

# Program Chart



## Day 0, Monday, April 18, 2016

15:00	Registration
18:00	Welcome Party (Room B)
20:00	

## Day 1, Tuesday, April 19, 2016

8:20	Registration			
Plenary Session	Room A			
8:45	Opening Ceremony			
12:10	Plenary Talk			
Parallel Sessions	Room A	Room B	Room C	Room D
13:30	EDM 1: Experimental Analysis	LBM 1: Pulsed Laser	ECM 1: Surface	EDM 2: Dry EDM
15:10				
15:30	EDM 3: Machining Conditions	AM 1: High Energy Beam	ECM 2: Titanium Alloy and Sintered Alloy	EDM 4: Difficult-to-machine Materials
17:10				
17:15	Invited Evening Seminar (Room A)			
18:00	Reception (Sanjo Conference Hall)			
18:00	Reception (Sanjo Conference Hall)			
20:00				

## Day 2, Wednesday, April 20, 2016

Parallel Sessions	Room A	Room B	Room C	Room D
9:00	EDM 5: Control	EDM 6: PCD	ECM 3: Advances in ECM	Hybrid Processes
10:20				
10:40	EDM 7: Coating	EDM 8: Turbine Blade	Micromachining 1: Chemical Process	Plasma Processes
12:00				
13:30	EDM 9: Surface Integrity	ECM 4: Modeling	LBM 2: Advanced Materials	EDM 10: Drilling
15:10				
15:30	EDM 11: Wire-EDM	ECM 5: Flexible Machining	LBM 3: Surface	EDM 12: Equipment
17:10				

## Day 3, Thursday, April 21, 2016

Parallel Sessions	Room A	Room B	Room C	Room D
9:00	EDM 13: Heat Affected Zone	EDM 14: Milling	Micromachining 2: EDM	ECM 6: Equipment
10:20				
10:40	EDM 15: Gap Phenomena in WEDM	EDM 16: Applications	AM 2: FDM	ECM 7: Micro ECM
12:00				
13:00	EDM 17: Tool Electrode	EDM 18: Modeling	ECDM	USM
14:20				
14:40	EDM 19: Advances in EDM	EDM 20: Pulse Generators	Electrodeposition	Abrasive Machining
15:40				
17:00	Banquet (Hotel Chinzanso Tokyo)			
20:00	Banquet (Hotel Chinzanso Tokyo)			

## Day 4, Friday, April 22, 2016

8:00	Technical Tour
18:00	

# Program April 19



Day 1, Tuesday, April 19, 2016		
8:20 8:45	Registration	
Plenary Session	Room A	
8:45	Opening Ceremony: Prof. Masanori Kunieda, General Chairperson of ISEM 18 Prof. Mamoru Mitsuishi, Dean of Graduate School of Engineering, The University of Tokyo	
9:20	Plenary Talk 1 Title: Emerging Another Age of Discovery in Solar System Enabled through Round Voyage Technology <i>Prof. Jun'ichiro Kawaguchi (Japan Aerospace Exploration Agency : JAXA)</i> Chairperson: Prof. Takashi Nakamura (Nagoya Institute of Technology)	
10:10	Coffee Break	
10:30	Plenary Talk 2 Title: Advanced Stamping Technology to Realize the High Accurate Automotive Parts <i>Mr. Kozo Hirabayashi (SYVEC CORPORATION)</i> Chairperson: Prof. Akihiro Goto (Shizuoka Institute of Science and Technology)	
11:20	Plenary Talk 3 Title: Electrical-Machining Technology Contributing the High Temperature and Efficiency Gas Turbine <i>Mr. Tadao Ichikawa (MITSUBISHI HITACHI POWER SYSTEMS, LTD.)</i> Chairperson: Prof. Akihiro Goto (Shizuoka Institute of Science and Technology)	
12:10	Lunch Break	
Parallel Sessions 1	Room A	Room B
	EDM 1: Experimental Analysis Chairperson: Prof. Wan-Sheng Zhao	LBM 1: Pulsed Laser Chairperson: Prof. Volodymyr Kovalenko
	13:30 <u>Special Focus Talk</u> Experimental Study on Debris Evacuation During Slot EDMing <i>Izaro Ayesta, Olatz Flaño, Borja Izquierdo, Jose Antonio Sanchez, Soraya Plaza</i>	<u>Special Focus Talk</u> Formation of Periodic Nanostructures with Femtosecond Laser for Creation of New Functional Biomaterials <i>Togo Shinonaga, Shono Kinoshita, Yasuhiro Okamoto, Masahiro Tsukamoto, Akira Okada</i>
14:00	Short Break	
14:10	Observation of Material Removal from Discharge Spot in Electrical Discharge Machining  <i>Shinya Hayakawa, Yusuke Kusafuka, Fumihito Itoigawa, Takashi Nakamura</i>	Influence of Pulse Duration on Processing Characteristics of Transparent Conductive Film Containing Silver Nanowires by ns Pulsed Fiber Laser <i>Masafumi Oshita, Norio Nishi, Yasuhiro Okamoto, Akira Okada, Togo Shinonaga, Tomokazu Sakagawa</i>

