

**22 September (Monday), 2014**

16:30	Registration (Pre-Function Room)
18:30	
18:00	Welcome reception (Pre-Function Room)
20:00	

**23 September (Tuesday), 2014**

8:20	Registration (Pre-Function Room)			
8:50	<b>Ballrooms 2, 3, 4</b>			
9:00	Opening Ceremony Chairman: Hideki Aoyama			
	Opening addresses	<i>Akinori Yui</i>	<i>Jun Wang</i>	<i>Yoshio Saito</i>
		<i>ISAAT2014 Symposium chairman</i>	<i>ICAT Chairman</i>	<i>JSAT President</i>
9:20	Keynote speech 1	Subaru Telescope – Its Instruments and Large Optics <i>Yutaka Hayano and Saeko S. Hayashi</i> <i>Subaru Telescope, National Astronomical Observatory of Japan</i>		
10:00	Keynote speech 2	Abrasive Waterjet Machining Past, Present and Future <i>John H. Olsen</i> <i>OMAX Corporation, USA</i>		
10:40	Coffee Break			
11:00	General Session Chairman: Jiwang Yan			
	Investigation of Glass Polishing Motion Based on Micro-oscillating Pressing Force with a Compact Robot and Fine Diamond Stone <i>W. Wu, Y. Liu, T. Hirogaki, E. Aoyama</i>			
11:20	Development of Non-destructive Inspection System for Grinding Burn –In-process Detection of Grinding Burn <i>R. Ito, N. Mukaide, T. Azuma, S. Soma, S. Murakami, T. Kuriyagawa</i>			
11:40	Numerical investigations on the grinding forces in ultrasonic assisted grinding of SiC ceramics by using SPH method <i>Z. Liang, Z. Mi, X. Wang, T. Zhou, Y. Wu, W. Zhao</i>			
12:00	An experimental study on Single Point Diamond Turning of an unpolished Silicon wafer via Micro-Laser Assisted Machining <i>H. Mohammadi, H. B. Poyraz, D. Ravindra, J. A. Patten</i>			
12:20	Lunch			
	<b>Ballroom 1</b>	<b>Ballroom 2</b>	<b>Ballroom 3</b>	<b>Ballroom 4</b>
	Abrasive Machining (1) Chairman: Han Huang	Grinding Wheel Chairman: Hirofumi Suzuki	Tribology in Manufacturing Chairman: Hiromi Isobe	Monitoring & Analysis Chairman: Feihu Zhang
13:20	On the Profile and Microstructure Variations of Grinding-Induced Hardening Layer in a Cylindrical Workpiece  <i>M. Liu, T. Nguyen, L. Zhang, Q. Wu, D. Sun</i>	Optimizing the dry grinding process on the basis of bond materials  <i>H. Kitzig, N. Jandaghi, B. Azarhoushang, A. Vesali</i>	Friction Characteristics with Pin-on-Disk Friction Test on Microstructured Surface using Whirling Electrical Discharge Texturing  <i>V. Lertphokanont, T. Sato, M. Oi, M. Ota, K. Yamaguchi, K. Egashira</i>	Sensorless cutting force estimation in ball-screw-driven system using triple-inertia model  <i>Y. Yamada, Y. Kakinuma, T. Ito, J. Fujita, M. Sawazaki, M. Sagara</i>
13:40	Study on Grinding Force Distribution on Cup Type Electroplated Diamond Wheel in Face Grinding of Cemented Carbide  <i>T. Fujiwara, S. Tsukamoto, K. Ohashi, T. Onishi</i>	High Efficiency Abrasive Waterjet Dressing of Diamond Grinding Wheel  <i>P. Yao, W. Wei, C. Huang, J. Wang, H. Zhu, Z. Zhang</i>	Tribo-electrochemical Performance of Polycrystalline Silicon during ECMP Simulating Process  <i>W. Zhai, J. Wang</i>	Monitoring of End-mill Temperature with Infrared Thermography and Wireless Tool Holder System  <i>M. Shindou, R. Matsuda, T. Furuki, T. Hirogaki, E. Aoyama</i>
14:00				

14:00	Investigations on Belt Grinding of GH4169 Nickel-based Superalloy  <i>G. Xiao, Y. Huang, G. Chen, Z. Liu, X. Liu</i>	An explorative study of Fabrication of Al-based matrix diamond grinding wheels by vacuum evaporative pattern casting  <i>Q. Dai, F. You, C. Luo</i>	Long-duration Frictional and Wear Performance of the Diamond/DLC bilayered film under water-lubricating condition  <i>S. Chen, B. Shen, F. Sun</i>	Experimental Study on the Cutting Performance of In-situ Fabricated TiB <sub>2</sub> Toughened TiN-based Composite Ceramic Tool in Turning Stainless Steel  <i>H. Liu, Q. Shi, C. Huang, L. Wang, B. Zou, Z. Yang</i>
