

# PROGRAMME-AT-A-GLANCE

## DAY 1

Time	Monday, 6 December 2004
0830 - 0900	Registration
0900 - 1010	Opening & Plenary Session
1010 - 1030	Morning Tea Break (Pacific 2)
1030 - 1220	1A - Nanostructured/Amorphous Metallic, Intermetallic and Nonmetallic Materials
	1B - Hydrogen Storage Materials Fuel Cell Materials
	1C - Superconducting Materials Ceramics and Ceramic Matrix Composites
1220 - 1400	Lunch (Summerhouse, Level 3)
1400 - 1540	2A - Nanostructured/Amorphous Metallic, Intermetallic and Nonmetallic Materials
	2B - Hydrogen Storage Materials Fuel Cell Materials
	2C - Ceramics and Ceramic Matrix Composites
1540 - 1600	Afternoon Tea Break (Pacific 2)
1600 - 1700	3A - Nanostructured/Amorphous Metallic, Intermetallic and Nonmetallic Materials
	3B - Hydrogen Storage Materials Surface Coatings
	3C - Ceramics and Ceramic Matrix Composites

# PROGRAMME-AT-A-GLANCE

## DAY 2

Time	Tuesday, 7 December 04
0830 - 0900	Registration
0900 - 1010	4A - Magnetic Materials Surface Coatings
	4B - Structural & Functional Intermetallics and Their Composites Advanced Metallic Materials and Composites
	4C - Nanostructured/Amorphous Metallic, Intermetallic and Nonmetallic Materials
1010 - 1030	Morning Tea Break (Pacific 2)
1030 - 1220	5A - Magnetic Materials
	5B - Advanced Metallic Materials and Composites
	5C - Advanced Metallic Materials and Composites
1220 - 1400	Lunch (Summerhouse, Level 3)
1400 - 1540	6A - Magnetic Materials
	6B - Advanced Metallic Materials and Composites
	6C - Surface Coatings
1540 - 1600	Afternoon Tea Break (Pacific 2)
1600 - 1700	7A - Structural & Functional Intermetallics and Their Composites Advanced Metallic Materials and Composites Magnetic Materials
	7B - Advanced Metallic Materials and Composites Surface Coatings
	7C - Advanced Metallic Materials and Composites
1830 - 2200	Conference Banquet @ Asian Civilisations Museum

# PROGRAMME-AT-A-GLANCE

## DAY 3

Time	Wednesday, 8 December 2004
0900 - 1010	8A - Nanostructured/Amorphous Metallic, Intermetallic and Nonmetallic Materials Advanced Metallic Materials and Composites
	8B - Nanostructured/Amorphous Metallic, Intermetallic and Nonmetallic Materials Ceramics and Ceramic Matrix Composites
1010 - 1030	Morning Tea Break (Pacific 2)
1030 - 1220	9A - Superconducting Materials Advanced Metallic Materials and Composites
	9B - Surface Coatings Advanced Polymers and Polymer Matrix Composites
1220 - 1400	Lunch (Summerhouse, Level 3)
1400 - 1540	10A - Magnetic Materials
	10B - Nanostructured/Amorphous Metallic, Intermetallic and Nonmetallic Materials
1540 - 1600	Afternoon Tea Break (Pacific 2)
1600 - 1700	11A - Ceramics and Ceramic Matrix Composites Advanced Metallic Materials and Composites
	11B - Advanced Polymers and Polymer Matrix Composites

# DETAILED PROGRAMME

MONDAY, 6<sup>TH</sup> DECEMBER 2004

0900 – 1010 hrs

## Opening Ceremony & Plenary Session

Plenary	ELECTROCHEMICAL STORAGE OF HYDROGEN IN NANOSTRUCTURED SOLID-STATE HYDRIDES AND NANOCARBONS (KEYNOTE PAPER) <i>Z. S. Wronski</i>	1
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1030 – 1220 hrs

