

**DAE-BRNS National Conference on “Current Trends in Advanced Materials”
(CTMat-2014)**

November 19 – 21, 2014

VECC, Kolkata

Programme

Venue :

Inaugural Session & Session 1: *VECC-SINP campus auditorium*

Session 2 - Session 6: *Ajay Divatia Lecture Hall, VECC*

Day 1 : November 19, 2014

08:30 – 09:30 : Registration

09:30 – 10:45 : Inaugural Programme

10:45 – 11:30: Plenary talk: Dr. A. K. Raychaudhuri, SNBNCBS, Kolkata

11:30 – 12:00 : High tea

12:00 – 13:30 : Session 1: Irradiation induced modifications of materials

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| 1. Dr. D. Kanjilal, IUAC | <i>Invited Talk</i> |
| 2. Dr. D. K. Avasthi, IUAC | <i>Invited Talk</i> |
| 3. Dr. B. K. Panigrahi, IGCAR | <i>Invited Talk</i> |
| 4. Dr. T. Som, IOP | <i>Invited Talk</i> |
| 5. Dr. P. Karmakar, VECC | <i>Invited Talk</i> |

13:30 – 14:30 : Lunch break

14:30 – 16:00: Session 2 : Multifunctional materials

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| 1. Dr. J. K. Chakravartty, BARC | <i>Invited Talk</i> |
| 2. Dr. G. P. Das, IACS | <i>Invited Talk</i> |
| 3. Dr. S. Basu, BARC | <i>Invited Talk</i> |
| 4. Prof. P. Chakrabarti, University of Burdwan | <i>Invited Talk</i> |

16:00 – 16:15 : Tea break

16:30 – 18:30 : Poster Session (Poster Nos: I1-I7 and N1-N17)

19:30 : Director’s dinner, Venue : VECC, Guesthouse

Day 2 : November 20, 2014

9:30 – 11:00 : Session 3 : Irradiation effects on nuclear structural materials

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| 1. Dr. G. K. Dey, BARC | <i>Invited Talk</i> |
| 2. Dr. M. Vijayalakshmi, IGCAR | <i>Invited Talk</i> |
| 3. Dr. D. Srivastava, BARC | <i>Invited Talk</i> |
| 4. Dr. P. Mukherjee, VECC | <i>Invited Talk</i> |
| 5. Dr. M. Bhattacharya, VECC | <i>Invited Talk</i> |

11:00 – 11:15 : Tea break

11:15 – 12:45 : Session 4: Surface and Interfaces

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| 1. Dr. B. N. Dev, IACS | <i>Invited Talk</i> |
| 2. Dr. S. Varma, IOP | <i>Invited Talk</i> |
| 3. Dr. S. Hazra, SINP | <i>Invited Talk</i> |
| 4. Dr. B. Satpati, SINP | <i>Invited Talk</i> |
| 5. <i>Dr. S. Ningshen, IGCAR</i> | <i>Oral</i> |

13:00 – 14:00 : Lunch break

14:00 – 15:30: Session 5 : Nanomaterials-I

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|-----------------------------------|---------------------|
| 1. Prof. Asim Bhaumik, IACS | <i>Invited Talk</i> |
| 2. Dr. Abhijit Saha, IUC-DAEF | <i>Invited Talk</i> |
| 3. <i>Dr. D. Sanyal, VECC</i> | <i>Invited Talk</i> |
| 4. <i>Dr. S. Dhara, IGCAR</i> | <i>Oral</i> |
| 5. <i>Dr. Garima Sharma, BARC</i> | <i>Oral</i> |

15:30 – 15:45 : Tea break

15 :45 – 17:45 : *Poster Session (Poster Nos: M1-M7 and O1-O21)*

18:00 – 19:00 : *Evening Lecture : Dr. Amit Roy, VECC*

19:30 : Conference Dinner, Venue : VECC, Guesthouse

Day 3 : November 21, 2014

9 :30 – 11:00 : Session 6 : Nanomaterials –II

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| 1. Dr. P. P. Chattopadhyay, BESU | <i>Invited Talk</i> |
| 2. Dr. K. K. Chattopadhyay, JU | <i>Invited Talk</i> |
| 3. Dr. S. Banerjee, SINP | <i>Invited Talk</i> |
| 4. Dr. P. Sen, VECC | <i>Invited Talk</i> |
| 5. <i>Dr. D. Jana, CU</i> | <i>Oral</i> |
| 6. <i>Ms. Rupali Rakshit, SNBNCBS</i> | <i>Oral</i> |

