

ISAAT2009: Conference Program

Date	Time	Venue (Crowne Plaza)			Activity
27 September 2009	1600-2000	Poolside			Registration and Reception
28 September 2009	0900-1730	A: Norfolk Room	B: Kauri Room	C: Cypress Room	Technical Presentations
	1250-1400	Revolving Restaurant			Lunch
29 September 2009	0900-1650	A: Norfolk Room	B: Kauri Room	C: Cypress Room	Technical Presentations
	1250-1400	Terrace Cafe			Lunch
	1700-1800	Pre-function Area (outside Norfolk Room) Please put your poster on the board before 16:30			Poster Session
	1900-2200	Norfolk Room			Conference Dinner (ISAAT2010 CFP)
30 September 2009	0900-1700	Gathering at Lobby for bus at 9:00 Please be punctual as bus departs at 9 sharp			Conference Tour

Monday 28 September 2009

0900-0910	Welcome and Opening Remarks: Liangchi Zhang		
0910-0925	Opening Speeches: Tsunemoto Kuriyagawa, Shigeki Okuyama		
0925-0930	Conference Logistics: Han Huang		
	SESSION A1: Grinding – I	SESSION B1: Finishing - I	SESSION C1: Semiconductor Processing - I
Chairperson	Michael Morgan/ Feihu Zhang	Jun'ichi Tamaki/ kazuhito Ohashi	Xingsheng Li/ Dennis De Pellegrin
0940-1000	Effects of Vibration-Assisted Grinding on Wear Behavior of Vitrified Bond AL₂O₃ Wheel T. Tawakoli, E. Westkämper and B. Azarhoushang	A Briefing on the Manufacture of Hip Joint Prostheses L.C. Zhang, E.C.S. Kiat and A. Pramanik	Processing Grinding-Damaged Silicon Wafers by Nano-Second Laser Irradiation J.W. Yan, S. Muto and T. Kuriyagawa
1000-1020	Temperature Fields in Workpieces during Grinding-Hardening with Dry Air and Liquid Nitrogen as the Cooling Media T. Nguyen and L.C. Zhang	Development and Application of a Micro-Honing-Tool S.T. Chen and M.C. Yeh	Analysis of Fixed Abrasive Pads with a Nano-Sized Diamond for Silicon Wafer Polishing C.Y. Shih, P.L. Tso and J.C. Sung
1020-1040	Diamond Tools for the Grinding of Complex Ceramic Implant Surfaces B. Denkena and M. van der Meer	Anisotropic Analysis on Processed Surface of KDP Single Crystals C.P. Lu, H. Gao, B. Wang, Q.G. Wang, X.J. Teng and B.L. Wang	Blasting of Affected Layer of Silicon Surface Sliced by Wire EDM H. Hidai, T. Sugita and H. Tokura
1040-1100	Optimization of Coated SiC Belt Grinding of Alumina Ceramics X. Kennedy and S. Gowri	Experimental Study on Polishing Characteristics of Ultrasonic-Magnetorheological Compound Finishing F.H. Zhang, X.B. Yu, Y. Zhang, Y.Y. Lin and D.R. Luan	Measuring Surface Uniformity in Chemical Mechanical Polishing J.W. Baik and C.W. Kang
1100-1130	MORNING TEA		
1130-1150	Investigation of the Grinding Wheel Air Boundary Layer Flow H. Wu, M.N. Morgan and B. Lin	Effects of Horizontal Vibration Assistance on Surface Roughness in Magnetic Abrasive Finishing S.H. Yin, Y. Wang, H. Huang, Y.J. Zhu, Y.F. Fan and Y. Chen	A Novel Single Step Thinning Process for Extremely Thin Si Wafers Y.B. Tian, L. Zhou, J. Shimizu, H. Sato and R.K. Kang