14:20	Basic study on high efficiency ultra-precision grinding of the optical glass lens  <i>R. Sekiguchi, S. Yoshikawa, Y. Kakinuma, K. Tanaka, M. Fukuta</i>	Wafer Grinding of Using Fixed Abrasive Diamond Wheel – Evaluation of cutting edge distribution in Diamond Wheels –  <i>Y. Ebina, L. Zhou, J. Shimizu, T. Onuki, H. Ojima</i>	Tribological analysis of oxide scales during cooling process of rolled microalloyed steel  <i>Z. Jiang, X. Yu, J. Zhao, C. Zhou, Q. Huang, G. Luo, K. Linghu</i>	Entire Hardening of Small Thin Plate with a Small Power Semiconductor Laser Considering Plate Deformation  <i>R. Oda, T. Hirogaki, E. Aoyama, K. Ogawa</i>
14:40	Studies on Grinding Conditions Affecting the Quality of Soft Magnetic Powder Cores  <i>T. Ueno, T. Tokuoka, T. Nishioka, K. Ohashi, S. Tsukamoto</i>	Wear of Diamond Wheel in Groove Grinding of Cemented Carbide – Influences of Speed Ratio and Nitrogen Gas Dissolved Coolant –  <i>O. Horiuchi, T. Samura, T. Uno, T. Itazu, N. Ito, T. Shibata, M. Masuda</i>	Study on identification of contact stiffness considering surface roughness  <i>K. Nakamura, H. Sakamoto</i>	Investigation of a Step Micro-drilling Motion Based on Modeling of High Speed Spindle Driving Axis on Machine Tools Equipped with aVibration-Proof Mechanism  <i>T. Yamashita, T. Hirogaki, E. Aoyama, R. Shibata, K. Ogawa</i>
15:00	Coffee Break			
15:20	<b>Abrasive Machining (2)</b> <b>Chairman: Kazuhito Ohashi</b>	<b>High Efficiency Machining</b> <b>Chairman: Nobuhito Yoshihara</b>	<b>Micro/nano Machining</b> <b>Chairman: Koichi Okuda</b>	<b>Metrology &amp; Evaluation</b> <b>Chairman: Yasuhiro Kakinuma</b>
	Effect of coolant supplied through grinding wheel on residual stress of grinding surface  <i>N. Nakatsuka, Y. Hirai, A. Kusakabe, Y. Yao, H. Sasahara</i>	Research on 3D Model Processing Technologies in the Application of Freeform Surface Machining  <i>J. Zhu, T. Tanaka, Y. Saito</i>	Precision Machining of Parabolic Mirror Made of Low Thermal Expansion Ceramic  <i>M. Okada, A. Takagi, H. Suzuki, J. Sugawara</i>	Manufacturing process evolution method of neutron ellipsoidal mirror simulation using measured point-set  <i>S. Morita, S. Takeda, M. Furusaka, J. Guo, Y. Yamagata</i>
15:40	Multi-hole Drilling Method by Abrasive Blasting for CFRP and Composite Materials: Investigation of a processing model based on abrasive erosion phenomenon  <i>H. Fukagawa, T. Hirogaki, I. Yamada, A. Kato, K. Shimizu, K. Nishikawa</i>	Stress Influence on Corrosion Resistance of Aluminum Alloy Surface  <i>Y. Wan, Z. Wang, Z. Liu, Z. Jiang, D. Zhang</i>	Synergistic and strengthening mechanism of twin boundaries under nanoindentations for cadmium telluride semiconductors  <i>H. Zhou, N. Duan, B. Wang</i>	A Study on Fast Geometric Form Measurement of High Precision Balls  <i>H. Lu, Z. Wang, Q. Deng, B. Lv, F. Zhou, J. Yuan</i>
16:00	A controllable material removal strategy considering force-geometry model in marine propeller five-axis belt grinding  <i>Y.Q.Wang, B.Hou, Q.Ma, H.B.Liu</i>	Performance of Strong Alkali Ion Water in Cutting and Grinding Applications  <i>M. Iwai, H. Hashimoto, M. Yamada, H. Yamada, K. Suzuki</i>	Removal of ion irradiation-induced affected layers from diamond cutting tools to improve machining performance  <i>N. Kawasegi, K. Ozaki, N. Morita, K. Nishimura, H. Sasaoka</i>	Development and Practicality of Scanning Autofocus System for High Speed Areal Surface Texture Measurement  <i>K. Miura, A. Nose, H. Suzuki, M. Okada</i>
