

## Poster Room 1: Advances in Precision Engineering and Nanotechnologies

Tuesday 8<sup>th</sup> June 2021, 17:00 – 18:00 - Central European Summer Time (CEST)

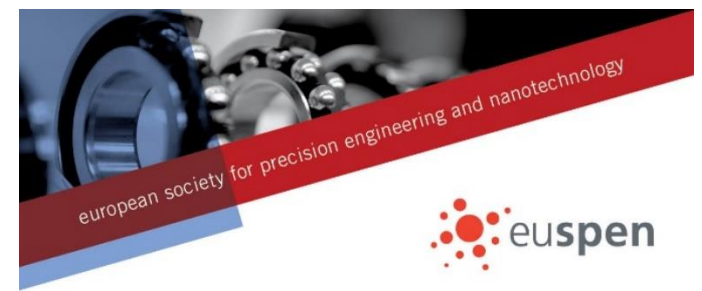
21st International Conference & Exhibition  
Monday 7th to Thursday 10th June 2021

ICE No.	Poster No.	Presenter	Poster Title
ICE21101	P2.01	Marko Percic, University of Rijeka, HR	Multivariate AI-based predictive model of nanoscale friction
ICE21106	P2.02	Marko Percic, University of Rijeka, HR	A molecular dynamics study of nanoscale friction
ICE21137	P2.03	Marius Heintz, Technical University of Kaiserslautern, DE	Experimental investigations of modified base body geometries of micro pencil grinding tools applied in 16MnCr5
ICE21138	P2.04	Petar Gljušić, University of Rijeka, HR	Experimental characterisation of performances of optimized piezoelectric energy harvesters
ICE21179	P2.05	Shuhei Kodama, Tokyo University of Agriculture and Technology, JP	Effects of electrolytes on fine structures fabricated by hybrid process with short-pulsed laser and electrochemical machining
ICE21190	P2.06	Holger Ruehl, Institute for Micro Integration (IFM), University of Stuttgart, DE	Focused Ion Beam Writing of Submicron Structures into Coated Mold Inserts
ICE21212	P2.07	Jitendra Khatait, Indian Institute of Technology Delhi, IN	Achieving precision in hot embossing using flexures
ICE21262	P2.08	Pengfei Fan, University of Strathclyde, UK	Molecular dynamics simulation of AFM tip-based nanoscratching of multi-layer graphene
ICE21295	P2.10	Zheng Gong, Newcastle University, UK	Design, Analysis and Test of a Long Stroke Fast Tool Servo
ICE21193	P2.11	Annika Brehmer, Fraunhofer IPK, DE	Photocatalytic effect of TiO <sub>2</sub> -coated surfaces on the potentially pathogenic microorganisms E.coli and S.aureus

## Poster Room 2: Measuring Instruments and Machine Tools

Tuesday 8<sup>th</sup> June 2021, 17:00 – 18:00 - Central European Summer Time (CEST)

ICE No.	Poster No.	Presenter	Poster Title
ICE21104	P7.01	Chuanpo Wang, Xi'an Jiaotong University, CN	Thermal Characteristics of Motorized Spindle with Active Cooling
ICE21109	P7.02	Patrick Ahlborn, Leibniz University Hannover, DE	Design and optimization of a novel 2-DOF synchronous linear rotary drive
ICE21113	P7.03	B. Ahmed Chekh Oumar, Tekniker, ES	ACVision_A 6 DOF MEASUREMENT SYSTEM COMBINING AUTOCOLLIMATION AND PHOTOGRAMMETRIC TECHNIQUES
ICE21121	P7.04	Lucía Díaz-Pérez, University of Zaragoza, ES	Design of a multi-material reference standard for X-ray CT and other contact and non-contact metrological instruments
ICE21122	P7.05	Lucía Díaz-Pérez, University of Zaragoza, ES	Positioning uncertainty assessment of a large-range nanopositioning platform based on Monte Carlo simulation
ICE21134	P7.06	Tobias Mayer, Technical University of Kaiserslautern, DE	Atomic force microscope for in situ micro end mill characterization - Part II: Development of an algorithm to characterize the cutting edge radius of micro end mills
ICE21149	P7.07	Mengrui Zhu, Shanghai Jiao Tong University, CN	Thermal error modeling for CNC machine tools using a random forest machine learning algorithm
ICE21158	P7.08	Heinrich Klemme, IFW Hannover, DE	Topology optimization of highly stressed machine tool components using the SLM process
ICE21184	P7.09	Otakar Horejs, Czech Technical University in Prague, CZ	Validation of thermal errors compensation models via test workpieces
ICE21194	P7.10	Kyung-Taek Yoon, Ajou University, KR	Design and analysis of compliant mechanism for EMFC weighing cell with axis-symmetric structure
ICE21207	P7.11	Kieran Wiseman, Cranfield University, UK	Optical fibre-coupled displacement and angle measurements using range-resolved interferometry
ICE21222	P7.12	Frank Schmaljohann, Physikalisch-Technische Bundesanstalt, DE	Design and manufacture of a reference interferometer for long-range distance metrology

