

# MSEC2019 POSTER SESSIONS

Tuesday, June 11: Session 6-1-1

Grand Ballroom 1500 – 1700

Paper Number	Title	Authors
MSEC2019-2708	Finite Element Analysis of Installation Failures in Engine Cylinder-Liners	Satya Prasad Paruchuru
MSEC2019-2711	Methods of Bio-Machining and Electro-Machining	Satya Prasad Paruchuru
MSEC2019-3037	Using Graph Theory for Near Real-Time Prediction of Part-Level Thermal History in Metal Additive Manufacturing	Reza Yavari, Jordan Severson, Aniruddha Gaikwad, Kevin D. Cole, Prahalad Rao
MSEC2019-3047	Humidity-Controlled Micro-Additive Manufacturing With Polymeric Bio-Inks	Kevin Estelle, Arda Gozen
MSEC2019-3065	Directed Assembly of 3D Nanofiber Scaffolds for Tissue Engineering	Yingge Zhou, George Tan
MSEC2019-3068	Device Fabrication for Water Purification Using Polymer-Coated Gold Nanohybrids	RICHA RANI
MSEC2019-3071	Study of Hardness Variation on TIG Welded Stack of CRNO Electrical Sheets	Bhushan Y. Dharmik, Nitin Kumar Lautre
MSEC2019-3075	Binder Jetting Additive Manufacturing of Metals	Ming Li, Wenchao Du, Alaa Elwany, Zhijian Pei, Chao Ma
MSEC2019-3078	A Study on Thermal Performance of Micro Grinding Using Air Flow Assisted Electrohydrodynamic Spraying Lubrication With Nanofluid	Pil-Ho Lee, Sang Won Lee
MSEC2019-3090	Binder Jetting of Ceramics: Simulation of Powder Spreading Process	Guanxiong Miao, Wenchao Du, Zhijian Pei, Chao Ma
MSEC2019-3093	Mechanism of Action Study on Coronary Orbital Atherectomy	Yihao Zheng, Chang Lu, Jingxuan Lyu, Albert Shih
MSEC2019-3098	Stabilization of Silver Nanoparticles for Prolonged Biofouling Resistance	Shahrima Maharubin, George Tan
MSEC2019-3101	A Study on Microstructure and Mechanical Property of Stainless Steel Parts Fabricated by Directed Energy Deposition (DED) Process	Jung Sub Kim, Jin Woo Kim, Jiwoong Lee, Sang Won Lee
MSEC2019-3104	Binder Jetting of Ceramics: Comparison of Raw and Granulated Powders	Wenchao Du, Guanxiong Miao, Lianlian Liu, Zhijian Pei, Chao Ma
MSEC2019-3112	Manufacturing Process Implications on Aerosolized Submicron to Nano-sized Particles from Respiratory Drug Delivery Devices	Mohammed Ali
MSEC2019-3114	Additive Manufacturing of Biomass Materials for Infrastructure Construction	Abhinav Bhardwaj, Matt Lucht, Elmer Molina, Na Zhou, Zhijian Pei



# MSEC2019 POSTER SESSIONS

**Tuesday, June 11: Session 6-1-1 (cont.)**

**Grand Ballroom 1500 – 1700**

Paper Number	Title	Authors
MSEC2019-3123	Effect of Support Structures on Electron Beam Melting Ti-6Al-4V	Xiaoqing Wang, Kevin Chou, Chris Marker
MSEC2019-3133	A Novel Laser-based Metasurface Fabrication Method for Tunable THz Bandpass Optics	Qinghua Wang, Fatima Toor, Mark Arnold, Hongtao Ding
MSEC2019-3136	A Mechanistic Model on Feeding-Directional Cutting Force in Surface Grinding of CFRP Composites using Rotary Ultrasonic Machining with Horizontal Ultrasonic Vibration	Hui Wang, Yingbin Hu, Weilong (Ben) Cong, Anthony R. Burks
MSEC2019-3138	Profile characterisation and response surface modelling of laser surface hardened Cr12 mould steel	Qianting Wang, Xianbin Zeng, Changrong Chen, Guofu Lian, Xu Huang