16:20	Form accuracy of internal grinding of small and deep holes with coolant supplied from inner side of grinding wheel  <i>K. Matsubara, J. Tsuchimura, S. Kawazoe, H. Sasahara</i>	Distribution of the Convection Heat Transfer Coefficients of Grinding Fluids along the Contact Zone in High Speed Grinding  <i>T. Jin</i>	Fabrication of Shapes with Overhang Using Micro-Boring Tools  <i>K. Egashira, K. Harada, K. Yamaguchi, M. Ota</i>	Influence of surface integrity in silicon wafer thickness measurements by reflection spectroscopy  <i>T. Onuki, R. Ono, H. Ojima, J. Shimizu, L. Zhou</i>
16:40	An Experimental Study on Grinding Fir-tree Root Forms Using Vitrified CBN Wheels  <i>Z. Shi, A. Elfizy, H. Attia</i>	Study of Grinding Wheel for Polishing Diamond by Dynamic Friction Polishing  <i>S. Shi, J. Lin, Z. Jin, X. Guo, P. Zhou, R. Kang</i>	Ultraprecision micro grooving on brass surface for wettability control  <i>K. Asakura, J. Yan</i>	The Topographic Characterisation of Grinding Wheels – A Proposed Measurement Strategy  <i>D. L. Butler</i>
17:00				

**24 September (Wednesday), 2014**

	<b>Ballroom 1</b>	<b>Ballroom 2</b>	<b>Ballroom 3</b>	<b>Ballroom 4</b>
9:00	Abrasive Machining (3) Chairman: B. Azarhoushang	Cutting Technology (1) Chairman: Zhengyi Jiang	Finishing/Lapping/Polishing (1) Chairman: Julong Yuan	Chemo-Mechanical Polishing Chairman: Michio Uneda
9:20	Deformation and Removal Characteristics of Multilayered Thin Film Structures in Nanoscratching and Diamond <i>C. Kang, H. Huang</i>	Machining of Sintered Tungsten Carbide for Die and Mold <i>T. Moriwaki, S. Tsurimoto, K. Osakada, M. Nagata</i>	Preliminary Study on Highly Efficient Polishing of 4H-SiC by Utilization of Anodic Oxidation <i>K. Yamamura, K. Hosoya, Y. Imanishi, H. Deng, K. Endo</i>	Future Prospects for CMP Equipment – Design Considerations according to Substrate Size and Shape <i>H. Jeong, H. Kim, H.Z. Choi</i>
9:40	Influence of Work Speed on Surface Quality with Rapid Rotation Mirror-like surface Grinding <i>K. Yamaguchi, R. Yamazaki, C. Yu, M. Ota, K. Egashira, Y. Akita, S. Suzuki</i>	Laboratory Comparison of SMART*CUT Picks with WC Picks <i>W. Shao, X.S. Li, Y. Sun, H. Huang</i>	Development of an advanced machine control system in superfinishing The automatic determination of the suitable machining time <i>T. Onishi, K. Ohashi, K. Higashi, T. Iguchi, S. Yamashita, H. Isa, S. Tsukamoto</i>	Measuring Surface Topography of a Diamond Wire using an Image Processing Method <i>A. Sakaguchi, T. Kawashita, S. Matsuo</i>
10:00	Estimation of grinding cycle time taking into account specific grinding force <i>T. Yamada, H.S. Lee, K. Miura</i>	Essential research in machining difficult-to-machine materials for advancing MQL cutting technology with a newly developed coated tool <i>S. Shimada, M. Kohzaki</i>	Study on Fixed-Abrasive Lapping SiC Crystal Substrate Based on Diamond Particle <i>J. Su, X. Zhang, S. Fu, S. Fan, Z. Liu</i>	Effect of surface profile on the material removal rate distribution in CMP process <i>P. Zhou, J. Cai, Z. Li, R. Kang, Z. Jin</i>
