



Technical Programme

Day 1		
	Time (Utc+8)	Tuesday Oct-23
	14.00-14.20	Conference Opening
Energy and Resource Efficiency	14.20-14.40	Discrete Event Simulation Approach For Energy Efficient Resource Management In Paper & Pulp Industry <i>A. Keshari, A. N. Sonsaleb, B. K. Sharmab, S. D. Pohekar (India)</i>
	14.40-15.00	An Analysis Of The Effect Of Gravitational Load On The Energy Consumption Of Industrial Robots <i>N. Sinaga, P. Paryanto, S. A. Widyanto, R. Rusnaldy (Indonesia), A. Hetzner, J. Franke (Germany)</i>
	15.00-15.20	Comfort Evaluation Model For Gesture Motion Based On Mechanical Energy Expenditure And Efficiency <i>W. Wang, X. Qin, C. Zheng, H. Wang, J. Li, J. Niu (China)</i>
	15.20-15.40	Resource Efficiency Optimization Engine In Smart Production Networks Via Intelligent Cloud Manufacturing Platforms <i>A. Simeone, B. Deng, Y. Zeng (China), A. Caggiano (Italy), L. Boun (Israel)</i>
	15.40-16.00	Comparative Well-To-Wheel Emissions Assessment Of Internal Combustion Engine And Battery Electric Vehicles <i>L. Athanasopoulou, H. Bikas, P. Stavropoulos (Greece)</i>
	16.00-16.20	Break
Machining and Machine Tools 1	16.20-16.40	Model Predictive Control Based Chatter Suppression In Milling Process Via Piezoelectric Stack Actuators <i>D. Li, H. Cao, F. Shi, X. Zhang, X. Chen (China)</i>
	16.40-17.00	Active Chatter Control In High Speed Milling Processes Based On H Almost Disturbance Decoupling Problem <i>F. Shi, H. Cao, D. Li, X. Chen, X. Zhang (China)</i>
	17.00-17.20	Application Of Process Parameters In Planning And Technological Documentation: Cnc Machine Tools And Cnms Programming Perspective <i>R. Wdowik, M. Magdziak (Poland), R.M. C. Ratnayake (Norway), Chiara Borsellino (Italy)</i>
	17.20-17.40	Energy-Efficient Control Of Dust Extraction For The Machining Of Fibre-Reinforced Plastics <i>B. Denkena, B. Bergmann, B. H. Rahner (Germany)</i>
	17.40-18.00	Chip Formation In Machining Metal Bonded Grinding Layers <i>B. Denkena, T. Grove, V. Suntharakumaran (Germany)</i>
	18.00-18.20	Novel Method To Systematically Implement Lean Production In Machining Areas <i>S. Seifermann, J. Böllhoff, C. Schaede, M. Kutzen, J. Metternich (Germany)</i>
	18.20-19.20	Break
Additive Manufacturing	19.20-19.40	An Energy Model Of Machine Tools For Selective Laser Melting <i>L. Yi, N. Krenkel, J. C. Aurich (Germany)</i>
	19.40-20.00	Geometry-Based Process Planning For Multi-Axis Support-Free Additive Manufacturing <i>Y. Murtezaoglu, D. Plakhotnik, T. Vaneker, F.J.A.M. Van Houten (Netherlands), M. Stautner (Germany)</i>
	20.00-20.20	A Framework For Future Cam Software Dedicated To Additive Manufacturing By Multi-Axis Deposition <i>S. Campocasso, M. Chavina, V. Hugel, (France)</i> <i>A. K. Reichler, R. Gerbers, K. Dröder, F. Dietrich (Germany)</i>
	20.20-20.40	Laser Powder Bed Fusion (L-Pbf) Additive Manufacturing: On The Correlation Between Design Choices And Process Sustainability <i>P.C. Priarone, V. Lunetto, E. Atzeni, A. Salmi (Italy)</i>
	20.40-21.00	A Study On The Feasibility Of Laser Annealing To Relieve Residual Stresses In Cold Spray Coatings <i>B. Hunter, B. Aldwell, R. Jenkins And R. Lupoi (Ireland)</i>