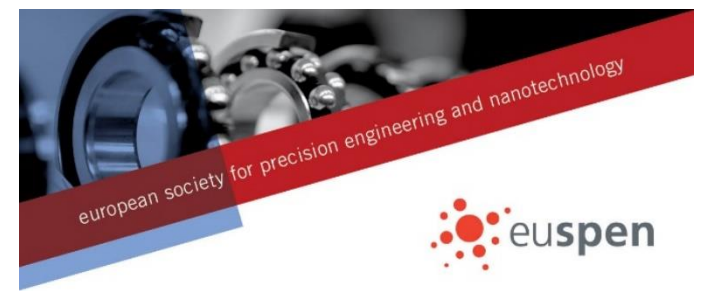


## Poster Room 3: Mechanical Manufacturing Processes

Tuesday 8<sup>th</sup> June 2021, 17:00 – 18:00 - Central European Summer Time (CEST)

21st International Conference & Exhibition  
Monday 7th to Thursday 10th June 2021

ICE No.	Poster No.	Presenter	Poster Title
ICE21102	P6.01	Lai Hu, , Xi'an Jiaotong University, CN	Research on a Lightweight X-Precision Object Multi-blade Rotating Shaft System—ICE21
ICE21116	P6.02	Lisa Marie Rickerts, Hochschule Wismar, DE	Near-dry die-sinking-EDM of CrCoMo dental implant structures
ICE21117	P6.03	Nicholas Yew Jin Tan, National University of Singapore, SG	5-Axis ultra-precision diamond shaping of blazed diffraction gratings on high curvature convex ellipsoidal surfaces
ICE21127	P6.04	Sarvesh Mishra, IIT Delhi, IN	Generation of a wear map for laser textured WC/Co tools in dry finish turning of Ti6Al4V
ICE21163	P6.05	Barnabás Adam, Leibniz Institute for Materials Engineering – IWT, DE	Velocity dependent material removal in abrasive subaperture polishing
ICE21170	P6.06	François Ducobu, UMONS, BE	Use of the CEL method for estimating the minimum chip thickness when orthogonal cutting Ti6Al4V
ICE21174	P6.07	Ying Wang, Beijing Institute of Technology, CN	FEM simulation of tribological experiment with structured workpiece
ICE21199	P6.08	Yves Kuche, Fraunhofer IPK, DE	Simulating flow behaviour of wet particles within the immersed tumbling process
ICE21236	P6.09	Weihai Huang, Keio University, JP	Effect of tool shape on the machined surface integrity of polycrystalline ZnSe
ICE21241	P6.10	Shigeru Tanikawa, Keio University, JP	Fabrication of controllable random micro-structured surface by using FTS-based diamond turning
ICE21247	P6.11	Maik Fiedler, Fraunhofer Institute for Machine Tools and Forming Technology IWU, DE	Incremental micro-forming with the aid of piezoelectrically actuated hammering tools with decoupling unit