1150-1210	Prediction of Surface Roughness by 3D-CAD Model in Helical Scan Grinding and Groove Grinding M. Iwai, Y. Shiraishi, S. Ninomiya, T. Uematsu and K. Suzuki	A Study on a Polishing Process of Cr₁₂ Hardening Steel with the Embedded Combined Tools G.Y. Liu, Z.N. Guo and J.W. Liu	Effects of Sodium Carbonate and Ceria Concentration on Chemo-Mechanical Grinding of Single Crystal Si Wafer H. Takahashi, Y.B. Tian, J. Sasaki, J. Shimizu, L. Zhou, Y. Tashiro, H. Iwase, S. Kamiya
1210-1230	Preparation of Brazed CBN Abrasive Tools using Composite Fillers of AgCuTi Alloy and TiB₂ Particles W.F. Ding, J.H. Xu, Z.Z. Chen, H.H. Su and Y.C. Fu	An Analytical Solution for Parameter Selection for Polishing Spherical Surfaces H.F. Li, R.H. Bao and L.C. Zhang	Nanoscratching-Induced Phase Transformation of Monocrystalline Silicon - the Depth-of-Cut Effect K. Mylvaganam and L.C. Zhang
1230-1250	Remote Fault Diagnosis System of Ultrahigh Speed Grinding Based on Multi-Agent W.S. Wang and T.B. Yu	Deep Hole Honing Based on Squeeze Film Damping Technology T.B. Yu, Y.D. Gong and W.S. Wang	Fabrication of Aspheric Micro Lens Array by Slow Tool Servo C.C. Chen, C.L. Chao, W.Y. Hsu, F.C. Chen and C.W. Chao
1250-1400	LUNCH		
	SESSION A2: Grinding - II	SESSION B2: Finishing - II	SESSION C2: Semiconductor Processing - II
Chairperson	Taghi Tawakoli	Yongsheng Gao	Jiawang Yan
1400-1420	Development Wear of a Brazed Diamond Grinding Wheel with Diamond Grits Covered with Brazing Alloy G.Q. Huang, H.J. Chen, H. Huang and X.P. Xu	Study on Lapping and Constant-Pressure Grinding of Single-Crystal SiC K. Yamaguchi, M. Touge, T. Nakano and J. Watanabe	Laser Micromachining of Silicon Substrates V. Tangwarodomnukun and J. Wang
1420-1440	Research on Microscopic Grain-Workpiece Interaction in Grinding through Micro-Cutting Simulation, Part 1: Mechanism Study X.K. Li, L. Yan, W.B. Rashid and Y.M. Rong	Study of Three-Dimensional Polishing Using Magnetic Compound Fluid (MCF) T. Sato, Y. Wu, W. Lin and K. Shimada	Chip Size Estimation for Effective Blending Ratio of Slurries in Wire Sawing of Silicon Wafers for Solar Cells C.C.A. Chen, B.L. Kuo and J.S. Liang
1440-1500	Research on Microscopic Grain-Workpiece Interaction in Grinding through Micro-Cutting Simulation, Part 2: Factorial Study L.Yan, X.K. Li, F. Jiang, Z.X. Zhou and Y.M. Rong	Study on Magnetic Field Distribution in the Container of Magnetic Barrel Finishing Machine Y. Zhang, M. Yoshioka and S. Hira	The Study on the Abrasion Characteristic of Wafer Surface According to Machining Condition E. S. Lee, J. K. Won, J. T. Lee and H. Z. Choi
1500-1520	Influence of Particle Effects on the Material Removal Rate Utilizing Electrokinetic Phenomenon C.S. Leo, T.L. Blackburn, D.L. Butler, S.H. Ng, C. Yang and S. Danyluk	Simulation of Planarization of Rectangular Glass Plate Using Tool-Path-Control-Type Polishing K. Yoshitomi, A. Une and M. Mochida	Determination of Elastic Modulus of Thin Films Using Nanoindentation and Finite Element Analysis S. Liu, Y.T. Gu and H. Huang
1520-1550	AFTERNOON TEA		
	SESSION A3: EDM/ECM	SESSION B3: Polishing/Deburring	SESSION C3: CMP/CMG
Chairperson	Yunn-Shiuan Liao	Pei-Lum Tso	Ling Yin
