

MONDAY MAY 5, 2008

SUPERABRASIVE MATERIALS

CONCRETE/STONE, MINING & DRILLING

07:30 - 4:00 _____ REGISTRATION DESK OPEN
07:00 - 08:00 _____ CONTINENTAL BREAKFAST
08:00 - 08:15 _____ GRAND REPUBLIC BALLROOM "B" - WELCOME & INTRODUCTION **Dave Simpson & Terry Kane** - IDA of America
08:15 - 09:00 _____ KEYNOTE SPEAKER- **JEFFERY TAYLOR, MD.** CHIEF TECHNOLOGY OFFICER, DIMICRON

BALLROOM OF THE AMERICAS "A"
09:00-9:15 SUPERABRASIVE MATERIALS OVERVIEW - Chairperson, Aaron Nolan, Sumitomo Electric Carbide, Diamond Group
09:15-10:00 # 810 Comparison Of The Most Popular Micron Particle Measuring Techniques
Nicholas J. Tumavitch, PhD ABC/Warren/Amplex Superabrasives USA
10:00-10:15 —BREAK—
10:15-11:00 # 826 Electroformed Sieve Material Abilities, Applications And Benefits For Mesh Crystals In The Superabrasive Industry
Doug Ondrak Precision Eforming LLC USA
11:00-11:45 # 850 PCD/PCBN Materials - Processing, Applications And Advantages
Scott A. Ries Vollmer of America USA
12:00-1:00 — LUNCH —

BALLROOM OF THE AMERICAS "B"
09:00- 09:15 CONCRETE/STONE INDUSTRY OVERVIEW-
Chairperson - Bill Tully, Diamond Abrasives Corporation
09:15-10:00 # 832 Core Drilling In Reinforced Concrete Using Polycrystalline Diamond (PCD) Cutters: Performance Modeling *Steven Moseley, PhD, K. P. Bohn and M. Goedickemeier Hilti Corporation Liechtenstein*
10:00-10:15 —BREAK—
10:15-10:45 # 815 Circular Saw Blades For Dry Hard Rock Cutting
Xing Li, PhD CSIRO AUSTRALIA
10:45-11:15 # 821 A Study Of The Metal Coating Of Diamond Grains
BoKyung Ahn, Hong Jin Choi, Sirk Ihl Lee, ILJIN Diamond Co. Ltd Korea
11:15-11:45 # 835 Polycrystalline Diamond Mini-Cubes For Sawing Applications
James C. Sung, PhD KINIK Company Taiwan, China
12:00-1:00 —LUNCH—

1:00-1:45 GRAND REPUBLIC BALLROOM "B" - KEYNOTE SPEAKER - **JEFFREY E. POST, PhD,** CURATOR, SMITHSONIAN INSTITUTION, GEMS & MINERALS

BALLROOM OF THE AMERICAS "A"
1:45 SUPERABRASIVE MATERIALS - Chairperson, Aaron Nolan, Sumitomo Electric Carbide, Diamond Group
1:45-2:30 # 852 Wire Die Stress Modeling
William Russell Diamond Innovations Inc. USA Taylan Altan, Ibrahim Al-Zkeri (ERC/NSM) The Ohio State University
2:30-3:15 # 864 Tough And Ultratough Single Crystal Diamonds By MPCVD
Qi Liang, PhD, Chih-shiue Yan, Yufei Meng, Joseph Lai, Szczesny Krasnicki, Thomas Yu, Haiyun Shu, Ho-kwang Mao and Russell J. Hemley Geophysical Laboratory Carnegie Institution of Washington USA
3:15-3:30 —BREAK—
3:30-4:15 # 827 The Brazing Of Diamond
Michael Sung, PhD Advanced Diamond Solutions, Inc. USA
4:15-5:00 # 863 High Wear Resistance And High Strength Pcd Tools To Increase Productivity And Improve Machining Accuracy
Tomohiro Fukaya Sumitomo Electric Hardmetal Corp. Japan

BALLROOM OF THE AMERICAS "B"
1:45 MINING & DRILLING INDUSTRY OVERVIEW-
Chairperson - Bill Tully, Diamond Abrasives Corporation
1:45-2:30 # 831 Hand-Held, Dry Core Drilling In Masonry Using Polycrystalline Diamond (PCD) Cutters *Steven Moseley, PhD L. F. Garcia, O. Griessinger and K-P. Bohn Hilti Corporation Liechtenstein*
2:30-3:15 # 820 A Study Of Newly Developed Polycrystalline Diamond Cutter (PDC) With Improved Impact Resistance
Choi Dong IK ILJIN Diamond Co. Ltd. Korea
3:15-3:30 —BREAK—
3:30-4:15 # 823 Functionally Graded Laminate Design For Polycrystalline Diamond Compacts (PDC) Shear Cutters
Stephen Johnson Metallurgical Engineering University of Utah Department of Metallurgy USA
4:15-5:00 # 841 Drilling Oblique Holes In Duplex Steel With Pcd Tools *Dan Scott Hughes Christensen USA, John Barry, PhD Element Six Ind. Diamonds Ireland*

