

**7th Asia Pacific Conference on Materials Processing (APCMP)
4-6 December 2006, National University of Singapore**

Final Program (updated as at 24th Nov '06)

Monday, 4 December 2006		
8.00am	Registration / Refreshments @ Kent Ridge Guild House	
Opening & Keynote Venue: Guild Hall Chair: <i>Yoke San Wong</i>		
9.00am	Opening Address by <i>Prof. Frank Travis</i>	
9.20am	Keynote 1 International Research Directions in Materials and Manufacturing Processes <i>Prof. MSJ Hashmi</i>	
10.00am	Keynote 2 Ultra-Precision Machining of Free-form Optics <i>Prof. W.B. Lee</i>	
10.40am	Tea break	
Session 1A: Venue: Evans 1 Chair: <i>Y. T. Im</i> Deputy Chair: <i>Kim-Seng Lee</i>		
11.00am	FP-157 (Session Keynote) Process Design for Closed Die Forging of Bevel Gear by Finite Element Analyses	
11.20am	FP-002 Fluid-Pressure-Assisted Deep Drawing	
11.40am	FP-017 A Flexible Shear Spinning of Axi-symmetrical Shells with a General-Purpose Mandrel	
12.00pm	FP-085 Influence of Embossing and Restoration Process on the Mechanical Properties of Aluminum Alloy Sheets	
Session 1B: Venue: Evans 2 Chair: <i>Zone-Ching Lin</i> Deputy Chair: <i>Xiaoping Li</i>		
11.00am	FP-099 (Session Keynote) 3D Nano-scale Cutting Model for Nickel Material	
11.20am	FP-121 Parametric Study on Thrust Force of Core Drill	
11.40am	FP-019 Empirical Analysis of Cutting Force Constants in Micro End Milling Operations	
12.00pm	FP-021 Development of cBN Ball-Nosed End Mill with Newly Designed Cutting Edge	
Session 1C: Venue: Dalvey 1 Chair: <i>Lin Hsin Chih</i> Deputy Chair: <i>Jerry Fuh</i>		
11.00am	FP-122 Characteristics of ZnO Thin Film Deposited by Ion Beam Sputter	
11.20am	FP-012 Photocatalytic Activity of Doped TiO₂ Coatings Prepared by Sputtering Deposition	
11.40am	FP-135 The Study of Rapid Prototyping Process with Embedded Functional Inserts	
12.00pm	FP-059 Development of Epoxy Matrix Composites for Rapid Tooling Applications	

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Session 1D: Venue: Dalvey 2 Chair: <i>Hua Meng</i> Deputy Chair: <i>Lin-Jiang Yang</i>		
11.00am	FP-031 Investigations into the Effects of Electron Beam Welding on Thick Ti-6Al-4V Titanium Alloy	
11.20am	FP-090 Surface Transformation of DF-2 Steel after Continuous Mode Laser Irradiation	
11.40am	FP-064 Manufacture Processing and Degradation Analyses of Medical Hybrid Dressing	
12.00pm	FP-066 In Vitro Study of Bone-like Apatite Coatings on Metallic Fiber Braids	
12.20pm	Lunch	
Session 2A: Venue: Evans 1 Chair: <i>Osamu Yamashita</i> Deputy Chair: <i>Thirumany Sritharan</i>		
1.20pm	FP-011 Processing of Thin Metal Strip by Casting-Cum-Rolling	
1.40pm	FP-134 Casting of Wire Inserted Composite Aluminum Alloy Strip using a Twin Roll Caster	
2.00pm	FP-013 The Effect of Solidification Time in Squeeze Casting of Aluminium and Zinc Alloys	
2.20pm	FP-028 Study of Deformation Homogeneity in the Multi-Pass Equal Channel Angular Extrusion Process	
2.40pm	FP-052 Study on Flanged Shapes in Fineblanked-Hole Flanging Process (FB-Hole Flanging Process) using Finite Element Method (FEM)	
Session 2B: Venue: Evans 2 Chair: <i>Kannachai Kanlayasiri</i> Deputy Chair: <i>Ming-Jen Tan</i>		
1.20pm	FP-162 Analysis Acoustic Emission and Sound during the Paperboard of Cutting Process	
1.40pm	FP-036 An Investigation of Cutting Forces and Surface Damage in High Speed Turning of Inconel 718	
2.00pm	FP-166 Effectiveness of Uncoated WC-Co and PCD Inserts in End Milling of Titanium Alloy - Ti-6Al-4V	
2.20pm	FP-130 A Study on Ultrasonic Vibration Cutting of Low Alloy Steel	
2.40pm	FP-037 Surface Finish and Integrity of Machined Surfaces on Al/SiCp Composites	