1550-1610	Electrode Design for Oscillating EDM Y. Nakamura, T. Sriani and H. Aoyama	Polishing of Nickel Cylinder using a Photocatalyst and Fluorescent Substance Excited by an Ultraviolet Ray T. Tanaka	Investigation of the Wear of the Pad Conditioner in Chemical Mechanical Polishing Process Y.S. Liao and C.T. Yang
1610-1630	Research of Pulse Inversion Power Supply of ECM and Its Techniques Y.J. Zhang, Y.J. Tang, Z.N. Guo, X.K. Liu and F. Li	Dynamic Friction Polishing Method Utilizing Resistance Heating for Efficient Removal of Electrically Conductive Diamond K. Suzuki, M. Iwai, S. Ninomiya and T. Uematsu	Molecular Dynamics Simulation of Chemo-Mechanical Grinding (CMG) by Controlling Interatomic Potential Parameters to Imitate Chemical Reaction J. Shimizu, L.B. Zhou and T. Yamamoto
1630-1650	Surface Integrity in Electrical Discharge Machining of Ti-6Al-4V J.W. Yu, P. Xiao, Y.S. Liao and M. Cheng	Electric Field-Assisted Glass Polishing Using Electro-Rheological Gel Pad Y. Kakinuma, S. Takezawa, T. Aoyama, K. Tanaka and H. Anzai	A Study of the Thermo-Chemical Polishing for CVD Diamond Thin Films P.L. Tso and T.M. Wang
1650-1710	Effects of Combined Ultrasonic Vibration during the Sinking EDM Process for Cemented Carbide C. Praneetpong, Y. Fukuzawa and S. Nagasawa	Study on On-Machine Deburring for Narrow Slits Made by Laser Cutting M. Nunobiki, K. Okuda and Y. Kitsugi	The Computer-Controlled Chemical Polishing Techniques for Precision Optics Q. Xu, J. Wang and J. Hou
1710-1730	Development of New PCD Made Up of Boron Doped Diamond Particles and Its Machinability by EDM K. Suzuki, Y. Shiraishi, N. Nakajima, M. Iwai, S. Ninomiya, Y. Tanaka and T. Uematsu	Study on Path Control Scheme by Laplacian Potential Field and Configuration Space for Vision Guided Micro Manipulation System H. Ojima, Y. Yanai, L. Zhou and J. Shimizu	Estimation of Dressing Effects in Chemical Mechanical Polishing with Sorts of Diamond Dressers K.R. Chen and H.T. Young

Tuesday 29 September 2009

	SESSION A4: Micro/Nano-Machining - I	SESSION B4: Grinding Wheel - I	SESSION C4: Abrasive Jet Processing
Chairperson	David Butler	Akinori Yui	Chuanzhen Huang
0900-0920	A Study of Carbon Nanotubes as Cutting Grains for Nano Machining J. You and Y. Gao	Optimization of Cutting Edge Truncation Depth for Ultrasonically Assisted Grinding to Finish Mirror Surface K. Hara, H. Isobe and A. Kyusojin	Abrasive Technology in Ceramic Restorative Dentistry L. Yin
0920-0940	An Approach for Improvement of Machining Accuracy in Micro End Milling H. Shibahara, M. Kumagai, S. Kohda and K. Okuda	Improvement of Grindactivity by Dressless Wheel Treatment in Dry Grinding of Carbon K. Ohashi, Y. Sumimoto, Y. Fujita and S. Tsukamoto	A Study on Nozzle Wear Modeling in Abrasive Waterjet Cutting V.N. Pi and N.Q. Tuan
0940-1000	The Experimental Research on Small Hole Machining in Glass Using Diamond Abrasive Core-Tools Y.M. Quan, L. Liang and W.W. Zhong	ELID Assisted Grinding of Optical Glass with Fine and Coarse Grained Copper-Resin Bonded Diamond Wheels Q.L. Zhao, J.Y. Chen and J. Yao	Necessary Cutting Energy in Abrasive Waterjet Machining V.N. Pi and N.Q. Tuan
