



# Nanotechnology based innovation for Environmental, Energy & Biomedical Applications

*This symposium honors Prof. Himadri Shekar Maiti and Prof. Akira Naito*

**Symposium Conveners: Bikramjit Basu and Sunichi Tatami**

**Venue: Auditorium, Materials Research Center, IISc, Bangalore**

## Schedule

<b>Technical Session-1 (December 16, 2013) (13:30-16:00); Session Chair: Suzuki Atsushi</b>		
Time Slot	Name	Title
13:30-13:35	Bikramjit Basu	Welcome Note
13:35-14:05	Shunichi Arisawa	Characterization of Superconducting Thin Films by Scanning SQUID Microscopy
14:05-14:35	R. N. Basu	Nanostructured ceramic fuel cell components with enhanced electrochemical properties
14:35-15:00	A.Mukhopadhyay	Real Time Investigation of Stress Development in Thin Film Electrode Materials for Li-ion Batteries
15:00-15:30	Abhishek Singh	Tuning of Electronic Properties of Semiconducting Bilayer Transition Metal Dichalcogenides by Applying Normal Pressure
15:30-16:00	Prabeer Barpanda	Development of low-cost high-voltage (4V) Fe-based polyanionic cathodes for Lithium-ion batteries
<b>Technical Session-2 (December 17, 2013) (13:45-15:45); Session Chair: Shunichi Arisawa</b>		
Time Slot	Name	Title
13:45-14:15	Suzuki Atsushi	Novel Methods of Physically Crosslinked PVA Gels with Higher Mechanical Properties
14:15-14:45	Tata N. Rao	Electrodeposited Graphene-Metal Nanocomposites as High performing Materials
14:45-15:15	Sourabh Ghosh	A somatostatin receptor-targeting nanoparticle-based radionuclide delivery strategy to minimize nephrotoxicity in Neuroendocrine Tumors
15:15-15:45	Aroop Datta	Assembly line for tissue manufacturing
<b>Technical Session-3 (December 19, 2013) (13:45-16:15); Session Chair: Junichi Tatami</b>		
Time Slot	Name	Title
13:45-14:15	Manabu Enoki	Design and Mechanical Properties of Coronary Stents
14:15-14:45	Kaushik Chatterjee	The use of carbonaceous nanoparticles in polymer scaffolds for tissue engineering
14:45-15:15	Suryasarathi Bose	Size dependent dielectric properties induced by surface functionalized MWNTs in poly (vinylidene fluoride)/poly (methyl methacrylate) blends
15:15-15:45	Umezawa Osamu	Subsurface Crack Generation in High-cycle Fatigue of Titanium alloys and Steels at Low Temperature
15:45-16:15	N. Ravishankar	Understanding Shape-Controlled Synthesis of Nanostructures

## Schedule

<b>Technical Session-4 (December 20, 2013) (13:45-15:45); Session Chair: Kaushik Chatterjee</b>		
Time Slot	Name	Title
10:30	Visit to National Nanofabrication Center and Micro-Nano Characterization Facility, Center for Nanoscience and Engineering(CeNSE), IISc	
13:45-14:15	Bikramjit Basu	Multifunctional Biomaterials and Electric field stimulated cell functionality modulation: A New Paradigm
14:15-14:45	Naohiro Horiuchi	Electric characterization in fluorine doped hydroxyapatite
14:45-15:15	Karuna Kar Nanda	N-doped Carbon Nanoparticles for Environmental, Energy & Biomedical Applications
15:15-15:45	Akira Naito	Amyloid Fibril Formation and Inhibition Mechanisms of Human Calcitonin as Revealed by <sup>13</sup> C Solid State NMR and Transmission Electron Microscopy
16:00-17:30	Visit to some research facilities at Materials Research Center (MRC), IISc	
17:30-19:00	Discussion on Indo-Japan research collaboration (Brainstorming session)	
<b>Technical Session-5 (December 21, 2013) (9:00-11:30); Session Chair: Pritha Choudhary</b>		
Time Slot	Name	Title
9:00-9:30	Junichi Tatami	Local Mechanical Properties of Si <sub>3</sub> N <sub>4</sub> Ceramics Measured Using Microcantilever Specimens
9:30-10:00	H. S. Maiti	Structural Characteristics and Ionic Transport in Lanthanum Molybdate and related Compounds
10:00-10:30	B.V.ManojKumar	Processing and Wear Properties of Si <sub>3</sub> N <sub>4</sub> Phase-free Nano Si <sub>3</sub> N <sub>4</sub> Ceramics
10:30-11:00	Brahma Raju Golla	Sintered Reaction Bonded Silicon Nitride (SRBSN) for substrate material applications: Issues related to Processing
11:00-11:30	High Tea	
<b>Technical Session-6 (December 21, 2013) (11:30-14:00); Session Chair: Akira Naito</b>		
11:30-12:00	Meenal Kowshik	Biocompatible silver-doped hydroxyapatite and titanium dioxide nanomaterials with excellent anti-biofilm efficacy: potential candidates for bone tissue engineering
12:00-12:30	Sukumar Roy	Fabrication and validation of alumina-based composite membranes for advanced filtration applications
12:30-13:00	Yoshitake Hideaki	Density and Orientation of Organic Functional Groups on Mesostructured Silicas: Application to Removal of Aqueous Pollutants
13:00-13:30	Kubota Yoshihiro	Catalyst Preparation from Highly Defective Zeolite Precursor YNU-2P
13:30-14:30	Lunch	
14:30-16:00	Felicitation	
16:00-16:30	Bikramjit Basu & Junichi Tatami	Closure

Symposium website:

[http://mrc.iisc.ernet.in/~bikram/Bikram\\_Website/DST\\_JSPS\\_Symposium.html](http://mrc.iisc.ernet.in/~bikram/Bikram_Website/DST_JSPS_Symposium.html)