

## **(08) Nanomaterials Devices and Applications**

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## (8) Nanomaterials Devices and Applications

### DETAILED PROGRAMME

Tuesday, 17-12-2013

#### Session I : 10.15 – 11.15

10.15 - 10.45 Invited Talk (1)	Anil Prabhakar	<b>ABS - Email - ICA</b> Magnonics: Spin wave propagation in magnetic meta-materials
10.45-11.00 Oral (1)	S.Bashaiah and K.C. James Raju	<b>ABS - 1432 - ICA</b> High Permittivity and Low Loss Materials for Reduced Height Waveguide Ceramic Window for High Power Microwave Applications
11.00-11.15 Oral (2)	R.K. Bommali, Nandlal Sharma, Shahab Ahmad, S. Ghosh, G. Vijaya Prakash and P. Srivastava	<b>ABS - 1404 - ICA</b> Si Rich Silicon Nitride: A material with Tunable Opto-electrical properties

#### Session II : 11.45 – 13.15

11.45 - 12.15 Invited Talk (2)	C. Roy Chaudhuri, H. Ghosh	<b>ABS - Email - ICA</b> Nanostructured Silicon Oxide Immunosensor as Frequency Selective High Performance Biomolecule Detection Platform
12.15-12.30 Oral (3)	Pritesh Parikh, Chitrleema Chakraborty, T.S. Abhilash, Shamashis Sengupta, Chun Cheng, Junqiao Wu and Mandar M. Deshmukh	<b>ABS - 924 - ICA</b> Dynamically tracking the strain across the metal-insulator transition in VO <sub>2</sub> measured using electromechanical resonators
12.30-12.45 Oral (4)	Bhavana Peri, Bikash Borah and Raj Kishora Dash	<b>ABS - 1219 - ICA</b> Low Temperature Growth of Silicon Carbide Thin Film for High Temperature MEMS based Sensor Applications
12.45-13.00 Oral (5)	Madhu Thalakulam, C.B. Simmons, B.J. Van Bael, B.M. Rosemeyer, D.E. Savage, M.G.Lagally, Mark Friesen, S.N.Coppersmith and M.A. Erikson	<b>ABS - 1028 - ICA</b> Characterization of tunneling rates and energy-dependent-tunneling in a one-electron gated Si/SiGe quantum dot using an on-chip quantum point contact charge sensor
13.00-13.15 Oral (6)	Saakshi Dhanekar, S.S. Islam, Harsh	<b>ABS - 1173 - ICA</b> Surface Studies of Functionalized Porous Silicon for Development of Selective Moisture Sensor

**Session III : 16.00 – 18.00**

16.00 - 16.30 Invited Talk (3)	Dojin Kim, Nguyen Minh Vuong and Hoang Nhat Hieu	<b>ABS - Email - ICA</b> The low-limit of nano-size effect in nanowire gas sensor device
16.30 - 17.00 Invited Talk (4)	Ankur Gupta, S.S. Pandey, Monalisha Nayak, Arnab Maity, Subhashish Basu Majumder and Shantanu Bhattacharya	<b>ABS - Email - ICA</b> Hydrogen sensing based on nanoporous silica-embedded ultra dense ZnO nanobundles
17.00 - 17.15 Oral (7)	Neeraj Jain, S. Manhas, AK Aggarwal, PK Chaudhry	<b>ABS - 469 - ICA</b> CNT based Gas Sensing - A Simulation Study
17.00 - 17.15 Oral (8)	A. Sree Rama Murthy, K.I. Gnanasekar, V. Jayaraman, A.M. Umarji and T. Gnanasekaran	<b>ABS - 937 - ICA</b> Application of principal component analysis (PCA) algorithm to gas sensing characteristics of electron beam evaporated SnO <sub>2</sub> and Ti - doped SnO <sub>2</sub> thin films array
17.00 - 17.15 Oral (9)	A. Maity and S.B. Majumder	<b>ABS - 552 - ICA</b> Investigations on CO, CH <sub>4</sub> and NO <sub>x</sub> sensing characteristics with spinel: perovskite composite materials to monitor air quality of automobile cabin
17.00 - 17.15 Oral (10)	A. Das, Bonu Venkataramana, A.K. Prasad, S. Dhara, D. Panda, R. Amla and A.K. Tyagi	<b>ABS - 1094 - ICA</b> Quantum dots SnO <sub>2</sub> and Ag/SnO <sub>2</sub> for CH <sub>4</sub> sensing at low temperature

