



FINAL PROGRAM FOR THE

7th International Conference on Deburring and Surface Finishing

June 7-9, 2004

University of California

Berkeley CA USA



Organized by CODEF, Laboratory for Manufacturing Automation,
University of California, Berkeley and University Extension

---7th ICDSF Program Summary---

June 7, 2004 (Monday)

<i>Time</i>	<i>Sessions</i>	<i>Parallel sessions</i>
8:00- 8:30	<i>Conference registration</i>	
8:30- 8:50	<i>Welcome and Introductory Remarks, D. Dornfeld, Conference Chair</i>	
8:50-9:20	Keynote Speaker: Mr. LaRoux K. Gillespie, Deburring Technology International, "Leaders Who Have Made a Difference in Deburring"	
9:20-10:40	Session 1: Burr Formation and Modeling- part 1 (4 papers)	
10:40-11:00	<i>Coffee Break and Technical Exhibits*</i>	
11:00-12:20	Session 2: Metrology and Standards (4 papers)	
12:20-1:40	<i>Lunch</i>	
1:40-3:20	Session 3A: Burr Formation and Modeling- part 2 (5 papers)	Session 3B: New Technology Development (5 papers)
3:20-3:40	<i>Coffee break and Technical Exhibits*</i>	
3:40-5:00	Session 4A: Burr Minimization/Tool Path Planning (4 papers)	Session 4B: Methods for Deburring- part 1 (4 papers)
5:00-5:45	Plenary Address 1: Dr. K. Takazawa, President of BEST-Japan, "Tackling Tribology and Burr Technology based on Precision Design – A Career in Original Research"	
5:45-6:00	<i>Travel to Conference Banquet</i>	
6:00-8:45	<i>San Francisco Bay Dinner Cruise) sponsored by Osborn International</i>	
8:45-9:00	<i>Travel back to UC Berkeley campus</i>	

June 8, 2004 (Tuesday)

8:00-8:30	<i>Coffee and pastries</i>	
8:30-9:00	Plenary Address 2: Klaus Berger, Daimler-Chrysler, Stuttgart Germany, "An Overview of the Status and Trends for Burr Activities in the Automotive Industry"	
9:00-11:00	Session 5: Methods for Deburring- part 2 (6 papers)	
11:00-11:20	<i>Coffee break and Technical Exhibits*</i>	
11:20-12:40	Session 6: Surface Finishing (4 papers)	
12:40-2:00	<i>Lunch</i>	
2:00-3:40	Session 7A: Burr Formation and Modeling- part 3 (5 papers)	Session 7B: Methods for Deburring- part 3 (5 papers)
3:40-4:00	<i>Coffee break and Technical Exhibits*</i>	
4:00-5:40	Session 8A: Polishing Technologies (5 papers)	Session 8B: Machining (5 papers)
5:40-	<i>Osborn sponsored reception at Hesse Hall on UC Berkeley Campus</i>	

Note: Keynote and Plenary Talks will be presented in Sibley Auditorium; sessions denoted "A" will be located in Sibley Auditorium; and, sessions denoted "B" will be in Room 240 of the Bechtel Engineering Center

June 9, 2004 (Wednesday)

8:00-8:30	<i>Coffee and pastries</i>
8:30-8:40	<i>Announcement, technical tour arrangements</i>
8:40-10:00	Session 9: Burr Modeling and Deburring Technology (4 papers)
10:00-10:30	<i>Open Discussion on Challenges in Deburring and Surface Finishing</i>
10:30-12:00	<i>Move to Sacramento for technical tour</i>
12:00-1:30	<i>Lunch</i>
1:30-4:00	<i>Technical tour and technology demonstration at Digital Technology Laboratory (DTL) of Mori Seiki, Sacramento CA</i>
4:00-5:30	<i>Travel back to Berkeley</i>

---Detailed 7th ICDSF Program---

June 7, 2004 (Monday)

