

ISAAT2006

The 9th International Symposium on Advances
in Abrasive Technology

第九届国际磨粒加工技术学术研讨会

Dalian, China
26 – 29 September 2006

Program Schedule



Organised by: Dalian University of Technology, China
The International Committee for Abrasive Technology
The Japan Society for Abrasive Technology

Sponsored by: The Japan Society for Abrasive Technology
Natural Science Foundation of China
Chinese Mechanical Engineering Society
Dalian University of Technology, China

Hosted by: Dalian University of Technology, China

International Conference Centre (Science Park Hotel)
Dalian University of Technology, Dalian, China

Symposium Organisation

Symposium Co-Chairmen

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T. Kuriyagawa, Tohoku University, Japan
H.Z. Choi, Korea Institute of Industrial Technology, Korea

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Co-Chairmen:

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Y. Gao, Hong Kong University of Science & Technology, China

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ISAAT2006 Program Schedule

Program at a Glance

26 September 2006

13:00-17:00	Registration, DUT Science Park Hotel
15:00-17:00	ICAT Annual Assembly (TCAT members and invited personnel), DUT Science Park Hotel (No 1 Meeting Room in Level 3)
18:30-20:30	Welcome function (dinner), DUT Science Park Hotel

27 September 2006

8:00-9:00	Registration, DUT Science Park Hotel
9:00-9:30	Opening Ceremony, DUT Science Park Hotel (Conference Hall in Level 1)

Note: All presentations include 15 minutes for speech and 5 minutes for questions and answers.

Technical Sessions

9:40-10:40	A1: Finishing, Lapping, Honing and Polishing	B1: Dressing and Truing	C1: Micro-machining and Fabrication
10:40-11:00	Morning Tea Break		
11:00-13:00	A2: Finishing, Lapping, Honing and Polishing	B2: Dressing and Truing	C2: Micro-machining and Fabrication
13:00-14:00	Lunch Break		
14:00-16:00	A3: Finishing, Lapping, Honing and Polishing	B3: Grinding Wheels	C3: Micro-machining and Fabrication
16:00-16:20	Afternoon Tea Break		
16:20-18:00	A4: Finishing, Lapping, Honing and Polishing	B4: Grinding Wheels, etc.	C4: Processing of Brittle Materials
18:30-19:30	Dinner		
20:00-21:30	Technical Tour to DUT Labs		

28 September 2006 (Technical Sessions)

9:00-10:40	A5: Advances in Machining	B5: Grinding	C5: Processing of Brittle Materials
10:40-11:00	Morning Tea Break		
11:00-13:00	A6: Advances in Machining	B6: Grinding	C6: Processing of Brittle Materials
13:00-14:00	Lunch Break		
14:00-16:00	A7: Advances in Machining	B7: Grinding	C7: Novel Abrasive Technologies
16:00-16:20	Afternoon Tea Break		
16:20-18:00	A8: Advances in Machining	B8: Grinding	C8: Precision Measurement and Evaluation
18:30-21:00	Conference Banquet Speech by Prof. Dongming Guo, Vice-President of Dalian University of Technology, on "Current Status and Future Trend of Precision Engineering in China"		

29 September 2006 (Sightseeing/Technical Tours)

9:00-17:00	Tour Route 1	Tour Route 2
18:30-20:30	Farewell Dinner, DUT Science Park Hotel Announcement of ISAAT2007 by Prof. T. Kuriyagawa, Tohoku University, Japan	

Ladies (Accompanying persons) Program:

27 Sept	Sightseeing tour
28 Sept	Sightseeing tour

Venues for Parallel Technical Sessions:

"A" Sessions: Conference Hall (Level 1) in the morning of 27 Sept., then in No 1 Meeting Room, Level 3 (3F).

"B" Sessions: No 2 Meeting Room, Level 3 (3F)

"C" Sessions: Room 203, Level 2 (2F)

ISAAT2006 Detailed Program Schedule

Venue: Science Park Hotel, Dalian University of Technology

26 September 2006

13:00-17:00	Registration, DUT Science Park Hotel
15:00-17:00	ICAT Annual Assembly (TCAT members and invited personnel only) No 1 Meeting Room (Level 3), DUT Science Park Hotel
18:30-20:30	Welcome function (dinner), DUT Science Park Hotel Welcome address by Prof. Zhenyuan Jia, Dean, School of Mechanical Engineering, Dalian University of Technology, China

27 September 2006

8:00-9:00	Registration, DUT Science Park Hotel
9:00-9:30	<p>Opening Ceremony</p> <p>Venue: Conference Hall (Level 1), DUT Science Park Hotel</p> <p>Chairpersons: Prof. Dongming Guo, Dalian University of Technology, China Prof. Tsunemoto Kuriyagawa, Tohoku University, Japan</p> <ul style="list-style-type: none"> Remarks by DUT Representative, VIPs, JSAT President (or a representative) Remarks and opening the Symposium by ICAT Chairman (Prof. J. Tamaki) Organising Committee to announce Symposium arrangement

All presentations include **15 minutes** for speech and **5 minutes** for questions and answers.