### 1A - Nanostructured/Amorphous Metallic, Intermetallic & Nonmetallic Materials

1A-1	NANOSTRUCTURE SYNTHESIS BY ELECTRODEPOSITION (KEYNOTE PAPER) <i>C. Cheung, U. Erb and G. Palumbo</i>	1
1A-2	SYNTHESIS AND CHARACTERIZATION OF MESOSTRUCTURE HYDROXYAPATITE FROM DIFFERENT SURFACTANT SYSTEMS <i>Y. F. Zhao, G. E. B. Tan, Y. Z. Chen and J. Ma</i>	2
1A-3	CONSTITUTIVE MODELING FOR THE DENSIFICATION OF NEAR NANO-MATERIALS <i>F. Xue and J. Ma</i>	2
1A-4	SIMULATION STUDY OF SEVERE PLASTIC DEFORMATION APPROACH FOR PRODUCING BULK NANOSTRUCTURED MATERIALS <i>M. W. Fu, M. S. Yong, Q. X. Pei and H. H. Hng</i>	2
1A-5	AN INVESTIGATION OF THE FORMATION AND PRESENCE OF INTERMETALLIC COMPOUNDS AT THE INTERFACE BETWEEN SUBSTRATE AND SOLDER: ROLE OF NANOPARTICLE REINFORCEMENT <i>D. C. Lin, G.-X. Wang, Y. Qiao and T. S. Srivatsan</i>	2

1030 – 1220 hrs

### 1B - Hydrogen Storage Materials and Fuel Cell Materials

1B-1	NAFION-BIFUNCTIONAL SILICA COMPOSITE PROTON CONDUCTIVE MEMBRANES WITH LOW METHANOL PERMEATION <i>C. N. Li, Z. X. Liang, S. Z. Ren, Q. Wang, Z. M. Wu, Q. Xin and G. Q. Sun</i>	3
1B-2	FABRICATION OF HIGH PERFORMANCE ANODES OF SOLID OXIDE FUEL CELLS <i>S. P. Jiang</i>	3
1B-3	APPLICATION OF ORMOSIL/NAFION COMPOSITE MEMBRANE FOR DMFCs <i>Z. X. Liang</i>	4
1B-4	OPTIMUM GLASS FORMATION OF Cu-Zr ALLOYS IN $\text{Cu}_8\text{Zr}_3\text{-Cu}_{10}\text{Zr}_7$ EUTECTIC SYSTEM <i>D. Wang</i>	4
1B-5	AN EXTERNALLY CONTROLLABLE NEAR-SURFACE 2D ARRAYS OF ALTERED PHASE <i>J. Kapelewski</i>	4

1030 – 1220 hrs

### 1C - Superconducting Materials and Ceramics & Ceramic Matrix Composites

1C-1	HIGH CRITICAL CURRENTS IN NANOSTRUCTURED $\text{MgB}_2$ HOT-PRESSED PELLETS AND IRON-SHEATHED TAPES (KEYNOTE PAPER) <i>A. Handstein, P. O. Perner, W. Häbeler, C. Fischer, G. Fuchs, O. Gutfleisch, K. Nenkov, C. Rodig, J. Eckert, B. Holzapfel, K.-H. Müller and L. Schultz</i>	4
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1C-2	ENHANCED VORTEX PINNING BY THERMOMECHANICALLY INDUCED INTRINSIC DEFECTS IN MgB <sub>2</sub> SUPERCONDUCTORS <i>S. H. Shim</i>	5
1C-3	CATIONIC SURFACTANT TEMPLATED SILICA MESO-POROUS MATERIALS <i>J. Zhu, B. Y. Tay and J. Ma</i>	5

