

## 30 September (Tuesday), 2008

18:30   20:30	Reception
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## 1 October (Wednesday), 2008

9:00   9:20	Opening Ceremony
9:20   10:00	<b>(Keynote speech 1 )</b> Towards a damage-free machining of silicon: the critical role of $\beta$ -tin <i>Liangchi Zhang, School of Aerospace, Mechanical &amp; Mechatronic Engineering, The University of Sydney, Australia</i>
10:00   10:40	<b>(Keynote speech 2)</b> Recent Development of PCBN Tools and their Impact of Manufacturing Process <i>Nakashima Takeru, Super Hard Materials Development Department, Sumitomo Electric Hardmetal Corp., Japan</i>

### Coffee Break

	Room A	Room B	Room C
	<b>Grinding mechanism (1)</b> <i>Chairperson: J. Tamaki Kitami Institute of Technology, Japan</i>	<b>Field-assisted machining</b> <i>Chairperson: H. Sakamoto Sophia University, Japan</i>	<b>Truing and dressing</b> <i>Chairperson: C. Y. Wang Guangdong University of Technology, China</i>
11:00   11:20	<b>Prediction of Grinding Force Distribution in Wheel and Workpiece Contact Zone</b>  <i>Z. Shi, M. Srinivasaraghavan, H. Attia Institute for Aerospace Research of National Research Council, Canada</i>	<b>Study on the Surface Quality of Optical Glass in Ultrasonic-magnetorheological Compound Finishing</b>  <i>Feihu Zhang, Huijun Wang, Jianfeng Liu, Dianrong Luan, Yong Zhang Harbin Institute of Technology, China</i>	<b>A Truing Technique of Flattening Diamond Grains for Fabricating Microstructures with Fine Surfaces</b>  <i>Takeshi HARADA and Takuya SEMBA Fukuoka Institute of Technology, Japan</i>
11:20   11:40	<b>Study on the Subsurface Damage of Single Crystal MgO Substrates</b>  <i>Z.G. Dong, R.K. Kang, Z.Y. Jia Dalian University of Technology, China</i>	<b>Quartz Wafer Machining using MCF (Magnetic Compound Fluid) Polishing Liquid Frozen with Liquid Nitrogen</b>  <i>Y. Wu, K. Shimada Akita Prefectural University, Japan</i>	<b>The Possibility of Dressless Restoration of Grindactivity in Dry Grinding of Carbon</b>  <i>Kazuhiro OHASHI, Yosuke SUMIMOTO, Yuya FUJITA, Hiroyuki HASEGAWA and Shinya TSUKAMOTO Okayama University, Japan</i>
11:40   12:00	<b>Study on Improvement of Material Removal Rate in Chemo-mechanical Grinding (CMG) of Si Wafer</b>  <i>J. Sasaki, T. Tsuruga, B. Soltani, H. T. Mitsuta, Y.B. Tian, J. Shimizu, L. Zhou, H. Eda, Y. Tashiro, H. Iwase, S. Kamiya Ibaraki University, Japan</i>	<b>Simulation and Experimental Analysis of Electromagnetic Inductor for Magnetic Abrasive Finishing</b>  <i>Q. S. Yan, T.X. Qiu, W.Q. Gao, L. Meng Guangdong University of Technology, China</i>	<b>Virtual Truing and Dressing of Grinding Wheel</b>  <i>Zbigniew M. Bzymek, Glen M. Duzy and Richard B. Mindek, Jr University of Connecticut, USA</i>
12:00   12:20	<b>Comparative Study on the Materials Removal Mechanism of Ceramics and Steels</b>  <i>Jianqiang GUO, Hitoshi OHMORI, Kazutoshi KATAHIRA, Yoshihiro UEHARA The Institute of Physical and Chemical Research, Japan</i>	<b>The research of NC magnetic abrasive finishing for mould parting surface</b>  <i>W.Q. Gao, L.Meng, Q.S. Yan, J.H.Song, T.X. Qiu Guangdong University of Technology, China</i>	<b>Effects of Cutting Edge Truncation on Ultrasonically Assisted Grinding</b>  <i>Keisuke Hara, Hiromi Isobe and Akira Kyusojin Ichinoseki National College of Technology, Japan</i>