**Wednesday, 18-12-2013****Session IV : 10.15 – 11.15**

10.15 - 10.45 Invited Talk (5)	R.O. Dusabe	<b>ABS - Email - ICA</b> Supercapacitors from Silicon Nanowires
10.15 - 10.30 Oral (11)	Sabyasachi Ghosh and A.K. Raychaudhuri	<b>ABS - 618 - ICA</b> Link between depressions of melting temperature and Debye temperature in nanowires and its implication on Lindeman relation
10.30 - 10.45 Oral (12)	Smitha Nair, Sangeeth Kallatt, Vijayaraghavan and Navakanta Bhat	<b>ABS - 1214 - ICA</b> Optical Characterization of PECVD grown Ge nanowires

**Session V : 16.00 – 18.00**

16.00 - 16.30 Invited Talk (6)	Manu Jaiswal	<b>ABS - Email - ICA</b> Graphene: Engineering Electronic Phenomena on a Single-Atom Membrane
16.30 - 16.45 Oral (13)	Snigdha Rai, Ashi Ikram, Sonal Sahai, Sahab Dass, Rohit Shrivastav, Vibha Rani Satsangi	<b>ABS - 82 - ICA</b> Photoelectrochemical performance of Fe <sub>2</sub> O <sub>3</sub> -GNP thin films for solar generation of Hydrogen
16.45 - 17.00 Oral (14)	Eesha Andharia Sanjay, Raam Prasath Parameswari, Vejeey Khumar, Mukesh Baba, Priyadarshini K, Ashish Pandey, Atindra D. Shukla	<b>ABS - 576 - ICA</b> Synthesis of MgO Coated Titanium dioxide nano particles and its application in organic dye sensitized solar cells
17.00 - 17.15 Oral (15)	Abhishek Swarnakar and Angshuman Nag	<b>ABS - 912 - ICA</b> Organic-Free Colloidal Quantum Dots as Luminescent Sensors for Metal Ions and Nitroaromatic Explosives
17.15 - 17.30 Oral (16)	Alka Pareek, Pradip Paik, and Pramod H. Borse	<b>ABS - 1313 - ICA</b> Stability improvement of CdS photoanode by control over adsorbed titania nanoparticle phase
17.30 - 17.45 Oral (17)	Sudipta Dubey, Vibhor Singh, Ajay K. Bhat, Pritesh Parikh, Sameer Grover, Rajdeep Sensarma, Vikram Tripathi, K.Sengupta, and Mandar M. Deshmukh	<b>ABS - 1340 - ICA</b> Tunable Superlattice in Graphene to control the Number of Dirac Points

**Poster Session :**

**Tuesday, 17-12-2013, 14.00 – 15.30**

08 - Poster - 01	Sudeshna Samanta K. Das and A. K. Raychaudhuri	Low-frequency flicker noise and study of junction effect in a MSM device made with single Si nanowire (diameter $\approx$ 50 nm)	<b>ABS - 68 - ICA</b>
08 - Poster - 02	Subarna Datta Sudeshna Samanta Barnali Ghosh and A. K. Raychaudhuri	Low-Frequency Resistance Fluctuations (noise) at nanoscale: a single nanowire (diameter $\sim$ 45 nm) device of La <sub>0.5</sub> Sr <sub>0.5</sub> MnO <sub>3</sub> system	<b>ABS - 237 - ICA</b>
08 - Poster - 03	A. D. Garje	Room Temperature Operated Nano structured Tin (II) Oxide Based Pt doped Thick Film LPG Sensor	<b>ABS - 264 - ICA</b>
08 - Poster - 04	Ashi Ikram Sonal Sahai Snigdha Rai Sahab Dass Rohit Shrivastav Vibha R. Satsangi	Morphological, Optical & Photoelectrochemical Properties of CdSe Quantum Dots decorated $\alpha$ - Fe <sub>2</sub> O <sub>3</sub> thin film	<b>ABS - 351 - ICA</b>