**1400 – 1540 hrs****2A - Nanostructured/Amorphous Metallic, Intermetallic & Nonmetallic Materials**

2A-1	COMPOSITION RULES OF ZR-BASED BULK METALLIC GLASSES IN RELATION TO ICOSAHEDRAL CLUSTERS (INVITED PAPER) <i>C. Dong</i>	6
2A-2	OPTIMIZING THE PROPERTIES OF NANOSTRUCTURED COPPER FOR USE AS INTERCONNECT MATERIAL IN ELECTRONIC PACKAGING <i>M. Y. Pan, M. Gupta, A. A. O. Tay and K. Vaidyanathan</i>	6
2A-3	A NOVEL ROUTE TO PREPARE CADMIUM-DOPED SnO <sub>2</sub> NANOPARTICLES <i>H. M. Yang, A. D. Tang, X. H. Su, Y. L. Li and X. C. Zhang</i>	6
2A-4	INFLUENCE OF TEMPERATURE ANNEALING ON STRUCTURE AND MAGNETIC PROPERTIES OF COBALT BASE POWDERS ALLOYS OBTAINED ON HIGH-ENERGY BALL MILLING <i>J. Konieczny</i>	7
2A-5	SYNTHESIS OF TiB <sub>2</sub> – B <sub>4</sub> C COMPOSITE POWDERS THROUGH IN-SITU DISPLACEMENT REACTION AND CONSOLIDATION BY PLASMA PRESSURE COMPACTION <i>T. S. Srivatsan, G. Guruprasad, D. Black, M. Petraroli, R. Radhakrishnan and T. S. Sudarshan</i>	7

**1400 – 1540 hrs****2B - Hydrogen Storage Materials and Fuel Cell Materials**

2B-1	COMPLEX HYDRIDES FOR SOLID-STATE HYDROGEN STORAGE (KEYNOTE PAPER) <i>Y. Nakamori and S. Orimo</i>	7
2B-2	FRACTURE BEHAVIOR AND MICROSTRUCTURAL CHANGES OF NIOBIUM BY HYDROGENATION (INVITED PAPER) <i>S. Semboshi, N. Masahashi, T. J. Konno and S. Hanada</i>	8
2B-3	PREPARATION OF YSZ COATINGS USING ELECTROLYTIC AND ELECTROPHORETIC TECHNIQUES FOR SOLID OXIDE FUEL CELLS <i>Z. G. Xu</i>	8
2B-4	AN OVERVIEW OF THE CONTROLLED MECHANO-CHEMICAL SYNTHESIS OF NANOSTRUCTURED COMPLEX HYDRIDE Mg <sub>2</sub> FeH <sub>6</sub> <i>R. Varin</i>	8

**1400 – 1540 hrs****2C - Ceramics & Ceramic Matrix Composites**

2C-1	SINTERING AND DIELECTRIC CHARACTERISTICS OF 0.3SrBi <sub>4</sub> Ti <sub>4</sub> O <sub>15</sub> -0.7SrBi <sub>2</sub> Ta <sub>1.8</sub> V <sub>0.2</sub> O <sub>9</sub> CERAMIC <i>S. H. Wu, C. F. Yang, P. S. Cheng and C. M. Cheng</i>	9
2C-2	THE STUDY OF HIGH DIELECTRIC CONSTANT GATE-USED (1-x) La <sub>2</sub> O <sub>3</sub> -x SiO <sub>2</sub> CERAMICS <i>H. H. Chung, K. H. Lu, C. F. Yang and P. S. Cheng</i>	9
2C-3	SYNTHESIS OF DIVALENT METAL NITRIDES Zn <sub>3</sub> N <sub>2</sub> AND Mg <sub>3</sub> N <sub>2</sub> AND ENHANCEMENT OF THEIR BANDGAP BY INSERTION OF LITHIUM <i>T. Moriga, K. Takahara, R. Saki, T. Sakamoto, K. Murai and I. Nakabayashi</i>	9

2C-4	SYNTHESES AND OXIDATION ACTIVITIES OF CATALYSTS SUPPORTED GOETHITE <i>S. Tanaka, K. Tomita, K. Nakagawa, K. Murai, T. Moriga, I. Nakabayashi, Y. Kidoguchi and K. Miwa</i>	10
2C-5	CHARACTERISATION OF SINTERED CERAMIC COMPACTED FORMED BY MICRO-INJECTION MOULDING <i>W. D. Teng, R. Ramli and A. R. Sahab</i>	10