### Lunch Break

	Grinding mechanism (2)	New grinding processes (1)	Abrasive jet machining
	<b>Grinding mechanism (2)</b> <i>Chairperson: Z. Shi Institute for Aerospace Research of National Research Council, Canada</i>	<b>New grinding processes (1)</b> <i>Chairperson: N. Kramer Leibniz Universität Hannover, Germany</i>	<b>Abrasive jet machining</b> <i>Chairperson: K. Okuda University of Hyogo, Japan</i>
13:40   14:00	<b>Grinding of Carbon/Epoxy Composites Using Electroplated CBN Wheel with Controlled Abrasive Clusters</b>  <i>H. P. Yuan, H. Gao, Y.J. Bao, Y. Wu Dalian University of Technology, China</i>	<b>Computer Aided Design and Grinding for Helical Drill Points</b>  <i>P. Zou, X.Y. Li, Y. Tang, X.L. Yang Northeastern University, China</i>	<b>A Preliminary Study of the Erosion Process in Micro-machining of Glasses with a Low Pressure Slurry Jet</b>  <i>T. Nguyen, K. Pang, J. Wang University of New South Wales, Australia</i>

14:00   14:20	Experimental Analysis of Elastic and Plastic Behavior in Ductile-Regime Machining of Glass Quartz Utilizing a Diamond Tool <i>Jun'ichi TAMAKI, Akihiko KUBO and Jiwang YAN Kitami Institute of Technology, Japan</i>	A New CBN Crystal for Improved Grinding Performance In Vitrified Bonds <i>Sridhar Kompella, Kai Zhang, Rajeev Pakalapati Diamond Innovations, Inc. USA</i>	Hole Machining of Glass by Micro Abrasive Suspension Jets <i>C.Y.Wang, M.D.Chen, P.X.Yang, J.M.Fan Guangdong University of Technology, China</i>
14:20   14:40	Characteristics of the Wheel Surface Topography in Ultra-precision Grinding of Silicon Wafers <i>F.W. Huo, D.M. Guo, R.K. Kang, Z.J. Jin Dalian University of Technology, China</i>	Study on Two kinds of Grinding Wheels for Dynamic Friction Polishing of CVD Diamond Film <i>Z.J.Jin, Z.W.Yuan, R.K.Kang and B.X.Dong Dalian University of Technology, China</i>	Simulation and Analysis of Abrasive Jet Machining with Wheel Restriction in Grinding <i>Wanshan Wang,Lida Zhu,Tianbiao Yu, Jianyu Yang, Liang Tang Northeastern University, China</i>
14:40   15:00	Fractal Analysis of Self-Sharpening Phenomenon in cBN Grinding <i>Yoshio Ichida, Ryunosuke Sato, Masakazu Fujimoto and Nabil Ben Fredj Utsunomiya University, Japan</i>	Fundamental Study on the Precision Abrasive Machining Using a Cavitation in Reversing Suction Flow <i>Kazuhiro OHASHI, Rongjun WANG, Hiroyuki HASEGAWA, Shinya TSUKAMOTO Okayama University, Japan</i>	Profit optimization of Abrasive Blasting Systems <i>Vu Ngoc Pi Delft University of Technology, Netherlands</i>
15:00   15:20	Observation of abrasive grains behavior in contact area of grinding wheel and comparison with grinding wheel model <i>Takazo Yamada and Hwa-Soo Lee Nihon University, Japan</i>	Researches on Effect of Impact Micro-damages in Contact Layer on Machinability in Quick-point Grinding <i>Shichao Xiu, Suoxian Yuan and Guangqi Cai Northeastern University, China</i>	Design of Double Nozzle Type Powder Jet Device Optimized for PJD <i>Toshihiko Shibuya, Mohammad Saeed Sepasy, Koichi Mizutani, Nobuhito Yoshihara, Jiwang Yan, Tsunemoto Kuriyagawa Tohoku University, Japan</i>