08 - Poster - 05	Sonal Sahai Ashi Ikram Snigdha Rai Rohit Shrivastav Sahab Dass and Vibha R. Satsangi	CdSe Quantum Dots Sensitized Mesoporous Hematite for Photoelectrochemical Generation of Hydrogen	<b>ABS - 352 - ICA</b>
08 - Poster - 06	Aneesh M Joseph Manoj Varma and Tiju Thomas	Fabrication of periodic array of 1-D Au using self-assembly, electron beam and focused ion beam lithography	<b>ABS - 366 - ICA</b>
08 - Poster - 07	P. Sundara Venkatesh and K. Jeganathan	Fabrication, characterization and applications of vertically aligned ZnO nanorods grown by radio frequency magnetron sputtering	<b>ABS - 391 - ICA</b>
08 - Poster - 08	Abhilasha Chouksey Poornendu Chaturvedi Pradeep Verma Deepak Kumar, J S B S Rawat and Partap Kumar Chaudhury	Broad based Volatile Organic Compound Sensor using CNT-Thin Film Resistor	<b>ABS - 442 - ICA</b>
08 - Poster - 09	Jaba Saha, D. Dey D. Bhattacharjee S. A. Hussain	Construction of an Ion-Sensor using Fluorescence Resonance Energy Transfer	<b>ABS - 657 - ICA</b>
08 - Poster - 10	S. Mohan Raj and Durasamy Kumaresan	Hydrothermal Growth of Highly Organized TiO <sub>2</sub> Flowers for Dye Sensitized Solar Cells	<b>ABS - 677 - ICA</b>
08 - Poster - 11	Anima Johari Anoopshi Johari M.C. Bhatnagar and Manish Sharma	Synthesis and sensing properties of Ce-doped SnO <sub>2</sub> nanostructures	<b>ABS - 762 - ICA</b>
08 - Poster - 12	Manas Ranjan Parida and C. Vijayan	Optical limiting application of metal vanadium oxide nanostructure materials	<b>ABS - 884 - ICA</b>
08 - Poster - 13	Pallavi T. Patil Hemlata J. Sharma Priyanka D. Virutkar Subhash B. Kondawar	Liquefied Petroleum Gas (LPG) Sensor Based on Electrospun Nanofibers of PANI-ZnO Nanocomposites	<b>ABS - 888 - ICA</b>
08 - Poster - 14	Rupali N. Jadhav Vijaya Puri	Superstrate Technique For Microwave Properties Of Ni-Cu-Mn-O In Planar Form	<b>ABS - 934 - ICA</b>
08 - Poster - 15	E. Prabhu K.I. Gnanasekar V. Jayaraman and T. Gnanasekaran	In-situ Hall measurement study on In <sub>2</sub> O <sub>3</sub> and its mechanism of NO <sub>x</sub> sensing	<b>ABS - 954 - ICA</b>
08 - Poster - 16	P. T. Shedmake and S. A. Acharya	Morphology influence on LPG gas sensitivity of Nanocrystalline Ni-doped ZnO	<b>ABS - 987 - ICA</b>
08 - Poster - 17	Sandhya Kulkarni B. M. Nagabhushana C. Shivakumara R. Damle	A Study of Self-activating Luminescence in Nano-ceramic β-CaSiO <sub>3</sub>	<b>ABS - 996 - ICA</b>