11:00 – 11:15 : Tea break

11 :15 – 13:00 : *Concluding remarks followed by laboratory visits*

13:00 – 14:00 : Lunch break

Poster Session: 19th Nov 2014

Category: Irradiation effects (I1-I7)

			Poster Number
1	Saptarshi Pal CU	Understanding irradiation induced defects in radiation hard ZnO	I1
2	Mala Mukhopadhyay SINP	Synchrotron Radiation Induced Two-Dimensional Dynamics of Thiol-capped Au Nanoparticles on Hydrophobic Surface	I2
3	Priyanka Trivedi Rajkot	Swift Heavy Ion Induced Modifications in the Ferroelectric behaviour of BiFeO ₃ Thin Films	I3
4	J. Datta BARC/VECC	The measurement of surface erosion of D9 material in micron order during laser ablation by thin layer activation technique	I4
5	Ranajit Dey Bilaspur	Effect of Shift Heavy ion irradiation on the dielectric properties of Ba _x Sr _{1-x} TiO ₃ (X= 0.9, 0.85, 0.75).	I5
6	A Dutta Gupta	Irradiation Effects on Ti and Ti-alloys characterized by XRD techniques	I6
7	P. Bhattacharya	Post-Irradiation microstructural studies of Al and its alloy using XRDLPA	I7

Poster Session: 19th Nov 2014

Category: Nanomaterials (N1-N17)

			Poster number
1	Monalisa Pal, SNBNCBS	Surface Modification of Manganese-ferrite Nanoparticles to Impart Intrinsic Fluorescence and Catalytic Properties SNBNCBS	N1
2	Shrabani Mondal ISM Dhanbad	Gas sensing capabilities of Zn doped Nickel Ferrite nanodiscs	N2
3	Rabaya Basori SNBNCBS	Resistive state switching device made from a single CuTCNQ nanowire (diameter <100 nm)	N3
4	Bikash Chandra Gupta Viswa bharti	Free and supported nano-structures: structural, electrical, Catalytic and magnetic properties	N4
5	Suvankar Das	Thermal stresses in semiconductor core-shell nanowires	N5
6	A. Ghosh IITK	Enhancement of VOC sensing by Doping Zinc Oxide Thin film	N6
7	Mritunjoy Maity IICB	Bilirubin Coated Gold Nanoparticle: a Bio-conjugated Material with Catalytic Activity	N7
8	Mouni Roy CGCRI	Synthesis of Mesoporous Nanostructured Co ₃ O ₄ : Dual Role of Morphology and Surface Textural Property towards Catalytic Performance	N8
9	Sourav Ghosh CGCRI	Cubic multishell CuO with controllable textural property	N9
10	Utsav Chakraborty JU	Aggregation behavior of Acrdine Orange onto Graphene Oxide in aqueous solution	N10
11	Sumona Sinha SINP	CuPc Thin Film Transistors: Impact of Electronic Structures at CuPc/ Metal Electrode Interfaces	N11
12	Sumit Majumder JU	A non-enzymatic electrochemical H ₂ O ₂ Sensor based on 3D dendritic α -Fe ₂ O ₃ Nano-architectures	N12
13	B. Saha SINP	Nanoporous electrodeposited MnOx for non-enzymatic hydrogen peroxide sensing	N13
14	Sayantani Das CU	Transport properties of CdSe Nanorods	N14

15	N Gayathri VECC	Evolution of microstructure during the early stages of mechanical attrition	N15
16	K. Bagani SINP	Enhanced Magnetization of Graphene Oxide upon Unzipping	N16
17	G.R.Turpu Bilaspur	Synthesis and characterization of Boron – Graphene oxide composites	N17

Poster Session: 20th Nov 2014

Category: Multifunctional (M1-M7)