10:20	Study on the Shape Error in the Cylindrical Traverse Grinding of a Workpiece with High Aspect Ratio <i>T. Onishi, T. Kodani, K. Ohashi, M. Sakakura, S. Tsukamoto</i>	Experimental Verification of End-milling Condition Decision Support System Using Data-Mining for Difficult-to-cut Materials <i>H. Kodama, T. Hirogaki, E. Aoyama, K. Ogawa, K. Okuda</i>	Precision Shaping Experiment of Ceramic Ball Blank with Oscillating-Plate Lapping Method <i>B. Lyu, C. Dong, F. Zhou, Q. Deng, J. Yuan, P. Zhao</i>	Chemical mechanical polishing of soft-brittle cadmium zinc telluride wafers using a developed environment-friendly solution <i>Z. Zhang, B. Wang, Y. Song</i>
	Coffee Break			
10:40	Surface Quality Chairman: Takazo Yamada	Cutting Technology (2) Chairman: Chuanzhen Huang	Finishing/Lapping/Polishing (2) Chairman: Kazuya Yamamura	Non-traditional Machining (1) Chairman: Teppei Onuki
11:00	Feature Extraction Based 3D Model Registration for Surface Finish Quality Evaluation <i>N. Sharma, J. Zhu, T. Tanaka, Y. Saito</i>	High speed machining method of large-size precision freeform mirror <i>O. Kirino, H. Nakagawa, S. Kirino, H. Kataza</i>	Advanced Abrasive Processes For Manufacturing Prototype Mirror Segments For The World's Largest Telescope <i>D. Walker, G. Davies, T.F. Reonard, C. Gray, J. Mitchell, P. Rees, H.Y. Wu, A. Volkov, G. Yu</i>	The Influence of Amplitude on Grinding Force and Surface Roughness in Ultrasonic Assisted Grinding of K9 Glass <i>F. Zheng, F. Ma, Y. Wang, Z. Dong, R. Kang</i>
11:20	Dry sliding wear behaviour of full pearlite obtained by cladding low carbon steel to hypoeutectoid steel <i>X. Gao, Z. Jiang, D. Wei, B. Kosasih, S. Jiao, D. Chen</i>	A Study on Straightness of Deep Hole in Small-Diameter Drilling of Stainless Steel <i>K. Okuda, T. Yamaguchi, T. Yamamoto, T. Takeda, H. Shizuka</i>	Effect of cyclic heating on the hardened layer properties generated by plunge cylindrical grinding <i>T. Nguyen, M. Liu, L. Zhang, Q. Wu, D. Sun</i>	High-speed capturing of stress distribution of workpiece under ultrasonically assisted cutting condition <i>H. Isobe, K. Hara</i>
11:40	Material Properties of a New PCD Made of Boron Doped Diamond Particles <i>W. Chen, M. Iwai, S. Ninomiya, K. Suzuki</i>	Development of axially splitting method for the pipe materials with the cutting tool <i>E. Nakanishi, M. Hyono, S. Maki</i>	Grinding performance of diamond grinding tools for sapphire crystal <i>Y. Zhang, S. Gao, R. Kang, X. Guo, Z. Lin</i>	Effect of frequency and amplitude on the performance of elliptic vibration-assisted cutting of fibre-reinforced polymer composites <i>W. Xu, L. Zhang</i>
12:00	Dynamic Friction Polishing of Diamond utilizing High Reactive Metallic Tools <i>W. Chen, M. Iwai, K. Suzuki</i>	Small Hole Drilling for Polyphenylene Sulfide(PPS) – Influence of Depth-of-cut on Burr Formation– <i>M. Nomura, K. Suzuki, Y. Wu, M. Fujimoto</i>	Characterization of Cutting Ability of Electroplated Diamond Wire used for Multi-Wire Saw <i>H. Kim, D. Kim, S. Lee, H. Jeong, H. Choi</i>	Smoothed Particle Hydrodynamics Simulations for Ultrasonic Machining of Different Workpiece Materials <i>J. Wang, K. Shimada, M. Mizutani, T. Kuriyagawa</i>

12:00	Evaluation and ANN-Based Prediction on Functional Parameters of Surface Roughness in Precision Grinding of Cast Iron <i>B. Zhao, S. Zhang, J. F. Li</i>	Study on the Grinding Machinability of 9Mn2V under Different Heat Treatment Processes <i>G. Guo, Y. Mu, C. Yang, Z. Li, Y. Tian, M. Chen</i>	Micro-cracks Removal on Edge Surface of Thin Glass Sheet Using Magnetorheological Finishing <i>T. Sato, C. W. Kum, S. T. Ng</i>	Modeling and Simulation of Surface Topography Evolution in Electrical Discharge Machining (EDM) <i>T. Zhou, L. Ma, Z. Liang, X. Wang</i>