**1600 – 1700 hrs****3A - Nanostructured/Amorphous Metallic, Intermetallic & Nonmetallic Materials**

3A-1	SOLID STATE SYNTHESIS OF $Mg_2X$ VIA MECHANICALLY INDUCED REACTION (INVITED PAPER) <i>T. Aizawa and R. Song</i>	10
3A-2	PREPARATION OF POROUS NANO SIZED THIN FILM MATERIALS FOR CHEMICAL SENSORS AND POLLUTION TREATMENT <i>K. A. Dao, H. M. Le, H. H. Le, V. P. Phan, T. D. Tran and T. T. Nguyen</i>	11
3A-3	STUDIES ON GENERATION AND CHARACTERIZATION OF NANO ALUMINIUM NITRATE USING WIRE EXPLOSION TECHNIQUE <i>R. Sarathi, T. K. Sindhu and S. R. Chakravarthi</i>	11

**1600 – 1700 hrs****3B - Hydrogen Storage Materials and Surface Coatings**

3B-1	DEVELOPMENT OF METAL NITRIDES AND IMIDES FOR ONBOARD HYDROGEN STORAGE (INVITED PAPER) <i>P. Chen</i>	11
3B-2	STRUCTURE AND PROPERTIES OF THE PVD COATINGS DEPOSITED ONTO THE CERMETS <i>L. A. Dobrzanski, K. Golombek and D. Pakula</i>	12
3B-3	COPPER PLATING AND PATTERNING ON NON-PLANAR POLYMER COMPOSITE FOR CIRCUITRY APPLICATIONS <i>R. Ong, F. M. Liu and X. T. Zeng</i>	12

**1600 – 1700 hrs****3C - Ceramics & Ceramic Matrix Composites**

3C-1	THE INFLUENCE OF EXCESS $Bi_2O_3$ ON THE CHARACTERISTICS OF $Bi_4Ti_3O_{12}$ THIN FILM <i>C. C. Diao, C. F. Yang, K. C. Huang and C. M. Cheng</i>	12
3C-2	THE PREPARATION OF $SrBi_2Ta_{1.8}V_{0.2}O_9$ THIN FILM BY R.F. MAGNETRON SPUTTERING <i>C. C. Chan, C. F. Yang, J. S. Diao and C. M. Cheng</i>	12
3C-3	THERMAL VIBRATION OF RUTILE-TYPE DIFLUORIDES AND $RuO_2$ <i>K. Murai, Y. Suzuki, Y. Akune, Y. Kaneko, T. Kitagawa, T. Moriga and I. Nakabayashi</i>	13

**TUESDAY, 7<sup>TH</sup> DECEMBER 2004****0900 – 1010 hrs****4A - Magnetic Materials and Surface Coatings**

4A-1	MAGNETIC ORDERING AND MAGNETOSTRICTION OF NANOCRYSTALLINE $Fe_2Tb$ ALLOY (KEYNOTE PAPER) <i>P. Ruuskanen</i>	13
4A-2	ADHESION OF MONOLAYERS COATINGS DEPOSITED BY MAGNETRON SPUTTERING PROCESS ONTO THE BRASS SUBSTRATE <i>L. A. Dobrzanski, K. Lukaszewicz and E. Hajduczek</i>	13
4A-3	DEVELOPMENT AND PERFORMANCE OF RECHARGEABLE MICROBATTERY <i>W. Shen</i>	14

**0900 – 1010 hrs****4B - Structural & Functional Intermetallics & their Composites and Advanced Metallic Materials & Composites**

4B-1	BEYOND NICKEL-BASE SUPERALLOYS (KEYNOTE PAPER) <i>J. H. Schneibel</i>	14
4B-2	SYNTHESIS AND CHARACTERIZATION OF NOVEL LEAD-FREE SOLDER COMPOSITES <i>S. M. L. Nai, M. Gupta and J. Wei</i>	14
4B-3	EFFECTS OF PROCESS VARIABLES ON THE CARBOTHERMIC REDUCTION OF ILMENITE FOR IRON-BASED Ti(C,N) COMPOSITE <i>A. T. Tang, L. Y. Wang, J. Wang, Y. D. Zhen, K. Li and F. S. Pan</i>	15

