

## Events Schedule ACF-2012

**Day 1: 16-01-2012**

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| 08:00 AM – 08:30 AM                              | Registration   |  |
| 08:30 AM – 09:00 AM                              | Invocation<br>Welcome note by the Head, MME<br>Inaugural address by the Director, IIT Madras<br>Introduction to the workshop by the convener |  |
| <b>Session I: Ceramic Research in India</b>      |  |  |
| 09:00 AM – 09:30 AM                              | Advanced ceramics programmes at the International Advanced Research Centre for Powder Metallurgy and New Materials                           | Prof. Sundararajan, ARCI, India  |
| 09:30 AM – 10:00 AM                              | Recent innovations in the area of advanced ceramics and specialty glasses at CSIR-Central Glass and Ceramic Research Institute (CGCRI)       | Prof. Indranil Manna, CGCRI, India   |
| 10:00 AM – 10:30 AM                              | <i>High Tea</i>  |  |
| <b>Session II: Advanced Ceramic Coatings</b>     |  |  |
| 10:30 AM – 11:00 AM                              | Micromechanisms of deformation and damage in multilayered nitride coatings   | Prof. Vikram Jayaram, Indian Institute of Science, India                         |
| 11:00 AM – 11:30 AM                              | Thermal barrier coatings for jet engines: New ceramic materials, thermal conductivity & degradation mechanisms                               | Prof. Uwe Schulz, German Aerospace Centre, Germany                               |
| 11:30 AM – 12:00 PM                              | Rare earth phosphate ceramics- emerging applications and challenges  | Dr. Warriar, National Institute of Interdisciplinary Science & Technology, India |
| 12:00 PM – 01:30 PM                              | <i>Lunch Break</i>   |  |
| <b>Session III: Polymer Derived Ceramics - I</b> |  |  |
| 01:30 PM – 02:00 PM                              | Nitride porous ceramics from preceramic polymers   | Prof. Philippe Miele, University of Montpellier, France                          |
| 02:00 PM – 02:30 PM                              | Transmission electron microscopy studies of polymer derived ceramics; Potentials and limitations   | Prof. Hans-Joachim Kleebe, Technical University of Darmstadt, Germany            |
| 02:30 PM – 03:00 PM                              | Borosiloxanes and metalloborosiloxanes as precursors for ceramics  | Dr. Pakirisamy, Indian Space Research Organisation, India                        |
| 03:00 PM – 03:30 PM                              | Towards continuous processes for the synthesis of precursors of amorphous Si-B-C-N ceramics  | Dr. Markus Weinmann, H.C.Starck GmbH, Germany                                    |
| 03:30 PM – 04:00 PM                              | <i>Tea break</i>   |  |
| <b>Session IV: Polymer Derived Ceramics - II</b> |  |  |
| 04:00 PM – 04:30 PM                              | Polymer derived ceramic nanocomposites: Synthesis approaches and high temperature behavior   | Dr. Emanuel Ionescu, Technical University of Darmstadt, Germany                  |
| 04:30 PM – 05:00 PM                              | Enhanced PDC based coating system on steel   | Dr. Martin Günthner, University of Bayreuth, Germany                             |
| 05:00 PM – 06:00 PM                              | Poster session   |  |
| 06:15 PM   | Departure for dinner from IIT campus<br>(Banquet lecture by Prof. Fritz Aldinger on <b>Bioinspired Material Synthesis</b> )                  |  |

**Day 2: 17-01-2012**

| <b>Session V: Advanced Ceramics Processing</b>        |  |  |
|---|--|--|
| 09:00 AM – 09:30 AM                                   | Ultra high pressure synthesis of advanced nitrides   | Prof. Ralf Riedel, Technical University of Darmstadt, Germany            |
| 09:30 AM – 10:00 AM                                   | Design, processing and properties of monolith type silicon transition metal nitride nanocomposites   | Dr. Samuel Bernard, University of Montpellier, France                    |
| 10:00 AM – 10:30 AM                                   | Synthesis and densification of nano ZrB <sub>2</sub> and HfB <sub>2</sub>  | Dr. Sea- Hoon Lee, Korea Institute of Materials Science, Korea           |
| 10:30 AM – 11:00 AM                                   | <i>Tea break</i>   |  |
| <b>Session VI: Advanced Structural Ceramics</b>       |  |  |
| 11:00 AM – 11:30 AM                                   | Molecular dynamics simulation of crack propagation in alumina with new polarizable force field   | Prof. Siegfried Schmauder, University of Stuttgart, Germany              |
| 11:30 AM – 12:00 PM                                   | Local melts to dictate the microstructural formation in sintering of SiC ceramics  | Prof. Hui Gu, Shanghai Institute of Ceramics, China                      |
| 12:00 PM – 12:30 PM                                   | Synthesis and characterization of hafnium based ceramics   | Dr. Branko Matovic, Institute of Nuclear Science, Serbia                 |
| 12:30 PM – 02:00 PM                                   | <i>Lunch break</i>   |  |
| <b>Session VII: Advanced Functional Ceramics - I</b>  |  |  |
| 02:00 PM – 02:30 PM                                   | Molecularly tailored bulk materials and interfaces for energy and electronics  | Prof. Ganpati Ramanath, Rensselaer Polytechnic Institute, USA            |
| 02:30 PM – 03:00 PM                                   | Ceramic membranes – An industrial perspective of new generation filtration applications  | Dr. Sukumar Roy, Bharat Heavy Electrical Limited, India                  |
| 03:00 PM – 03:30 PM                                   | Redox stable electrodes for solid oxide fuel cells   | Dr. Nuri Solak, Istanbul Technical University, Turkey                    |
| 03:30 PM – 04:00 PM                                   | <i>Tea break</i>   |  |
| <b>Session VII: Advanced Functional Ceramics - II</b> |  |  |
| 04:00 PM – 04: 30 PM                                  | Synthesis and characterization of ceria solid solutions in nanometric powdered form  | Dr. Snezana Boskovic, Institute of Nuclear Science, Serbia               |
| 04:30 PM – 05:00 PM                                   | Ceramic and glass ceramic materials for nuclear waste immobilization   | Dr. K. V Govindan Kutty, Indira Gandhi Centre for Atomic Research, India |
| 05:00 PM – 05:30 PM                                   | Valedictory function addressed by Prof. F. D. Gnanam, former professor of Anna University and former president of the Indian Ceramic Society |  |
| 05:30 PM – 06:00 PM                                   | <i>High tea</i>  |  |