1000-1020	Study on Unique Cutting Phenomena in Micro Endmilling- Mechanism and Possibility to Occur M. Nomura, T. Kawashima, T. Shibata, Y. Murakami, M. Masuda and O. Horiuchi	Estimation Method of Grain-Height Distribution Based on Working Surface Profile of Grinding Wheel H. Sakamoto, S. Shimizu, S. Kashiwabara and H. Tsubakiyama	Modeling Material Removal in Fracture Erosion for Brittle Materials by Abrasive Waterjet H.T. Zhu, C.Z. Huang, J. Wang, G.Q. Zhao and Q.L. Li
1020-1040	Effects of Machining Parameters on Surface Roughness in Microturning of OFHC Copper P. Ranjith Kumar and S. Gowri	Quantification Method of Cutting-Edge Density Considering Grain Distribution and Grinding Mechanism H. Sakamoto, H. Tsubakiyama, S. Shimizu and S. Kashiwabara	The Microchannel of Microfluidic Chip Fabrication by Micro Powder Blasting C.F. Huang, Y. K. Shen, Y. Lin and C.W. Wu
1040-1110	MORNING TEA		
	SESSION A5: Micro/Nano-Machining - II	SESSION B5: Grinding Wheel - II	SESSION C5: Cutting
Chairperson	Shaohui Yin	S. Gowri	Ming Chen
1110-1130	Study on Parametric Influence, Optimization and Modeling in Micro WEDM of Ti Alloy R. Vijayaraj, S. Gowri and A.S.S. Balan	Effect of the Coolant Lubricant Type and Dress Parameters on CBN Grinding Wheels Performance T. Tawakoli, A. Rasifard and A. Vesali	Cutting Edge Preparation for Cemented Carbide Milling Tools B. Denkena, L. de Leon and J. Köhler
1130-1150	Fundamentals of BK7 Glass Removal in Micro/Nano-Machining M. Chen, Q.L. An, W.M. Lin and H. Ohmori	Vibrations Representation in Grinding Wheels' Virtual Truing and Dressing Model Z.M. Bzymek, G.M. Duzy and R.B. Mindek Jr	Rapid Estimation of Rock Cuttability using Fracture Toughness and Rock Strength B. Tiryaki, I. D. Gipps and X.S. Li
1150-1210	Evaluation of GMR Head Durability against Nanoscale Scratch with High- Field Transfer Curves H. Tanaka, H. Chiba and Y. Maeda	The Effect of Special Structured Electroplated CBN Wheel in dry grinding of 100Cr6 M. Rabiey, T. Tawakoli and K. Wegener	Effect of Helical Drill Points on Delamination in Drilling Carbon Fiber Reinforced Plastics (CFRP) P. Zou, X.L. Yang and X.Y. Li
1210-1230	Fabrication of Multiple Micro-Grooves by Ultrasonic Machining with a Tool That Laminated Thin Hard-Material and Thin Soft-Material J. Shinozuka	Estimation of Grinding Wheel Performance by Dressing Force Measurement Y. Mochida, A. Kubo, J. Tamaki and T. Nishioka	Dynamics and Stability of Milling Process Considering the Gyroscopic Effects S.S. Sun, W.X. Tang, H.F. Huang and X.Q. Xu
1230-1250	Fabrication of Carbon Nanotube Probes in Atomic Force Microscopy Z.W. Xu, F.Z. Fang and X.T. Hu	Contact Stiffness of Grinding Wheels due to the Difference of Table Feed Rate T. Yamada, H.S. Lee and K. Miura	Towards Improving Rock Cutting Tools Using Thermally Stable Diamond Composites H. Alehossein, X.S. Li and J.N. Boland
1250-1400	LUNCH		
	SESSION A6: Forming	SESSION B6: Modeling/Simulation	SESSION C6: Abrasives
