MP³-2007

14th - 16th September 2007
Beijing International Convention Center, China
http://www.materials.org.sg

The 6th International Conference on Materials Processing, Properties and Performance

Symposia

1) 2nd Symposium on Ultralight Materials and Structures (Ultralight 2007: Wei Zhou)
2) 2nd Symposium on Fuel Cells Science & Technology: Bridging Processing and Performance (FCST: San Ping Jiang)
3) 3rd Symposium on Materials In Devices And Systems (MIDAS: R.V. Ramanujan)
4) Computational Methods in Materials Research and Development (CMM: Zhi Zeng)
5) Nanomaterials and Nanostructures (NMN: Weiping Cai)
6) Superalloys, Intermetallics and Related Materials (SIM: Yanfang Han)
7) Synthesis and Properties of Surface Coatings (SPS: Shengkai Gong)
8) Toughening and Toughness Measurement of Films and Coatings (TTM: Sam Zhang)

Important Deadlines
- Abstract submission: May 31, 2007
- Notice of Acceptance: June 15, 2007
- Full manuscript: July 15, 2007
- Early Bird Registration: July 15, 2007

Organized By:

1st MP³: Singapore 2002
2nd MP³: Yokohama, Japan 2003
3rd MP³: Singapore 2004
4th MP³: Chiba, Japan 2005
5th MP³: Singapore 2006
6th MP³: Beijing, China 2007

General Chair: Prof. K. A. Khor
Vice Chairs: Prof. Huibin Xu
Prof. Sam Zhang
Prof. Weiping Cai
With recent development of superhard thin films and coatings, the development of toughening methodology in thin films and/or coatings become more and more important. This symposium welcome contributions for all aspect of methodology development in toughening and toughness measurement of ceramic films and coatings, nanocomposite films and coatings, engineering and functional films and coatings.

**Organizing Committee:**
Sam Zhang (Chair) (Nanyang Technological University, Singapore)  
Nasar Ali (University of Aveiro, Portugal)  
Zhong Chen (Nanyang Technological University, Singapore)

Qianfeng Fang (Institute of Solid State Physics, Chinese Academy of Sciences, China)  
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Zhimou Xu (Huazhong University of Science and Technology, China)  
Fuhui Wang (Institute of Metal Research, China)  
Xianting Zeng (Singapore Institute of Manufacturing Technology, Singapore)
Call for papers

The Third MIDAS Symposium - Materials In Devices And Systems (Chair: R.V. Ramanujan)
The Third MIDAS symposium invites papers in the area of materials used in devices and systems. Currently there is an urgent need for novel materials in devices and systems for:

- Information Storage and Retrieval
- Computing and Communication
- Energy Conversion
- Portable Multifunctional Devices
- Home, National and International Security

The development of these devices and systems will require novel materials and innovative ways of using these materials in the following interest areas:

- Magnetic Materials
- Microelectronic Materials
- Energy related materials
- Self Assembled Materials
- Photonic Materials
- Rare Earth Materials

Organizing Committee:
R.V. Ramanujan (Chair) (Nanyang Technological University, Singapore)
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S. Piramanaygam (Data Storage Institute, Singapore)
V. Rajendran (Rangasamy College of Technology, India)
A. Ramam (Institute of Materials and Research Engineering, Singapore)
A. Tok (Nanyang Technological University, Singapore)
C.C. Wong (Nanyang Technological University, Singapore)
Y. Zhang (Intel, Shanghai, China)

Synthesis and properties of surface coatings (SPS) (Chair: Shengkai Gong)
- Superhard films
- High temperature coatings
- Surface protection techniques
- Nanocomposite films and coatings
- Engineering and functional films and coatings

Organizing Committee:
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Xiaofang Bi (Beihang University, China)
Hongbo Guo (Beihang University, China)
Yedong He (University of Science and Technology Beijing, China)
Chundong Li (Harbin Institute of Technology, China)
Fuchi Wang (Beijing Institute of Technology, China)
Chungen Zhou (Beihang University, China)

The 2nd International Symposium on Ultralight Materials and Structures - Ultralight2007
The driving need for weight reduction, particularly in portable microelectronics, telecommunication and automotive applications, has stimulated engineers to be more adventurous in their choice of materials. Ultralight magnesium alloys and other materials with open or closed cell structures are being increasingly used. New steels and composites are being adopted to achieve ultralightness in structures through innovative structural design and new manufacturing processes. Topics of interest include but are not restricted to:

- Casting, Welding, Machining and New Shaping Processes of Mg, Al and Ti Alloys
- Electrochemical & Mechanical Properties
- Development of New Alloys, MMCs and Foams
- Ultralight Structures through Materials Selection and Innovative Design
- Numerical Modeling and Simulation
- Special Characterization Techniques with EBSD etc.