Room C	Room D	Parallel Sessions 1
ECM 1: Surface Chairperson: Dr. Henning Zeidler	EDM 2: Dry EDM Chairperson: Prof. Kai Egashira	
Some Problems of Surface Roughness in Electrochemical machining (ECM)  <i>Jerzy Kozak, Maria Zybura-Skrabalak</i>	High-efficient Dry Hybrid Machining of EDM and Arc Machining  <i>Yang Shen, Yonghong Liu, Wan-Yun Sun</i>	
Study on Effect of ECM Conditions on Wettability of Machined Surface <i>Ken Maeda, Wataru Natsu</i>	A Comparative Study on Machining Capabilities of Wet and Dry Nano-scale Electro-machining <i>Muhammad P. Jahan, Kamlakar P. Rajurkar, Ajay P. Malshé</i>	13:30
Study on Electrochemical Machining of Oil Pocket on Sliding Surface with Electrolyte Suction Tool  <i>Yuki Takashima, Wataru Natsu</i>	Dependence of Crater Formation in Dry EDM on Electrical Breakdown Mechanism  <i>Felipe Tadeu Barata de Macedo, Moritz Wiessner, Christoph Hollenstein, Friedrich Kuster, Konrad Wegener</i>	14:10

Day 1, Tuesday, April 19, 2016		
14:30	Experimental Investigation of EDM Parameters on TiC/Ni Cermets Machining  <i>Yerui Feng, Yongfeng Guo, Zongfeng Li</i>	Pulsed Laser Cutting of Magnesium-Calcium for Biodegradable Stents  <i>M. P. Sealy, Y. B. Guo, J. F. Liu, C. Li</i>
14:50	Analyzing of Discharge Wave Oscillation Mechanism in Electrical Discharge Machining  <i>Dongbo Wei, Shichun Di, Yukui Wang, Zhenlong Wang</i>	Machining on Rear Surface of a Silicon Substrate by an Infrared Femtosecond Laser via Non-linear Absorption Processes  <i>Khanh Phu Luong, Rie Tanabe, Yoshiro Ito</i>
15:10	Coffee Break	
Parallel Sessions 2	Room A	Room B
	EDM 3: Machining Conditions	AM 1: High Energy Beam
	Chairperson: Dr. Adam. Clare	Chairperson: Prof. Hiroyuki Narahara
15:30	Research on Maintaining Voltage of Spark Discharge in EDM  <i>Yinsheng Fan, Jicheng Bai, Qiang Li, Chaojiang Li, Yan Cao, Zhengkai Li</i>	Evanescence Light Exposing System under Nitrogen Purge for Nano-Stereolithography  <i>Yuki Suzuki, Hiroyuki Tahara, Masaki Michihata, Kiyoshi Takamasu, Satoru Takahashi</i>
15:50	Advanced Sensor Signal Feature Extraction and Pattern Recognition for Wire EDM Process Monitoring  <i>Alessandra Caggiano, Roberto Perez, Tiziana Segreto, Roberto Teti, Paul Xirouchakis</i>	Development of a Hybrid Multi-tasking Machine Tool: Integration of Additive Manufacturing Technology with CNC Machining  <i>Taku Yamazaki</i>
16:10	Study on Characteristic of Multi-spark EDM Method by Using Capacity Coupling  <i>Xiaodong Yang, Kai Yang, Yutao Liu, Lei Wang</i>	Fabrication of Polymer Micro Needles for Transdermal Drug Delivery System using DLP Based Projection Stereo-lithography  <i>Zulfiqar Ali, Erkan Bugra Tureyen, Yigit Karpat, Melih Çakmakçı</i>
16:30	Study on the Effect of External Hydrostatic Pressure on Electrical Discharge Machining  <i>Tomohiro Koyano, Shodai Suzuki, Akira Hosokawa, Tatsuaki Furumoto</i>	Rapid Fabrication of Eutectic Ceramic Structures by Laser Engineered Net Shaping  <i>Fangyong Niu, Dongjiang Wu, Guangyi Ma, Jiangtian Wang, Juan Zhuang, Zhuji Jin</i>
16:50	Optimizing Machining Parameters of Compound Machining of Inconel 718  <i>Hang Dong, Yonghong Liu, Yang Shen, Xiaolong Wang</i>	Development of Multichannel Gas-powder Feeding System Coaxial with Laser Beam  <i>Volodymyr Kovalenko, Jianhua Yao, Qunli Zhang, Mykola Anyakin, Xiaodong Hu, Ruslan Zhuk</i>
17:15	Invited Evening Seminar (Room A) <b>Title: Smart Technologies for Manufacturing of the Future</b> <i>Prof. Fritz Klocke (RWTH Aachen, Laboratory for Machine Tools and Production Engineering (WZL))</i>	
18:00	Reception (Sanjo Conference Hall)	