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Session 2C: Venue: Dalvey 1 Chair: <i>Zhao Zhenyu</i> Deputy Chair: <i>David Butler</i>		
1.20pm	FP-169 (Session Keynote) Pocketing Toolpath Optimization for Sharp Corners	
1.40pm	FP-117 Tool Design for the Tubular Press Forming of a Rear Suspension Member with the Finite Element Analysis	
2.00pm	FP-110 Investigation into Cold Extrusion of Aluminum Billets using Three-Dimensional Finite Element Method	
2.20pm	FP-139 Toolpath Generation for Diamond Shaping of Aspheric Lens Array	
2.40pm	FP-168 Analysis of Draw-Wall Wrinkling in the Stamping of a Motorcycle Oil Tank	
Session 2D: Venue: Dalvey 2 Chair: <i>M. Rahman</i>		
1.20pm	FP-170 (Session Keynote) A Tool-based Micro-Machining using based on Micro-EDM and Micro-Turning	
1.40pm	FP-083 Mask Fabrication by Laser Irradiation through Transparent Particles for Surface Plasmons Research	
2.00pm	FP-093 Calculation of Strain Gradient in Flow Formulation using Strain Surface Function and its Applications to Micro Rolling	
2.20pm	FP-125 Nanocrystalline Grain Size Control for Ni80Fe20/Cu Micro Composite Wires by Different Electrodeposition Methods	
2.40pm	FP-119 Manufacture of Three-dimensional Valveless Micropump	
3.00pm	Tea Break	
Session 3A: Venue: Evans 1 Chair: <i>Ken-ich Kawai</i> Deputy Chair: <i>Lu Li</i>		
3.20pm	FP-147 An Investigation of Material Flow Analysis in Fineblanking Process	
3.40pm	FP-143 Experiments on T-shape Hydroforming with Counter Punch	
4.00pm	FP-107 High Pressure Diecasting Module of InteCAST Software and its Applications	
4.20pm	FP-061 Synthesis of Complex Ceramics by Mechanochemical Activation	
4.40pm	FP-082 Microstructure formation during sintering of porous Ti-Si-Zr with MA-activated Ti-Si and TiH₂ powders	
5.00pm	FP-102 Transfer Molding of Bamboo	

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Session 3B: Venue: Evans 2 Chair: <i>Shigeru Nagasawa</i> Deputy Chair: <i>Nurul Amin</i>		
3.20pm	FP-038 On the Effect of Electrode Rotation on the Geometric Characteristics of Holes Machined using Micro-ECM	
3.40pm	FP-053 Effect of Surface Hardness of Counter Plate on Crushing of Blade Tip during Pushing Shear of Paperboard	
4.00pm	FP-088 Removal Rate and Surface Roughness in the Lapping and Polishing of RB-SiC Optical Components	
4.20pm	FP-027 High Speed MQL Finish-Turning of Inconel 718 with Different Coated Tools	
4.40pm	FP-128 Design of Effective Polishing Process of Castings Freeform Surface in Ultrasonic Electrochemical Finishing	
5.00pm	FP-120 Development and Performance Evaluation of an Ultra Precision ELID Grinding Machine	
Session 3C: Chair: <i>Hisaki Watari</i> Deputy Chair: <i>Poh Ching Yu</i>		
3.20pm	FP-115 Investigation of the Influence of Process Parameters on Hot Extrusion of Magnesium Alloy Tubes	
3.40pm	FP-100 Feasibility Study of Twin Roll Casting Process for Magnesium Alloys	
4.00pm	FP-124 Experimental Investigation of Ultrasonic Vibration-Assisted Tapping	
4.20pm	FP-149 Two-Stage Sintering of Nano-sized Yttria Stabilized Zirconia Process by Powder Injection Moulding	
4.40pm	FP-067 Weaving Technology and Mechanical Properties of Extended-PTFE Fabrics	
5.00pm	FP-070 Optimal Process of Warp-Knitting Fabric with Multiple Functions	
Session 3D: Venue: Dalvey 2 Chair: <i>Y.S. Wong</i>		
3.20pm	FP-073 Sub-Micron Surface Patterning by Laser Irradiation through Microlens Arrays	
3.40pm	FP-144 Micro-mould Fabrication for a Micro-gear via Vacuum Casting	
4.00pm	FP-076 Hybrid laser micro/nanofabrication of phase change materials with combination of chemical processing	
4.20pm	FP-126 Electrodeposition of Ni-Fe Micro Pillars Using Laser Drilled Templates	
4.40pm	FP-127 Cold Drawing of Micro Ni₈₀Fe₂₀/Cu Composite Wires	
5.00pm		