**0900 – 1010 hrs****4C - Nanostructured/Amorphous Metallic, Intermetallic & Nonmetallic Materials**

4C-1	BULK METALLIC GLASSES, SYNTHESIS, THERMAL AND MECHANICAL CHARACTERIZATION (INVITED PAPER) <i>J. L. Soubeyroux, J. J. Blandin, S. Puech, M. Blétry, P. Guyot and J. M. Pelletier</i>	15
4C-2	THERMAL BEHAVIOUR OF NANOCRYSTALLINE Fe <sub>75</sub> Si <sub>25</sub> ALLOY PRODUCED BY MECHANICAL ALLOYING <i>B. Zuo and T. Sritharan</i>	15
4C-3	ORIGIN OF DUCTILITY OF NANOSTRUCTURED Mg ALLOYS <i>C. Yan, L. Ye, K. Raviprasad, M. O. Lai and L. Lu</i>	16

**1030 – 1220 hrs****5A - Magnetic Materials**

5A-1	DEFECT ENGINEERING FOR PROPERTY IMPROVEMENT OF SOME THERMOELECTRIC INTERMETALLICS (INVITED PAPER) <i>I. Haruyuki</i>	16
5A-2	STUDY OF THE RESONANCE-RELAXATION PHENOMENA OF Ni-Zn FERRITES DOPED WITH V <sub>2</sub> O <sub>3</sub> BY HIGH-FREQUENCY IMPEDANCE SPECTROSCOPY <i>G. Herrera, M. I. Rosales, E. A. Escárcega, H. Montiel and R. Valenzuela</i>	16
5A-3	SOME PROPERTIES OF Co/Al <sub>2</sub> O <sub>3</sub> /NiFe MAGNETIC TUNNEL JUNCTIONS ON GLASS SUBSTRATES WITH DIFFERENCE BUFFER LAYERS <i>A. T. Nguyen</i>	17
5A-4	SELF-PROPAGATING HIGH-TEMPERATURE SYNTHESIS (SHS) OF FERRITES: STATE AND PERSPECTIVES OF DEVELOPMENT <i>M. Kuznetsov</i>	17
5A-5	OPTICAL PROPERTIES OF ERBIUM ELECTROCHEMICALLY DOPED POROUS SILICON <i>V. H. Pham</i>	17

**1030 – 1220 hrs****5B - Advanced Metallic Materials & Composites**

5B-1	ADVANCED MATERIAL CHARACTERIZATION AND MODELING TECHNIQUES IMPROVING PROCESSING OF ALUMINUM ALLOYS (KEYNOTE PAPER) <i>W. Z. Misiolek</i>	18
5B-2	INFLUENCE OF AMOUNT OF SUB-MICRON SiC PARTICULATE REINFORCEMENT ON THE MICROSTRUCTURE AND PROPERTIES OF PURE MAGNESIUM <i>S. Ugandhar, M. Gupta and S. K. Sinha</i>	18
5B-3	SYNTHESIS AND CHARACTERIZATION OF HYBRID MAGNESIUM BASED COMPOSITES UTILIZING LOW VOLUME FRACTION OF CONTINUOUS REINFORCEMENTS <i>E. W. L. Wong and M. Gupta</i>	18

5B-4	DEVELOPMENT OF INNOVATIVE MAGNESIUM BASED COMPOSITES WITH MOLYBDENUM PARTICULATES AS REINFORCEMENTS <i>E. W. L. Wong and M. Gupta</i>	19
5B-5	RAPID TOOLING FOR PLASTIC INJECTION MOULDING USING INDIRECT RAPID TOOLING PROCESSES <i>F. J. Lino, P. V. Vasconcelos, R. Paiva and R. J. Neto</i>	19