Time	Session	Event/Speaker	Topic
8:00-8:30		<i>Conference Registration</i>	
8:30-8:50		<i>Welcome & Introductory Remarks, D. Dornfeld, Conference Chair</i>	
8:50-9:20		Keynote Speaker: L. Gillespie, Deburring Technology International	Leaders Who Have Made a Difference in Deburring
		Session 1: Burr Formation and Modeling- part 1 —D. Dornfeld, UC, Chair	
9:20-9:40	1.1	N.A. Lukoto, Rand Afrikaans University, South Africa	On Burrs Formation in Drilling
9:40-10:00	1.2	J. Aurich, University of Kaiserslautern, Germany	Experimental investigation of Burr Formation in Surface Grinding of Tool Steel
10:00-10:20	1.3	X. Liu, University of California at Davis, USA	Geometrical Modeling of Ball End Finish Milling Process for Surface Finish
10:20-10:40	1.4	R. Fritsch, Technical University of Aachen, Germany	FE-modeling of burr formation in orthogonal cutting
10:40-11:00		<i>Coffee Break and Technical Exhibits*</i>	
		Session 2: Metrology & Standards —L. Gillespie, BEST-US, Chair	
11:00-11:20	2.1	A. Barnes, Barnes Advanced Technology, New York, USA	New Advances in Edge Conditioning Technology

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11:20-11:40	2.2	K. Berger, DaimlerChrysler AG, Germany	Proposal for a Standard for the Description of Edges in Automotive Engineering
11:40-12:00	2.3	S. Subramonian, Multimedia University, Malaysia	Comparative Analysis & Modeling of Surface Roughness in Drilling
12:00-12:20	2.4	M. Jagiella, Balluff GmbH, Germany	Inductive Sensor System for Evaluation of Burrs and Edges in Industrial Applications
12:20-1:40		<i>Lunch</i>	
		(note: sessions 3A and 3B occur simultaneously)	
		Session 3A: Burr Formation and Modeling- part 2 — M. Jagiella, Balluff, Chair	
1:40-2:00	3A.1	J. Choi, University of California at Berkeley, USA	Finite Element Modeling of Burr Formation in Drilling Multi-layered Material
2:00-2:20	3A.2	K. Kitajima, Kansai University, Japan	Influence of Workpiece Temperature on Burr Formation in Drilling
2:20-2:40	3A.3	Y. Nakao, Kanagawa University, Japan	Measurements and Evaluations of Drilling Burr Profile
2:40-3:00	3A.4	A. Kaminise, Universidade Federal de Uberlandia, Brazil	Properties of Burrs Formed when Cutting AISI 1045 Carbon Steel in Turning Operation
3:00-3:20	3A.5	H. Beier, FHTW Berlin, Germany	Prediction Model for Burr Formation
		Session 3B: New Technology Development —S. Ko, Konkuk, Chair	
1:40-2:00	3B.1	A. Makedonski, Technical University- Sofia, Bulgaria	Ecologically Clean Technology for Surface Treatment of Ferromagnetic Materials
2:00-2:20	3B.2	S. Zhachkin, Voronezh State Technical University, Russia	The Development of Compositated Chromium Plating
2:20-2:40	3B.3	A. Revin, Voronezh Machine Building Plant, Russia	Designing Methods of Technological Equipment
2:40-3:00	3B.4	K. Przyklenk, Hamburg, Germany	State of the Art of Deburring Technology in Germany
3:00-3:20	3B.5	S. Ko, Konkuk University, Korea	Development of Effective Measurement System for Burr Geometry
3:20-3:40		<i>Coffee Break and Technical Exhibits*</i>	
		(note: sessions 4A and 4B occur simultaneously)	
		Session 4A: Burr Minimization/Tool Path Planning —K. Berger, Daimler-Chrysler, Chair	
3:40-4:00	4A.1	Y. Kim, Kyung Hee University, Korea	Development of Burr Expert System to Minimize Burr Formation in Face Milling
4:00-4:20	4A.2	A. Babichev, DGTU, ROSTOV-on-Don, Russia	Removal of burrs under Vibration Scraping
4:20-4:40	4A.3	M. Avila, University of California at Berkeley, USA	On the Face Milling Burr Formation Mechanisms and Minimization Strategies at High Tool Engagements