Parallel Technical Sessions

9:40-10:40 (20 Min each)	A1: Finishing, Lapping, Honing and Polishing	B1: Dressing and Truing	C1: Micro-machining and Fabrication
	<p>Chairperson: Prof. Libo Zhou Ibaraki University</p> <p>Venue: Conference Hall (Level 1)</p> <p>Investigation of Thermo-Chemical Polishing of CVD Diamond Film W.C. Chou, C.L. Chao, H. Chien, K.J. Ma and H.Y. Lin (page 195)</p> <p>A Study of Basic Characteristics of Polishing Using Particle-Type Electro-Rheological Fluid T. Tanaka (page 201)</p> <p>Vibration-Assisted Magnetic Abrasive Polishing S. Yin and T. Shinmura (page 207)</p>	<p>Chairperson: Prof. Yongbo Wu Akita Prefectural University</p> <p>Venue: No 2 Meeting Room (3F)</p> <p>Effects of ELID on High Speed Grinding of Partially Stabilized Zirconia Z.T. Shang, H. Huang, S.Q. Wang, X.M. Sheng and H.Q. Mi (page 131)</p> <p>Modeling of Laser Dressing for Metal-Bond Diamond Grinding Wheel X.Y. Wang, R.K. Kang, W.J. Xu, L.J. Wang and D.M. Guo (page 145)</p> <p>Single Diamond Dressing Characteristics of CMP Polyurethane Pad Y.S. Liao, M.Y. Tsai, J.C. Sung and Y.L. Pai (page 151)</p>	<p>Chairperson: Dr Kazuhito Ohashi Okayama University</p> <p>Venue: Room 203 (2F)</p> <p>Trouble Diagnosis in Machining the Micro Grooves for the Mold of PDP Barrier Rib N.H. Kim, N.K. Kim and E.S. Lee (page 565)</p> <p>Machinability in Precision Cutting of Carbon Tool Steel for Small-Size Parts K. Okuda and Y. Takeno (page 571)</p> <p>Micro-Cutting of Polytetrafluoroethylene (PTFE) for Application of Micro-Fluidic Devices S. Hira and M. Yoshioka (page 577)</p>
10:40-11:00	Morning Tea Break		