			Poster Number
1	K. K. Bhargav IITK	Multifunctional behavior of nanocrystalline cobalt modified lanthanum ferrite in selective sensing of carbon monoxide	M1
2	Ashutosh K. Singh SNBNCBS	High quality transition metal-oxide core/shell nano-heterostructure electrodes for high-performance supercapacitors	M2
3	Arup Ghosh SNBNCBS	Effect of structural disorder on the magnetocaloric properties of Ni-Mn-Sn alloy	M3
4	K Chandramani Singh University of Delhi	Enhanced dielectric and piezoelectric properties of barium modified lead-free potassium niobate based ceramics	M4
5	Preeti Tamrakar Bilaspur	Diffuse phase transition and dielectric relaxation in $(1-x)(\text{Bi}_{0.5}\text{Na}_{0.5}\text{TiO}_2)\text{-x}(\text{SrNb}_2\text{O}_6)$ Composition: Lead free materials	M5
6	Mayukh K Ray SINP	Role of partial Cu/Co substitution on magnetic and electronic properties of Mn-rich Ni ₄₆ Mn ₄₃ In ₁₁ alloy	M6
7	H. S. Tewari Bilaspur	CHARACTERIZATION OF NICKEL SUBSTITUTED BISMUTH FERRITES ($\text{Bi}_{1-x}\text{Ni}_x\text{Fe}_{1-y}\text{Ni}_y\text{O}_3$; $x=y=0.0$ &/or 0.05) NANO-PARTICLES SYNTHESIZED USING COMBUSTION TECHNIQUE.	M7

Poster Session: 20th Nov 2014

Category: Others (O1-O21)

	Participant	Abstract title	Poster Number
1	G. Jaiganesh IGCAR	Magnetism, electronic structure and half-metallic property of Co/Ni substituted Li ₂ Te from first-principles study	O1
2	P. Maji ISM	Morphological and Dielectric Studies of PMMA-ZrO ₂ Polymeric Composite for High Frequency Capacitor Application	O2
3	Abhishek Kumar Soni	NIR to Reddish-Yellow upconversion emissions in Pr ³⁺ -Yb ³⁺ codoped BaMoO ₄ phosphor	O3
4	Jyoti Priya ISM	New β -Diketone Complex Phosphor for OLED devices	O4
5	Subhadipta Mukhopadhyay JU	Retrieval of surface structure by improved LEED data interpretation algorithm	O5
6	Astha Kumari ISM	Bright Blue Upconversion Emission in Tm ³⁺ -Yb ³⁺ Codoped (La _x Y _{1-x}) ₂ O ₃ Phosphors	O6
7	Dinesh Kumar IITK	A wide range of properties offered by High manganese steels for automobile and structural applications	O7
8	P. P. Dahiya IITK	Effect of electrode fabrication process on the performance of LiMn _{1.5} Ni _{0.5} O ₄ cathode material for Li-ion battery	O8
9	Swapan K. Mandal Viswabharati	Molecular Spin-Crossover in Fe (phen) ₂ (NCS) ₂ Thin Films	O9
10	Momin Hossain Khan University of Kalyani	A study of magnetic, specific heat and resistivity properties in Ca _{0.85} Eu _{0.15} MnO ₃ around the phase transition temperature	O10
11	Pankaj Kr. Baitha ISM	Structural and Optical behavior of Tb ³⁺ doped ZnO/SnO ₂ nanocomposites phosphore	O11

12	Sayantan Sarkar APC college	Thermoluminescence Recorded with Hyperbolic Heating Scheme	O12
13	Jyoti Singh ISM	Structural and optical studies of Eu ³⁺ doped SrGd ₂ O ₄ phosphors	O13
14	Paramita Patra IITK	Composition dependent variation of electron-phonon coupling in Pd _{1-x} Ni _x alloys	O14
15	Asim Kumar Ghosh JU	Ground State Energy and Spin Gap of a Bond Alternating Spin-1/2 Heisenberg Chain in Staggered Field	O15
16	Ishani Roy SINP	Effect of Solvent, Temperature and Deposition Parameters on the Ordering of Poly(3-dodecylthiophene) Thin Films	O16
17	P. K. Mollick BARC	Reverse Engineering to Achieve Homogeneous Functional-PyC Coating as TRISO Layer	O17
18	Santu Dey VECC	The evolution of stored energy during recrystallization along different crystallographic planes in textured electrolytic copper	O18
19	Mrinmoy Garai CGCRI	Controlled Crystallization of SiO ₂ -Al ₂ O ₃ -B ₂ O ₃ -K ₂ O glass: Impact on Microstructure, Thermal and Mechanical Properties	O19
20	A. Sarkar Bangabasi Morning College, Kolkata	An overview of positron annihilation spectroscopic investigation in ZnO based materials	O20
21	Swati Mishra Bilaspur	Deposition and characterization of TiO ₂ thin films for optoelectronic applications	O21