6:00 PM - 8:00 PM WELCOME RECEPTION - HORS D' OEUVRES & COCKTAILS

TUESDAY MAY 6, 2008

RESEARCH & DEVELOPMENT

AEROSPACE

07:00 - 4:00 _____ REGISTRATION DESK OPEN
07:15 - 08:00 _____ CONTINENTAL BREAKFAST
08:00 - 08:15 _____ GRAND REPUBLIC BALLROOM "B" - WELCOME & INTRODUCTION **Dave Simpson & Terry Kane** - IDA of America
08:15 - 09:00 — KEYNOTE SPEAKER- **JAMES CAMPBELL**, CSMC MACHINING DISCIPLINE CHIEF, PRATT & WHITNEY

BALLROOM OF THE AMERICAS "A"

09:00-9:15 **RESEARCH & DEVELOPMENT** - Chairperson, Mike Mustin,
American Superabrasives Corporation
09:15-10:00 **# 842 HPHT Processing Under Constant Pressure: Advantages For The Productivity And Quality Of Synthetic Diamonds** *Sergio N. Monteiro, Guerold Bobrovnichii, PhD, W.S. Vianna, A.L.D. Skury State University N. Fluminense Brazil*
10:00-10:15 —BREAK—
10:15-11:00 **# 845 A New Low Cost Accelerated Pcd Abrasion Test Method**
David E. Slutz and Richard Clark Morgan Advanced Materials and Technology USA
11:00-11:45 **# 851 Technique For The Measurement Of Mechanical Strength And Fracture Mechanisms Of Metal Bond Micron Diamond**
Benjamin R. Rosczyk Engis Corporation USA
12:00-1:00 —LUNCH—

BALLROOM OF THE AMERICAS "B"

09:00-9:15 **AEROSPACE OVERVIEW-** Chairperson -David Edwards,
Action Superabrasive Products
09:15-10:00 **# 847 Technological Improvements And Results Of Ultra Hard Material Cutting With The Improved LMI Technique** *Notker U Kling, Alexandre Pauchard, Ph.D., G. Suruceanu, B. Carron. B. Richerzhagen SYNOVA S.A. Switzerland*
10:00-10:15 —BREAK—
10:15-11:00 **# 868 Peel Grinding In High Precision Profile Grinding With Cycle Times 3x Faster Than Traditional Plunge Grind Processing** *Mike Hitchiner, PhD Saint-Gobain Abrasives USA Ben Cornbower Weldon Solutions USA*
11:00-11:45 **# 830 Choosing Optimum Grinding Parameters When Grinding With Superabrasives To Achieve High Material-Removal Rates And More Consistent Results** *Jeffrey A. Badger, PhD The Grinding Doc USA*
12:00 -13:00 —LUNCH—

1:00-1:45 GRAND REPUBLIC BALLROOM "B" - KEYNOTE SPEAKER - **TAKERU NAKASHIMA** SUMITOMO ELECTRIC HARDMETAL CORPORATION

BALLROOM OF THE AMERICAS "A"

1:45 **RESEARCH & DEVELOPMENT** - Chairperson, Mike Mustin,
American Superabrasives Corporation
1:45-2:30 **# 846 Effect Of Microstructure On The Mechanical And Thermal Properties Of Diamond/Sic Composite**
Hee Sub Park ILJIN Diamond Co., Ltd. Korea
2:30-3:15 **# 849 New Induction Vacuum Furnace Technology For Brazing Diamond Tools** *Steve Skewes Induction Atmospheres Thomas Frakes Mastertech Diamond Products USA*
3:15 - 3:30 —BREAK—
3:30 - 4:15 **# 813 A Comparative Study On The Performances Of Synthetic Diamond Made By Belt & Cubic Presses** *Li Zhihong Industrial Diamond Association of China, Jia Pan Nanyang Zhongnan Diamond Co. Ltd China, Wu Zhiying Henan Cut-Stone Sciences & Technology Co., Ltd,*
4:15 - 5:00 **# 843 Effect Of Cycling The High Pressure And The High Temperature On The Quality Of Cubic Boron Nitride Composites** *Sergio N. Monteiro, Guerold Bobrovnichii, PhD, W.S. Vianna, A.L.D. Skury State University N. Fluminense Brazil*

BALLROOM OF THE AMERICAS "B"

1:45 **AEROSPACE** - Chairperson -David Edwards, Action Superabrasive Products
1:45-2:30 **# 857 Machining Of Carbon Fiber Composites Using Chemical Vapor Deposition (CVD) Coated And Polycrystalline Diamond (PCD) Fabricated Tools** *Erik Koik sp3 Cutting Tools, Inc. USA*
2:30-3:15 **# 822 Needs For New Cutting Tool Materials For The Airframe Industry**
Jeff Lantrip Boeing USA
3:15 - 3:30 —BREAK—
3:30 - 4:15 **# 817 Dry Grinding By Special Structured Electroplated CBN Wheel**
Mohammad Rabiey, Taghi Tawakoli, PhD Competence Centre of Grinding Technology & Precision Engineering (KSF), Mechanical and Mechatronic Engineering Department, Furtwangen University VS-Schwenningen, Germany