Day 1, Tuesday, April 19, 2016		
Fabrication and Experimental Verification of Electrochemical Machining Tool for Complex-shaped Hole  <i>Hidehiro Nomura, Dahai Mi, Wataru Natsu</i>	Machining Characteristics of a Hybrid Process of EDM in Gas Combined with Ultrasonic Vibration and AJM  <i>Yan-Cheng Lin, Jung-Chou Hung, Han-Ming Chow, A-Cheng Wang, Jyun-Ting Chen</i>	14:30
Flow Field Design in Electrochemical Machining of Diffuser  <i>Dong Zhu, Zhouzhi Gu, Tingyu Xue, Di Zhu</i>	Comparative Analysis of Dry-EDM and Conventional EDM for the Manufacturing of Micro Holes in Si <sub>3</sub> N <sub>4</sub> -TiN  <i>Eckart Uhlmann, Tassilo-Maria Schimmelpfennig, Ivan Perfilov, Jan Streckenbach, Luiz Schweitzer</i>	14:50
Coffee Break		15:10
Room C	Room D	Parallel Sessions 2
ECM 2: Titanium Alloy and Sintered Alloy	EDM 4: Difficult-to-machine Materials	
Chairperson: Prof. Zuyuan Yu	Chairperson: Prof. Ajay P. Malshe	
<b>Special Focus Talk</b> Electrochemical Machining of High Temperature Titanium Alloy Ti 60  <i>Zhengyang Xu, Xuezheng Chen, Zesheng Zhou, Peng Qin, Di Zhu</i>	Surface Characterization, Material Removal Mechanism and Material Migration Study of Micro EDM Process on Conductive SiC  <i>Krishna Kumar Saxena, Sanjay Agarwal, Sanchit Kumar Khare</i>	15:30
16:00-16:10 Short Break	Challenge to EDM Slicing of Single Crystal SiC with Blade Electrode Utilizing a Reciprocating Worktable  <i>Yonghua Zhao, Masanori Kunieda, Kohzoh Abe</i>	15:50
Results of Surface Integrity and Fatigue Study of PECM and PEO Processed γ-TiAl for Turbine Applications  <i>Fritz Klocke, Tim Herrig, Markus Zeis, Maximilian Holsten 1, Andreas Klink</i>	Experimental Study of EDM-Drilling and Shaping of SiSiC and SiC  <i>Mikhail Kliuev, Umang Maradia, Marco Boccadoro, Roberto Perez, Josef Stirnimann, Konrad Wegener</i>	16:10
Electrochemical Dissolution Behavior of Titanium and Titanium-based Alloys in Different Electrolytes  <i>Dirk Baehre, Alexander Ernst, Konstantin Weißhaar, Harald Natter, Moritz Stolpe, Ralf Busch</i>	Basic Characteristics of Electrical Discharge on CFRP by Using Thermal Camera  <i>Yoshiaki Akematsu, Kazuro Kageyama, Hideaki Murayama</i>	16:30
Diamond-ECM Grinding of Sintered Hard Alloys of WC-Ni  <i>Vladimir Andreevitch Mogilnikov, Michael Yakovlevitch Chmir, Yuri Sergeevitch Timofeev, Vladimir Sergeevitch Poluyanov</i>	EDM of Insulating Ceramics by Electrical Conductive Surface Layer Control  <i>Hiroimitsu Gotoh, Takayuki Tani, Naotake Mohri</i>	16:50
Invited Evening Seminar (Room A) <b>Title: Smart Technologies for Manufacturing of the Future</b> <i>Prof. Fritz Klocke (RWTH Aachen, Laboratory for Machine Tools and Production Engineering (WZL))</i>		17:15
Reception (Sanjo Conference Hall)		18:00

Day 2, Wednesday, April 20, 2016		
Parallel Sessions 3	Room A	Room B
		EDM 5: Control Chairperson: Prof. Albert Shih
9:00	<b>Special Focus Talk</b> Angular Movement Ratio Planning of the Rotary Axes for Shrouded Blisks Multi-Axis EDM <i>Hao Chen, Xue-Cheng Xi, Wan-Sheng Zhao</i>	Electrical Discharge Machining of PCD in Ultrapure Water  <i>Daisuke Yanagida, Hisashi Minami, Koji Watanabe</i>
9:20	9:30-9:40 Short Break	The Prediction of Surface Finish and Cutting Speed for Wire Electro-discharge Machining of Polycrystalline Diamond <i>Marco Galindo-Fernandez, Carl Diver, Wayne Leahy</i>
9:40	A New Model of WEDM-CNC System with Digitizer/player Architecture <i>Wansheng Zhao, Junmin Zheng, Xuecheng Xi, Mo Chen, Hao Chen, Weiwen Xia, Guangwei Huang, Junqi Wang, Xumuye Tao</i>	The Grain Size Effect of Polycrystalline Diamond on Surface Integrity by Using Micro EDM <i>Tzu-Yao Tai, Khanh Toan Nguyen</i>
10:00	Fast and Stable Electrical Discharge Machining (EDM) by Two-step-ahead Predicted Control <i>Ming Zhou, Jianyang Wu, Jianwei Yang, Dechen Yao</i>	Fabrication of PCD Mechanical Planarization Tools by using $\mu$ -Wire Electrical Discharge Machining <i>Samad Nadimi Bavit Oliaei, Yigit Karpat</i>
10:20	Coffee Break	
Parallel Sessions 4	Room A	Room B
	EDM 7: Coating Chairperson: Prof. Jiwang Yan	EDM 8: Turbine Blade Chairperson: Dr. Andreas Klink
10:40	Mechanism of Defect Generation in the TiC Layer and Si Layer by Electrical Discharge Coating  <i>Nobuyuki Sumi, Chihiro Kato, Keita Shimada, Takashi Yuzawa, Hiroyuki Teramoto, Masayoshi Mizutani, Tsunemoto Kuriyagawa</i>	Dressing of Graphite Electrodes for EDM of Seal Slots in Nickel-base Alloy MAR-M247  <i>Eckart Uhlmann, David Carlos Domingos</i>
11:00	The Coating Technology with the Wire Electrode <i>Takashi Mitsuyasu, Keisuke Tasaki, Masatoshi Kawano</i>	EDM Drilling and Shaping of Cooling Holes in Inconel 718 Turbine Blades <i>Mikhail Kliuev, Marco Boccadoro, Roberto Perez, Walter Dal Bó, Josef Stirnimann, Friedrich Kuster, Konrad Wegener</i>
11:20	Improvement in Surface Characteristics by EDM with Chromium Powder Mixed Fluid <i>Ryota Toshimitsu, Akira Okada, Ryoji Kitada, Yasuhiro Okamoto</i>	Blasting Erosion Arc Machining of Turbine Blisk Flow Channel with Laminated Electrode  <i>Chunliang Wang, Jipeng Chen, Lin Gu, Wansheng Zhao</i>