27 September 2006 (Cont.)

<p>11:00-13:00 (20 Min each)</p>	<p>A2: Finishing, Lapping, Honing and Polishing</p> <p>Chairperson: Prof. Feihu Zhang Harbin Institute of Technology</p> <p>Venue: Conference Hall (Level 1)</p> <p>Development of a Resin-Coated Micro Polishing Tool by Plasma CVD Method –Electro-rheological Fluid-Assisted Polishing of Tungsten Carbide Micro Aspherical Molding Dies T. Kaku, N. Yoshihara, J.W. Yan, T. Kuriyagawa, K. Abiko, Y. Mikami and M. Noguchi (page 213)</p> <p>Experimental Research on Ultra-Smooth Surface Polishing Based on Two-Dimensional Vibration of Liquid Z.N. Guo, X.Z. Huang, Z.G. Huang, Z.Q. Yu, T.M. Yue and W.B. Lee (page 219)</p> <p>An Experimental Study of the Polishing Process for MgO Single Crystal Substrate K. Wang, R.K. Kang, Z.J. Jin and N.H. Wang (page 225)</p> <p>Design of Completely Inserted and Feeding Electrode for Female Screw in Electrochemical Finishing P.S. Pa (page 231)</p> <p>Development of Face Magnetic Inductor with Permanent Magnets for Deburring Using MAF Process S.L. Ko, Y.M. Baron and J.I. Park (page 237)</p> <p>Development of Effective Magnetic Deburring Method for a Drilled Hole on the Inside of Tubing Using a Magnetic Machining Jig Y. Zou and T. Shinmura (page 243)</p>	<p>B2: Dressing and Truing</p> <p>Chairperson: Prof. Shigeki Okuyama National Defense Academy, Japan</p> <p>Venue: No 2 Meeting Room (3F)</p> <p>Amorphous Diamond Dresser for CMP Fixed Abrasives Pad P.L. Tso and Y.L. Pai (page 157)</p> <p>Laser Truing and Dressing of Small Vitrified CBN Grinding Wheel Y. Wu, X.Y. Wang, T. Tachibana and M. Kato (page 163)</p> <p>Development of Laser Dresser for Resin Bonded Diamond Wheel H. Matsuura, K. Hane, Y. Kunieda, N. Yoshihara, J.W. Yan and T. Kuriyagawa (page 169)</p> <p>Development of a New Laser Conditioning Method for Ultra-Fine Grit Diamond Wheels Y. Kunieda, H. Matsuura, S. Kodama, N. Yoshihara, J.W. Yan and T. Kuriyagawa (page 175)</p> <p>A Study on the Mechanism of the Electrolytic In-Process Dressing (ELID) Grinding Using Molecular Dynamics (MD) & Finite Element (FE) C.Z. Ren, X.J. Guo, L.W. Yuan (page 123)</p> <p>Development of Solid-Type Diamond Rotary Dresser Utilizing CVD Diamond Disc – Application to Low-Speed Dresser - A. Kubo and J. Tamaki (page 187)</p>	<p>C2: Micro-machining and Fabrication</p> <p>Chairperson: Prof. Yadong Gong Northeastern University (China)</p> <p>Venue: Room 203 (2F)</p> <p>Development of Small Radius Ball End Mill for Deep Precision Machining - Feasibility of Highly Accurate Deep Precision Machining with Less Vibration - T. Akamatsu, K. Kitajima, Y. Matsumoto and T. Kiriyaama (page 583)</p> <p>Micromachining Characteristics of Sapphire with Fifth HG Nd:YAG Laser T. Noji, K. Nakamura, H. Horisawa and N. Yasunaga (page 589)</p> <p>Technique of Brass Spiral Structure Deposition Using Micro EDM in Gas Z.L. Wang, B.D. Jin, G.H. Cao, Z.W. Wei and W.S. Zhao (page 595)</p> <p>Discussion on the Radial Superresolution of the Two-Photon Microfabrication P. Wei, Y. Zhu, Q.F. Tan, G.H. Duan and G.H. Gao (page 601)</p> <p>Development of a Silicon Based Air-Breathing Micro Direct Methanol Fuel Cell L.D. Wang, J.S. Liang, C. Liu and G.Q. Sun (page 607)</p> <p>Direct Fabrication of Bulk Nanostructured Ceramic from Nano-Al₂O₃ Powders by Selective Laser Sintering L.D. Shen, Y.H. Huang, Z.J. Tian and G.R. Hua (page 613)</p>
<p>13:00-14:00</p>	<p>Lunch Break</p>		