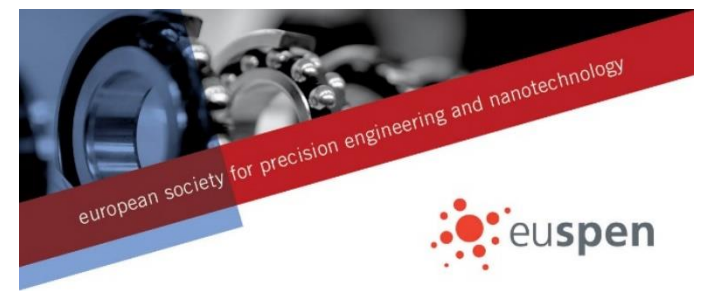


21st International Conference & Exhibition  
Monday 7th to Thursday 10th June 2021

## Poster Room 4: Metrology

Tuesday 8<sup>th</sup> June 2021, 17:00 – 18:00 - Central European Summer Time (CEST)

ICE No.	Poster No.	Presenter	Poster Title
ICE21146	P5.01	Elia Sbettega, University of Padova, IT	Sensitivity analysis of the geometrical misalignments of X-ray computed tomography systems on dimensional measurements
ICE21151	P5.02	Filippo Zanini, University of Padova, IT	Optimization of fiber measurements performed by X-ray computed tomography to predict the mechanical properties of fiber-reinforced polymeric components
ICE21165	P5.03	Adam Thompson, The University of Nottingham, UK	Calibration of X-ray computed tomography for surface texture measurement using metrological characteristics
ICE21166	P5.04	Wiktor Harmatys, Cracow University of Technology, PL	New reconfigurable ball-bar standard for accuracy verification of portable metrology systems
ICE21175	P5.05	Giacomo Maculotti, Polytechnic of Turin, IT	Effect of track geometry on the measurement uncertainty of wear in pin-on-disc tribological test
ICE21186	P5.06	Gregor Dürre, Fraunhofer IPK, DE	Improved surface generation of multi-material objects in computed tomography using local histograms
ICE21206	P5.07	Pol Martinez, ES	High repetition rate 3D optical sensor
ICE21293	P5.09	Filippo Zanini, University of Padova, IT	Evaluation of defects in laser powder bed fusion metal parts via in-process optical measurements and post-process X-ray computed tomography
ICE21302	P5.10	Marco Menoncin, University of Padova, IT	A reference artefact to evaluate the metrological performance in the quantification of raising surface defects on manufactured surfaces
ICE21308	P5.11	Feng Li, Nuclear AMRC The University of Sheffield, UK	Uncertainty evaluation of on-machine tool measurement on shop floor conditions

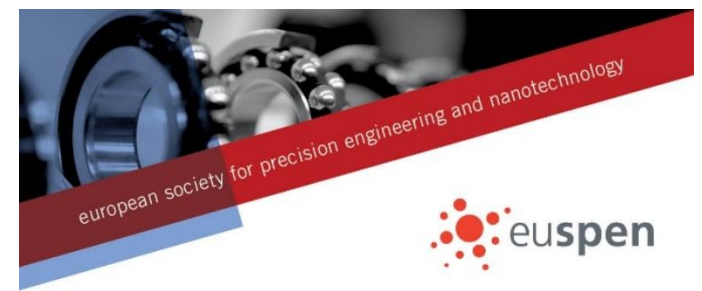


21st International Conference & Exhibition  
Monday 7th to Thursday 10th June 2021

## Poster Room 5: Metrology

Wednesday 9<sup>th</sup> June 2021, 16:15 – 17:15 - Central European Summer Time (CEST)