08 - Poster - 18	Arun K Prasad Brenesh Rengaswamy S. Dhara, A.K. Tyagi	Synthesis of VO <sub>2</sub> nanorods by CVD for gas sensing applications	<b>ABS - 1027 - ICA</b>
08 - Poster - 19	Sakshi Sharma K. Sengupta S.S.Islam	Fabrication of thermally refreshable ammonia gas sensor based on MWCNT conducting polymer composite	<b>ABS - 1133 - ICA</b>
08 - Poster - 20	P P Subha, K Hasna L S Vikas A C Saritha and M K Jayaraj	H <sub>2</sub> S gas sensing properties of ZnO nanorods synthesized by hydrothermal method	<b>ABS - 1155 - ICA</b>
08 - Poster - 21	Avinandan Mandal Chapal Kumar Das	Polypyrrole laminated SWCNTs/CoFe <sub>2</sub> O <sub>4</sub> nanocomposites for high Performance Electromagnetic wave Absorbing Properties	<b>ABS - 1176 - ICA</b>
08 - Poster - 22	Vijay Kumar K.N. Bhat	Reliable Wafer Bonding Technique for Micromachined Silicon Sensor	<b>ABS - 1211 - ICA</b>
08 - Poster - 23	R. Banerjee I. Banerjee A. Ghosh, A. Maity K.K. Bhargav and S.B. Majumder	Performance evaluation of a microprocessor controlled volatile organic compound monitoring system in quasi-static flow environment	<b>ABS - 1222 - ICA</b>
08 - Poster - 24	Pragati Chaturvedi Biswajit Saha and Swaroop Ganguly	Pulsed Laser Deposited Thin films of Topological Insulator Bi <sub>2</sub> Se <sub>3</sub> for device applications	<b>ABS - 1269 - ICA</b>
08 - Poster - 25	Tamilselvan A and Balakumar S	Featuring of Some Metal Oxide-TiO <sub>2</sub> Composite Nanotubes by Anodization Technique	<b>ABS - 1326 - ICA</b>
08 - Poster - 26	Nidhi Verma Rama Singh and B. C. Yadav	Fabrication of barium titanate nanocomposite film: structural, optical, electrical characterization and applications as liquefied petroleum gas and opto-electronic humidity sensors	<b>ABS - 1400 - ICA</b>
08 - Poster - 27	Rama Singh Nidhi Verma Satyendra Singh Richa Srivasatava and B. C. Yadav	Synthesis, characterization and humidity sensing investigation of nanostructured antimony-tin oxide	<b>ABS - 1400a - ICA</b>
08 - Poster - 28	Anuradha Yadav and B.C. Yadav	Nanostructured Cobalt Zincate as LPG Sensor	<b>ABS - 1400b - ICA</b>
08 - Poster - 29	Kavita Yadav B. R. Mehat and J. P. Singh	Synthesis and characterization of high quality indium oxide micro-rods with rectangular cross-section via catalyst free chemical vapor deposition method	<b>ABS - 1449 - ICA</b>
08 - Poster - 30	Soham Ghosh K L Narasimhan and Shaibal K Sarkar	CuSCN/CH <sub>3</sub> NH <sub>3</sub> PbI <sub>2</sub> Cl/PCTDA Inverse Architecture Semiconductor Sensitized Solar Cell	<b>ABS - 1459 - ICA</b>

08 - Poster - 31	Zhussupova G.E. Mansurov Z.A. Burasheva G.Sh. Sultanova N.A. Kerimkulova A.P. Abilov Zh.A.	New Structured Nanosorbents used for separation of Biologically active compounds from Kazakhstani Plants	<b>ABS - 1481 - ICA</b>
08 - Poster - 32	Srivastava Richa and Yadav B.C.	Synthesis and characterization of nanostructured $ZnFe_2O_4$ and its application as humidity sensor	<b>ABS - 1485 - ICA</b>
08 - Poster - 33	Vinayak Kamble Arun M. Umarji	Investigating thermal stability of structural defects and its effect on $d^0$ ferromagnetism in undoped $SnO_2$	<b>ABS - Email - ICA</b>