	21.00-21.20	Modelling And Experimental Testing Of A Novel Focused Infrared Heater For Use With Cold Spray <i>R. Jenkins, B. Aldwell, S. Yin, R. Lupoi (Ireland)</i>
	21.20-21.40	Break
Virtual Manufacturing	21.40-22.00	An Approach For Exoskeleton Integration In Manufacturing Lines Using Virtual Reality Techniques <i>A. Karvouniari, G. Michalos, N. Dimitropoulos, S. Makris (Greece)</i>
	22.00-22.20	A Conceptual Design For Smell Based Augmented Reality: Case Study In Maintenance Diagnosis <i>J. Wang, J. A. Erkoyuncu, R. Roy (UK)</i>
	22.20-22.40	A Vr-Based User Interface For The Upper Limb Rehabilitation <i>Y. Shi, Q. Peng (Canada)</i>
	22.40-23.00	A Model Retrieving Based Method For Bolus Shaping <i>R. Li, Q. Peng, H. Ingleby, D. Sasaki (Canada)</i>
	23.00-23.20	A Virtual Environment For Hand Motion Analysis <i>H. Reza Fazeli, S. Kuntavalli Venkatesh, Qingjin Peng (Canada)</i>



Day 2		
	Time (Utc+8)	Wednesday Oct 24
Advanced Manufacturing Processes	14.00-14.20	Enhancement Of Powder Supply Efficiency In Directed Energy Deposition Based On Gas-Solid Multiphase-Flow Simulation <i>R. Koike, S. Takemura, Y. Kakinuma, M. Kondo (Japan)</i>
	14.20-14.40	A Systematic Approach Based On Voxel Based Modelling And Apdl Analysis For Functional-Graded-Material Objects <i>W. Liu, X. Cheng (China)</i>
	14.40-15.00	Stiffness Characteristics Of A Laser Beam Melted (Lbm) Additive-Manufactured Flexure Mechanism <i>H. Wei, L. Wang, X. Niu, Y. Deng, Y. Zhang, J. Cheng (China)</i>
	15.00-15.20	Application Of Lost Wax Casting For Manufacturing Of Orthopedic Screw: A Review <i>M. N. A. Aziz, Rusnaldy, P. Munyensanga, S. A. Widyanto, P. Paryanto (Indonesia)</i>
	15.20-15.40	Influence Of Learning Factories On Students' Success - A Case Study <i>R. Glass, P. Miersch, J. Metternich (Germany)</i>
	15.40-16.00	Correlation Between Process Load And Deep Rolling Induced Residual Stress Profiles <i>B. Denkena, T. Grove, B. Breidenstein, K. Meyer (Germany), A. M. Abrão (Brazil)</i>
	16.00-16.20	Break
Manufacturing Systems 1	16.20-16.40	Configuration And Control Approach For Flexible Production Stations <i>P. Karagiannis, C. Giannoulis, G. Michalos, S. Makris (Greece)</i>
	16.40-17.00	On A Versatile Scheduling Concept Of Maintenance Activities For Increased Availability Of Production Resources <i>N. Nikolakis, A. Papavasileiou, K. Dimoulas, K. Bourmpouchakis, S. Makris (Greece)</i>
	17.00-17.20	Multiple System Dynamics And Discrete Event Simulation For Manufacturing System Performance Evaluation <i>D. Antonelli (Italy), P. Litwin, D. Stadnicka (Poland)</i>
	17.20-17.40	A Threshold-Based Control Policy For Scrap Reduction Of Perishable In-Process Inventories <i>M. C. Magnanini, T. Tolio (Italy)</i>
	17.40-18.00	Online Lead Time Prediction Supporting Situation-Aware Production Control <i>D. Gyulai, A. Pfeiffer, J. Bergmann (Hungary), V. Gallina (Austria)</i>
	18.00-18.20	Flexible Reconfiguration Of Avs/Rs Operations For Improved Integration With Manufacturing Processes <i>G. Bruno, G. D' Antonio (Italy)</i>