Coffee Break

	<b>Grinding systems and tools</b> <i>Chairperson: Y. Wu Akita Prefectural University, Japan</i>	<b>New grinding processes (2)</b> <i>Chairperson: K. Ohashi Okayama University, Japan</i>	<b>Non-conventional machining</b> <i>Chairperson:D. M. Guo Dalian University of Technology, China</i>
15:40   16:00	Thermal Damage of Micro Diameter Hole Drilled by Super-High-Speed Spindle in PWB <i>Hiroshi NOJIRI, Toshiaki HIROGAKI, Eiichi AOYAMA, Keiji OGAWA and Tsuyoshi OTSUKA Dohisha University, Japan</i>	Study on Abrasive Geometry of Quick-point Grinding <i>Suoxian Yuan, Dongna Xie, Yadong Gong Northeastern University, China</i>	Thermal deformation of base sheet and local deformation around laser cutting edge <i>Masayuki Nunobiki, Koichi Okuda, Shogo Morino University of Hyogo, Japan</i>
16:00   16:20	Experimental Trial of Fullerene Wheel Fabrication <i>Takeshi Tanaka Ritsumeikan University, Japan</i>	Model-Based Compensation of Geometry-Errors when Grinding Material Compounds <i>B. Denkena, N. Kramer Leibniz Universität Hannover, Germany</i>	Grinding Combination of Electrochemical Smoothing On SKH 51 Surface <i>P.S. Pa National Taipei University of Education, Taiwan</i>
16:20   16:40	Research of Ultrahigh Speed Grinding Spindle System Based on Squeeze Film Damping Technology <i>Tianbiao Yu, Yadong Gong, Hu Li, Jianyu Yang, Wanshan Wang Northeastern University, China</i>	A New Type of Drill Grinder Based on the Special Universal Joint <i>P. Zou, H.R. Qiu, S.M. Gao, M. Hu Northeastern University, China</i>	Fundamental Study on Influence of Surface Topography on Photocatalytic Reaction <i>Keisuke Azusawa, Yuta Ishii, Jun Shimizu, Libo Zhou, Hiroshi Eda Ibaraki University, Japan</i>
16:40   17:00	Development of CNT-Coated Diamond Grains Using Self-Assembly Techniques for Improving Electroplated Diamond Tools <i>Tsumehisa Suzuki, Toshiaki Mitsui, Tomoki Fujino, Mutsuto Kato, Yasufumi Satake, Hiroshi Saito, Seiya Kobayashi Yamagata research institute of technology, Japan</i>	Simulation of Dynamic Performance for Hydro-hybrid Spindle-Bearing System of Superhigh Speed Grinder <i>Wanshan Wang, Lida Zhu, Tianbiao Yu, Jiashun Shi, Hu Li Northeastern University, China</i>	Fundamental Research on Generation of Nanostructure by Means of Local Anodic Oxidation <i>Yumetaka Suehisa, Toshiaki Aoki, Jun Shimizu, Libo Zhou, Hiroshi Eda Ibaraki University, Japan</i>
17:00   17:20	Proposal of pulverization method based on grinding process in order to recycle FRP waste <i>Haruhisa Sakamoto, Shogo Nabata, Shinji Shimizu Sophia University, Japan</i>	Model based Characterization of the Grinding Wheel Effective Topography <i>Berend Denkena, Niklas Kramer and Christoph Wengenheim Leibniz Universität Hannover, Germany</i>	An investigation into surface roughness of EDM using soft particles suspension in silicone oil <i>Y.Y. Tsai, C.K. Chang National Tsing Hua University, Taiwan</i>