Day 2, Wednesday, April 20, 2016		
Parallel Sessions 3	Room C	Room D
		ECM 3: Advances in ECM Chairperson: Dr. Grzegorz Skrabalak
9:00	Fabrication of an Electrode Insulation Layer for Electrochemical Machining by Using Hot Dip Aluminizing and Micro-arc Oxidation Method <i>Jung-Chou Hung, Jihh-Yang Ku, Ming-Der Ger, Zhi-Wen Fen</i>	Investigation of Modified Cutting Insert with Forced Coolant Application in Machining of Alloy 718 <i>Nageswaran Tamil Alagan, Tomas Beno, Anders Wretland</i>
9:20	Energetic Analysis of the Anodic Double Layer during Electrochemical Machining of 42CrMo4 Steel <i>Fritz Klocke, Simon Harst, Markus Zeis, Andreas Klink</i>	The Influence of Electrochemical Assistance on the Cutting Forces in Microturning Process  <i>Sebastian Skoczypiec, Marcin Grabowski, Adam Ruszaj</i>
9:40	Study on Electrochemical Machining of Sintered Carbide <i>Akihiro Goto, Atsushi Nakata, Nagao Saito</i>	Electrical Discharge Conditioning for Indexable Insert Grinding <i>Stephan Scholze, Karl Mayrhofer, Walter Pfluger</i>
10:00	High Aspect Ratio Deep Spiral Tube Electrochemical Machining Technology <i>Lin Tang, Zhijian Fan, Ganggang Zhao, Feng Yang, Sen Yang</i>	Laser-assisted Machining of Zirconia Ceramics Using a Diamond Bur <i>Toru Kizaki, Yusuke Ito, Shota Tanabe, Yangjin Kim, Naohiko Sugita, Mamoru Mitsuishi</i>
10:20	Coffee Break	
Parallel Sessions 4	Room C	Room D
	Micromachining 1: Chemical Process Chairperson: Prof. Wataru Natsu	Plasma Processes Chairperson: Prof. Mu-Tian Yan
10:40	Selection and Optimization of Electrolyte for Micro Electrochemical Machining on Stainless Steel 304  <i>Guodong Liu, Yong Li, Quancun Kong, Hao Tong</i>	<b>Special Focus Talk</b> Plasma Electrolytic Polishing - an Overview of Applied Technologies and Current Challenges to Extend the Polishable Material Range <i>Klaus Nestler, Falko Böttger-Hiller, Wolfgang Adamitzki, Günther Glowa, Henning Zeidler, Andreas Schubert</i>
11:00	Study of Micro Groove Machining by Micro ECM <i>Chuangchuang Chen, Jianzhong Li, Shicheng Zhan, Zuyuan Yu, Wenji Xu</i>	11:10-11:20 Short Break
11:20	Research on Multiple Wires Electrochemical Micromachining with Ultra-short Voltage Pulses <i>Xiaolong Fang, Peng Li, Yongbin Zeng, Di Zhu</i>	High-spatial Resolution Figuring by Pulse Width Modulation Controlled Plasma Chemical Vaporization Machining <i>Kazuya Yamamura, Yoshiki Takeda, Shogo Sakaiya, Daisuke Funato, Katsuyoshi Endo</i>

Day 2, Wednesday, April 20, 2016		
11:40	Morphology and Wear Behaviour of Single and Multi-layer Electrical Discharge Coatings  <i>James W Murray, Adam T. Clare</i>	Investigations on Vibration-Assisted EDM-Machining of Seal Slots in High-Temperature Resistant Materials for Turbine Components – Part II <i>Eckart Uhlmann, David Carlos Domingos</i>
12:00	Lunch Break	
Parallel Sessions 5	Room A	Room B
	EDM 9: Surface Integrity Chairperson: Prof. Bert Lauwers	ECM 4: Modeling Chairperson: Dr. Anjali K. M. DeSilva
13:30	<b>Special Focus Talk</b> Process Signatures of EDM and ECM Processes - Overview from Part Functionality and Surface Modification Point of View <i>Andreas Klunk</i>	Study on Parameter Determination for ECM Equivalent Circuit and Its Verification  <i>Naoaki Nagashima, Wataru Natsu</i>
13:50	14:00-14:10 Short Break	Simulation of Micro ECM for Complex-shaped Holes  <i>Dahai Mi, Wataru Natsu</i>
14:10	A Comparative Study on White Layer Properties by Laser Cutting vs. Electrical Discharge Machining of Nitinol Shape Memory Alloy <i>C. H. Fu, J. F. Liu, Y. B. Guo, Q. Z. Zhao</i>	Modeling of Electrochemical Machining through a Monolayer Colloidal Crystal Mask for Metal Surfaces Nanostructuring <i>Vladimir Volgin, Victor Lyubimov, Inna Gnidina, Tatyana Kabanova, Alexey Davydov</i>
14:30	Research on the Surface Quality of the Blasting Erosion Arc Machined Stainless Steel <i>Yingmou Zhu, Jipeng Chen, Hui Xu, Lin Gu, Wansheng Zhao</i>	The Mechanism of ECM Technology Design for Curvilinear Surfaces <i>Tomasz Paczkowski, Jaroslaw Zdrojewski</i>
14:50	An Experimental Investigation of Enhancement Surface Quality of Micro-holes for Be-Cu Alloys Using Micro-EDM with Multi-diameter Electrode and Different Dielectrics <i>Shuliang Dong, Zhenlong Wang, Yukui Wang, Hongzheng Liu</i>	Characteristics of Different Transparent and Conductive Materials Applied for Observation of ECM Gap Phenomena  <i>Fuchen Chu, Tomoyuki Shimasaki, Masanori Kunieda</i>
15:10	Coffee Break	

