

ISAAT2017 Program

3 December (Sunday), 2017

15:00	Registration Rizzan Sea-Park Hotel, Tancha-Bay
17:00	
19:00	Welcome reception Rizzan Sea-Park Hotel, Tancha-Bay

4 December (Monday), 2017

8:40	Conference Center Auditorium				
	Opening Ceremony (Chairperson: Prof. L. Zhou)				
	Opening addresses	Prof. Hirofumi Suzuki		ISAAT2017 Symposium chairman	
		Prof. Hideki Aoyama		ICAT Chairman	
9:00		Prof. Tsunemoto Kuriyagawa		JSAT President	
	Keynote speech 1	Novel Nano- and Microfabrications for Microfluidics and Biosensing Applications			
9:40		Prof. Amy Shen, Okinawa Institute of Science and Technology Graduate University, Japan			
	Keynote speech 2	Machining of Composites for High Surface Integrity: Mechanics and Process Design			
10:20		Prof. Liangchi Zhang, Univiersty of New South Wales, Australia			
	Coffee Break				
10:40	General Session (Chairperson: Prof. H. Suzuki)				
	General presentation 1	Design of Dimpled Engineering Surfaces for Improving Lubrication Performance in Rolling-Sliding Contacts			
11:00		F. Hashimoto, R. S. Zhou, Advanced Finishing Technology Ltd., USA			
	General presentation 2	Surface Integrity and Process Simulation in Abrasive Flow Machining			
11:20		E. Uhlmann, S. Roskamp, Institute for Machine Tools and Factory Management, Technische Universität Berlin, Germany			
	General presentation 3	Precision Cutting and Polishing of Thin Metal Substrates with Electroless Nickel Plating for Bent Neutron-Focusing Optics			
11:40		T. Hosobata, Y. Yamagata, M. Yamada, E. Rantsiou, U. Filges, RIKEN Center for Advanced Photonics, Japan			
	General presentation 4	An Experimental Study of Swarf in the Sawing of Granite with Diamond Wire			
12:00		H. Huang, H. Guo, R. Zhao, Institute of Manufacturing Engineering, Huaqiao University, China			
	Lunch				
13:00	(Room 1) Conference Center Auditorium	(Room 2) Conference Center Meeting Room #1	(Room 3) Main Campus Seminar Room B250	(Room 4) Main Campus Seminar Room C209	(Room 5) Main Campus Seminar Room C210
	Abrasive Machining (1)	Cutting Technology (1)	Non-conventional Machining (1)	High-efficiency Machining (1)	Micro/nano Machining (1)
	Chairperson:	Chairperson:	Chairperson:	Chairperson:	Chairperson:
	Study on UV-assisted Grinding of SiC	Fundamental Cutting Properties in End-milling of TiAl Alloy	Evaluation of correlation between baseplate temperature and deposition properties in directed energy deposition	Study on the Diamond-Coated Wire Sawing Process of Silicon with Minimum Quantity Lubrication	Investigation on Glass Stress Relaxation during Precision Glass Molding for Microlens Array
13:20	M. Mekata, T. Kotsuji, M. Ota, K. Egashira, K. Yamaguchi, M. Yamada, M. Itoi	M. Takegami, K. Okuda, H. Kodama, S. Sato	H. Negishi, R. Koike, Y. Kakinuma, Y. Oda, M. Fujishima, T. Aoyama	C. Chung, M. Q. Li, C. Kuo	J. Xie, T. Zhou, X. Liu, B. Ruan, Z. Liang, X. Wang
	Methodology for in-situ visual detection and compensation of profile grinding error	Development of Localized Compressive Hydrostatic Pressure-assisted Cutting Method	Study on ultrasonic vibration assisted drilling of SUS316	Ultraprecision machining of ceramic mold by micro milling tool of nano-polycrystalline diamond	Manufacturing of microstructures with preventing frost accretion effect
13:40	L. M. Xu, Z. H. Jiang, Y. X. Hu, F. Fan, D. J. Hu	J. Shimizu, T. Yamamoto, H. Ojima, T. Onuki, L. Zhou, H. Ashino	K. Taguchi, N. Yoshihara, K. Hara, M. Mizuno	H. Suzuki, W. Asai, M. Okada, Y. Masuda, H. Sumiya, K. Harano, K. Miura	S. Hasegawa, K. Shimada, M. Mizutani, T. Kuriyagawa