12:20	Lunch			
13:20	Poster Presentations (Pre-Function Room)			
15:00	Coffee Break			
15:20	<b>Brittle Material Machining</b> Chairman: Haruhisa Sakamoto	<b>Cutting Technology (3)</b> Chairman: Tianfeng Zhou	<b>System Development</b> Chairman: Takekazu Sawa	<b>Non-traditional Machining (2)</b> Chairman: Kai Egashira
15:40	Effect of Cutting Fluid on Diamond Tool Life under Micro V-groove Turning of Cobalt-Free Tungsten Carbide <i>A. Yui, T. Kitajima, P. Krajnik, K. Harano, H. Sumiya, H. Ono</i>	Study on Surface Finish of Carbon Steel by Ultra-Precision Diamond Cutting <i>Y. Kamoi, K. Okuda, H. Shizuka, M. Nunobiki</i>	Conditioning of Vitrified Bond CBN grinding wheels using a picosecond laser <i>A. Zahedi, T. Tawakoli, J. Akbari, B. Azarhoushang</i>	Wire-EDM properties of EC-PCD made up of boron doped diamond particles <i>W. Chen, S. Ninomiya, S. Nochi, M. Iwai, K. Suzuki</i>
15:40	A Three-dimensional Fractal Analysis Method for Ground Monocrystal Sapphire Surface <i>Q. Wang, Z. Liang, X. Wang, W. Zhao, Y. Wu, L. Jiao, L. Xie</i>	A study of ultrasonically added high speed turning for stainless steel – The effects of ultrasonic oscillating direction and chip breaker shape and material – <i>K. Hara, R. Sasaki, T. Koiwa, H. Isobe</i>	Design of Double-sided Polishing Machine for Functional Crystal Substrate <i>J. Yang, X. Zhu, Z. Dong, R. Kang, D. Guo, B. Zhang</i>	Performance of EC-PCD made of boron doped diamond as an electrode for EDM of cemented carbide <i>W. Chen, M. Iwai, S. Ninomiya, K. Suzuki</i>
16:00	Microgrooving of Germanium Wafers Using Laser and Hybrid Laser-Waterjet Technologies <i>H. Zhu, J. Wang, W. Li, H. Li</i>	Investigation of the Surface-Modification Effect by Oil-Immersion Treatment on Carbide Tool <i>H. Shizuka, K. Sakai, K. Iwakura</i>	Development of non-contact classifying systems by use of acoustic levitation <i>T. Inada, L. Zhou, J. Shimizu, H. Ojima, T. Ito</i>	EDM Machinabilities of EC-PCD using Ultrasonic Assisted EDM and Bipolar Pulse Current EDM <i>W. Chen, M. Iwai, K. Suzuki</i>
16:20	An SPH simulation on vibration assisted abrasive erosion of hard brittle material in abrasive waterjet machining <i>Z. Lv, C. Huang, H. Zhu, J. Wang, P. Yao, Z. Liu</i>	Face Milling of Carbon Fiber Reinforced Plastic using Poly Crystalline Diamond Tool <i>J. Kusuyama, A. Yui, T. Kitajima, Y. Itoh</i>	Computer-aided simulation of dressing using diamond rotary dresser and visualization of dressing process <i>A. Kubo, A.M.M. Sharif Ullah, J. Tamaki</i>	Curved Surfaces Forming of Sheet Material by Laser Irradiation <i>K. Kishida, H. Aoyama, N. Matsushita, A. Ushimaru</i>
16:40	Machining Characteristics in Cylindrical Blasting of Micro Grooves and Performance of Herring-Bone Bearing <i>T. Fukushima, K. Ohashi, M. Fujihara, T. Onishi, S. Tsukamoto</i>	Cutting performance of binder-less nano-polycrystalline cBN tool <i>K. Harano, K. Arimoto, Y. Ishida, H. Sumiya</i>	Simulation of chip formation behavior during single diamond grains grinding by CEL method <i>C.W. Dai, J.H Xu, W.F Ding, J.B. Dai, Y.C. Fu</i>	Production of Fe-Al Alloy Coat on Steel Block by Scanning Laser Beam <i>M. Nunobiki, Y. Harada, K. Okuda</i>
17:00				
18:00	Banquet (Luau Grounds)			
20:00				
8:00	<b>25 September (Thursday), 2014</b>			
18:00	Technical tour (Subaru Telescope, National Astronomical Observatory of Japan )			