Day 2, Wednesday, April 20, 2016		
Fast Patterned Graphene Ribbons via Soft-Lithography  <i>Liangze Wang, Jia Zhang, Na Liu, Yukui Wang, Pingan Hu, Zhenlong Wang</i>	Development of Ion Beam Sputtering Deposition System for Complex Shaped X-ray Mirror  <i>Hiroto Motoyama, Mitsuru Nagayama, Hidekazu Mimura</i>	11:40
Lunch Break		12:00
Room C	Room D	Parallel Sessions 5
LBM 2: Advanced Materials Chairperson: Prof. Yoshiro Ito	EDM 10: Drilling Chairperson: Dr. Tomohiro Koyano	
<b>Special Focus Talk</b> Quality and Productivity Considerations for Laser Cutting of LiFePO <sub>4</sub> and LiNiMnCoO <sub>2</sub> Battery Electrodes <i>Adrian H.A. Lutey, Alessandro Fortunato, Simone Carmignato, Alessandro Ascari, Erica Liverani, Giacomo Guerrini</i>	Study on Influence of Electrode Material on Hole Drilling in Micro-EDM  <i>Yulei Fu, Takumu Miyamoto, Wataru Natsu, Wansheng Zhao, Zuyuan Yu</i>	13:30
14:00-14:10 Short Break	Simultaneous Machining of Polygonal Microelectrode and Microholes Using Tandem EDM Mechanism <i>Takayuki Tani, Hiromitsu Gotoh, Atsutoshi Hirao, Naotake Mohri</i>	13:50
Tribological Performance of Laser Patterned Cemented Tungsten Carbide Parts  <i>Shiqi Fang, Thomas Herrmann, Andreas Rosenkranz, Carsten Gachot, Fernando Garcia Marro, Frank Mücklich, Luis Llanes, Dirk Bähre</i>	High Speed EDM and Laser Drilling of Advanced Alloys  <i>Mohammad Antar, Dimitrios Chantzis, Sundar Marimuthu, Philip Hayward</i>	14:10
Experimental Study of Laser Etching on Al <sub>2</sub> O <sub>3</sub> -SiC Composite Ceramics <i>Bingbing Xie, Genfu Yuan, Daming Zhang</i>	The Phenomenon of Polarity in EDM Drilling Process Using Water Based Dielectrics <i>Markus Munz, Matthias Risto, Ruediger Haas</i>	14:30
Investigation of Shielding Gas Supplying Method in Vertical-position Laser Welding of Pure Titanium  <i>Kazuo Yokohara, Yasuhiro Okamoto, Akira Okada, Hikotaro Ochiai, Ryosuke Kimura, Shozo Ono, Masayuki Akase</i>	Optimization of the EDM Drilling Process to Increase the Productivity and Geometrical Accuracy  <i>Matthias Risto, Ruediger Haas, Markus Munz</i>	14:50
Coffee Break		15:10

Day 2, Wednesday, April 20, 2016		
Parallel Sessions 6	Room A	Room B
		EDM 11: Wire-EDM Chairperson: Dr. Jun Qian
15:30	Machining of Metal Foams with Varying Mesostructure using Wire EDM  <i>Alexander Martin Matz, Dennis Kammerer, Norbert Jost, Kai Oßwald</i>	<b>Special Focus Talk</b> Electrolyte Jet Machining of Titanium Alloys Using Novel Electrolyte Solutions <i>Alistair Speidel, Jonathon Mitchell-Smith, Darren Walsh, Matthias Hirsch, Adam Clare</i>
15:50	Analysis of Wire-EDM Finishing Cuts on Large Scale ZrO <sub>2</sub> -TiN Hybrid Spark Plasma Sintered Blanks <i>Frederik Vogeler, Bert Lauwers, Eleonora Ferraris</i>	16:00-16:10 Short Break
16:10	On the Influence of Wire-lag on the Wire EDM of Low-radius Free-form Geometries <i>Aintzane Conde, Jose Antonio Sanchez, Soraya Plaza, Jose Maria Ramos</i>	Fabrication of Micro Rods of Cemented Carbide by Electrolyte Jet Turning <i>Kotaro Miyoshi, Masanori Kunieda</i>
16:30	Semi-empirical Modeling of Surface Roughness in Wire Electro-discharge Machining of Ceramic Particulate Reinforced Al Matrix Composites <i>Nilesh G. Patil, Prakash K. Brahmankar</i>	Electrochemical Jet Machining of Titanium: Overcoming Passivation Layers with Ultrasonic Assistance <i>Jonathon Mitchell-Smith, Adam T. Clare</i>
16:50	On the Effects of Wire Electrode and Ceramic Volume Fraction in Wire Electrical Discharge Machining of Ceramic Particulate Reinforced Aluminium Matrix Composites <i>Nilesh G. Patil, Prakash K. Brahmankar, Dinesh G. Thakur</i>	Generation of Complex Surfaces by Superimposed Multi-dimensional Motion in Electrochemical Machining <i>Andreas Schubert, Matthias Hackert-Oschätzchen, André Martin, Sebastian Winkler, Danny Kuhn, Gunnar Meichsner, Henning Zeidler, Jan Edelman</i>
Free Evening		