Chairperson	Qingliang Zhao	Jun Shimizu	Haruhisa Sakamoto
1400-1420	Surface Profile Simulation during Plane Strain Compression by CPFEM H.J. Li, Z.Y. Jiang, D.B. Wei, Y.B. Du, J.T. Han and A.K. Tieu	Modeling and Optimization of Process Parameters in Micro WEDM by Genetic Algorithm K.P. Somashekhar, N. Ramachandran and J. Mathew	Control of the Behavior of Abrasive Grains by the Effect of Electrorheological Fluid Assistance T. Tateishi, K. Shimada, N. Yoshihara, J.W. Yan and T. Kuriyagawa
1420-1440	Analysis of Surface Roughness of Low Carbon Steel during Cold Rolling of Thin Strip H.B. Xie, Z.Y. Jiang, Y.B. Du, D.B. Wei and A.K. Tieu	Finite Element Simulation of Mix Driven by Electroosmotic Flow in Microchannels Y. Liu and Z.N. Ge	Developments of Industrial Diamond Industry in China L.Z. Li, P. Jia and L. Li
1440-1500	Study on Replication of Micro Channel Structures onto Polytetrafluoroethylene (PTFE) Substrate Employing Two-Stage Hot Embossing S.I. Hira, Z. Wang, M. Yoshioka, Y. Zhang and Y. Nobukawa	Study on Mechanical Properties and Size effect of Si₃N₄ using Discrete Element Method Y.Q. Tan, S.Q. Jiang, C. Li, D.M. Yang, G.F. Zhang and Y. Sheng	Development and Application of CSD Diamond Abrasives Q.S. Wang, C. Liang and Q.G. Zhao
1500-1520	Analysis of Surface Temperature and Thermal Stress Field of Slab Continuous Casting X.Z. Zhang, Z.Y. Jiang, A.K. Tieu, H.T. Zhu and Z.W. Tian	Glass modification by Continuous Wave Laser Backside Irradiation (CW-LBI) S. Itoh, H. Hidai, and H. Tokura	Abrasive Surfaces Measured by Digital Optical Stereopsis D.D. Pellegrin and A. Torrance
1520-1550	AFTERNOON TEA		
	SESSION A7: Grinding - III	SESSION B7: Measurement/Monitoring	SESSION C7: Coolant Technology
Chairperson	Jianwu Yu	Takashi Sato	Julong Yuan
1550-1610	Study on Precision Machine Table Equipped with Constant-Flow Hydrostatic Bearings A. Yui, S. Okuyama, T. Kitajima, E. Fujita, A. H. Slocum and G. Rothenhofer	The Effect of Cooling Lubrication Methods on Surface Roughness Measured by the White Light Interferometer F. Jiang, J.F. Li, J. Sun and S. Zhang	A Preliminary Study of Variable Strength Activation of Coolant for Precision Machining Y. Gao, S. Zhou and Y. Zhang
1610-1630	Research on the Heat Partition Ratios in Grinding Area S.X. Yuan, M. Hu and G.Q. Cai	Measurement of the Tangential Grinding Force Using the Slip of an Induction Motor - Construction of the Measurement System K. Kondo and S.I. Tooe	Test of Focusing and Superposition for Variable Strength Activation of Coolant in Precision Machining Y. Zhang, S. Zhou and Y. Gao
1630-1650	Development of CBN Internal Grinding Machine for Precision Grinding of the Air-conditioner Compressor Piston Hole Y.G. Zheng, W.G. Liu, B. Jiang, H. Gao and S.G. Zheng	Low Cost Wear Monitoring of Bearing Shell in Connecting Rod via I-kaz Method M.J. Ghazali, M.Z. Nuawi and N.I.I. Mansor	Purification Effect of Micro Bubble Coolant S. Ninomiya, M. Iwai, T. Shimizu, T. Uematsu and K. Suzuki
1700-1800	POSTER SESSION		
1900-2200	CONFERENCE DINNER		