27 September 2006 (Cont.)

<p>14:00-16:00 (20 Min each)</p>	<p>A3: Finishing, Lapping, Honing and Polishing</p>	<p>B3: Grinding Wheels</p>	<p>C3: Micro-machining and Fabrication</p>
	<p>Chairperson: Prof. Takeshi Tanaka Ritsumeikan University</p> <p>Venue: No 1 Meeting Room (3F)</p>	<p>Chairperson: Prof. Yongsheng Gao HK University of Sci & Tech</p> <p>Venue: No 2 Meeting Room (3F)</p>	<p>Chairperson: Prof. Chuanzhen Huang Shandong University</p> <p>Venue: Room 203 (2F)</p>
	<p>Study of Internal Magnetic Field Assisted Finishing for Copper Tubes with MRF (Magneto-Rheological Fluid)-Based Slurry T. Sato, H. Yamaguchi, T. Shinmura and T. Okazaki (page 249)</p>	<p>Development of 3R Diamond Wheel by Thermoplastic Resin Bond H. Matsuura, Y. Kunieda, N. Yoshihara, J.W. Yan and T. Kuriyagawa (page 459)</p>	<p>Forming Fine V-Grooves on a Tungsten Carbide Workpiece with a PCD Electrode by EDM S. Sano, K. Suzuki, W. Pan, M. Iwai, Y. Murakami and T. Uematsu (page 631)</p>
	<p>Development of Nano-Precision SynerGistic Finishing Process of ELID-Grinding and MRF for Silicon Mirror S. Yin, H. Ohmori, W. Lin and Y. Uehara (page 255)</p>	<p>Development of a Rubber-Bonded Grinding Wheel - Studies on Aspherical Grinding N. Yoshihara, J.W. Yan and T. Kuriyagawa (page 465)</p>	<p>Preparation and Properties of PZT Bimorph on Metal Substrate by Hydrothermal Method L.Q. Du, Y. Lv, W.J. Dong and X.G. Gao (page 619)</p>
	<p>Magnetic-Field-Assisted Finishing with Axial Vibration - Deburring on Internal Holes and Internal Finishing of Pipes with Rectangular Cross-Sections- H. Fujita, T. Shinmura and H. Yamaguchi (page 261)</p>	<p>Manufacturing Porous Diamond with Skeleton Structure from PCD by EDM and its Application to Grinding Tools K. Suzuki, D. Zhang, Y. Shiraishi, M. Iwai, T. Uematsu, S. Ninomiya and S. Sano (page 471)</p>	<p>Bending Deformation of Pure Titanium Plate in CO2 Laser Forming K. Okuda, Y. Sugie and M. Nunobiki (page 625)</p>
	<p>Investigation on 4-Body Finishing Technology with Polishing Paste W.J. Zhou and Y. Tani (page 267)</p>	<p>Grinding Characteristics of Boron Doped Diamond Grits Grinding Wheel M. Iwai, K. Nakagawa, T. Uematsu, K. Takeuchi and K. Suzuki (page 477)</p>	<p>Non-Traditional Forming Process of Sheet Metal Based on Laser Shock Waves J.Z. Zhou, H.X. Liu, C.J. Yang, X.G. Cao, J.J. Du and M.X. Ni (page 637)</p>
	<p>Characteristics of Free Form Finishing Applying V-CAM System W. Lin, H. Ohmori, T. Suzuki, Y. Uehara, Y. Watanabe and S. Morita (page 273)</p>	<p>The Effect of Workpiece Roundness of the Run-Out of CBN Electroplated Grinding Wheels T.R.A. Pearce, D.C. Fricker and A. Speight (page 483)</p>	<p>Analysis of the Replication Properties of Lightguiding Plate for Micro Injection Compression Molding Y.K. Shen, H.J. Chang and L.H. Hung (page 643)</p>
	<p>A Try for Improvement of Performance in Dry Barrel Finishing by Centrifugal Disc Type K. Kitajima, A. Yamamoto and M. Izawa (page 279)</p>	<p>Development of Electroplated CBN Wheel with Cemented Carbide Base for Precision Grinding of Compressor Cylinder Vane Slot H. Gao, W.G. Liu and Y.G. Zheng (page 495)</p>	<p>The Analysis of Focused Ion Beam Processing Characteristics for Micro Mold Fabrication H.Z. Choi, E.G. Kang, W.P. Hong, S.W. Lee and Y.J. Choi (page 649)</p>
<p>16:00-16:20</p>	<p>Afternoon Tea Break</p>		