13:40	A novel open numerical control system for complex profile grinding <i>Y. Hu, L. Xu, Y. Chen, Z. Zhang, F. Fan, L. Shi</i>	Study on the Interface Temperature During Drilling of Carbon Fiber Reinforced Plastic/Titanium Alloy Stacks <i>B. Wang, B. Yang, M. Wang, Z. Ma, Y. Zheng</i>	The Study on Mechanism of Readial Ultrasonic Vibration Sawing Optical Glass <i>W. Song, J. Shen, J. Chen, X. Xu</i>	Precision grinding of PCD tool for scribing <i>Y. Akiyama, H. Suzuki, M. Okada, Y. Masuda, T. Fukunishi, Y. Ogasawara, K. Iizawa</i>	Modeling of the micro-grinding process considering the grinding tool topography <i>M. Kadivar, A. Zahedi, B. Azarhoushang, P. Krajnik</i>
14:00	Development of Precision Centerless Grinding Machine with Nano-Size Controllability <i>M. Takahashi, K. Ohba, M. Takahashi</i>	Study on Machinability of Difficult-to-cut Materials with Precision Cutting <i>Y. Zou, Y. Maeda, K. Kato, H. Tanaka, T. Yazawa, T. Otsubo</i>	Study on formation mechanism of pores inside built structure by metal-based additive manufacturing <i>K. Egashira, T. Furumoto, K. Hishida, Y. Hashimoto, T. Koyano, N. Yoshida, A. Nakamura, A.</i>	Sensitivity Analysis for Effects of Material Constitutive and Fracture Parameters on Serrated Chip Formation in High Speed Machining of Inconel 718 <i>B. Wang, Z. Liu</i>	Experimental Verification of Micro End-milling Condition Decision Methodology Using Data-Mining System <i>H. Kodama, K. Okuda, K. Tanaka</i>
14:20	Deformation of Nanotwinned Structure in a Nickel Alloy under Nanoindentation <i>Z. Zhang, S. Huang, Z. Zhu, L. Chen, X. Guo</i>	Application of Wheel Scribing/Breaking Technique to Brittle Materials for High Efficient Cutting <i>N. Tomei, K. Murakami, T. Hashimoto, M. Kitaichi, T. Fukunishi</i>	An experimental study for fabricating microelectrodes using the LS-WEDT method <i>Y. Gong, Y. Sun, M. Cai, X. Ma, Y. Ma</i>	Study on the simulation of external electrostatic field during grinding on LT via COMSOL <i>S. Huang, W. Hang, B. H. Lyu, Q. Deng, J. Yuan, P. Zhao</i>	Understanding the burr formation in nano-milling with molecular dynamics simulations <i>D. Cui, L. Zhang, W. Liu</i>
14:40	Coffee Break				
15:00	Abrasive Machining (2) Chairperson:	Cutting Technology (2) Chairperson:	Non-conventional Machining (2) Chairperson:	High-efficiency Machining (2) Chairperson:	Micro/nano Machining (2) Chairperson:
	Experimental study on residual magnetism after grinding of Fe-Cr-Co permanent magnet alloy <i>J. Ai, F. Jiang, L. Yan, H. Guo</i>	Influence of Surface Roughness on Tool Run-out with Endmilling <i>S. Nakai, Y. Maeda, K. Kato, H. Tanaka, T. Yazawa, T. Otsubo</i>	Radial Directional Vibration-assisted Grinding of Ti-6Al-4V alloy <i>K. Imai</i>	Study on High Efficiency of Impeller Machining with Taper Ball End Mill <i>T. Kimura, K. Matsubara, Z. Oda, H. Sasahara</i>	Structural anisotropic effect on the nanocutting of 6H-Silicon Carbide <i>Z. Wu, W. Liu, L. Zhang</i>
15:20	Fabrication of holes in reaction bonded silicon carbide by electrical discharge diamond grinding <i>X. Rao, F. Zhang, X. Wang, H. Zhao</i>	Influence of reduction surface defects by a triple-facet tool in ultra-precision cutting of Al-Mg alloys <i>K. Amaki, Y. Maeda, K. Kato, H. Tanaka, T. Yazawa, T. Otsubo</i>	A kerf Simulation of Laser Cutting Single-layer CFRP as Scanning Parallel to Fiber Orientation <i>D. Yu, X. Wang</i>	An Experimental Study on High Speed Grinding of Hardened Steel with Vitrified CBN Wheels <i>Z. Shi, J. S. Agapiou, H. Attia</i>	Study on Nanoscratching of C-plane Sapphire Wafer <i>W. Lin, J. Shimizu, L. Zhou, T. Onuki, H. Ojima, T. Yamamoto</i>
15:40	Stochastic modelling of 3D surface topography for coated abrasive discs <i>A. P. S. Arunachalam, I. Sridhar, T. Sato</i>	Wear Mechanisms and Performance of Different Coated Tools in High-speed Machining of TC4 under Dry and MQL Conditions <i>J. Chen, M. Chen, Q. An, W. Ming, J. Xu</i>	Research on machining characteristics of micro hole drilling with mist nozzle in EDM process <i>W. Natsu, R. Nakamura, H. Maeda</i>	A Novel Tool Vector Control Method of The Hybrid Additive and Subtractive Manufacturing Process in 5-axis Configuration <i>Q. Tang, S. Yin, Y. Zhang, L. Song, J. Liu</i>	The Effect of Crystal Structure on Fabrication of Fine Periodic Surface Structures with Short Pulsed Laser <i>S. Kodama, S. Suzuki, A. Shibata, K. Shimada, M. Mizutani, T. Kuriyagawa</i>
16:00	Evaluation of workpiece surface integrity following creep feed grinding of single-crystal nickel based alloy DD6 <i>W. Ding, Q. Miao, J. Xu, Y. Fu, H. Su</i>	An Ultra-precision Cutting of Carbon Steel by Diamond Tool in CO2 Atmosphere <i>S. Miyamoto, K. Okuda, H. Kodama, M. Nunobiki</i>	Ultrasonic vibration-assisted polishing of polycrystalline diamond <i>W. Xu, L. Zhang</i>	Performance for high-speed precision machining of W-Ni-Fe alloy using superhard cutting tools <i>Y. Zhang, Z. H. Xia, D. Xu</i>	Drilling Microholes in Ceramic Materials Using Ultrasmall-Diameter Diamond Grinding Tools Fabricated by EDM <i>K. Egashira, A. Hayashi, M. Takeuchi, K. Yamaguchi, M. Ota</i>
16:20					