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4:40-5:00	4A.4	S. Tripathi, University of California at Berkeley, USA	Review of Geometric Solutions for Milling Burr Prediction and Minimization
		Session 4B: Methods for Deburring- part 1 —F. Hettes, Weiler, Chair	
3:40-4:00	4B.1	H. Yamaguchi, Utsunomiya University, Japan	Study of an Automated Flexible Internal Magnetic Abrasive Finishing System for Nonferromagnetic Complex Tubes
4:00-4:20	4B.2	H. Tsui, Metal Industries Research & Development Centre, Taiwan	Optimizing Control Parameters of Abrasive Flow Machining for Finishing Inner Surface of UHP components
4:20-4:40	4B.3	T. Brockbank, presented by Jim Koroskenyi, Extrude Hone, USA	Thermal Energy Deburring
4:40-5:00	4B.4	H. Choi, Korea Institute of Industrial Technology, Korea	Micro Deburring Technology using Ultrasonic Vibration with Abrasive
5:00-5:45		Plenary Address: K. Takazawa, President of BEST-Japan	Tackling Tribology and Burr Technology based on Precision Design – A Career of Original Research
5:45-6:00		<i>Travel from the UC Berkeley campus (Hearst Mining Circle) to the Hornblower Cruise Ship at the Double Tree Hotel</i>	
6:00-8:45		<i>San Francisco Bay Dinner Cruise sponsored by Osborn International</i>	
8:45-9:00		<i>Travel from Double Tree Hotel to UC Berkeley campus</i>	

June 8, 2004 (Tuesday)

Time	Session	Event/Speaker	Topic
8:00-8:30		<i>Coffee & Pastries</i>	
8:30-9:00		Plenary Address: Klaus Berger, Daimler-Chrysler, Stuttgart Germany	An Overview of the Status and Trends for Burr Activities in the Automotive Industry
		Session 5: Methods for Deburring- part 2 — Y. Nakao, Kanagawa University, Chair	
9:00-9:20	5.1	J. Gaser and L. Malm, Osborn International	Advantages of Modern Machine Deburring
9:20-9:40	5.2	T. Ioi, Chiba Institute of Technology, Japan	Edge Finishing Methods for Plated Steel Workpieces
9:40-10:00	5.3	F. Hettes, Weiler Corporation, USA	Non Traditional Brush Deburring Implementations
10:00-10:20	5.4	K. Kim, Korea University, Korea	Deburring of Intersecting Holes
10:20-10:40	5.5	H. Beier, FHTW Berlin, Germany	Development of a Deburring Tool for High Speed Deburring
10:40-11:00	5.6	T. Kohut, presented by Jim Koroskenyi, Extrude Hone	Advanced Abrasive Flow Technologies
11:00-11:20		<i>Coffee Break and Technical Exhibits*</i>	

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		Session 6: Surface Finishing — W. Shaffer, Conicity, Chair	
11:20-11:40	6.1	C. Toh, Singapore Institute of Manufacturing Technology, Singapore	Using Ultrasonic Cavitation Peening to Improve Micro-Burr-Free Surfaces
11:40-12:00	6.2	K. Lee, University of California at Berkeley, USA	A Study of Surface Roughness in the Micro-End-Milling Process
12:00-12:20	6.3	M. Massarsky, Turbo-Finish Corporation, USA	Turbo-Abrasive Machining
12:20-12:40	6.4	V. Smolentsev, Voronezh State Technical University, Russia	Quality Control of Composite Platings Obtained by GCP Method
12:40-2:00		<i>Lunch</i>	
		(note: sessions 7A and 7B occur simultaneously)	
		Session 7A: Burr Formation and Modeling- part 3 — Jim Koroskenyi, Extrude Hone, Chair	
2:00-2:20	7A.1	J. Leopold, Fraunhofer Institute Machine Tools and Forming Technology, Germany	Influence of Coating-Substrate-Systems on Chip- and Burr-Formation in Precision Manufacturing
2:20-2:40	7A.2	T. Sisco, presented by Paul Field, Boeing, USA	GrEp/Ti and GrEp/GrEp Drilling
2:40-3:00	7A.3	W. Shaffer, Conicity Technologies, USA	Effects of Engineered Micro-Geometry on Burr Formation in PCD Milling of Aluminum
3:00-3:20	7A.4	A. Rangarajan, University of California at Berkeley, USA	Back Cutting and Tool Wear Influence on Burrs in Face Milling- Analysis and Solutions
3:20-3:40	7A.5	S. Min, University of California at Berkeley, USA	Surface and Edge Quality Variation in Precision Machining of Single Crystal and Polycrystalline Materials
		Session 7B: Methods for Deburring- part 3 —J. Gaser, Osborn, Chair	
2:00-2:20	7B.1	J. Kodacsy, Kecskemét College, Hungary	Magnetic Aided Roller Burnishing Metal Parts
2:20-2:40	7B.2	S. Ko, Konkuk University, Korea	Development of Effective Magnetic Abrasive Deburring Method using Vibratory Table
2:40-3:00	7B.3	Y. Baron, Saint Petersburg State Polytechnic University, Russia	Technical Details of Magnetic Abrasive Finishing
3:00-3:20	7B.4	J. Kodacsy, Kecskemet College, Hungary	Apparatus for Cleaning, Deburring and Polishing Parts in Magnetic Field
3:20-3:40	7B.5	M. Avila, University of California at Berkeley, USA	Deburring of Cross-Drilled Hole Intersections by Mechanized Cutting
3:40-4:00		<i>Coffee Break and Technical Exhibits*</i>	
		(note: sessions 8A and 8B occur simultaneously)	