ICE No.	Poster No.	Presenter	Poster Title
ICE21242	P5.12	Tomoki Kanda, Osaka University, JP	Three-dimensional nano-profile of convex cylindrical mirror measured by Normal Vector Tracing Method
ICE21250	P5.13	Mikiya Ikuchi, Osaka University, JP	Measurement of aspheric mirror by Non-Contact Three Dimensional Nano-profiler Using Normal Vector Tracing Method
ICE21254	P5.14	Tom Hovell, Loughborough University, UK	Multiscale calibration of a low-coherence interferometer for embedded metrology
ICE21282	P5.15	Yue Liu, University of Huddersfield, UK	In-situ high dynamic range inspection in Ebeam machine based on fringe projection profilometry
ICE21289	P5.16	Ki-Nam Joo, Chosun University, KR	Measuring range extension of spectrally-resolved interferometry by using a polarization pixelated CMOS camera
ICE21292	P5.17	Anita Przyklenk, Physikalisch-Technische Bundesanstalt (PTB), DE	AdvManuNet: Support for a European Metrology Network for Advanced Manufacturing
ICE21147	P5.18	Elia Sbettega, University of Padova, IT	Influence of the artefact material on the metrological performances of X-ray computed tomography systems
ICE21208	P5.19	Péter Troll, KTH Royal Institute of Technology, SE	Performance evaluation of LiDAR-based position measurement system
ICE21306	P5.20	Aleksandar Arsovic, University of Padova, IT	An approach to improve accuracy and productivity of industrial CMM measurements at high scanning speed
ICE21142	P5.21	Gert Behrends, University of Bremen, DE	lateral scanning white-light interferometry with integrated displacement measurements using laser speckles
ICE21256	P5.22	Ingo Ortlepp, TU Ilmenau, DE	Traceable 5D-Nanofabrication with Nano Positioning and Nano Measuring Machines



21st International Conference & Exhibition  
Monday 7th to Thursday 10th June 2021

## **Poster Room 6: Advances in Precision Engineering and Nanotechnologies & Non-Mechanical Manufacturing Processes**

**Wednesday 9<sup>th</sup> June 2021, 16:15 – 17:15 - Central European Summer Time (CEST)**

<b>ICE No.</b>	<b>Poster No.</b>	<b>Presenter</b>	<b>Poster Title</b>
ICE21187	P2.12	Katrin Huth-Herms, Fraunhofer IPK, DE	Development of a mechanical, biocide-free method of disinfection for cathodic dip coating processes
ICE21131	P2.13	Keiichi Nakamoto, Tokyo University of Agriculture and Technology, JP	Fabrication of straight laser induced periodic surface structures on aluminium alloy by ultraprecision cutting and laser irradiation
ICE21266	P2.14	Tnay Guan Leong, A-Star, Simtech, SG	Real-time tool monitoring in a Smart Machining Cell
ICE21269	P2.15	Zongchao Geng, University of Huddersfield, UK	Geometric error measurement of an ultra-precision machine tool using integrated confocal sensor
ICE21180	P3.01	Wataru Natsu, Tokyo University of Agriculture and Technology, JP	Characteristics of electrochemical machining by using electrolyte suction tool with auxiliary anode
ICE21203	P3.02	Kai Thißen, IWF TU Berlin, DE	Evaluation of segments consisting of graphite and tungsten copper for use in a variable tool electrode for sinking EDM
ICE21205	P3.03	Lydia Frumosu, Cranfield University UK	Effect of Plasma Processing Parameters on the Surface Modification of Fibre Reinforced Composites by Atmospheric Pressure Plasma
ICE21291	P3.04	Long Ye, KU Leuven, BE	An experimental framework for micro-EDM texturing on ceramic injection moulds for improved feedstock flowability
ICE21139	P3.05	Ngoc Chuong Dinh, TU Berlin, DE	Reduction of tool wear and erosion duration by using tool electrodes oxidised with humid and dry air for machining Mar-M247 via ED drilling
ICE21197	P3.06	Mirsad Osmanovic, IWF TU Berlin, DE	Reduction of erosion duration for electrical discharge drilling using a nature analogue algorithm with nested strategy types
ICE21195	P3.07	Muhammad Hazak Arshad, KU Leuven/ Flanders Make, BE	Electrochemical micro-milling of niobium carbide cermet with and without laser assistance

## Poster Room 7: Replication and Additive Manufacturing

Wednesday 9<sup>th</sup> June 2021, 16:15 – 17:15 - Central European Summer Time (CEST)