	18.20-19.20	Break
Quality and Process Management	19.20-19.40	Investigating Causal Relationships Between Disruptions, Product Quality And Network Configurations In Global Production Networks <i>S. Treber, C. Bubeck, G. Lanza (Germany)</i>
	19.40-20.00	Effect Of Contact Stiffness And Machine Calibration In Nano-Indentation Testing <i>G. Genta, G. Maculotti, G. Barbato, R. Levi, M. Galetto (Italy)</i>
	20.00-20.20	Investigation Of Best Parameters' Combinations For Coordinate Measuring Technique <i>M. Magdziak (Poland), R.M. C. Ratnayake (Norway)</i>
	20.20-20.40	Accuracy Of Geometry Data Exchange Using Step Ap242 <i>J. Bijmans, K. Kellens, (Belgium), D. Cheshire (UK)</i>
	20.40-21.00	Dynamics Of Cost Uncertainty For Innovative High Value Manufacturing Products - A Geometric Phenomenon <i>Q. Schwabe, J. A. Erkoyuncu, E. Shehab (UK)</i>
	21.00-21.20	Comparison Of Direct And Indirect Methods For Five-Axis Machine Tools Geometric Error Measurement <i>K. Xing, S. Achiche, S. Esmaili, J.R.R. Mayer (Canada)</i>
	21.20-21.40	Break
Manufacturing Systems 2	21.40-22.00	On A Shared Human-Robot Task Scheduling And Online Re-Scheduling <i>N. Nikolakis, K. Sipsas, P. Tsarouchi, S. Makris (Greece)</i>
	22.00-22.20	User Interface For The Acquisition And Characterization Of Defects And Performed Rework In Multi-Stage Production Systems <i>C. Reiff, F. Eger, T. Korb, A. Verl (Germany), H. Freiburger (Austria)</i>
	22.20-22.40	Value Stream Method 4.0: Holistic Method To Analyse And Design Value Streams In The Digital Age <i>L. Hartmann, T. Meudt, S. Seifermann, J. Metternich (Germany)</i>
	22.40-23.00	Towards Robust Intention Estimation Based On Object Affordance Enabling Natural Human-Robot Collaboration In Assembly Tasks <i>M. Cramer, J. Cramer, K. Kellens, E. Demeester (Belgium)</i>
	23.00-23.20	Machine Learning Algorithms In Production: A Guideline For Efficient Data Source Selection <i>P. Stanula, A. Ziegenbein, J. Metternich (Germany)</i>
	23.20-23.40	Challenges And Opportunities Of Condition-Based Predictive Maintenance: A Review <i>N. Sakib, T. Wuest (USA)</i>



Day 3		
	Time (Utc+8)	Thursday Oct 25
Processes and Systems Modelling	14.00-14.20	Collision Damage Assessment In Lithium-Ion Battery Cells Via Sensor Monitoring And Ensemble Learning <i>A. Simeone, D. Lv, X. Liu, J. Zhang (China)</i>
	14.20-14.40	Multi-Objective Topology Optimization Of Column Structure For Vertical Machining Center <i>D. Cheng, X. Lu, X. Sun (China)</i>
	14.40-15.00	Research On Elastic Dynamic Model Of Trolley System For Anti-Sway Control System Of Bridge Crane <i>Y. Bian, J. Yin, X. Xiong, L. W, L. Zhu (China)</i>
	15.00-15.20	Information Management To Improve The Effectiveness Of Preventive Maintenance Activities With Computerized Maintenance Management System At The Intake System Of Circulating Water Pump <i>P. Munyensanga, S. A. Widyanto, M. N. A. Aziz, Rusnaldy, P. Paryanto (Indonesia)</i>
	15.20-15.40	Design Of A Hand Rehabilitation Device Using Integrated Axiomatic And Benchmarking Methods <i>J. Yang, J. Zhang, P. Gu (China), Q. Peng (Canada)</i>