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Fusheng Pan (Chongqing University, China)
Zheng Sun (Singapore Institute of Manufacturing Technology, A*STAR, Singapore)
Shoumei Xiong (Tsinghua University, P. R. China)
Rui Yang (Institute of Metal Research, Chinese Academy of Sciences, P. R. China)

Nanomaterials and Nanostructures (NMN) (Chair: Weiping Cai)
- Synthesis and characterization of nanostructures and nanomaterials
- Growth mechanism and property characterization of nanomaterials
- Simulations of Nanomaterials
- Nanostructured patterns and devices
- Applications of nanomaterials

Organizing Committee:
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Naoto Koshizaki (Nanoarchitectonics Research Center, AIST, Japan)
Shinya Maenosono (Japan Advanced Institute of Science and Technology, Japan)
G. W. Meng (Institute of Solid State Physics, Chinese Academy of Sciences, China)
S. H. Yu (University of Science and Technology of China, China)
Call for papers

2nd FCST Symposium - Fuel Cells Science & Technology: Bridging Processing and Performance (Chair: San Ping Jiang)

The 2nd Symposium on Fuel Cells Science & Technology: Bridging Processing and Performance (2nd FCST) will provide an international forum for the presentation and discussion of the latest developments on fuel cells including solid oxide fuel cells (SOFCs), molten carbonate fuel cells (MCFCs), polymer electrolyte fuel cells (PEFCs), direct methanol fuel cells (DMFCs), direct alcohol fuel cells (DAFCs), micro fuel cells, bio-fuel cells, and microbial fuel cells. Papers are solicited on all aspects of fuel cells and related issues. Selected papers from the Fuel Cell symposium will be submitted to the Journal of Power Sources for consideration of publication. Following is a partial list of topics to be addressed:

- Materials for cell components (electrode, electrolyte, interconnect, seals)
- Fabrication and processing methods for powders, cell components, and complete cells
- Synthesis and characterization of Pt alloy catalysts and non-precious metal catalysts for low temperature fuel cells
- Characterization, electrochemical performance, interface and reaction mechanism
- Catalyst, cell, stack and system modeling, and stack design, their performance and stability
- Fuel reforming, processing and utilization
- Power generation, transportation, prototype fuel cell system, fuel cell

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Xin Wang (Nanyang Technological University, Singapore)
Zidong Wei (Chongqing University, Chongqing, China)
Ping Wu (Institute of High Performance Computing, Singapore)
Lin Zhuang (Wuhan University, Wuhan, China)

Superalloys, Intermetallics and related materials (SIM) (Chair: Yanfang Han)

- Mechanical properties: plastic deformation, fatigue, fracture, creep, corrosion
- Microstructure controlling
- Deformation Mechanisms
- Failure analysis methodology
- Creep-fatigue interaction
- Influence of environment on fatigue behaviors
- Mechanical Testing, Advanced Analytical Techniques
- Life predication

Organizing Committee:
Yafang Han (Chair) (Chinese Materials Research Society, China)
Qiang Feng (University of Science and Technology Beijing, China)
Jianjing Guo (Institute of Metal Research, China)
Shusuo Li (Beihang University, China)
Ji Zhang (Central Iron & Steel Research Institute, China)

Computational Methods in Materials Research and Development (CMM) (Chair: Zhi Zeng)

- Computational Materials Design and Processing
- Modeling Microstructural Characterization and Evolution;
- Applications of Materials Modeling and Simulation;
- Ab Initio and Atomistic Calculations
- Materials and Modeling: Processing-Related Issues
- Computer Aided Design and Drafting

Organizing Committee:
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