27 September 2006 (Cont.)

<p>16:20-18:00 (20 Min each)</p>	<p>A4: Finishing, Lapping, Honing and Polishing</p>	<p>B4: Grinding Wheels, etc.</p>	<p>C4: Processing of Brittle Materials</p>
	<p>Chairperson: Prof. Guijie Liu Ocean University of China</p> <p>Venue: No 1 Meeting Room (3F)</p>	<p>Chairperson: Prof. Yongsheng Gao HK University of Sci & Tech</p> <p>Venue: No 2 Meeting Room (3F)</p>	<p>Chairperson: Prof. Dianlong Wang Dalian University of Technology</p> <p>Venue: Room 203 (2F)</p>
	<p>Research on Material Removal of Magnetorheological Finishing G.W. Kang and F.H. Zhang (page 285)</p>	<p>Shear Strength of Brazed Joint between Diamond Grains and Steel Matrix Using a Ni-Cr Filler Alloy J.H. Xu, W.F. Ding and F. Qian (page 501)</p>	<p>Experimental Investigations of Silicon Wafer Grinding J.H. Liu, Z.J. Pei and G.R. Fisher (page 361)</p>
	<p>High-Efficiency Mirror Grinding of AlN by Ultra-Precision Plane Honing S. Suzuki, N. Yoshihara, J.W. Yan and T. Kuriyagawa (page 291)</p>	<p>Theoretical Analysis and Simulation of Airflow of Super High-Speed Grinding Wheel Y.D. Gong, H. Li and G.Q. Cai (page 507)</p>	<p>Microstructural Analysis for Si Wafer after CMG Process S. Kamiya, H. Iwase, T. Nagaïke, L. Zhou, H. Eda and S. Kimura (page 367)</p>
	<p>Study on Anodic Smoothing Velocity in Electrochemical Abrasive Lapping G.B. Pang, W.J. Xu, X.Y. Wang, A.D.Y. Xie, H.Y. Li and H. Wang (page 297)</p>	<p>Abrasion Performances of Stainless Steel/Carbon Fiber Reinforced Polyetheretherketone (PEEK) Friction Material H. Fu, B. Liao, B.C. Sun, A.P. Liu, F.J. Qi and Z.L. Ding (page 511)</p>	<p>Study on Structure Transformation of Si Wafer in Grinding Process L. Zhou, M. Yamaguchi, J. Shimizu and H. Eda (page 373)</p>
	<p>Experimental Investigation on Honing of Small Holes Y.J. Bai, L.H. Zhang and C.G. Ren (page 303)</p>	<p>Study on Mechanism and Experiment of Engine Cylinder by Laser Honing Y.K. Zhang, D.J. Kong, Y.H. Fu, J.Z. Lu, A.X. Feng and X.D. Ren (page 315)</p>	<p>Experimental and Simulation Research on Influence of Temperature on Nano-Scratching Process of Silicon Wafer H. Okabe, T. Tsumura, J. Shimizu, L. Zhou and H. Eda (page 379)</p>
	<p>High Speed Lapping Ellipsoid by Means of a Lapping Tool Bending Method J.D. Yang, Q. Liu, C.L. Tian, J.W. Guo and Y.H. Feng (page 309)</p>	<p>Measurement of Elastic Modulus and Residual Stress of Diamond Thin Films D.H. Xiang, M. Chen, Y.P. Ma and F.H. Sun (page 545)</p>	<p>A Study on Deformation and Removal Mechanisms of Tungsten Carbide Using Nanoindentation H. Huang, R. Irwan and T. Kuriyagawa (page 385)</p>
<p>18:30-19:30</p>	<p>Dinner (DUT Science Park Hotel)</p>		
<p>20:00-21:30</p>	<p>Technical Tour to DUT Labs (Meet at the front of the Hotel at 19:45pm)</p>		

Note: All presentations include 15 minutes for speech and 5 minutes for questions and answers.			
9:00-10:40 (20 Min each)	A5: Advances in Machining Chairperson: Dr Thomas Pearce University of the West of England Venue: No 1 Meeting Room (3F)	B5: Grinding Chairperson: Dr Nobuhito Yoshihara Tohoku University Venue: No 2 Meeting Room (3F)	C5: Processing of Brittle Materials Chairperson: Prof. Koichi Okuda University of Hyogo Venue: Room 203 (2F)
	Ecological Deep Hole Drilling by Novel Coated and Designed Drill Y. Murakami and T. Yamamoto (page 657)	Implementation of Thermal Models in Grinding M.N. Morgan and W.B. Rowe (page 3)	Material Removal Mechanisms Involved in Rotary Ultrasonic Machining of Brittle Materials C.L. Chao, W.C. Chou, C.W. Chao and C.C. Chen (page 391)
	High Speed Milling of Ti6Al4V Alloy with Minimal Quantity Lubrication W. Zhao, N. He and L. Li (page 663)	A Study on Optimum Condition of Centerless Grinding Machine for Ferrule Using Taguchi Method and Response Surface Method E.S. Lee and J.H. Lee (page 9)	Numerical Simulation and Prediction of Surface Heterogeneity in Diamond Turning of Single-Crystalline Germanium J.W. Yan, Y.F. Fan, N. Yoshihara, T. Kuriyagawa and S. Yokoyama (page 397)
	Research on Heating Density Function and Temperature Field Mathematical Model for Milling Insert with 3D Complex Groove Z.J. Li, Y.N. Cheng, Y.B. Wang and Y.G. Zhao (page 669)	Grinding Acoustic Emission Classification in Terms of Mechanical Behaviours X. Chen and J. Griffin (page 15)	A Finite Element Analysis of Stress Fields in Vickers Indentation on Brittle Materials B. Zhang and M. Yoshioka (page 403)
	A Physical Machining Accuracy Predicting Model in Turning S.F. Zhang, Z.H. Sha and R.K. Kang (page 675)	Development of Intelligent Grinding Database R. Cai and M.N. Morgan (page 21)	Critical Cutting Condition for Brittle-Ductile Transition of KDP Crystals in Ultra-Precision Machining J.H. Wang, M.J. Chen, S. Dong, H.X. Wang, J.H. Zhang and W.J. Zong (page 409)
	Finite Difference Modeling of Cutting Temperature in Machining of A6061-T6 Aluminum Alloy at Ultra High Cutting Speeds T. Obikawa, A. Basti and J. Shinozuka (page 681)	An Experimental Investigation of Optimal Grinding Condition for Aspheric Surface Lens Using Full Factorial Design S.Y. Baek, J.H. Lee, E.S. Lee and H.D. Lee (page 27)	Nano-Structures Fabrication by Laser Combined with Near-Field Scanning Optical Microscopy D.J. Wu, J. Zhuang, X.Y. Wang, R.K. Kang and F.L. Zhao (page 415)
10:40-11:00	Morning Tea Break		