Coffee Break					
16:40	Abrasive Machining (3)	Cutting Technology (3)	Abrasive Jet Machining	Monitoring/Metrology	Tribology in Machining
	Chairperson:	Chairperson:	Chairperson:	Chairperson:	Chairperson:
17:00	Recovery of Grindactivity by Dry Ice Blasting on Micro-Grit Diamond wheel in dry Grinding of Carbon <i>Y. Katayama, Y. Ohta, H. Kodama, K. Ohashi</i>	Development of cBN electroplated end-mill combined cutting and grinding for precision machining of CFRP <i>T. Furuki, Y. Kabaya, T. Hirogaki, E. Aoyama, K. Inaba, K. Fujiwara</i>	An experimental study of the particle velocities in abrasive waterjets <i>K. Thongkaew, J. Wang</i>	Grinding Feed Control Based on Workpiece Deflection and On-machine Measurement of Workpiece Stiffness <i>M. Yoritsune, M. Tano</i>	Wear Behavior of Grain Cutting Edges and Grinding Force Distributions in Creep Feed Grinding <i>M. Fujimoto, S. Ohishi, R. Hinaga, Y. Kubo</i>
	Comparative study of wear performance of brazed boron-doped diamond grits and conventional diamond grits <i>Y. Chen, Y. Fu, D. Ding</i>	Study on Mirror-like Cutting of Soft Metal Using Diamond Tool <i>M. Endo, K. Furumizu, W. Lin</i>	Development of cutting method of carbon fiber reinforced plastics using blasting <i>H. Fukagawa, S. Saito, D. Ichikawa</i>	Study on complete spherical surface unfolding methods for optical inspection with Adams <i>J. Qian, H. Lu, J. Yuan</i>	Analysis of Friction and Wear Properties between Cutting Tool Coatings and AISI 4140 Steel <i>G. Li, S. Zhang, J. F. Li, W. H. Shi</i>
17:20	Research on extending electrolyte life using diatomite in electrochemical abrasive machining <i>G. Jiang, Z. Jin, K. Li, X. Zhu</i>	A Study on the Effects of Cutting-sequence Strategies in Drilling CFRP/Ti <i>J. Xu, Q. An, W. Ming, M. Chen</i>	Fabrication of micro-hole array on brittle materials by abrasive jet machining <i>C. L. Chao, W. H. Wang, T. M. Chao, W. C. Chou, W. H. Fan</i>	Monitoring of Rotational Vibration in Tap and Endmill Processes with a Wireless Multifunctional Tool Holder System <i>R. Matsuda, M. Shindou, T. Hirogaki, E. Aoyama</i>	Tribological behaviour of water-based nanolubricant containing TiO ₂ nanoparticles on ferritic stainless steel <i>H. Wu, J. Zhao, X. Cheng, W. Xia, A. He, J. H. Yun, L. Wang, H. Huang, S. Jiao, Z. Jiang</i>
	Experimental Study on Grindability of Hss with Hybrid Abrasive Wheel <i>M. G. Mathen, S. Gowri, A. X. Kennedy</i>	Cutting Performance of PCD Tool Composed of Boron Doped Diamond Particles on Ti Alloy <i>M. Iwai, S. Ninomiya, F. Koga, P. Chen, B. Lin, K. Suzuki</i>	Micro Abrasive Jet Patterning of Sloped Micro Herringbone Grooves for Journal Bearings <i>S. Nakamae, M. Harada, H. Kodama, K. Ohashi</i>	Development of wireless dynamometer for rotary infeed surface grinding <i>Y. Tsukii, L. Zhou, H. Ojima, J. Shimizu, T. Onuki, T. Tajima</i>	Numerical modelling of micro deep drawing with aluminium-copper composite considering surface roughness <i>F. Jia, J. Zhao, L. Luo, H. Xie, Z. Jiang</i>
18:00					