**1030 – 1220 hrs****5C - Advanced Metallic Materials & Composites**

5C-1	RECRYSTALLISATION OF DEFORMED MAGNESIUM ALLOYS <i>C. W. Su, L. Lu and M. O. Lai</i>	19
5C-2	SYNTHESIS AND CHARACTERIZATION OF HYBRID MAGNESIUM COMPOSITES <i>S. Karthik, E. W. L. Wong and M. Gupta</i>	20
5C-3	EFFECTS OF PROCESSING ROUTE ON THE WEAR OF Mg NANO- $\text{Al}_2\text{O}_3$ COMPOSITES <i>C.Y. H. Lim, D. K. Leo and M. Gupta</i>	20
5C-4	INFLUENCE OF HIGH MELTING GLASSES ON SELECTED PROPERTIES OF PtRh ALLOYS FOR APPLICATIONS IN GLASS FIBRE BUSHINGS <i>C. Scheckenbach, J. Merker, B. Fischer, T. Schurig, D. F. Lupton and I. Kravchenko</i>	20
5C-5	TECHNOLOGICAL ADVANCES IN SQUEEZE CASTING TECHNIQUE FOR PROCESSING LIGHT METALS, ALLOYS AND METAL MATRIX COMPOSITES <i>V. Thoguluva Raghavan</i>	21

**1400 – 1540 hrs****6A - Magnetic Materials**

6A-1	MATERIALS PROCESSING AND TUNABLE MAGNETISM IN POLYMER NANOCOMPOSITES (INVITED PAPER) <i>H. Srikanth, P. Poddar and J. Gass</i>	21
6A-2	NANOCRYSTALLINE FeCoNbB ALLOYS WITH IMPROVED SOFT MAGNETIC PROPERTIES AT ELEVATED TEMPERATURES <i>I. Skorvanek</i>	21
6A-3	THE EFFECT OF NaF ON THE MAGNETIC PROPERTIES OF BARIUM HEXAFERRITE POWDERS <i>M. Mozaffari, J. Amighian, M. Noorbakhsh and A. Samani</i>	22
6A-4	MAGNETIC PROPERTIES AND STRUCTURE OF THE FINEMET ALLOY POWDERS BOUND WITH POLYMER <i>B. Ziebowicz, D. Szewieczek, L. A. Dobrzanski, A. Przybyl and G. Matula</i>	22

**1400 – 1540 hrs****6B - Advanced Metallic Materials & Composites**

6B-1	MECHANICAL BEHAVIOR OF Zr-BASED BULK METALLIC GLASSES: PROCESSING FOR PROPERTIES (KEYNOTE PAPER) <i>M. Heilmaier</i>	22
6B-2	CONTINUOUS COOLING TRANSFORMATIONS DIAGRAMS OF ENGINEERING STEELS PREDICTED BY THE USE OF ARTIFICIAL INTELLIGENCE METHODOLOGY <i>L. A. Dobrzanski and J. Trzaska</i>	23
6B-3	COMBUSTION SYNTHESIS OF CERAMIC-INTERMETALLIC COMPOSITES <i>K. Matsuura, Y. Hikichi and M. Kudoh</i>	23
6B-4	EFFECT OF PROCESS PARAMETERS ON THE CARBON FIBER REINFORCED ALUMINUM COMPOSITES PRODUCED THROUGH POWDER METALLURGY <i>M. Chandrasekaran, S. Murali and N. Srikanth</i>	23

**1400 – 1540 hrs****6C - Surface Coatings**

6C-1	CARBO-NITRIDE COATING OF TITANIUM (INVITED PAPER) <i>K. Matsuura and M. Kudoh</i>	24
6C-2	SPLAT MORPHOLOGY AND SPREADING BEHAVIOUR DUE TO OBLIQUE IMPACT OF DROPLETS IN PLASMA SPRAY COATING PROCESS <i>C. W. Kang, H. W. Ng and S. C. M. Yu</i>	24
6C-3	TRIBOLOGICAL AND MECHANICAL PROPERTIES OF THE HARD WEAR RESISTANT COATINGS DEPOSITED ONTO THE NITRIDE TOOL CERAMICS <i>D. Pakula, L. A. Dobrzanski, S. Skrzypek and K. Golombek</i>	24
6C-4	STRUCTURE AND PROPERTIES OF PVD COATINGS DEPOSITED ON OXIDE CERAMICS BASED ON $Al_2O_3$ <i>L. Dobrzanski</i>	25