Poster Session Papers	
Chairpersons: Hongyu Zheng/ Xiaomin Sheng	
1	Mechanics of Scratch Marks in Cold Rolling of Thin Strip Z.H. Bai, X.Z. Du, Z.Y. Jiang, A.K. Tieu and J. Xu
2	Deformation and Acoustic Emission during Nanoindentation on Single Crystal MgO (001) Plane Z.G. Dong, H. Huang and R.K. Kang
3	Experiment Research on the Temperature Field and Thermal Error Distribution of NC Grinding Machine Y.D. Gong, Y.G. Bai, Y.M. Liu and J. Qiu
4	Theoretical and Experimental Research on the Material Removal Rate in Ultrasonic Aided Lapping of ZTA Ceramic F. Jiao and B. Zhao
5	Study on Micro Blasting of Glass for Micro Channel Forming S. Koshimizu
6	Research on Electrical Discharge Truing for Precision Profile Grinding with Cast Iron-Bonded Diamond Wheel W. Li, B.G. Geng, Z.Y. Song and H.H. Zheng
7	A study of the Grinding Alumina for the Multi-Point Diamond Tools S.Y. Luo, C.W. Shih and M.H. Chen
8	Finishing Characteristics in Barrel Finishing of Centrifugal Disc Type on Flow-Through System K. Kitajima and A. Yamamoto
9	High Temperature Interfacial Reaction between Glass Gobs and Sol-Gel Coated Al₂O₃ Films H.H. Chien, K.J. Ma, S.V.P. Vattikuti, C.H. Kuo, Z.B. Huo and C.L. Chao
10	Experimental Research of Grinding Force and Specific Grinding Energy of TC4 Titanium Alloy in High Speed Deep Grinding X.M. Sheng, K. Tang, J.W. Yu and H.Q. Mi
11	Effect of Microstructure on Mechanical Properties and Wear Characteristics of Cemented Tungsten Carbides H.Q. Sun, R. Irwan, H. Huan and G.W. Stachowiak
12	Dressing Behaviors of PCD Conditioners on CMP Polishing Pads M.Y. Tsai and J.C. Sung
13	The Effects of Shear Stress on the Lubrication Performances of Oil Film of Large-Scale Mill Bearing J.M. Wang, Q.X. Huang, Z.Y. Jiang and K.A. Tieu
14	The Detailed Performance of MCF Polishing Liquid in Nano-Precision Surface Treatment of Acrylic Resin Y. Wu, T. Sato, W. Lin, K. Yamamoto and K. Shimada
15	Micro-Raman Stress Investigation of Polycrystalline Diamond Compact (PDC) G.P. Xu, G. Xu, Z.M. Yin and R.C. Jiang
16	Influence of Abrasive on Planarization Polishing with the Tiny-Grinding Wheel Cluster Based on the Magnetorheological Effect Q.S. Yan, Y. Yang, J.B. Lu and W.Q. Gao
17	Surface Characteristics and Roughness Prediction of TC4 Titanium Alloy in High Speed Grinding S.H. Yin, K. Tang, X.M. Sheng, Y.J. Zhu and Y.F. Fan
18	Processing of WC-Co Cemented Carbide Ball by EDR and RDP Lapping Modes J.L. Yuan, F. Yang, Z.W. Wang, K.F. Tang and J.J. Chen
19	Modeling and Analysis of Effects of Machine Tool Stiffness and Cutting Path Density on Infeed Surface Grinding of Silicon Wafer L. Zhou, T. Mitsuta, J. Shimizu and T. Tajima
20	Study on a Magnetic Deburring Method by the Application of the Plan Magnetic Abrasive Machining Process Y. Zou, T. Shinmura and F. Wang

Poster: (1) The conference will provide you a poster board area of 90cm x 70cm. Pins will be provided.
(2) Posters must be placed on the provided board before 16:30 on 29th September 2009 (Boards will be available after 1500 on the day).