28 September 2006 (Cont.)

<p>11:00-13:00 (20 Min each)</p>	<p>A6: Advances in Machining</p> <p>Chairperson: Prof. Tetsutaro Uematsu Toyama Prefectural University</p> <p>Venue: No 1 Meeting Room (3F)</p> <p>A Comparative Study of Stone Sawing with Thin and Normal Blades Q.L. Han, Y. Li and X.P. Xu (page 687)</p> <p>Preparation of Turbulated Cooling Hole for Gas Turbine Blade Using Electrochemical Machining M.H. Wang, D. Zhu, N.S. Qu and C.Y. Zhang (page 699)</p> <p>Effect of Tool Flank Wear on the Orthogonal Cutting Process X.L. Zhao, Y. Tang, W.J. Deng and F.Y. Zhang (page 705)</p> <p>Optimized Machining Condition Selection for High-Quality Surface in High-Speed Finish Milling of Moulds S.W. Lee, S.H. Nam, H.Z. Choi, E.G. Kang and K.Y. Ryu (page 711)</p> <p>Simulation of Burr Formation in Feed Direction in Turning A.A. Toropov and S.L. Ko (page 719)</p> <p>Active Braze Coated Diamond (ABCD) J.C. Sung, S.C. Hu and Y.S. Chang (page 725)</p>	<p>B6: Grinding</p> <p>Chairperson: Dr Han Huang University of Queensland</p> <p>Venue: No 2 Meeting Room (3F)</p> <p>Grinding Performance of a Grain-Arranged Diamond Wheel against Industrial Pure Aluminum S. Okuyama, T. Kitajima and Y. Akinori (page 33)</p> <p>Improvement of Machining Accuracy in Micro Cylindrical Traverse Grinding K. Ohashi, G.F. He and S. Tsukamoto (page 39)</p> <p>Computer Simulations of Cylindrical Plunge Grinding - Influence of Work Stiffness on Grinding Accuracy - O. Horiuchi and T. Shibata (page 51)</p> <p>Study on the Formation of Grind-Hardening of Steel AISI 1066 J.D. Liu, G.C. Wang, B.L. Wang and K.M. Chen (page 57)</p> <p>Innovated Precision Grinding by Exploiting Grinding Point Movement in Radial Direction and Forward Backward Feeding of Wheel B. Yao, W.M. Xi, C.R. Chen and L. Shi (page 63)</p> <p>Wear Characteristics of the Sub-Aperture Tools and Material Removal Rate in Precision Grinding with Loose Abrasives H. Cheng, H. Tam, Y. Gao, Y. Wu and Y. Wang (page 69)</p>	<p>C6: Processing of Brittle Materials</p> <p>Chairperson: Dr Weimin Lin RIKEN, Japan</p> <p>Venue: Room 203 (2F)</p> <p>Ceramic Grindability Evaluation with PCA Method A.B. Yu, Y. Chen, D.W. Jia and X.L. Tian (page 421)</p> <p>Analysis of Mechanical Property of Crystal KDP and Simulation of Ultra-Precision Cutting Process in the Ductile Mode M.J. Chen, J.H. Wang, X.M. Chen and Y.C. Liang (page 427)</p> <p>Experimental Investigation of Brittle to Ductile Transition of Single Crystal Silicon by Single Grain Grinding F.W. Huo, Z.J. Jin, F.L. Zhao, R.K. Kang and D.M. Guo (page 433)</p> <p>A New Complex Grinding Method for Ceramic Materials Combined with Ultrasonic Vibration and Electrodischarge Machining K. Suzuki, T. Uematsu, M. Iwai, S. Ninomiya, S. Sano and T. Nakagawa (page 439)</p> <p>Experimental Research on Surface Integrity of Ceramic Nanocomposites in Two-Dimensional Ultrasonic Vibration Grinding B. Zhao, Y. Wu, F. Jiao, G.F. Gao and X.S. Zhu (page 445)</p> <p>Modeling of High Efficiency Removal in the Grinding of Alumina/ZrO₂ Nanocomposites with the Aid of Two-Dimensional Ultrasonic Vibration Y. Wu, A.G. Sun, B. Zhao and X.S. Zhu (page 451)</p>
<p>13:00-14:00</p>	<p>Lunch Break</p>		