Day 2, Wednesday, April 20, 2016		
Room C	Room D	Parallel Sessions 6
LBM 3: Surface Chairperson: Dr. Yasuhiro Okamoto	EDM 12: Equipment Chairperson: Dr. Shinya Hayakawa	
A Study of Thickening Phenomenon in Laser Bending Zone of a Metal Laminated Plate  <i>Xuyue Wang, Xupeng Ma, Zihui Li, Rui Wang</i>	A Magnetic Suspension Spindle System for Micro EDM  <i>Yongfeng Guo, Zebin Ling</i>	15:30
Study on Thermal Stress Cleavage of Chemically Strengthened Glass by CO <sub>2</sub> Laser Beam  <i>Hisashi Ogi, Tatsuki Furumoto, Tomohiro Koyano, Akira Hosokawa</i>	A Jump Motion Velocity Planning Algorithm with Continuous Jerk for Electrical Discharge Machining <i>Hongda Liu, Hao Chen, Xuecheng Xi, Wansheng Zhao</i>	15:50
Surface Property Modification of Alumina Sprayed Coatings using Nd:YAG Laser <i>Ryoko Moriya, Mabito Iguchi, Shunichi Sasaki, Jiwang Yan</i>	Study of Vibration Assisted Inclined Feed Micro-EDM Drilling <i>Yunn-Shiuan Liao, Hao-Wen Liang</i>	16:10
Surface Manufacturing Under Pulse Fiber Laser  <i>Sergey Aleksandrovich Kochergin, Yuri Alexseevich Morgunov, Boris Petrovich Saushkin</i>	The Quantitative Research of Size Effects in Piezoelectric Self-adaptive Micro-EDM <i>Qingyu Liu, Xiuzhuo Fu, Qinhe Zhang, Kan Wang, Guang Zhu, Jianhua Zhang</i>	16:30
Removal of the Heat Affect Zone Created by EDM with Pico-second LASER Machining  <i>Georg Wälder* 1, Jacques Richard</i>	Surface Roughness Research of Piezoelectric Self-adaptive Micro-EDM  <i>Xiuzhuo Fu, Liying Gao, Qinhe Zhang, Qingyu Liu</i>	16:50
Free Evening		

# Program April 21



Day 3, Thursday, April 21, 2016		
Parallel Sessions 7	Room A	Room B
		EDM 13: Heat Affected Zone Chairperson: Prof. Yigit Karpat
9:00	<b>Special Focus Talk</b> Analysis of Micro Fin Deformation Due to Micro EDM  <i>Zahiruddin Mohd, Masanori Kunieda</i>	Research on the Depth Error in Micro Electrical Discharge Milling  <i>Zhengkai Li, Jicheng Bai, Xi Zhu</i>
9:20	9:30-9:40 Short Break	Research on the Equivalent Plane Machining with Fix-length Compensation Method in Micro-EDM  <i>Jingyu Pei, Zhaowei Zhou, Lenan Zhang, Xiaoshun Zhuang, Shukun Wu, Yietian Zhu, Jun Qian</i>
9:40	Thinning Process of Recast Layer in Hole Drilling and Trimming by EDM  <i>Chao Jiang Li, Yong Li, Hao Tong, Lei Zhao</i>	Micro EDM Milling with Electrochemical Fabrication of Ultra-thin Microtools and Mapping of Electrical Microdischarges <i>Michel Cabrera, Rabah Dahmani, Yasmina Layouni, Vincent Semet</i>
10:00	Investigations on Surface Integrity of Heat Treated 42CrMo4 (AISI 4140) Processed by Sinking EDM  <i>Fritz Klocke, Sebastian Schneider, Lisa Ehle, Heiner Meyer, Lars Hensgen, Andreas Klink</i>	Precision Micro-EDM Milling of 3D Cavities by Incorporating In-situ Pulse Monitoring  <i>Jun Wang, Jun Qian, Eleonora Ferraris, Dominiek Reynaerts</i>
10:20	Coffee Break	
Parallel Sessions 8	Room A	Room B
	EDM 15: Gap Phenomena in WEDM Chairperson: Dr. Umang Maradia	EDM 16: Applications Chairperson: Prof. Yuebin Guo
10:40	Effect of Wire Breakage on the Process Energy Utilisation of EDM  <i>Janaka Ranganath Gamage, Anjali K. M. DeSilva</i>	Friction Characteristics of Textured Surface Created by Electrical Discharge Machining Under Lubrication  <i>Keishi Yamaguchi, Yasuhiro Takada, Yuki Tsukuda, Minoru Ota, Kai Egashira, Tatsuro Morita</i>
11:00	Dynamic Distribution of Discharge Products Influenced by Composition of Dielectric in WEDM Narrow Slit Were Observed and Exploration of Its Mechanism <i>Ciwen He</i>	Surface Magnetic Flux Density Patterning in EDM of Permanent Magnets  <i>Hideki Takezawa, Naoki Hirakawa, Naotake Mohri</i>