ICE No.	Poster No.	Presenter	Poster Title
ICE21120	P1.01	Gianni Stano, Polytechnic University of Bari, IT	3D printing aimed at the fabrication of an airtight, assembly free soft gripper pneumatically actuated
ICE21135	P1.02	Christian Lahoda, IWF TU Berlin, DE	Precision finishing of additively manufactured components using the immersed tumbling process
ICE21157	P1.03	Tim Evens, KU Leuven, BE	Controlling the flank geometry of injection moulded polymer microneedles made with laser ablated moulds by adapting laser scanning parameters
ICE21259	P1.04	Tobias Neuwald, Fraunhofer Institute for Production Systems and Design Technology, DE	Effects on part density for a highly productive manufacturing of WC-Co via Laser Powder Bed Fusion
ICE21264	P1.05	Hideaki Nagamatsu, Tokyo University of Agriculture and Technology, JP	Microstructure and welding penetration of wire and arc additive manufactured Pure Titanium and A5356 dissimilar alloys using cold metal transfer welding
ICE21270	P1.06	Stefan Nitzsche, Freiberg University of Mining and Technology, DE	Experimental investigation of the manufacturability of a very fine optimized venting system using a combination of SLM and EDM
ICE21273	P1.07	Michel Layher, University of Applied Sciences Jena, DE	Development of a laser beam deflection system for hybrid large scale additive manufacturing
ICE21284	P1.08	Vilmundur Torfi Kristinsson, Technical University of Denmark, DK	Effects of Process Parameters on Print Quality and Mechanical Properties of FDM Printed Polyoxymethylene (POM)



## Poster Room 8: Mechanical Manufacturing Processes

Wednesday 9<sup>th</sup> June 2021, 16:15 – 17:15 - Central European Summer Time (CEST)

ICE No.	Poster No.	Presenter	Poster Title
ICE21267	P6.12	Akshay Chaudhari, National University of Singapore, SG	Incremental sheet metal forming with flexible die
ICE21279	P6.13	Valentin Dambly, University of Mons, BE	Development of tri-dexel based cutting simulator for cutter-workpiece engagement and cutting forces determination
ICE21286	P6.14	Alberto Basso, Technical University of Denmark, DK	Effect of Powder Particle Size on the Rheology of Feedstocks for Low Pressure Powder Injection Moulding
ICE21183	P6.15	Hiroo Shizuka, Shizuoka University, JP	Experimental analysis of human bone grinding methods by a skilled surgeon in microsurgery
ICE21118	P6.16	Rudolf Meeß, Physikalisch-Technische Bundesanstalt, DE	Design and manufacturing of deterministically micro-structured plates for capacitive sensors
ICE21124	P6.17	Katja Klauer, TU Kaiserslautern, DE	Effect of vibration-assistance on tool wear, process forces and surface roughness when micro milling AISI 316L
ICE21126	P6.18	Yan Jin Lee, National University of Singapore, SG	Increasing the critical uncut chip thickness with coating-assisted microcutting on magnesium fluoride single crystal
ICE21129	P6.19	Jiong Zhang, National University of Singapore, SG	Effect of abrasive size and glue mass ratio on material removal and surface finish in magnetically driven internal finishing process
ICE21130	P6.20	Cleiton Assis, Federal Institute of Sao Paulo, BR	Ball-nose micro end-milling of ultrafine-grained steels
ICE21132	P6.21	Mirosław Rucki, Kazimierz Pułaski University of Technology and Humanities in Radom, PL	Cutting performance of nanostructured WC (nWC) inserts without cobalt bonds
ICE21136	P6.22	Toni Hocke, TU Berlin, DE	Cutting edge preparation of monolithic ceramic milling tools for machining graphite



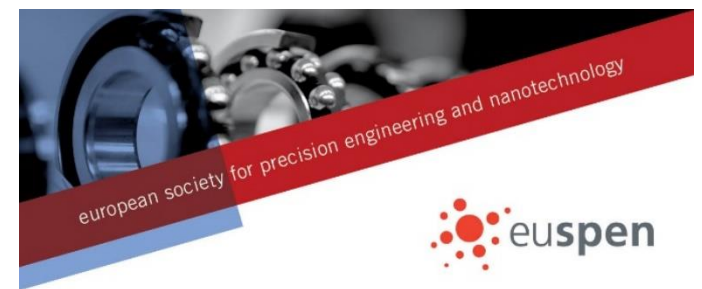


21st International Conference & Exhibition  
Monday 7th to Thursday 10th June 2021

## Poster Room 9: Measuring Instruments and Machine Tools

Thursday 10<sup>th</sup> June 2021, 15:15 – 16:15 - Central European Summer Time (CEST)