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Tuesday, 5 December 2006		
8.00am	Registration / Refreshment @ Kent Ridge Guild House	
Keynote Venue: Guild Hall Chair: <i>Ming-Jen Tan</i>		
9.20am	Keynote 3 Micro and Nano Scale Mechanical Machining <i>Prof. Steven Liang</i>	
10.00am	Keynote 4 Level Set Method for Design of Functionally Gradient Materials and Structures <i>Prof. Michael Wang</i>	
10.40am	Tea break	
Session 4A: Venue: Evans 1 Chair: <i>Xiao-Lin Wu</i> Deputy Chair: <i>Tsung-Chia Chen</i>		
11.00am	FP-006 (Session Keynote) Back Pressure Equal Channel Angular Consolidation - Application in Producing Aluminium Matrix Composites with Fine Flyash Particles	
11.20am	FP-165 Effect of Deformation Condition on Structure Development in Heat Resisting Nickel Alloy	
11.40am	FP-104 Relationship of Microstructure and Mechanical Properties of TRIP Aided Steel Processed by Press Forging	
12.00pm	FP-026 An Analysis of Forming Limit in the Elliptic Hole-Flanging Process of Sheet Metal	
Session 4B: Venue: Evans 2 Chair:		
11.00am		
11.20am		
11.40am		
12.00pm		
Session 4C: Venue: Dalvey 1 Chair: <i>Y. T. Im</i> Deputy Chair: <i>Jerry Fuh</i>		
11.00am	FP-091 Thermo-Elasto-Plastic Finite Element Analysis of Quenching Process of Carbon Steel	
11.20am	FP-075 Image Segmentation and Analysis for Porosity Measurement	
11.40am	FP-094 Influence of Initial Texture on Formability of Aluminum Sheet Metal by Crystal Plasticity FE Simulation	
12.00pm	FP-156 A Study of Forming Pressure in the Tube-Hydroforming process	

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Session 4D: Venue: Dalvey 2 Chair: <i>Xin-Ping Zhang</i> Deputy Chair: <i>Tsunehisa Miki</i>		
11.00am	FP-010 The Characteristics of Polyamide Layered-Silicate Nanocomposites	
11.20am	FP-063 Manufacturing Process and Property Analysis of Industrial Flame Retarded PET Fiber and Polyurethane Composite	
11.40am	FP-163 Performance Study of Compact Wood Powder Material Processing for Improved Impact Characteristics Aiming at Substitute for Plastics	
12.00pm	FP-071 PET/PP Blend with Bamboo Charcoal to Produce Functional Composites	
12.20pm	Lunch	
Session 5A: Venue: Evans 1 Chair: <i>Jun Tanabe</i> Deputy Chair: <i>Ming-Jen Tan</i>		
1.20pm	FP-016 High Temperature Deformation in Ti-5Al-2.5Sn Alloy	
1.40pm	FP-007 High Porosity and Large Pore-Size Shape Memory Alloys Fabricated by using Pore-Forming Agent (NH₄HCO₃) and Capsule-Free Hot Isostatic Pressing	
2.00pm	FP-039 Structure and Properties of Gradient Tool Materials with HS6-5-2 High-Speed Steel	
2.20pm	FP-152 Deformation Behavior and Strain Homogeneity in Equal Channel Angular Extrusion/Pressing	
2.40pm	FP-022 Diffusion Bonding of Ti/Graphite and Ti/Diamond by Hot Isostatic Pressing Method	
Session 5B: Venue: Evans 2 Chair: <i>Pai-Shan Pa</i> Deputy Chair: <i>M. Rahman</i>		
1.20pm	FP-142 Effects of Wire-EDM Machining Variables on Surface Roughness of Newly Developed DC 53 Die Steel: Design of Experiments and Regression Model	
1.40pm	FP-089 An Alternate Approach to Free-Form Surface Fabrication	
2.00pm	FP-138 Electrode Form Design of Large Holes of Die Material in Ultrasonic Electrochemical Finishing	
2.20pm	FP-132 Comparison on Linear Synchronous Motors and Conventional Rotary Motors Driven Wire-EDM Processes	
2.40pm	FP-109 Developing the Polymer Abrasive Gels in AFM Process	
3.00pm	FP-133 Intelligent Identification of Turning Process based on Pattern Recognition of Cutting States	