	15.40-16.00	Towards Machine Shop 4.0: A General Machine Model For CNC Machine-Tools Through OPC-UA <i>D. Mourtzis, N. Milas, N. Athinaios (Greece)</i>
	16.00-16.20	Break
Machining and Machine Tools 2	16.20-16.40	Dimensionality Reduction Of Sensorial Features By Principal Component Analysis For Ann Machine Learning In Tool Condition Monitoring Of Cfrp Drilling <i>A. Caggiano, R. Angelone, F. Napolitano, L. Nele, R. Teti (Italy)</i>
	16.40-17.00	Technological Cad/Cam Chain For Automated Polishing Of Geometrically Complex Workpieces <i>B. Denkena, M.A. Dittrich, H. N. Nguyen (Germany)</i>
	17.00-17.20	Machining Of Micro Dimples For Friction Reduction In Cylinder Liners <i>B. Denkena, T. Grove, C. Schmidt (Germany)</i>
	17.20-17.40	Cutting Power Estimation Via External Voltage And Current Sensors On Feed-Drive Axis For The Straight Milling Process <i>K. Miura, B. Döbbeler, F. Klocke (Germany)</i>
	17.40-18.00	Measurements Of Surface Texture Parameters After Ultrasonic Assisted And Conventional Grinding Of Carbide And Ceramic Samples In Selected Machining Conditions <i>R. Wdowik (Poland)</i>
	18.00-18.20	Machining Alloy 52 Kovar Using Different Machining Environments <i>A. Shokrani, N. Reade, C. Mahn (UK)</i>
	18.20-19.20	Break
Sustainable Manufacturing	19.20-19.40	Investigation Of Particulate Emissions During Handling Of Electrodes In Lithium-Ion Battery Assembly <i>A. Fröhlich, R. Leithoff, C. Von Boeselager, K. Dröder, F. Dietrich (Germany)</i>
	19.40-20.00	Conceptual Framework For Evaluating The Environmental Awareness And Eco-Efficiency Of Smes <i>J. VAsquez, G. Bruno, L. Settineri (Italy), S. Aguirre (Colombia)</i>
	20.00-20.20	Design And Ergonomic Analysis Of The Waste Electrical And Electronic Equipment (Weee) Remanufacturing Workcell Fixture Using Digital Mock-Up Environment <i>A. Marzano, P. Vichare, P. Muñoz-Escalona (UK)</i>
	20.20-20.40	Toward Automatic Cleaning Of Industrial Equipment: Pulsed Flow-Induced Wall Shear Stress <i>R. Absi, R. Azouani (France)</i>
	20.40-21.00	Enhancement Of Clean-In-Place Procedures In Powder Production Using Ultraviolet-Induced Fluorescence <i>E. Woolley, A. Wanjeri (UK), A. Simeone (China)</i>
	21.00-21.20	A Novel Approach To Assessing Manufacturer Progress Toward Sustainability <i>H. Trollman (UK)</i>
	21.20-21.40	Break
Design	21.40-22.00	Problem-Solving Process Design In Production: Current Progress And Action Required <i>M. Meister, T. Böing, S. Batz, J. Metternich (Germany)</i>
	22.00-22.20	Design Criteria For Grinding Machine Dynamic Stability <i>M. Leonesio, G. Bianchi, N. Cau (Italy)</i>
	22.20-22.40	Measuring Openness In Open Source Hardware With The Open-O-Meter <i>J. Bonvoisin (UK), R. Mies (Germany)</i>
	22.40-23.00	Democratising The Design Of 3d Printed Functional Components Through A Hybrid Virtual-Physical Design Methodology <i>M. Goudswaard, B. Hicks, A. Nassehi (UK)</i>
	23.00-23.20	Towards A Framework To Design Upgradable Product Service Systems <i>M. A. Khan, T. Wuest (USA)</i>
	23.20-23.40	Conference Closure