Day 3, Thursday, April 21, 2016		
Parallel Sessions 7	Room C	Room D
		Micromachining 2: EDM Chairperson: Prof. Katsushi Furutani
9:00	Investigation of Ablation Behaviour in Micro-EDM of Nonconductive Ceramic Composites ATZ and Si <sub>3</sub> N <sub>4</sub> -TiN  <i>Andreas Schubert, Henning Zeidler, Ralf Kühn, Matthias Hackert-Oschätzchen, Sebastian Flemmig, Nico Treffkorn</i>	Electrochemical Machining of Multiple Slots with Low-frequency Tool Vibrations  <i>Jia Liu, Xiaochen Jiang, Di Zhu</i>
9:20	Fabrication of Micro/nano-electrode Using Focused-ion-beam Chemical Vapor Deposition, and Its Application to Micro-ECDM <i>Dengji Guo, Xiaoyu Wu, Jianguo Lei, Bin Xu, Reo Kometani, Feng Luo</i>	Development of a New Generator for Electrochemical Micro-machining  <i>Nicola Giandomenico, Olivier Meylan</i>
9:40	Micro-EDM with Controlled Pulse Train Method using Small Feeding Capacitance  <i>Norliana Mohd Abbas, Masanori Kunieda</i>	The Development of a Pulsed Power Supply for µECM  <i>Tobias Mole, Brian McDonald, Sean Mullery, Carl Diver, David Tormey</i>
10:00	Complex Rotary Structures Machined by Micro-WEDM  <i>Yukui Wang, Xiang Chen, Weimin Gan, Zhenlong Wang, Cheng Guo</i>	Developing a Process Chain with WEDG Technology and Pulse ECM to Fabricate Ultra Micro Pins  <i>Jian Yuan Wang, Dong Yea Sheu</i>
10:20	Coffee Break	
Parallel Sessions 8	Room C	Room D
	AM 2: FDM Chairperson: Prof. Satoru Takahashi	ECM 7: Micro ECM Chairperson: Prof. Zhengyang Xu
10:40	<b>Special Focus Talk</b> Influence of Inter-layer Cooling Time on the Quasi-static Properties of ABS Components Produced via Fused Deposition Modelling <i>Matthias Faes, Eleonora Ferraris, David Moens</i>	Influence of Machining Conditions on Machining Characteristics of Micro-rods by Micro-ECM with Electrostatic Induction Feeding Method  <i>Wei Han, Masanori Kunieda</i>
11:00	11:10-11:20 Short Break	Fabrication of 3D Microelectrodes by Combining Wire Electrochemical Micromachining and Micro-electric Resistance Slip Welding  <i>Jianguo Lei, Xiaoyu Wu, Bo Wu, Bin Xu, Dengji Guo, Jinming Zhong</i>



Day 3, Thursday, April 21, 2016		
11:20	High-speed Observation of Thin Wire Movement in Fine Wire EDM  <i>Takuya Kamei, Akira Okada, Yasuhiro Okamoto</i>	Structure and Composition of the White Layer in the Wire-EDM-Process  <i>Fritz Klocke, Lars Hensgen, Andreas Klink, Lisa Ehle, Alexander Schwedt</i>
11:40	Clarification of Gap Phenomena in Wire EDM Using Transparent Electrodes  <i>Azumi Mori, Masanori Kunieda, Kohzoh Abe</i>	Numerical and Experimental Studies of Electro-Thermal Machining for Melting Notch Tip in Steel Strip  <i>Thomas Jin-Chee Liu, Chun-Der Cheng, Ji-Fu Tseng, Li-Wei Chen, Po-Heng Chen</i>
12:00	Lunch Break	
Parallel Sessions 9	Room A	Room B
	EDM 17: Tool Electrode Chairperson: Prof. Hideki Takezawa	EDM 18: Modeling Chairperson: Prof. Yong Li
13:00	<a href="#">Special Focus Talk</a> Performance and Limitations of the Conventional Electrode Materials for Erosion of High Aspect Ratio Microcavities  <i>Umang Maradia, Marco Taborelli, Jens Boos, Henning Buettner, Josef Stimmann, Marco Boccadoro, Konrad Wegener</i>	A Thermo-hydraulic Modeling for the Formation Process of the Discharge Crater in EDM  <i>Jiajing Tang, Xiaodong Yang</i>
13:20	13:30-13:40 Short Break	Study on the Distribution of Removal Material of EDM in Deionized Water and Gas with Molecular Dynamics Simulation  <i>Xiaoming Yue, Xiaodong Yang</i>
13:40	An Investigation on Surface Integrity in EDM Process with a Copper Tungsten Electrode  <i>Syed Asger Hussain Rizvi, Sanjay Agarwal</i>	Modeling of White Layer Formation in Electric Discharge Machining (EDM) by Incorporating Massive Random Discharge Characteristics  <i>J. F. Liu, Y. B. Guo</i>
14:00	Electrical Discharge Machining for Complex Cavity with a Porous Electrode  <i>Yi Jiang, Qi Li, Linglei Kong, Xueliang Ping, Wansheng Zhao</i>	Potentials of the Phase Field Approach for Modeling Modifications in Material Microstructure During Electrical Discharge Machining  <i>Fritz Klocke, Mehnoush Mohammadnejad, Markus Zeis, Andreas Klink</i>
14:20	Coffee Break	
Parallel Sessions 10	Room A	Room B
	EDM 19: Advances in EDM Chairperson: Prof. Yunn-Shiuan Liao	EDM 20: Pulse Generators Chairperson: Dr. Zahiruddin Mohd
14:40	The Latest Technology of Wire-cut EDM  <i>Yushi Takayama, Yoshinori Makino, Yan Niu, Hiroyuki Uchida</i>	Development of a Pulse Generator for Rough Cutting of Oil-based Micro Wire-EDM  <i>Mu-Tian Yan, Tsung-Chien Lin</i>

