

Riya Nandi
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EDUCATION

Doctor of Philosophy, Physics, Expected May 2020
Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, VA
Dissertation: Steering out-of-equilibrium multicritical points towards desired universality classes.
Advisor: Dr. Uwe C. Tauber

Master of Science (Hons.), Physics; Jawaharlal Nehru University, New Delhi, India, May 2015

Bachelor of Science (Hons.), Physics, Lady Brabourne College, July 2012

HONORS/AFFILIATIONS

Sigma Pi Sigma, inducted 2017
Inducted in the official national honor Physics society for high academic achievements.
Tipsword Graduate Fellowship, 2018
For establishing dissertation research in the area of Condensed Matter Physics.
James Dunn Award, 2019
For fostering a spirit of goodwill in the Physics Department and demonstrating a deep enthusiasm for Physics.

RESEARCH INTERESTS

- Non-equilibrium dynamics in physical and biological systems, specially in the context of phase transitions.
- Exploring multicritical points in phase space and designing effective control mechanisms to steer systems to desired states.
- Exploring the non-equilibrium dynamics of molecular motors.

TEACHING INTERESTS

Undergraduate Introductory Physics, Introductory Physics labs

RELATED EXPERIENCE

Research

Pre-Doctoral Fellow/Ph.D. Research, Department of Physics, Virginia Tech
Blacksburg, VA, August 2015 – present
Advisor- Dr. Uwe C. Tauber

- Explored critical dynamics and aging-scaling regime of three-dimensional ferromagnets and antiferromagnets.
- Designed an algorithm which adds reversible coupling dynamics to the simplest dissipative or diffusive terms in the magnetic spin models.
- Characterized rare non-universal critical behavior in early-time relaxation of three-dimensional antiferromagnets.

Master's Research, Department of Physics, Jawaharlal Nehru University, New Delhi
January 2014- May 2014

Advisor- Prof. Poonam Mehta

- Study of neutrino oscillation: derived expressions for oscillation probabilities for general N-flavors and the for specific 2-flavors in vacuum.

Summer Research Project, Physical Research Laboratory, Ahmadabad, Gujarat

May 2013- July 2013

Advisor- Prof. Dilip Angom

- Study of Bose-Einstein condensates in non-equilibrium systems.
- Energy-eigenvalue of a system of dilute and weakly interacting Bose gas derived using pseudo-potential approximation.
- Properties of dilute Bose gas studied under external harmonic potential trap using Bogoliubov transformations.

Teaching

Teaching Assistant, Department of Physics, Virginia Tech, Blacksburg, VA

August 2015 - present

- Conducted three laboratory sections for undergraduate introductory Physics course.
- Teaching assistant for undergraduate introductory Physics course.

PUBLICATION

Nandi, R., Tauber, Uwe C., *Non-universal critical aging scaling in three-dimensional Heisenberg Antiferromagnets* Phys. Rev. B **99**, 064417 (2019)

ABSTRACTS

Nandi, R., Tauber, Uwe C., *Non-equilibrium dynamics of three dimensional magnetic systems with Heisenberg interaction*, SESAPS 2018, Knoxville, TN.

Nandi, R., Tauber, Uwe C., *Non-equilibrium dynamics of three dimensional magnetic systems with Heisenberg interaction*, APS march meeting 2019, Boston, MA.