

# Research Scholar Day (Dept. of Physics) - 2017

## Program schedule

**Date/ Day: 8th October 2017 (Sunday)**

**Venue: L-17 (Lecture hall complex)**

|             |                                    |
|-------------|------------------------------------|
| 9:00 - 9:15 | Inauguration: Prof. Indranil Manna |
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| 9:15 - 10:00 | High Tea |
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### Session - I, Chair: Prof. V. Subrahmanyam

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|---------------|---------------------|---|
| 10:00 - 10:25 | Annwasha Dutta      | Stochastic Thermodynamics and Kinetics of a Molecular Machine: a case study |
| 10:25 - 10:50 | Archan Mukhopadhyay | Strict Physical Chaos in Evolutionary Games                                 |
| 10:50 - 11:15 | Rabeet Singh        | Adiabatic connection in density functional theory                           |

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| 11:15 - 11:45 | Tea Break |
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### Session - II, Chair: Prof. T. Sarkar

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| 11:45 - 12:10 | Ashutosh Kumar Singh | Nonlinear and anisotropic Photoconductivity in Graphene |
| 12:10 - 12:35 | Dipanjan Dey         | Gravitational collapse and Naked Singularity            |
| 12:35 - 13:00 | Aditya Mehra         | Galilean Conformal Gauge theories                       |

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| 13:00 - 15:30 | Lunch and Poster session |
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### Session - III, Chair: Prof. A. K. Gupta

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| 15:30 - 15:55 | Utso Bhattacharya | Fate of Bulk Boundary Correspondence in Out of Equilibrium Topological Quantum Systems |
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| 15:55 - 16:20 | Rajan Kumar Singh | Motion Transduction Using Graphene Resonator   |
| 16:20 - 16:45 | Anil Kumar Singh  | STM/S study of electronic inhomogeneity evolution with gate voltage in graphene: role of screening and charge-state of interface defects |

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| 16:45 - 17:00 | Tea Break |
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Session - IV, Chair: Prof. A. K. Jha

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| 17:00 - 17:25 | Suchita         | Temporal coherence of continuous wave sources of different spectral characteristics |
| 17:25 - 17:50 | Pankaj Singh    | PCA on spatio-temporal fluorescence images for diagnosis of cervical cancer         |
| 17:50 - 18:15 | Anuj Ram Baitha | Radiation belts and particle diffusion in a plasma confined by a dipole magnet      |

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| 18:15 | Concluding Remarks |
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## List of Posters

| S. No. | Title   | Author                   |
|--------|---|--------------------------|
| 1      | Josephson Coupling in the Dissipative State of a Thermally Hysteretic Micro-SQUID                                     | Sourav Biswas            |
| 2      | Exact results in Floquet coin toss for driven integrable models   | Somnath Maity            |
| 3      | Imaging of low dimensional melting in Ba <sub>1-x</sub> K <sub>x</sub> Fe <sub>2</sub> As <sub>2</sub> superconductor | Ankit Kumar              |
| 4      | Remote detection of quantum decohering process and quantum state transfer   | Saikat Sur               |
| 5      | Mixed state dynamical quantum phase transition and emergent topology  | Souvik Bandyopadhyay     |
| 6      | Large D perturbative solutions of the Einstein-Maxwell system in presence of cosmological constant                    | Poulomi Nandi            |
| 7      | Helium finger in intra-cluster medium   | Shubhadeep Sadhukhan     |
| 8      | Evidence of magneto-structural coupling affecting magnetic anisotropy in a cobalt nano-composite                      | Kamalika Nath            |
| 9      | Kinetic energy and flux in forced rotating turbulence   | Manohar                  |
| 10     | Loss less guiding and focusing of plasma (ion) beams for creating submicron structures                                | Sanjeev Kumar Maurya     |
| 11     | Characterisation of wetting hysteresis of atomically heterogeneous systems  | Sanghamitro Chatterjee   |
| 12     | Measuring, Engineering and Freezing Coherence in Room Temperature Atoms   | Arif Warsi Laskar        |
| 13     | Evolution of Cr magnetism with P doping in BaCr <sub>2</sub> As <sub>2</sub>  | Venus Rai                |
| 14     | Error estimates in universal backprojection based photoacoustic tomography  | Prabodh Kumar Pandey     |
| 15     | AN ALGORITHMIC APPROACH TO COMPUTATION OF WILSON COEFFICIENTS   | Supratim Das Bakshi      |
| 16     | Hannay Angle for the van der Pol oscillator   | Rohitashwa Chattopadhyay |
| 17     | Cervical precancer detection with polarized light based hand held device  | Bharat Lal Meena         |

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| 18 | Effect of electron-hole asymmetry on optical conductivity in 8-P mmn borophene  | Sonu Verma            |
| 19 | Left-Right Intermediate Scales: Where do we stand?  | Rinku Maji            |
| 20 | Enhanced infra-red transmission through plasmonic hole array embedded with SU-8 micro-domes                             | Raghwendra Kumar      |
| 21 | Enhanced emission from nanodiamond nitrogen-vacancy centers by columnar thin films of silver                            | Rajesh Kumar          |
| 22 | Holographic entanglement negativity conjecture for adjacent intervals in AdS3/CFT2                                      | Sayid Mondal          |
| 23 | Controlling Strong Coupling of Surface plasmon resonances with molecular resonances                                     | Prince Gupta          |
| 24 | Critical wavelength in the transmission spectrum of directional coupler   | Garima Bawa           |
| 25 | Fluorescence and its Decay Time in Dye-Doped Metallo-Dielectric Photonic Crystals with Different Gold Infiltration      | Dipak Rout            |
| 26 | Analyzing Guided Resonances in Asymmetric Photonic Crystal Slab   | Ummer KV              |
| 27 | Effect of Doping of Alivalent Ions on Tailoring the Electrical Properties of Magnetoelectric Gallium Ferrite            | Vijay Singh           |
| 28 | Non-Fermi-Liquid Behavior at anti-Ferromagnetic quantum critical point in heavy fermion system $Ce(Cu_{1-x}Co_x)_2Ge_2$ | Rajesh Tripathi       |
| 29 | Tensionless Strings   | Pulastya Parekh       |
| 30 | RIMS and CMA Construction for Coincidence Experiment to Study Fragmentation Dynamics of Molecular and Cluster Target    | Rohit Tyagi           |
| 31 | 1.7 MV Tandatron Accelerator and RBS facility @ IIT Kanpur  | Rohit Tyagi           |
| 32 | Sink dynamics of aqueous drops on lubricating fluid coated slippery surfaces  | Meenaxi Sharma        |
| 33 | Physical properties of CeTiO3 thin film fabricated by pulsed laser deposition   | Pramod Ghising        |
| 34 | Temperature Dependent Magnetoresistance Measurements in Si/PtSi/Fe/Ta Heterostructure                                   | Ravinder Kumar        |
| 35 | Non-Abelian Vector Boson Dark Matter with a Leptonic Connection   | Himadri Roy           |
| 36 | Studying the magnetism in EuB6 with Magneto Optic Imaging technique   | Dibya Jyoti Sivananda |

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| 37 | Sensing vibrations of a piezo crystal oscillator surface, using time series of tunneling current . | Dibya Jyoti Sivananda |
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