**1600 – 1700 hrs****7A - Structural & Functional Intermetallics & their Composites; Advanced Metallic Materials & Composites; and Magnetic Materials**

7A-1	MID-INFRARED-WAVELENGTH GENERATION AT $4.0 \mu m$ IN A MIRRORLESS COUNTER-PROPAGATING CONFIGURATION <i>H. Su, S. H. Tang, Y. Q. Qin and H. C. Guo</i>	25
7A-2	DEVELOPMENT OF A SERIES OF TiAl-BASED IN SITU SYNTHESIZED COMPOSITES AND THEIR PROPERTIES <i>K. P. Rao, L. S. Wong and J. B. Zhou</i>	25
7A-3	CONTROLLING SCALE FORMATION, A MAGNETIC TREATMENT APPROACH <i>F. Farshad</i>	26

**1600 – 1700 hrs****7B - Advanced Metallic Materials & Composites and Surface Coatings**

7B-1	INFLUENCE OF ATMOSPHERE AND TEMPERATURE OF DEBINDING ON MICROSTRUCTURE OF HS 6-5-2 HIGH-SPEED STEELS PARTS PRODUCED BY POWDER INJECTION MOULDING <i>G. Matula, L. A. Dobrzanski, G. Herranz, A. Varez, B. Levenfeld and J. M. Torralba</i>	26
7B-2	IN SITU OBSERVATION ON PLASTIC DEFORMATION AND DAMAGE PROCESS OF MAGNESIUM ALLOY $AZ_{31}$ <i>G. F. Quan</i>	26
7B-3	INVESTIGATION OF NEWLY MODIFIED Cr COATING FOR IC MOLDING PROCESS <i>N. Srikanth, D. Saravanaranganathan, T. H. Kuah and S. C. Ho</i>	27

**1600 – 1700 hrs****7C - Advanced Metallic Materials & Composites**

7C-1	A STUDY ON THE MECHANICAL BEHAVIOR OF Au-Ni MULTILAYER <i>V. N. Sekhar, R. Jayaganthan, V. Srinivasarao, K. Mohankumar, A. A. O. Tay, S. K. Sinha and V. Kripesh</i>	27
7C-2	A STUDY ON THE MECHANICAL BEHAVIOUR OF Au THIN FILMS BY NANOINDENTATION <i>V. N. Sekhar, R. Jayaganthan, V. Srinivasarao, K. Mohankumar, A. A. O. Tay, S. K. Sinha and V. Kripesh</i>	27
7C-3	INVESTIGATIONS ON HIGH TEMPERATURE PROPERTIES OF IRIDIUM <i>J. Merker, B. Fischer, D. F. Lupton, C. Scheckenbach, R. Weiland and J. Witte</i>	28

WEDNESDAY, 8<sup>TH</sup> DECEMBER 2004

0900 – 1010 hrs

**8A - Nanostructured/Amorphous Metallic, Intermetallic & Nonmetallic Materials and Advanced Metallic Materials and Composites**

8A-1	MOLECULAR DYNAMICS AND SIMULATION OF THE EFFECT OF TOOL EDGE RADIUS ON CUTTING FORCES AND CUTTING REGION IN NANOSCALE DUCTILE CUTTING OF SILICON <i>M. B. Cai, X. P. Li and M. Rahman</i>	28
8A-2	EFFECT OF TYPE OF PRIMARY PROCESSING ON THE PROPERTIES OF MAGNESIUM/ALUMINA NANOCOMPOSITES <i>S. F. Hassan and M. Gupta</i>	28
8A-3	EFFECT OF THE PRESENCE OF NANO-SIZE ALUMINA PARTICLES ON THE DAMPING PROPERTY OF ELEMENTAL MAGNESIUM <i>N. Srikanth, X. L. Zhong and M. Gupta</i>	29