**Wednesday, June 12: Session 6-1-2**

**Grand Ballroom 1500 – 1700**

Paper Number	Title	Contact Author
MSEC2019-2709	Evaluation Methods for Bone-BioMaterial Interfaces	Satya Prasad Paruchuru
MSEC2019-2889	SUSTAINABILITY ANALYSIS OF PALM KERNEL CRACKING MACHINE:DESIGN FOR MANUFACTURING	Rufus Chime
MSEC2019-2935	Multi-Objective Approach to HRC Manufacturing Environment	Gabriel L. Streitmatter, Gloria J. Wiens
MSEC2019-2981	Real-time grinding wheel health status monitoring using linear image sensors	E. Taewan Lee, Zhaoyan Fan, Burak Sencer
MSEC2019-3054	Effect of Chip Thickness on Milling Stability	Jiunnjyh Wang, I-Chieh Lin
MSEC2019-3066	Ultrasound-Assisted Bioprinting of Anisotropic 3D Cellular Constructs	Parth Chansoria, Rohan Shirwaiker
MSEC2019-3072	3D Printing of Biodegradable Support Structures	Yiliang Cheng, Xiao Zhang, Xiaolei Shi, Gul Kremer, Hantang Qin
MSEC2019-3076	A Data Science Approach to Selecting Ejection Waveforms for Inkjet Printing	James Nowak, Hao Zhong, Peter Fox, Johnson Samuel
MSEC2019-3079	Analysis of Signals for Defect Monitoring in metal Additive Manufacturing	Wei-Chun Yang, Ming-chyuan Lu, Yaoyang Tsai, Shih-Ming Wang



# MSEC2019 POSTER SESSIONS

Wednesday, June 12: Session 6-1-2 (cont.)

Grand Ballroom 1500 – 1700

Paper Number	Title	Contact Author
MSEC2019-3087	Porosity Analysis and Pore Tracking of Tensile Specimen by Micro-CT	Santosh Rauniyar, Y. Kevin Chou
MSEC2019-3091	Hybrid Fabrication of Biomimetic Meniscus Scaffold by 3D Printing and Parallel Electrospinning	Dilshan Sooriyaarachchi, Jiaxin Wu, Md Maksud Islam, George Tan
MSEC2019-3095	Cone Electrospinning PCL/Collagen Scaffolds With Microstructure Gradient	John Nowlin, Md Maksud Islam, Yingge Zhou, George Tan
MSEC2019-3099	Development of Quality Monitoring and Diagnosis System for Robot Spot Welding Process Based on Machine Learning Algorithms	Jiwoong Lee, In Woong Noh, Sang Ik Jeong, Sang Won Lee
MSEC2019-3102	Modified Heat Treatments of DMLS of Precipitate Hardenable Steel	Ala'Aldin Alafaghani, Ala Qattawi
MSEC2019-3105	Binder Jetting of Ceramics: Feedstock Preparation by Spray Freeze Granulation	Wenchao Du, Guanxiong Miao, Lianlian Liu, Zhijian Pei, Chao Ma
MSEC2019-3107	Refurbishing a Force-Controlled Grinding Machine Tool for Higher Sustainability	Ian C Garretson, Barbara Linke
MSEC2019-3108	Predictive Model for Post-Production Infiltration of Artifacts Made via Binder-Jetting	Adam Mihalko, Robert J. Michael, Davide Piovesan
MSEC2019-3130	Improving Mechanical Properties Of Metal Castings Using Novel Sprue Designs Via 3D Sand-Printing	Daniel Martinez, Hakan Toykoc, Santosh R. Sama, Tony Badamo, Paul C. Lynch, Guha P. Manogharan
MSEC2019-3131	Needle Computer Numerical Control Microgrinding with Vision-Guided Method	Nathaly Villacis, Dian-Ru Li, Albert Shih
MSEC2019-3137	Rotary Ultrasonic Machining of CFRP Composites: Effects of carbon fiber reinforcement structure and machining variables	Dongzhe Zhang, Xiaoxu Chen, Hui Wang, Yingbin Hu, Weilong (Ben) Cong, Anthony Bucks