5 December (Tuesday), 2017

	(Room 1) Conference Center Auditorium	(Room 2) Conference Center Meeting Room #1	(Room 3) Main Campus Seminar Room B250	(Room 4) Main Campus Seminar Room C209	(Room 5) Main Campus Seminar Room C210
8:40	Abrasive Machining (4) Chairperson:	Cutting Technology (4) Chairperson:	Lapping/Polishing (1) Chairperson:	Grinding Wheel (1) Chairperson:	Surface Integrity (1) Chairperson:
	Application of Abrasive Flow Machining in Removing Surface Defects in Metal Parts of 3D Printing <i>H. Wang, H. Wei, C. Peng, X. Wang, H. Gao</i>	Study on Spin Turning Method Using a Cylindrical Tungsten Carbide Tool Reground on the Multi-tasking Lathe <i>F. Koga, S. Nagakura, S. Ninomiya, M. Iwai, K. Suzuki</i>	Fundamental research on aspheric surface polishing using doughnut-shaped MCF polishing tool <i>M. Feng, Y. Wu, S. Xu, T. Bitou, M. Nomura, T. Fujii</i>	Superabrasive Applications in Grinding of Crankshafts: a Review <i>N. Macerol, L. Franca, W. Leahy, P. Krajnik</i>	Raman analysis of machining qualities on ground surfaces of sapphire wafers <i>T. Onuki, K. Wu, N. Sugano, H. Ojima, J. Shimizu, J. Zhou</i>
9:00	Preparation and advanced properties of high-purity SiC magnetic abrasives for magnetic induction-wire sawing process <i>W. Zhang, C. Yao, Z. Yan, K. Li, K. Liu</i>	Cutting performances of multi-layer composite diamond coated milling tools in machining zirconia ceramic <i>C. Wang, X. Wang, F. Sun</i>	Dynamic contact analysis of abrasive filaments with a discrete system <i>E. Uhlmann, C. Sommerfeld</i>	Investigation on the ultra-precision grinding performance of optical glass lens BK7 with rubber-bonded wheels <i>Y. Kawana, T. Suetomi, Y. Mizumoto, Y. Kakinuma, M. Fukuta, K. Tanaka</i>	Temperature Characteristics and Their Effects on Austenitization in Grinding Hardening <i>Y. Deng, S. Xiu</i>
9:20	Magnetic field-assisted finishing of a mold insert for injection molding of microfluidic chips <i>J. Guo, K. Liu, Z. Wang</i>	Study on Cutting Force and Tool Wear while Milling Ni3Al-Based Superalloy <i>L. Xianpeng, Z. Zhengcai, F. Yucan, S. Honghus, L. Gaoqun</i>	Investigation on Deterministic Polishing of Electro-less Plated NiP Surface Based on Preston Equation <i>H. Wang, F. Ji, W. Lin</i>	Measuring of Grinding Wheel Surface Shape by Means of Laser Probe Method <i>G. Uchida, T. Yamada, K. Miura, H. Lee</i>	Ellipsometry using the spin Hall effect of light for surface roughness detection <i>H. Fujita, Y. Mizutani, Y. Takaya</i>
9:40	Magnetorheological Finishing (MRF) Using Spiral Tool Path with Equal Step Length <i>Y. Zhang, L. P. Wang, X. K. Li</i>	High Speed Surface Texturing Process by Ultrasonic Turning for Improve Tribological Properties <i>K. Hara, H. Isobe</i>	Study on surface mechanical properties and ultra precision lapping/polishing technology of YAG laser crystal <i>R. Xie, X. Chen, S. Zhao, D. Liao, J. Wang, Q. Xu, H. Zhao</i>	Study on the Mechanical Property and Microstructure of the Vitrified Bond Ti-coated CBN Composites <i>X. Sun, T. Yu, M. Xu, Z. Wang, Z. Ma</i>	The effect of material transfer induced by fine particle peening on the interfacial adhesion between electrodeposited coatings and aluminum substrate <i>Y. Kameyama, H. Yamamoto, S. Amano, K. Shirakashi, H. Sato, R. Shimpō</i>
10:00	Dynamic Deformation Behavior of Ti-6Al-4V Alloy over a Wide Range of Strain Rate and Temperature <i>X. Hou, Z. Liu, B. Wang</i>	Development of a cutting tool possessing multiple micro cutting edges on its face for the improvement of the machinability of elastomers <i>J. Shinozuka, Y. Meguro, S. Maeda</i>	Processing technology of magnetorheological finishing for large-aperture optical components <i>J. Hou, H. X. Wang, X. H. Chen, B. Zhong, W. H. Deng, J. Wang, Q. Xu</i>	Fabrication of TiN coated diamond abrasives for diamond tools <i>O. Kirino, Y. Kawahata, Y. Zhang, Y. Tani</i>	Investigation of residual stresses in machined surface layer for turning Inconel 718 superalloy coupling finite element and analytical models <i>X. P. Ren, Z. Q. Liu</i>
10:20	Coffee Break				