0900 – 1010 hrs

**8B - Nanostructured/Amorphous Metallic, Intermetallic & Nonmetallic Materials and Ceramics & Ceramic**

8B-1	CRITICAL ISSUES IN GE/SI NANOSTRUCTURES: POSITIONING, INTERMIXING AND RIPENING (INVITED PAPER) <i>R. Federico</i>	29
8B-2	INFLUENCE OF REINFORCEMENT ON WEAR BEHAVIOR OF A MAGNESIUM ALLOY PRODUCED BY SQUEEZE CASTING <i>M. Jayalakshmi, S. Seshan, S. Kailas, K. Kumar and T. S. Srivatsan</i>	30
8B-3	OPTICAL AND PHYSICAL PROPERTIES OF FLY ASH- $\text{Bi}_2\text{O}_3$ - $\text{B}_2\text{O}_3$ GLASSES <i>A. Arora, K. Singh, A. Goel and G. Sharma</i>	30

1030 – 1220 hrs

**9A - Superconducting Materials and Advanced Metallic Materials & Composites**

9A-1	MECHANICAL MILLING ASSISTED BY ELECTRICAL DISCHARGE-RECENT DEVELOPMENTS (KEYNOTE PAPER) <i>A. Calka</i>	30
9A-2	MICROANALYSIS OF Y DOPED (Bi,Pb)-2223 SUPERCONDUCTORS: A CORRELATION OF THE MICROANALYSIS TO ITS ELECTRICAL PROPERTIES <i>Z. Zulkifli and M. N. Dalimin</i>	31
9A-3	SYNTHESIS AND CHARACTERIZATION OF MAGNESIUM COMPOSITES REINFORCED WITH NANO-SIZE MgO <i>C. S. Goh, J. Wei, L. C. Lee, K. W. Lim and M. Gupta</i>	31
9A-4	THE HIGH CYCLE FATIGUE AND FINAL FRACTURE BEHAVIOR OF A BULK Al-Cr-Fe ALLOY MADE BY CONSOLIDATING MICRON- AND NANO-SIZED POWDERS BY PLASMA PRESSURE COMACTION <i>T. S. Srivatsan, S. Givens, R. Radhakrishnan and T. S. Sudarshan</i>	31
9A-5	SURFACE TREATMENT OF METALS BY HIGH CURRENT PULSED ELECTRON BEAM <i>S. Z. Hao</i>	31

1030 – 1220 hrs

**9B - Surface Coatings and Advanced Polymers & Polymer Matrix Composites**

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9B-2	THICKNESS MEASUREMENT OF SPUTTERED GOLD FILMS BY X-RAY MICROANALYSIS <i>F. L. Ng and J. Wei</i>	32
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10A-4	TEM AND ATOM PROBE OBSERVATIONS OF Nd-RICH PHASE IN NdFeB RAPIDLY SOLIDIFIED RIBBONS <i>R. Gholamipour, C. Y. You, T. Ohkubo, A. Beitollahi, V. K. Marghussian and K. Hono</i>	35
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##### 10B - Nanostructured/Amorphous Metallic, Intermetallic & Nonmetallic Materials

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10B-2	CHARACTERIZATION OF TRANSPARENT CONDUCTING AMORPHOUS ZnO-SnO <sub>2</sub> FILMS DEPOSITED BY OPPOSED TARGET SPUTTERING SYSTEM <i>Y. Hayashi, K. Kondo, Y. Nishimura, H. Suketa, K. Murai, T. Moriga, I. Nakabayashi, H. Fukumoto and K. Tominaga</i>	36

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##### 11A - Ceramics & Ceramic Matrix Composites and Advanced Metallic Materials & Composites

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**1600 – 1700 hrs****11B - Advanced Polymers & Polymer Matrix Composites**

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