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Session 5C: Venue: Dalvey 1 Chair: <i>Ching Yen Ho</i> Deputy Chair: <i>Hung-Yin Tsai</i>		
1.20pm	FP-015 Developing a Realistic FE Analysis Method for the Welding of a NET Single-Bead-on-Plate Test Specimen	
1.40pm	FP-044 Modelling of CCT diagrams for engineering and constructional steels	
2.00pm	FP-151 Solidification Modeling in Continuous Casting by Finite Point Method	
2.20pm	FP-035 The Simulation of the Multi-Pass and Die-Less Spinning Process	
2.40pm	FP-062 Temperature history for cutting of ceramics preheated by a CO2 laser	
Session 5D: Venue: Dalvey 2 Chair: <i>Xin-Ping Zhang</i>		
1.20pm	FP-080 Influence of Reprocessing on the Mechanical Properties and Structure of Polyamide 6	
1.40pm	FP-008 Processing Treatment of a Lead-free Sn-Ag-Cu-Bi Solder by Rapid Laser-Beam Reflowing and the Creep Property of its Soldered Connection	
2.00pm	FP-084 The Investigation of Fiber Carding Performance with the Application of Static Electricity to Carded Nonwoven Fabric Process	
2.20pm	FP-096 Comparison of Electromagnetic Shielding Effectiveness Properties of Diverse Conductive Textiles via Various Measurement Techniques	
2.40pm		
3.00pm	Tea Break	
Session 6A: Venue: Evans 1 Chair: <i>Xiao-Lin Wu</i> Deputy Chair: <i>Yeng-Wai Tham</i>		
3.20pm	FP-024 Maximum m Superplasticity Deformation for Ti-6Al-4V Titanium Alloy	
3.40pm	FP-001 Hydrothermal Synthesis and Characterization of Mesoporous SnO₂/ SnO₂-SiO₂ on Neutral Template	
4.00pm	FP-043 Structure and Properties of Magnesium Cast Alloys	
4.20pm	FP-029 Bulk Nanostructured Processing of Aluminum Alloy	
4.40pm	FP-045 Applications of the Artificial Intelligence Methods for Modeling of the ACAISi7Cu Alloy Crystallization Process	
5.00pm	FP-018 A Study on the Thermodynamics of In-situ MgAl₂O₄/Al MMC Formation using Amorphous Silica Sources	

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Session 6B: Venue: Evans 2 Chair:		
3.20pm		
3.40pm		
4.00pm		
4.20pm		
4.40pm		
Session 6C: Venue: Dalvey 1 Chair: <i>You-Min Huang</i>		
3.20pm	FP-047 Computer Simulation of Hard Magnetic Composite Materials Nd-Fe-B Properties	
3.40pm	FP-095 Numerical Analysis for Bifurcation Fracture of Sheet Metal Forming	
4.00pm	FP-106 Study of the Temperature and Stress in Nanoscale Ductile Mode Cutting of Silicon using Molecular Dynamics Simulation	
4.20pm		
4.40pm		
Session 6D: Venue: Dalvey 2 Chair:		
3.20pm		
3.40pm		
4.00pm		
4.20pm		
4.40pm		
5.00pm	End	