

# Indian Institute of Technology Mandi

## First In-House Symposium on Inter-Disciplinary Research and Development

*Saturday, 7th May 2011 (8:30am – 6:00pm), Room No. 208, IIT-Mandi*

### **08:30 - 12:15: Morning session on ‘Metamaterials’**

08:30 - 08:32: Invocation

08:32 – 08:35: Welcome to session on metamaterials by Prof. P.C. Deshmukh on behalf of conveners

08:35 - 09:05: Opening Remarks by Professor Subrata Ray (IIT-Mandi/IIT-Roorkee)

### **Session-I (Chair – Dr. Amarjit Singh, TBRL-DRDO, Chandigarh)**

**M-I-T1:** 9:05—9:35 am

Special Presentation by Dr. Pramod Soni, TBRL DRDO

**M-I-T2:** 9:35—10:05 am

Negative Refraction in Photonic Crystals - Dr. Pradyumna K. Pathak

**M-I-T3:** 10:05—10:35 am

Implications of Negative Refractive Index - Dr Hari Varma

### **Tea Break (10:35-10:45)**

### **Session-II (Chair –Dr. Lalit Malhotra, IIT Mandi)**

**M-II-T1:** 10:45—11.15 am

Recent Advances in the Fabrication of Optical Negative Index Metamaterials - Dr. P. C. Ravikumar

**M-II-T2:** 11.15—11:45 am

Three Dimensional Optical Metamaterial with a Negative Refractive Index - Dr. Pradeep Parameswaran

**M-II-T3:** 11:45 am—12:15 pm

Bottom up Synthesis of Metamaterials through Self-assembly of Colloidal Nanoparticles - Dr. Prem Felix Siril

**Lunch Break (12:15—13:28)**

**13:28 - 18:00: Afternoon session on 'Science, Engineering and Technology of Solar Energy'**

13:28 – 13:30: Welcome to session on solar energy by Prof. P.C. Deshmukh on behalf of conveners

13:30- 14:00: Opening Remarks by Professor Sunil Kale (IIT-Mandi/IIT-Delhi)

**Session-III (Chair –Dr. Subrata Ray, IIT Mandi/IIT Roorkee)**

**S-I-T1:** 14:00-14:30 pm

Organic Polymers Solar Cells: The Challenges and Improvement - Dr. Chayan K. Nandi & Dr. Subrata Ghosh

**S-I-T2:** 14:30:-15:00 pm

Polymer Solar Cells: Optimizing Solar Energy Harvesting by Simultaneous Process, Product and Property Modeling - Dr. Vipasha Soni

**S-I-T3:** 15:00-15:30 pm

Technical & Economic Issues for Grid Connection of Solar Power in India - Dr. Bharat Singh Rajpurohit & Dr. Trapti Jain

**15:30-15:45pm:** Tea/Coffee break

**Session-IV (Chair –Dr. Sunil Kale, IIT Mandi/ IIT Delhi)**

**S-II-T1: 15:45-16:15 pm**

Plastic Solar Cells: Science, Expectations, and Challenges - Dr. Suman Kalyan Pal

**S-II-T2: 16:15-16:45 pm**

Mechanical Analysis of Solar Panels - Dr. Rajeev Kumar

**S-II-T3: 16:45-17:15 pm**

Solar Energy for Building Cooling and Heating - Dr. Sateesh Gedupudi

**17:15-17:30 pm:** Tea/Coffee Break

**17:30-18:00 pm: Valedictory address by Professor T. A. Gonsalves, Director, IIT-Mandi**

**Panel Discussion : "Way To Go: SYNERGY in the NEIGHBORHOOD"**

**Sunday 8<sup>th</sup> May 9 am -10 am in Room No: 208**

Panelists are:

Dr. Amarjit Singh	- DRDO
Dr. Malhotra	- IIT-Mandi
Dr. Gonsalves	- IIT-Mandi
Dr. Sunil Kale	- IIT-Mandi/IIT-Delhi
Dr. Subrata Ray	- IIT-Mandi/IIT-Roorki
Dr. P.C.Deshmukh (Moderator)	- IIT-Mandi/IIT-Madras