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		Session 8A: Polishing Technologies —P. Ffield, Boeing, Chair	
4:00-4:20	8A.1	S. Lee, Yuan Ze University, Taiwan	Pulse Current Supply for ElectroPolishing Technology
4:20-4:40	8A.2	S. Lee, Yuan Ze University, Taiwan	Metal Removal Rate of the ElectroChemical Mechanical Polishing Technology for Stainless Steel - The Electrochemical Characteristics
4:40-5:00	8A.3	E. Lee, Inha University, Korea	Ultraprecision Machining Characteristics of the Electrolytic Polishing
5:00-5:20	8A.4	D. Risko, presented by Jim Koroskenyi, Extrude Hone Corporation, USA	Electrolytic Edge Finishing, Deburring, and Polishing
5:20-5:40	8A.5	S. Jun, Columbia University, USA	Scratchitti Removal and Glass Surface Recondition by Controlled Fire Polishing
		Session 8B: Machining —J. Liu, Mori Seiki, Chair	
4:00-4:20	8B.1	K. Hatsukano, National Institute of Advanced Industrial Science and Technology, Japan	Branched Part Forming of Magnesium Wrought Alloy by Warm Lateral Extrusion using Multi-Axes Material Testing Machine
4:20-4:40	8B.2	H. Lee, Chonbuk National University, Korea	Precision Machining with Formed Tools for Milli-Scale Dies
4:40-5:00	8B.3	A. Makedonski, Technical University- Sofia, Bulgaria	The Effect of the Preliminary Deformations on the Properties of the Materials under Combined Magnetic-Ultrasonic Impact
5:00-5:20	8B.4	A. Babichev, DGTU, ROSTOV-on-Don, Russia	Experimental Investigation of the Burr Formation on the Edge while Machining
5:20-5:40	8B.5	A. Babichev, DGTU, ROSTOV-on-Don, Russia	Fatigue Strength Increase during Vibrostriking of Parts using Multi-Contact Tool to account for Drilling Effect
5:40-		<i>Osborn sponsored reception at Hesse Hall on UC Berkeley campus</i>	

June 9, 2004 (Wednesday)

Time	Session	Event/Speaker	Topic
8:00-8:30		<i>Coffee & Pastries</i>	
8:30-8:40		<i>Announcements & Technical tour arrangements</i>	
		Session 9: Modeling and Deburring Technology —K. Przyklenk, Hamburg, Germany, Chair	
8:40-9:00	9.1	B. Kim, Kangwon National University, Korea	Burr Minimization in Meso-Punching Process by In-Situ Punch-Die Alignment
9:00-9:20	9.2	W. Shefelbine, University of California at Berkeley, USA	The effect of dry machining on burr size

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9:20-9:40	9.3	C. Chu, National Tsing Hua University, Taiwan	Edge Defect Reduction by Selecting Tool Feed Direction
9:40-10:00	9.4	H. Jeong, Pusan National University, Korea, presented by S. Lee, UC Berkeley	Technological Approaches in Nanopolishing for Microstructures
10:00-10:30		<i>Open Discussion on Challenges in Deburring and Surface Finishing</i>	
10:30-12:00		<i>Move to Sacramento for technical tour</i>	
12:00-1:30		<i>Lunch</i>	
1:30-4:00		<i>Technical tour and technology demonstration at Digital Technology Laboratory (DTL) of Mori Seiki, Sacramento CA</i>	
4:00-5:00		<i>Travel back to Berkeley, CA</i>	

***Technical Exhibits**

(These are ongoing throughout the conference)

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