - 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)*

**F5 - Mold liners produced by incremental sheet forming**
*Putong Kang, Brett Wadman, Kornel Ehmann, Jian Cao (1)*

**F6 - 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)*

**F7 - 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)*

**F8 - 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)*

**F9 - Rotary tube flaring using a conical punch with grooves for high forming limit and productivity**
*Shohei Kajikawa, Kiwamu Uchida, Takashi Kuboki (1)*

**F10 - Tailored multi-material systems with thickness distribution by orbital forming**
*Arnold Harms, Simon Wituschek, Michael Lechner, Marion Merklein (1)*

**F11 - Advanced double-flush riveting for multistage forming tools**

## Abrasive Process (G)



## Machines (M)

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**M3 - Automated identification of joints dynamic parameters in moving industrial robots for milling applications**
*Jihyun Lee, Ali Khishtan / Simon S. Park (1)*

**M4 - Thermal displacement reduction based on heat transfer characteristics under environmental temperature changes**
*Koji Ota, Daisuke Kono (2), Masahiko Mori (1)*

**M5 - Material hybrid and sensor integrated lightweight machine tool components**
*Hans-Christian Moehring (2), Michelle Engert, Kim Torben Werkle*

**M6 - AI-based sensor layout for predicting thermal deformations of CFRP machine tools**
*Felix Finkeldey, Makoto Kato, Petra Wiederkehr (2), Yasuhiro Kakinuma (2)*

**M7 - Large-scale functional patterning using mobile robot swarms and ergodic control**
*Malachi Landis, Muye Jia, Annalisa T. Taylor, Todd D. Murphey, Ping Guo (2)*

**M8 - Cutting force reconstruction in milling by multi-sensor fusion with hybrid aid of process and data-driven models**
*Shuntaro Yamato / T. Moriwaki (1)*

**M9 - Compensation of blank warpage in punching processes through an innovative adaptive control system for adjusting part holder forces**
*Mathias Liewald (2), Stephan Nießner*

**M10 - Entangled chip removal utilizing mass-spring model with mobile manipulator**
*Ryuki Takahashi, Hayato Kimura, Yasuhiro Kakinuma (2)*

**M11 - Low frequency feed modulation assisted milling for chatter avoidance**
*Yutaro Kawana, Seyed Mahmood Shantiaeezade, Burak Sencer (2), Ryosuke Ikeda, Norikazu Suzuki (2)*

**M12 - 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)*

**M13 - Increasing milling stability predictions accuracy considering speed dependent spindle behaviour with an automated measurement device**
*Omer Ozkirimli, Erdem Ozturk (2)*

**M14 - 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)*

**M15 - Cascaded FIR and half-sine filter-based smooth trajectory generation algorithm**
*Yusuf Altintas (1), Mobin Abdar Esfahani, Behnam Karimi, Owen Gatenby*

**M16 - Tool path generation for precision roughing of blisks via abrasive waterjet machining**
*Lutfi Taner Tunc (2)*

**M17 - Feedrate optimization based on part-to-part learning in repeated machining**
*Cheng-Hao Chou, Chenhui Shao, Chinedum E. Okwudire (2)*

**M18 - Interaction between forced and chatter vibrations through flank-workpiece interference**
*Takehiro Hayasaka (2), Hayato Murai, Kyungki Lee, Eiji Shamoto (1)*

**M19 - 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)*

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## Production Systems and Organizations (O)

**O1 - Adaptive production control for agile disassembly systems in remanufacturing.**
*Marco Wurster, Fabian Erlenbusch, Finn Bail, Gisela Lanza (1), Nicole Stricker*

**O2 - Optimal control of remanufacturing systems with uncertainty in quality identification**
*Maria Chiara Magnanini, Tullio Tolio (1)*

**O3 - 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*

**O4 - 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)*

**O5 Joint optimization of logistics operations and reliability-based replacement policies in a geographically distributed service parts logistic system**
*Po-Han Wang, Dragan Djurdjanovic (2)*

**O6 - 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)*

**O7 - 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)*

**O8 - Factory layout planning using Quantum Annealing**
*Xiangqian Wu, Philipp Schworm, Matthias Klar, Jan C. Aurich (1)*

**O9 - Economic valuation of flexibility in production capacity using real options valuation**
*Günther Schuh (1), Seth Schmitz, Calvin Kuhn, Tobias Simon*

**O10 - Integrating digital factory twin and AI for monitoring manufacturing systems through synthetic data generation and vision transformers**
*Marcello Urgo (2), Walter Terkaj*

**O11 - 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)*

**O12 - 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)*

## Precision Engineering & Metrology (P)

**P1 - Measurement of spindle-related geometric errors by multilateration**
*Kotaro Mori (2), Masahiro Shimoike, Keito Abe*

**P2 - Traceability and uncertainty of defects automated measurements by CNN-powered Machine Vision Systems**
*Giacomo Maculotti, Lorenzo Giorio, Gianfranco Genta, Maurizio Galetto (2)*

**P3 - Transferability of compliance error compensation parameters in articulated robots**
*Monica Katherine Gonzalez, Theodoros Laspas, Hung-Ching Lin, Kanako Harada, Andreas Archenti (2)*

**P4 - Comparison of measuring methods for the dimension-over-balls parameter $M_{dK}$ using modified gear standards**
*Anke Guenther (2), Gert Goch (1)*

**P5 - 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)*

**P6 - 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)*

**P7 - A non-Michelson type three-axis grating interferometer using linear scale gratings**
*Ryo Sato, Yifan Hong, Hiraku Matsukuma, Wei Gao (1)*

**P8 - Three-dimensional measurement of structures with smooth-steep-surfaces using autofluorescence confocal signal**
*Masaki Michihata, Motoya Yoshikawa, Shuzo Masui, Satoru Takahashi (1)*

**P9 - Spectral imaging for 2-D wavelength mapping by chromatic phase retardation**
*Ki-Nam Joo, Seongwook Jang / S.-W. Kim (1)*

**P10 - Local heat transfer detection via passive dual probe near-field microscopy**
*Yusuke Kajihara (2), Ryoko Sakuma, Yoshiki Nagai, Kuan-Ting Lin*

**P11 - 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)*

**P12 - 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)*

**P13 - X-oscillation-coordinated fly-cutting of highly uniform microlens arrays**
*Zhiwei Zhu, Tianxiao Chang, Rongjing Zhou, Peng Huang / W.S. Lau (1)*

**P14 - Ultra precision analytical toolpath calculation for aspherical mirror surface machining**
*Eloïse Jeanroy, Julien Chaves-Jacob, Jean-Marc Linares (1), Santiago Arroyave-Tobon, Stephan Imperiali*

**P15 - 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*

## Surfaces (S)

**S1 - 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*

**S2 - Aliased beating helix induced by dual-frequency vibrations in turning**
*Monica Gil-Inchaurza, Xavier Beudaert (2), Maria Garcia, Jose Antonio Sanchez, Jokin Munoa (1)*

**S3 - On-machine laser polishing of diamond turned metal surfaces.**
*XinQuan Zhang (2), JinChi Wu, WenBin Zhong, WenHan Zeng, Zhe Zhang, MingJun Ren*

**S4 - 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)*

**S5 - 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)*

**S6 - 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*

**S7 - 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*

**S8 - 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)*