ICE No.	Poster No.	Presenter	Poster Title
ICE21228	P7.13	Ali Iqbal, University of Huddersfield, UK	Uncertainty evaluation of low-cost vibration sensors in precision manufacturing applications
ICE21229	P7.14	Florian Weigert, TU Ilmenau, DE	Investigations on low-friction kinematic couplings based on compliant mechanisms
ICE21173	P7.15	Etienne Thalmann, EPFL, CH	Optical rotating torque sensor with nano newton-meter resolution based on a hanging torsion wire
ICE21105	P7.16	Yongjia Xu, University of Huddersfield, UK	An iterative calibration method for improving absolute measurement accuracy of stereo deflectometry
ICE21162	P7.17	Nikolas Alexander Theissen, KTH Royal Institute of Technology, SE	Measurement and identification of dynamic translational stiffness matrix on machine tools under static preloads
ICE21167	P7.18	Kenji Otsu, R&D Group, Hitachi, Ltd, JP	Detecting cutting tool fractures and changes in chip formation in finish turning with acoustic emission technique
ICE21209	P7.19	Soon-Hong Hwang, Yonsei University, KR	Simulation-based tracking performance estimation of CNC machine tool feed drive
ICE21246	P7.20	Kenji Terabayashi, University of Toyama, JP	Phosphorescent Spherical Marker for precise image measurements
ICE21252	P7.21	Hiroto Tanaka, Kanazawa Institute of Technology, JP	Devising kinematics model for parallel link mechanism type machine tool
ICE21298	P7.23	Jhy-Cherng Tsai, National Chung-Hsing University, TW	Tolerance analysis for the C axis of a rotary indexing table
ICE21216	P7.24	Harkaitz Urreta, IDEKO, ES	Design and validation of a tuneable clamping table for chatter avoidance in slender parts machining

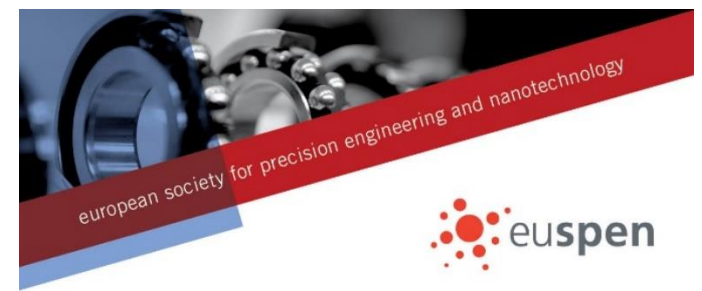


21st International Conference & Exhibition  
Monday 7th to Thursday 10th June 2021

## Poster Room 10: Mechatronics, Control and Handling

Thursday 10<sup>th</sup> June 2021, 15:15 – 16:15 - Central European Summer Time (CEST)

ICE No.	Poster No.	Presenter	Poster Title
ICE21110	P4.01	Christian Mohnke, Fraunhofer Institute for Production Systems and Design Technology, DE	Simulation and compensation of the thermal behaviour of industrial robots
ICE21123	P4.02	Vladimir Bourquin, EPFL, CH	Rocker oscillator time bases
ICE21201	P4.03	Akihiro Torii, Aichi Institute of Technology, JP	The evaluation of a miniature robot using electromagnetic force
ICE21218	P4.04	Matthias Fetzer, Carl Zeiss SMT GmbH, DE	Guaranteeing nanometre positioning under manufacturing and modelling uncertainty
ICE21125	P4.05	Tohru Sasaki, University of Toyama, JP	Position Sensing for Surgical Robot Using Time-of-Flight Sensor
ICE21160	P4.06	Monica Katherine Gonzalez Bassante, KTH Royal Institute of Technology, SE	Experimental identification of the position-dependent dynamics of an industrial manipulator
ICE21248	P4.07	Eric Tzeng, National Chung Hsing University, TW	Robot Feet Gait Following by Deep Q-network
ICE21304	P4.08	Gheorghe Olea, HUBER Diffractionstechnik GmbH Co.KG, DE	Parallel Alignment Table for Synchrotron Liquid Diffractometer
ICE21143	P4.09	Andreas Lange, TU Kaiserslautern, DE	Numerical analysis of magnetic bearings intended for micro machining applications
ICE21235	P4.11	Bülent Delibas, Physik Instrumente (PI) GmbH & Co. KG, DE	A novel drive and control method for piezoelectric motors in microscopy stages
ICE21310	P4.12	Edward Heaps, National Physical Laboratory, UK	Demonstration of closed loop velocity control for fast imaging techniques using high-speed AFM