# MSEC2019 POSTER SESSIONS

Thursday, June 13: Session 6-1-3

Grand Ballroom 1500 – 1700

Paper Number	Title	Contact Author
MSEC2019-2710	The Covertness of Biological Power	Satya Prasad Paruchuru
MSEC2019-2888	DESIGN INNOVATION IN A WATER WELL POTABLE DRILLING MACHINE	Rufus Chime
MSEC2019-2962	Glocal Integrity of Hybrid Additive Manufactured Titanium Alloy by Milling	Rakeshkumar Karunakaran, Michael Sealy
MSEC2019-3046	Ushering The Digital Twin in Metal Additive Manufacturing: A case for model-based monitoring of porosity in directed energy deposition.	Mohammad Montazeri, Reza Yavari, Aniruddha Gaikwad, Mojtaba Khanzadeh, Kevin D. Cole, Linkan Bian, Prahalad Rao
MSEC2019-3064	Rheological Properties of Liquid Alloy Nanoparticle-Based Polymer Composites	Sepehr Nesaei, Arda Gozen
MSEC2019-3073	Surface Roughness Measurement of AM Parts Using FVM and SLS	Xiao Zhang, Shaodong Wang, Yi Zheng, Qing Li, Beiwen Li, Hantang Qin
MSEC2019-3082	An Accuracy-Efficiency-Power Consumption Hybrid Optimization Method for CNC Milling Process	Shih-Ming Wang, Hariyanto Gunawan, Chun-Yi Lee, Chin-Cheng Yeh
MSEC2019-3089	Magnetic Field-Assisted Finishing Using Diamond Abrasive on Superalloys	Jason Ratay, Alex Feirvezers, Pei-Ying Wu, Hitomi Yamaguchi
MSEC2019-3092	Increasing Tool Life in Metals via True Variable Depth Milling	Marshall Laminen, Durul Ulutan
MSEC2019-3097	Calibration-Based Tool Condition Monitoring for Repetitive Machining	Achyuth Kothuru, Rui Liu
MSEC2019-3100	Experimental Evaluation of Tension and Shear Responses of Material Discontinuities in Origami-Based Sheet Metal Bending	Muhammad Ali Ablat, Ala Qattawi
MSEC2019-3103	Manufacturing Energy Analysis Using Theoretical Models and LCA for Reshaping Sheet Metal Components	MD Shah Jaman, Ala Qattawi
MSEC2019-3120	Energy Modeling and Eco impact Evaluation in Direct Metal Laser Sintering Hybrid Milling	Nabeel Ahmad, Emmanuel Enemuoh
MSEC2019-3126	Comparison of Numerical Methods for Analysis of FDM Nylon Components	Sumair Sunny, Glenn Gleason, Arif Malik
MSEC2019-3132	Round Robin Phase I: Variability of Similar Laser Powder Bed Fusion Machines	Shawn Moylan, Jarred Heigel, Gregor Jacob, Christopher Brown, William Luecke, Carlos Beauchamp, Max Peltz, Chiara Ferraris, Thien Phan, M. Alkan Donmez
MSEC2019-3134	Tuning Wettability on Laser Textured Metals by Surface Chemistry Modification	Avik Samanta, Qinghua Wang, Scott Shaw, Hongtao Ding
MSEC2019-3135	Thermography of Laser Powder Bed Fusion for Multi-Physics Model Validation	Jarred Heigel, Brandon Lane, Lyle Levine