# Research Scholar Day (Dept. of Physics) – 2019

## Date: 16th February 2019 (Saturday); Venue: Outreach Auditorium

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| 9.30-10.00 | High Tea |
| 10.00-10.10 | Inauguration by **Prof. S. Ganesh**, Dean R & D |

Session 1: Oral Presentations (CME+)

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| 10.10-10.30 | Meenaxi Sharma | Dynamics of aqueous drops on Lubricating Fluid Coated Slippery Surfaces: Sinking or Slipping |
| 10.30-10.50 | Antu Laha | Magnetotransport properties of correlated topological nodal-line semimetal YbCdGe |
| 10.50-11.10 | Arif Warsi Laskar | Direct measurement of quantum superposition in room temperature atoms |
| 11.10-11.30 | Sanjeev Kumar Maurya | Submicron focusing of plasma ion beams using micro-glass capillary: charge dissipation and self focusing limit |

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| 11.30-11.50 | Tea-break |

Session 2: Oral Presentations (CMT+, Optics)

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| 11.50-12.10 | Saikat Sur | Local dynamical processes in spin chains |
| 12.10-12.30 | Sourav Biswas | Luttinger Liquid Behavior in Irradiated Graphene |
| 12.30-12.50 | Abhinandan Bhattacharjee | Efficient generation of propagation-invariant spatially-stationary partially coherent fields |

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| 12.50-14.00 | Lunch |

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| 14.00-16.00 | **Poster Session** |

Session 3: Oral Presentations (HEP) and Special Lecture

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| 16.00-16.20 | Rinku Maji | Grand Unification: Interplay between Proton Lifetime and Threshold Corrections |
| 16.20-16.40 | Pritam Banerjee | Tidal effects away from the equatorial plane in Kerr backgrounds |
| 16.40-17.30 | A Special Lecture by **Prof K. Srihari**<br>`The challenge of staying curious in research and teaching' | |

# List of Poster Presentations

| Name | Title of the Poster |
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| Avijit Duley | Charge asymmetric fragmentation in multiply ionized diatomic molecules |
| Sougata Mardanya | Spin-orbit coupling driven crossover from a starfruitlike nodal semimetal to Dirac and Weyl semimetal state in CaAuAs |
| Bidisha Bhatt | Effect of Surface Roughness on the Resulting Wettability |
| Bikash Ghosh | Non-kondo mechanism of resistivity upturn in low dimensional nanowire based on $Pr_2Ir_2O_7$ |
| Himanshu Parihar | Entanglement Negativity in Galilean conformal field theories |
| Barun Ghosh | Topological Hourglass Dirac Semimetal in the Non-polar Phase of $Ag_2BiO_3$ |
| Anupam Ghosh | Understanding transient uncoupling induced synchronization through modified dynamic coupling |
| Sandeep Bajrangi Bari | Ion microbeam facility at 1.7 MV Tandetron accelerator |
| Ravinder Kumar | Ferromagnetic Resonance Studies of Strain tuned Bi:YIG Films |
| Bashab Dey | Photo-induced valley and electron-hole symmetry breaking in $\alpha$-$T_3$ lattice: The role of a variable Berry phase |
| Pratyasha Sahani | Novel methods of polarizing light using photonic crystal slab |
| Sagar Paul | Angle dependent magnetization reversal studies to probe magnetic anisotropy of a single magnetic nano-particle using non-hysteretic μ-SQUIDs |
| Rajan Kumar Singh | Motion detection in femtometer length scale |
| Kamal Das | Magneto-transport in tilted type-I and type-II Weyl semimetals |
| Manohar Kumar Sharma | On the energy spectrum of rapidly rotating forced turbulence |
| Anurag | Understanding the order-chaos-order in planar elastic pendulum |
| Rohitashwa Chattopadhyay | Conservative perturbation theory and Hannay angle for nonconservative systems |

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| Boudhayan Paul | Holographic entanglement negativity for disjoint intervals in $AdS_3/CFT_2$ |
| Anuj Ram Baitha | Diffusion and particle balance in a plasma confined in a dipole magnet |
| Krishn Pal Singh | Study of Optical Properties of Atomically Heterogeneous systems Created by Microwave Plasma Generated Low Energy Ion Beams |
| Kalyani Barman | Optical emission spectroscopy of atmospheric pressure plasma jets in two different configurations |
| Sushanta Barman | Simulation Of Magnetostatic Lens for Plasma based Focused Ion Beams |
| Sargam/ Ayesha Nanda | Diffusion of particles confined in a Dipole magnetic field |
| Jayashree Majumdar | Study of Field emission properties of metallic nano-structures created by microwave plasma generated low energy ion beam |
| Supratim Das Bakshi | Effective Field Theory: Tool to capture new physics effects |
| Himadri Roy | $SU(2)_N$ extension Model of Vector Boson Dark Matter |
| Sukhdev Mouraya | An Analytical Study of Turbulence in Ferrofluids |
| Debasmita Giri | Spin-Spin Coupling in Weyl Semimetal |
| Suvankar Paul | A novel gravitational lensing feature by wormholes |
| Rekha Kumari | Josephson Current through the surface states of Weyl Semimetal |