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<p>14:00-16:00 (20 Min each)</p>	<p>A7: Advances in Machining</p> <p>Chairperson: Prof. Osamu Horiuchi Toyohashi Univ of Tech.</p> <p>Venue: No 1 Meeting Room (3F)</p> <p>Investigation of Toughness and Wear Resistance of a-C/a-C:Cr Multilayer Coatings K.J. Ma, H.H. Chien, C.L. Chao (page 731)</p> <p>Fabrication of Diamond Micro Tool Array (DMTA) for Ultra-Precision Machining of Brittle Materials Q.L. Zhao, D.G. Xie, E. Brinksmeier, O. Riemer and K. Rickens (page 737)</p> <p>Autoregressive Spectrum Analysis of Vibration and Condition Monitoring of Self-Propelled Rotary Tool W.S. Hao, X.S. Zhu, B.J. Tian and M.R. Chi (page 743)</p> <p>Investigation on the Cutting Performance of the Super Alloy with Thermal Sprayed Coatings D.L. Wang and X. Li (page 749)</p> <p>Deposition of Smooth Diamond Films with High Adhesive Strength on WC-Co Inserts and Their Cutting Performance in Turning GFRP H.G. Xue, F.H. Sun, Y.P. Ma and M. Chen (page 755)</p> <p>Study on Magnetic Barrel Machine Equipped with Three-Dimensional Arrangement of Magnets Y. Zhang, M. Yoshioka, S. Hira (page 761)</p>	<p>B7: Grinding</p> <p>Chairperson: Dr Han Huang University of Queensland</p> <p>Venue: No 2 Meeting Room (3F)</p> <p>A Micro Ultrasonic Grinding Device with Very High Frequency and its Application K. Suzuki, S. Mishiro, Y. Shishido, M. Iwai, W. Mei and T. Uematsu (page 45)</p> <p>Experimental Studies on Grinding of Titanium Alloy with SG Wheels H.X. Zhang, W.Y. Chen and Z.T. Chen (page 75)</p> <p>Inverse Method for Determining Grinding Area and Material Removal Amount in Grinding Radome D.M. Guo, C.B. Zhang, R.K. Kang and Y.W. Sun (page 81)</p> <p>Study on The Self-Adaptive Forecast and Optimal Control Method for Grinding Wheel Infeed G.J. Liu, N. Mei, Y.D. Gong and W.S. Wang (page 87)</p> <p>Study of Intelligent Prediction Control of Surface Roughness in Grinding N. Ding, L.S. Wang and G.F. Li (page 93)</p> <p>Study on the Material Removal Mechanism of Precision Surface Grinding of Nanostructured WC/12Co Coating Z.H. Deng, B. Zhang, Z.W. Hu (page 99)</p>	<p>C7: Novel Abrasive Technologies</p> <p>Chairperson: Dr Xun Chen University of Nottingham</p> <p>Venue: Room 203 (2F)</p> <p>Cost Optimization of Abrasive Blasting Systems: A New and Effective Way for Using Blasting Nozzles V.N. Pi and A.M. Hoogstrate (page 323)</p> <p>Three-Dimensional Simulation of Liquid-Solid Two-Phase Flow Inside the Abrasive Water Jet Nozzle C.Z. Huang, R.G. Hou, J. Wang, X.Y. Lu and H.T. Zhu (page 329)</p> <p>Surface Characteristics of Ceramics Milled with Abrasive Waterjet Technology Y.X. Feng, C.Z. Huang, J. Wang, X.Y. Lu and H.T. Zhu (page 335)</p> <p>Fusion Identification for Wear Particles Based on Dempster-Shafter Evidential Reasoning and Back-Propagation Neural Network Y.B. Cao and X.P. Xie (page 341)</p> <p>Design of Robust Grinding Wheel Reciprocating Arrangement for Precision Point-Grinding Machining D.P. Wan, D.J. Hu, L.M. Xu, H.F. Wang and X.D. Yao (page 347)</p> <p>Improvement of Surface Texture of Stainless Steel by Utilizing Dry Blasting - 3rd Report: Effect of Blasted Texture on Adhesion of Plating K. Minaki, K. Kitajima, Y. Nakahira, K. Minaki, M. Izawa and K. Tosha (page 353)</p>
<p>16:00-16:20</p>	<p>Afternoon Tea Break</p>		