**2 October (Thursday), 2008**

	<b>Room A</b>	<b>Room B</b>	<b>Room C</b>
	<b>Measurement and modeling (1)</b> <i>Chairperson: H. S. Lee Nihon University, Japan</i>	<b>Vibration-assisted machining (1)</b> <i>Chairperson: P.S. Pa National Taipei University of Education, Taiwan</i>	<b>Slicing and edge finishing</b> <i>Chairperson: Masahiro Mizuno Iwate University, Japan</i>
9:00   9:20	Error Analysis and Robust Position Measurement for Vertex of a Small Polyhedron <i>Takashi HARADA Kinki University, Japan</i>	Fabrication of high-aspect ratio micro holes on hard brittle materials--Study on electrorheological fluid-assisted micro ultrasonic machining <i>T. Tateishi, N. Yoshihara, J. Yan and T. Kuriyagawa Tohoku University, Japan</i>	Analysis on the Fracture Failure of Brazed Diamonds in Wire Sawing <i>Guoqin Huang, Hui Huang, Xipeng Xu Huaqiao University, China</i>
9:20   9:40	Grinding Burn and Chatter Classification Using Genetic Programming <i>Xun Chen, James Griffin University of Huddersfield, England</i>	Grinding of Soft Steel with Assistance of Ultrasonic Vibrations <i>Taghi Tawakoli, Bahman Azarhoushang, Mohammad Rabiey Furtwangen University, Germany</i>	Effects of Thermal Deformation of Multi-Wire Saw's Wire Guides and Ingot on Slicing Accuracy <i>Yoshinori Abe, Ken-ichi Ishikawa, Hitoshi Suwabe Toyo Advanced Technologies Co., Ltd., Japan</i>
9:40   10:00	Control of nano-topography on an axisymmetric ground surface <i>Nobuhito Yoshihara, Jiwang Yan and Tsunemoto Kuriyagawa Tohoku University, Japan</i>	Ultrasonic Vibration-Assisted Cutting of Titanium Alloy <i>Shigeomi Koshimizu Advanced Institute of Industrial Technology, Japan</i>	Study on Glass Strength at High Speed Edge Rounding for LCD <i>Nobuyoshi SUZUKI, Tatsunoli HALAI TOKYO DIAMOND TOOLS MFG.Co., LTD, Japan</i>
10:00   10:20	Measurement of High-NA Axisymmetric Aspherical Surface with Continuous Interference Method <i>Y. Nagaike, T. Kuriyagawa, W. Gao, J. Yan, N. Yoshihara Tohoku University, Japan</i>	Effects of Grain Size and Concentration of Grinding Wheel in Ultrasonically Assisted Grinding <i>M. Nomura, Y. Wu, T. Kuriyagawa, T. Kawashima and T. Shibata Toyohashi University of Technology, Japan</i>	