6:30-11:00 – DINNER AT EPCOT'S AMERICAN ADVENTURE (BUSES WILL PICKUP AT 6:30)

FOLLOWED BY VIP SEATING FOR DISNEY'S INTERNATIONAL LASER LIGHT SHOW - (OPTIONAL PAID EVENT BY RESERVATION)

WEDNESDAY MAY 7, 2008

AUTOMOTIVE

EMERGING TECHNOLOGY

07:30 - 4:00 _____REGISTRATION DESK OPEN
07:00 - 08:00 _____CONTINENTAL BREAKFAST
08:00 - 08:15 _____GRAND REPUBLIC BALLROOM "B" - WELCOME & INTRODUCTION **Dave Simpson & Terry Kane** - IDA of America
08:15 - 09:00 _____KEYNOTE SPEAKER- **WILLIAM J. WALKER PhD.**, CERAMIC RESEARCH ENGINEERING MANAGER FEDERAL-MOGUL

BALLROOM OF THE AMERICAS "A"
09:00-9:15 AUTOMOTIVE OVERVIEW - Chairperson - Chris Winkel,
Worldwide Superabrasives
09:15-10:00 # 862 New PCBN Tools For High Speed And High Precision Hard Turning
Tomohiro Fukaya Sumitomo Electric Hardmetal Corp. Japan
10:00-10:15 —BREAK—
10:15-11:00 # 833 Microhoning And Bore Sizing On Non-Dedicated Machine Tools
Darrell S. Day Bates Technologies, Inc USA
11:00-11:45 # 840 Highly Automated Superabrasive Bore Finishing
Robert Marvin Engis Corporation USA
12:00-1:00 —LUNCH—

BALLROOM OF THE AMERICAS "B"
09:00 EMERGING TECHNOLOGY OVERVIEW-
Chairperson - Mark Schweizer, Diamond Innovations
09:00-09:30 # 816 Usage Of Diamond Grinding Wheels Of Large Diameter
Boris Eizner D.C.T.Ltd Israel
09:30-10:00 # 839 Diamond-Based AFM Probes For Imaging, Metrology, And Nanomanufacturing
John A. Carlisle, PhD Chief Technical Officer, Advanced Diamond Technologies, Inc.
10:00-10:15 —BREAK—
10:15-11:00 # 866 Contact Lens Manufacturing Depends On Mono-Crystal Diamond Cutting Tools *Robert Atkin, PhD IMT USA David Slaperud Technodiamant USA*
11:00-11:45 # 834 Diamond Breakage On CMP Pad Conditioner
Hung-Yu Chu, PhD National Taipei University of Technology Taiwan, R.O.C.
12:00-13:00 —LUNCH—

1:00-1:45 GRAND REPUBLIC BALLROOM "B" - KEYNOTE SPEAKER -
MARK SCHWEIZER, VP GLOBAL MARKETING, DIAMOND INNOVATIONS

BALLROOM OF THE AMERICAS "A"
1:45 AUTOMOTIVE - Chairperson - Chris Winkel, Worldwide Superabrasives
1:45 - 2:15 # 867 CBN Grinding Bi-Metal Materials With Water-Based Fluids
Larry Dillon Engis Corporation USA
2:15 - 2:45 # 870 PCD Engineered For The Demands Of High-Speed Milling
Jeremy Peterson, P. R. Davis MegaDiamond Inc. USA
2:45 - 3:00 —BREAK—
3:00 - 3:30 # 853 Case Studies In Cemented Tungsten Carbide Grinding
Sridhar Kompella, PhD Diamond Innovations USA
3:30 - 4:00 # 819 High Speed Continuous Turning Of Hardened Steel With A Newly Developed Low Content PCBN
Sang-Yong Lee, Byong-Joon Park, Phillip J. Oh Department of cutting tool materials, ILJIN Diamond Co., Ltd. Korea

BALLROOM OF THE AMERICAS "B"
1:45 EMERGING TECHNOLOGY -
Chairperson - Mark Schweizer, Diamond Innovations
1:45-2:15 # 828 The Fabrication Of Ideal Diamond Disk (IDD) By Casting Diamond Film On Silicon Wafer
Ying-Tung Chen, PhD Department of Mechatronic, Energy and Aerospace Engineering, National Defense University Taiwan, Republic of China
2:15-2:45 # 871 CVD Diamond Application & Research
William Dromeshauser Apollo Diamond USA
2:45 - 3:00 —BREAK—
3:00-3:30 # 869 Synthesis Of Diamond-Reinforced Zr65al10ni10cu15 Bulk Metallic Glass Composites By Spark Plasma Sintering
Taek-Soo Kim, PhD Korea Institute of Industrial Technology Korea
3:30-4:00 # 836 High Pressure CMP With Low Stress Polishing
Hiroshi Ishizuka Tomei Die International Co., Ltd., Japan
Presenter: Barnas Monteith Advanced Diamond Solutions Inc.