10:40	Brittle Material Machining	System/Tooling	Lapping/Polishing (2)	Grinding Wheel (2)	Surface Integrity (2)
	Chairperson:	Chairperson:	Chairperson:	Chairperson:	Chairperson:
	Study on the mechanical properties on different orientation for LiTaO3 <i>T. Zhang, W. Hang, B. Lyu, Q. Deng, X. Zeng, J. Yuan</i>	Study on wheel cover safety for grinding machines <i>T. Fukui, A. Yui, T. Kitajima</i>	UV-Assisted Finishing of CVD Diamond Using Fixed Abrasive Polishing <i>R. Kitamura, K. Endo, M. Ota, K. Egashira, K. Yamaguchi, H. Miwa, Y. Onchi, K. Tanada</i>	Methods of analysis for a deeper understanding of the grinding process <i>B. Denkena, T. Grove, T. Götsching, P. Dzierzawa, F. L. Kempf</i>	Scratch-induced Crack Propagation on C-Plane Sapphire <i>N. Wang, F. Jiang, Z. Hu, Y. S. Liao</i>
11:00	An analytical force and surface roughness model for cylindrical grinding of brittle materials <i>A. Zahedi, B. Azarhoushang</i>	Development of the Measurement-Grinding Integrated Machine Tool <i>M. Yang, X. Zhu, R. Kang, Z. Jiao, D. Guo, Z. Dong</i>	Effect of process parameters on surface roughness of optical glass in fluid jet polishing process <i>K. G. Anbarasu, L. Vijayaraghavan, N. Arunachalam</i>	Observation and Evaluation of surfaces of grinding wheels by means of a high speed camera <i>K. Kobayashi, G. Uchida, H. S. Lee, T. Yamada, K. Miura</i>	Machining of an aluminium matrix composite with SiC particles:a finite element analysis <i>Q. Wu, W. Xu, L. Zhang</i>
11:20	Study on the Polishing of Sapphire Using Fixed Abrasive with Free Abrasive <i>J. Chen, J. Wang, Y. Zhu</i>	The Effect of New Cooling Method for Wheel Spindle Stock of Cylindrical Grinding Machine and the Characteristics of Relative Thermal Displacement between the Wheel spindle and Workpiece <i>H. Takahashi, R. Mukai, A. Makiuchi, Y. Kondo, Y. Sato, S. Shimizu</i>	Abnormality diagnosis based on processing reaction force in deburring by rotary brush <i>T. Hatano, M. Nunobiki, K. Okuda, H. Kodama</i>	Improvement of shape accuracy in internal grinding with slender grinding wheel <i>T. Onishi, K. Nishi, M. Sakakura, K. Ohashi</i>	Improvement in Fatigue Life of Ti-6Al-4V Alloy by Microshot Peening and Ultrasonic Shot Peening <i>Y. Harada, M. Nakahira, Y. Saeki, K. Hattori</i>
11:40	Evaluation of CVD-SiC grinding properties using indentation experiment <i>F. Ji, H. Wang, W. Lin</i>	Development of Super Processing Center <i>D. Yoshii, T. Nakano, Y. Tsukuda, M. Ota, K. Egashira, K. Yamaguchi</i>	An Improved Approach for the Lapping of Sapphire <i>Y. S. Liao, S. L. Chang</i>	The Effects of Temperature Curves on the Diamond/Ni–Cr Interfacial Properties in High–frequency Induction Brazing <i>G. Huang, M. Zhang, H. Guo, X. Xu</i>	Effects of cutting speed on surface integrity during finish turning pure iron material under MQL <i>J. Kong, B. Liu</i>
12:00	Study on Electrolyte Selection and Electrochemical Grinding Process of Hardly Machined Material <i>K. Fan, Z. Jin, Z. Wang, X. Zhu</i>	Identification of Cutting Tool for Avoiding Collision in Turning-Milling Machine <i>A. P. Rifai, H. Aoyama</i>	Effects of shear thickening polishing parameters on the curved surface roughness of 20CrNi2Mo workpiece <i>Q. Shao, B. Lv, Q. Deng, W. Hang, J. Yuan</i>	Study on the residual stress on grinding of titanium alloy with coolant supplied from inner side of grinding wheel <i>S. Toyokawa, N. Nakatsuka, A. Kusakabe, H. Sasahara</i>	The effects of surface roughness and fatigue behavior during different machining methods <i>D. Du, J. Kong</i>
12:20	Lunch				
13:20	Poster Session				
15:00	Conference Center Lobby Area & Meeting Room #2-4				
15:20	Move to Banquet				
18:00	Banquet				
20:00	Bankoku Shinryokan Resort MICE Facility				

6 December (Wednesday), 2017

9:00

13:00

Technical Tour
OIST Labo Tour