Coffee Break

	<b>Measurement and modeling (2)</b>	<b>Vibration-assisted machining (2)</b>	<b>CMP and semiconductor processing(1)</b>
	<i>Chairperson: X.Chen University of Huddersfield, England</i>	<i>Chairperson: T. Tawakoli Furtwangen University, Germany</i>	<i>Chairperson: P.L. Tso National Tsing Hua University, Taiwan</i>
10:40   11:00	Observation of grinding wheel wear patterns by means of a 3-dimensional digital measuring method <i>Hwa-Soo Lee, Takazo Yamada, Naoyuki Ishida Nihon University, Japan</i>	Electrochemical Finishing with an Electrode Vibrated with Biaxial Ultrasonic Transducer <i>Manabu Iwai, Wenqiu Wei, Shinichi Ninomiya, Sadao Sano, Tetsutaro Uematsu, Kiyoshi Suzuki Toyama Prefectural University, Japan</i>	The Deformation Mechanism at Pop-in: Monocrystalline Silicon under Nanoindentation with a Berkovich Indenter <i>Li Chang and Liangchi Zhang University of Sydney, Australia</i>
11:00   11:20	Numerical analysis for thermal deformation of workpiece in cylindrical plunge grinding <i>Hiroyuki Hasegawa, SURITALATU, Morisaki Sakakura, Shinya Tsukamoto Okayama University, Japan</i>	Synchronous Finish Processes Using Grinding and Ultrasonic Electrochemical Finishing on Hole-Wall Surface <i>P.S. Pa National Taipei University of Education, Taiwan</i>	Material Removal Mechanism of Chemo-mechanical Grinding (CMG) of Si Wafer by Using Soft Abrasive Grinding Wheel (SAGW) <i>D.M. Guo, Y.B. Tian, R.K. Kang, L. Zhou, M.K. Lei Ibaraki University, Japan</i>
11:20   11:40	Fuzzy Rules for Surface Roughness of Ground Steels <i>Y.M. Ali and L.C. Zhang University of Sydney, Australia</i>	Development of a Three-Dimensional Tool Oscillation System for Finishing Metal Molds <i>Masahiro Mizuno, Toshiro Iyama, Xu Zhang and Naohiro Nishikawa Iwate University, Japan</i>	Subsurface Structures of Monocrystalline Silicon Generated by Nanogrinding <i>Han Huang, Yueqin Wu, Yong Wang, Jin Zou, Libo Zhou University of Queensland, Australia</i>
11:40   12:00	Geometrical Simulation of Surface Finish Improvement in Helical Scan Grinding Method by means of 3D-CAD Model <i>Kiyoshi Suzuki, Yoichi Shiraishi, Shinichi Ninomiya, Manabu Iwai, Tetsutaro Uematsu Nippon Institute of Technology, Japan</i>		Complete Recovery of Subsurface Structures of Machining-Damaged Single Crystalline Silicon by Nd:YAG Laser Irradiation <i>Jiwang Yan, Tooru Asami, Tsunemoto Kuriyagawa Tohoku University, Japan</i>

Lunch Break

	<b>Cutting (1)</b> <i>Chairperson: J. Wang University of New South Wales, Australia</i>	<b>Fluids for machining (1)</b> <i>Chairperson: Y. Gao H.K. University of Science and Technology, China</i>	<b>CMP and semiconductor processing(2)</b> <i>Chairperson: L.C. Zhang University of Sydney, Australia</i>
13:40   14:00	Planing of Cobalt-Free Tungsten Carbide Using a Diamond Tool-- Cutting temperature and tool wear <i>Akinori Yui, Hiroshi Matsuoka, Takayuki Kitajima, Shigeki Okuyama National Defense Academy, Japan</i>	Engineering a Next Generation Water-Based Grinding Fluid <i>Peter Hug, Andrew R. Nelson, Stuart C. Salmon Next Generation Technology Group Inc., USA</i>	Study on adhesion removal model in CMP SiO <sub>2</sub> ILD <i>D.M.Guo, R.H.Liu, R.K.Kang and Z.J.Jin Dalian University of Technology, China</i>
14:00   14:20	Cutting Temperature Measurement in Turning with Actively Driven Rotary Tool <i>Suryadiwansa Harun, Toshiroh Shibasaka, Toshimichi Moriwaki Kobe University, Japan</i>	Evaluation of Bearing Grinding Fluids <i>Milton L. Hoff, Stuart C. Salmon Master Chemical Corporation, USA</i>	Study on the CMP Pad Life with Its Mechanical Properties <i>Pei-Lum Tso, Zhe-Hao Huang, Sheng-Wei Chou, Cheng-Yi Shih National Tsing Hua University, Taiwan</i>
14:20   14:40	Coolant effects on tool wear in machining single-crystal silicon with diamond tools <i>Tsutomu Ohta, Jiwang Yan, Sunao Kodera, Shuuma Yajima, Naoyuki Horikawa, Youichi Takahashi, Tsunemoto Kuriyagawa</i>	The Correlation and Spectrum Research on Cylindrical Surface Lapping Machined with Abrasive Jet Finishing Restricted by Grinding Wheel <i>F.Liu, Y.D.Gong, Y.Q.Shan, G.Q.Cai Northeastern University, China</i>	Polishing Characteristics on Silicon Wafer Using Fixed Nano-sized Abrasive Pad <i>Pei-Lum Tso and Cheng-Yi Shih National Tsing Hua University, Taiwan</i>
14:40   15:00	Machinability investigation of reaction-bonded silicon carbide by single-point diamond turning <i>Zhiyu Zhang, Jiwang Yan, Tsunemoto Kuriyagawa Tohoku University, Japan</i>	Application of a Floating Nozzle to Grinding Process Using an Edge of Grinding Wheel <i>Shinichi Ninomiya, Fan Qiang, Toshiharu Shimizu, Manabu Iwai, Tetsutaro Uematsu, Kiyoshi Suzuki Musashi Institute of Technology, Japan</i>	A study on statistical analysis of Si-wafer polishing process for the optimum polishing condition <i>Sung-Chul Hwang, Jong-Koo Won, Jung-Taik Lee, Eun-Sang Lee Inha University, Korea</i>