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<p>16:20-18:00 (20 Min each)</p>	<p>A8: Advances in Machining</p> <p>Chairperson: Prof. Jun'ichi Tamaki Kitami Institute of Tech.</p> <p>Venue: No 1 Meeting Room (3F)</p> <p>An Experiment Investigation for Dynamics Characteristics of Grinding Machine Y.X. Jiang, W.X. Tang, G.L. Zhang, Q.H. Song, B.B. Li, B. Du (page 767)</p> <p>Recognition on Rolling Bearing's Condition of Grinding Machine by Using a Novel Approach-Wavelet Hilbert Marginal Spectrum H.K. Li, X.J. Ma, Q.M. Ren and J.L. Zhao (page 773)</p> <p>Study on the Application of the Combined Prediction Modeling Method to Thermal Error Modeling on NC Machine Tools Y.X. Li, J.G. Yang, Y.Y. Li, H.T. Zhang and G. Turyagyenda (page 779)</p> <p>Basic Properties of Coolant Supply Using a Coolant Flow Guided Flexible Sheet S. Ninomiya, M. Iwai, K. Suzuki, Y. Shiraishi, T. Shimizu and T. Uematsu (page 785)</p> <p>Modeling of Micro-Positioning System Using Direct Mapping and Polynomial Fit for Precision Grinding Process Control S. Tse and Y. Gao (page 791)</p>	<p>B8: Grinding</p> <p>Chairperson: Prof. Libo Zhou Ibaraki University</p> <p>Venue: No 2 Meeting Room (3F)</p> <p>Research on ELID Grinding of Nano-Cemented Carbide Tool F.H. Zhang, J.C. Gui, Y.Z. Liu and H.L. Zhang (page 105)</p> <p>A New Grinding Method for Large-Scale Surface of Revolution and Error Analyzing of Its Wheel Dressing Q.S. Yan, X.G. Zhou, B.Q. He and L.Y. Kong (page 111)</p> <p>Study on Infrared Ray Detecting Temperature and Network Technology for Grinding J.F. Chen and J.H. Cheng (page 117)</p> <p>A Study of Wheel Wear and Truing Method of a Ball Type Wheel X.J. Wu, Y. Kita and K. Ikoku (page 181)</p> <p>An Accurate Digital Grinding Method on Inner Surface of Thin-Walled Rotary Part Z.W. Ren, Y.Q. Wang, Z.Y. Jia and X.J. Sheng (page 137)</p>	<p>C8: Precision Measurement and Evaluation</p> <p>Chairperson: Prof. Koichi Kitajima Kansai University</p> <p>Venue: Room 203 (2F)</p> <p>Roundness Modeling Using Fractal Interpolation M.C. Yoon and D.H. Chin (page 521)</p> <p>An Evaluation on Surface Topography Finished by Abrasive Jet with Grinding Wheel as Restraint C.H. Li, G.Q. Cai, S.C. Xiu and F. Liu (page 527)</p> <p>Key Technologies of Image Measurement for Curve Accurate Grinding Y.H. Zhang, L.H. Wang and D.J. Hu (page 533)</p> <p>Surface Roughness Prediction Based on Cutting Parameters and Nose Radius in Precision Turning Y.C. Liang, Y.S. Zhai, H.X. Wang, Q.S. Bai and Y. Zhao (page 539)</p> <p>Analysis of Stress-Induced Birefringence in Nd:YAG Crystal H. Matsuura, Y. Kunieda, N. Yoshihara and T. Kuriyagawa (page 557)</p>
<p>18:30-21:00</p>	<p>Conference Banquet, DUT Science Park Hotel Speech by Prof. Dongming Guo, Vice-President of Dalian University of Technology, on "Current Status and Future Trend of Precision Engineering in China"</p>		

29 September 2006 (Sightseeing/Technical Tours)

<p>9:00-17:00</p>	<p>Tour Route 1 (Lunch will be organised for tour members)</p>	<p>Tour Route 2 (Lunch will be organised for tour members)</p>
<p>18:30-20:30</p>	<p>Farewell Dinner, DUT Science Park Hotel Announcement of ISAAT2007 by Prof. T. Kuriyagawa, Tohoku University, Japan</p>	

Ladies (Accompanying persons) Program

<p>27 September</p>	<p>Sightseeing Tour</p>
<p>28 September</p>	<p>Sightseeing Tour</p>

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