Day 3, Thursday, April 21, 2016		
Improvement and Evaluation of the Interlaminar Bonding Strength of FDM Parts by Atmospheric-Pressure Plasma  <i>Hiroyuki Narahara, Yota Shirahama, Hiroshi Koresawa</i>	Microelectrochemical Machining at the Ultrasmall Interelectrode Gaps with the Use of the Packets of Nanosecond Voltage Pulses  <i>Victor Lyubimov, Vladimir Volgin, Alexey Venevtsev, Inna Gnidina</i>	11:20
Process Planning for the Fuse Deposition Modeling of Ankle-Foot-Othoses  <i>Yuan Jin, Yong He, Albert Shih</i>	Finishing of Micro-EDMed Surface based on Scanning Micro Electrochemical Flow Cell  <i>Cheng Guo, Jun Qian, Dominiek Reynaerts</i>	11:40
Lunch Break		12:00
Room C	Room D	Parallel Sessions 9
ECDM Chairperson: Prof. Akihiro Goto	USM Chairperson: Prof. Minoru Ota	
<a href="#">Special Focus Talk</a> Electrochemical, Electrodischarge and Electrochemical-discharge Hole Drilling and Surface Structuring Using Batch Electrodes  <i>Grzegorz Skrabalak, Andrzej Stwora</i>	Material Removal Modes of Quartz Crystals by Micro USM  <i>Guodong Li, Zuyuan Yu, Jiawen Song, Can Li, Jianzhong Li, Wataru Natsu</i>	13:00
13:30-13:40 Short Break	Feasibility Study on Ultrasonic Vibration Assisted Milling for Squamous Surface  <i>Guocan Tao, Jianhua Zhang, Xuehui Shen, Lijuan Bai, Chao Ma, Jinjun Wang</i>	13:20
Prototyping of Acceleration Sensor by Using Lathe-type Electro-chemical Discharge Machine  <i>Katsushi Furutani, Shunsuke Kojima</i>	Ultrasonic Surface Strengthening of Train Axle Material 30CrMoA  <i>Qinjian Zhang, Jianguo Cao, Huiying Wang</i>	13:40
Investigation of Hybrid Electrochemical Discharge Drilling Process by Using a Passivating Electrolyte  <i>Margareta Coteață, Nicolae Pop, Hans-Peter Schulze, Laurențiu Slătineanu, Oana Dodun</i>	Fundamental Machining Characteristics of the In-base-plane Ultrasonic Elliptical Vibration assisted Turning of Inconel 718  <i>Qiang Wang, Yongbo Wu, Jia Gu, Dong Lu, Yuebo Ji, Mitsuyoshi Nomura</i>	14:00
Coffee Break		14:20
Room C	Room D	Parallel Sessions 10
Electrodeposition Chairperson: Prof. Kazuya Yamamura	Abrasive Machining Chairperson: Prof. Kenichiro Horio	
Influence of Residual Stress of Electrodeposited Layer on Shape Replication Accuracy in Ni Electroforming  <i>Takehiro Kume, Satoru Egawa, Gota Yamaguchi, Hidekazu Mimura</i>	Cutting of Food Products by Ice-particles in a Water-jet  <i>Joseph McGeough</i>	14:40



Day 3, Thursday, April 21, 2016		
15:00	Effects of Some Process Parameters on the Impulse Force in Single Pulsed EDM  <i>Min Zhang, Qinhe Zhang, Guang Zhu, Qingyu Liu, Jianhua Zhang</i>	Pulse Generator for Obtaining Surfaces of Small Dimensions by Electrical Discharge Machining  <i>Margareta Coteață, Alexandru Floca, Oana Dodun, Nicolae Ionescu, Gheorghe Nagț, Laurențiu Slătineanu</i>
15:20	Technological and Economic Investigations on the Application of Metal Infiltrated Graphite Electrodes for the Sinking EDM of Cemented Carbides <i>Fritze Klocke, Maximilian Holsten, Andreas Klink</i>	Development of a New Generator for Die Sinking Electrical Discharge Machining  <i>Nicola Giandomenico, Florian-Henri Gorgerat, Bertrand Lavazais</i>
15:40	Move to Hotel Chinzanso Tokyo	
16:30		
17:00	Strolling the garden at Hotel Chinzanso Tokyo	
18:00	Banquet (Hotel Chinzanso Tokyo)	
20:00		

Day 3, Thursday, April 21, 2016			
	Numerical Study of Localized Electrochemical Deposition for Micro Electrochemical Additive Manufacturing  <i>Abishek Kamaraj, Spencer Lewis, Murali Sundaram</i>	Elucidating the Rheological Effect of Gel Abrasives in Magnetic Abrasive Finishing  <i>Shih-Hsien Chou, A-Cheng Wang, Yan-Cherng Lin</i>	15:00
	Experimental Investigations into Nano-finishing of Freeform Surfaces Using Negative Replica of the Knee Joint <i>Leeladhar Nagdeve, V. K. Jain, J. Ramkumar</i>	Development of Advanced Abrasive Electrical Discharge Grinding (AEDG) System for Machining Difficult-to-cut Materials <i>Jerzy Kozak, Maria Zybura-Skrabalak, Grzegorz Skrabalak</i>	15:20
	Move to Hotel Chinzanso Tokyo		15:40
			16:30
	Strolling the garden at Hotel Chinzanso Tokyo		17:00
	Banquet (Hotel Chinzanso Tokyo)		18:00
			20:00