Coffee Break

	<b>Cutting (2)</b> <i>Chairperson: H. Huang University of Queensland, Australia</i>	<b>Fluids for machining (2)</b> <i>Chairperson: S. Salmon Next Generation Technology Group Inc., USA</i>	<b>CMP and semiconductor processing(3)</b> <i>Chairperson: A. Yui National Defense Academy, Japan</i>
15:20   15:40	High Speed Cutting of Titanium Alloy with PCD Tools <i>Michiko Ota, Junya Okida, Takashi Harada, Naohiro Toda, Hitoshi Sumiya Sumitomo Electric Industries, Ltd., Japan</i>	A Study on Airflow Field of Super-high Speed Pectination Grinding Wheel Based on PIV <i>Yadong Gong, Yancheng Zhang, Hu Li, Wanshan Wang Northeastern University, China</i>	Effect of Conditioning Parameters on Surface Non-uniformity of Polishing Pad in Chemical Mechanical Planarization <i>N. Qin, D.M. Guo, R.K. Kang and Z.J. Jin Dalian University of Technology, China</i>
15:40   16:00	Development of DLC Coated Tool for Cutting of Aluminum Alloy--Influence of deposition condition on cutting <i>Kazushi Minaki, Koichi Kitajima, Yu Nakahira, Masashi Ohnishi, Takashi Sugimoto, Shun Kaminomura Osaka Institute of Technology, Japan</i>	Actively Cooled and Activated Coolant for Grinding Brittle Materials <i>Y. Gao, J. Xin and H. Lai Hong Kong University of Science and Technology, China</i>	Achieving a damage-free polishing of monocrystalline silicon <i>A.Q. Biddut, L.C. Zhang, Y.M. Ali, Z. Liu University of Sydney, Australia</i>
16:00   16:20	Observations on Orthogonal Cutting Processes--Effect of Friction between Tool and Work Material <i>Junya Okida, Hideki Moriguchi, Takao Nishioka, Hiromi Yoshimura Sumitomo Electric Industries, Japan</i>	Spatial Distribution of Cooling Mist for Precision Grinding <i>Y. Gao, J. Xin and H. Lai Hong Kong University of Science and Technology, China</i>	Effect of polishing time and pressure on polishing pad performance <i>A.Q. Biddut, L.C. Zhang, Y.M. Ali University of Sydney, Australia</i>
16:20   16:40	Development of A New Cutting Fluid Supply System for Near Dry Machining Process <i>Motoki Yamashita, Yasuhiro Kakinuma, Tojiro Aoyama, Mituho Aoki Keio University, Japan</i>		Polishing Characteristics of CMP for Oxygen Free Copper with Manganese Oxide Abrasives <i>Ryunosuke Sato, Yoshio Ichida, Yoshitaka Morimoto, Kenji Shimizu Utsunomiya University, Japan</i>

18:00   20:00	Banquet
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**3 October, 2008**

8:30   17:30	Technical Tour and Optional Tour
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