21st International Conference & Exhibition  
Monday 7th to Thursday 10th June 2021

## Poster Room 11: Mechanical Manufacturing Processes

Thursday 10<sup>th</sup> June 2021, 15:15 – 16:15 - Central European Summer Time (CEST)

ICE No.	Poster No.	Presenter	Poster Title
ICE21287	P6.23	Jiang Guo, Dalian University of Technology, CN	A method for measuring the wall-thickness of thin-walled spherical shell parts
ICE21154	P6.24	Tatsuki Ikari, National Defense Academy, JP	Effect of grinding fluid on the grinding characteristics of CMSX4
ICE21155	P6.25	Asahi Fueki, National Defense Academy, JP	Constant -Pressure Machining of Single Crystalline Silicon Carbide Using a Ruby Sphere
ICE21185	P6.26	Volker Herold, University Jena, DE	Deterministic lapping of anodized precision components with slightly curved surfaces
ICE21189	P6.27	Hagen Maximilian Wiesner, Fraunhofer-IPK, DE	Tool wear and surface roughness in milling aluminium and high-alloyed aluminium materials using cutting tools made of binderless carbide
ICE21200	P6.28	Christian Jahnke, Fraunhofer-IPK, DE	Micro-milling of a sprue structure in tungsten carbide-based metal matrix composite
ICE21224	P6.29	Renato Goulart Jasinevicius, University of São Paulo at São Carlos School of Engineering, BR	Micro-endmilling of Fresnel structure on RSA 6061-T6 and PMMA
ICE21245	P6.30	Giuliano Bissacco, Technical University of Denmark, DK	Influence of image resolution on surface topography prediction based cutting tools measurements
ICE21285	P6.31	Jiang Guo, Dalian University of Technology, CN	A novel method for deformation prediction caused by initial residual stress
ICE21153	P6.32	Min Li, Leibniz Institute for Materials Engineering IWT, DE	Control of shear thickening rheological properties of polishing slurry
ICE21204	P6.33	Udo Eckert, Fraunhofer IWU, DE	Position controlled pneumatic chuck for high precision machining

## **Poster Room 12: Replication and Additive Manufacturing**

**Thursday 10<sup>th</sup> June 2021, 15:15 – 16:15 - Central European Summer Time (CEST)**

<b>ICE No.</b>	<b>Poster No.</b>	<b>Presenter</b>	<b>Poster Title</b>
ICE21294	P1.09	Henning Zeidler, TU Freiberg, DE	Influence of Plasma electrolytic Polishing on the surface morphology of additively manufactured Ni-Ti-parts investigated on the basis of smart springs
ICE21299	P1.10	Stefan Krinke, TU Freiberg, DE	Influence of deposition angle in hybrid wire arc additive manufacturing
ICE21303	P1.11	Henning Zeidler, TU Freiberg, DE	Optimization of a large-volume FFF-Printer
ICE21128	P1.12	Mirosław Rucki, Kazimierz Pułaski University of Technology and Humanities in Radom, PL	Analysis of 3D triangulated models of Madygenerpeton pustulatum fossil skull
ICE21263	P1.13	Toni Hocke, TU Berlin, DE	Additive Manufacturing of precision cemented carbide parts
ICE21268	P1.14	Kenneth Meinert, Technical University of Denmark, DK	A simple method for estimating the effective emissivity at high temperatures, utilizing a black body radiator
ICE21300	P1.15	Martin Kain, Technical University of Denmark, DK	Additive manufacturing of soft tools – Application of carbon fiber filled PEEK to polymer extrusion dies production
ICE21169	P1.16	Laurent Spitaels, University of Mons, BE	Development of a novel benchmark artifact for Additive Manufacturing processes