

## NANDINI TRIVEDI

Department of Physics, The Ohio State University  
191 W. Woodruff Avenue, Columbus, OH 43210  
Phone: (614) 247 7327, e-mail: [trivedi.15@osu.edu](mailto:trivedi.15@osu.edu)  
<http://www.physics.ohio-state.edu/~trivedi/>

### Education and Training

- Indian Institute of Technology, Delhi, India      Physics      BS-MS (1981)
- Cornell University, USA      Theoretical Condensed Matter      PhD (1987)
- Postdoctoral Research Associate, University of Illinois, Urbana      (1987 – 1989)
- Postdoctoral Research Associate, SUNY at Stony Brook      (1989-1991)

### Research and Professional Experience

- Professor, Department of Physics, The Ohio State University      (2004 to date)
- Visiting Professor, Physics and MRL, University of Illinois at Urbana      (2002-2003)
- Reader, Associate Professor, & Professor,  
Tata Institute of Fundamental Research, India      (1995 – 2004)
- Assistant Scientist and Scientist, Materials Science Division,  
Argonne National Laboratory      (1991-1995)

### Selected Publications

- (1) “Dynamical Conductivity across the Disorder-Tuned Superconductor-Insulator Transition”, M. Swanson, Y-L Loh, M. Randeria, and N. Trivedi, *Phys. Rev. X* **4**, 021007 (2014).
- (2) “Theory of High Tc Ferrimagnetism in a Multiorbital Mott Insulator”, O. N. Meetei, O. Erten, M. Randeria, N. Trivedi, and P. Woodward, *Phys. Rev. Lett.* **110**, 087203 (2013).
- (3) “Photon Counting as a Probe of Superfluidity in a Two-Band Bose-Hubbard System Coupled to a Cavity Field”, S. Rajaram and N. Trivedi, *Phys. Rev. Lett.* **111**, 243603 (2013).
- (4) “Theory of High Tc Ferrimagnetism in a Multiorbital Mott Insulator”, O. N. Meetei, O. Erten, M. Randeria, N. Trivedi, and P. Woodward, *Phys. Rev. Lett.* **110**, 087203 (2013).
- (5) “Single and two-particle energy gaps across the disorder-driven superconductor-insulator transition”, K. Bouadim, Y.-L. Loh, M. Randeria, and N. Trivedi, *Nature Physics* **7**, 884-889 (2011).
- (6) Strong correlations make high-temperature superconductors robust against disorder, A. Garg, M. Randeria, and N. Trivedi, *Nature Physics* **4**, 762-765, (2008).
- (7) Inhomogeneous Metallic Phase in a Disordered Mott Insulator in Two Dimensions, D. Heidarian and N. Trivedi, *Phys. Rev. Lett.* **93**, 126401 (2004).
- (8) Projected Wavefunctions and High Temperature Superconductivity, A. Paramekanti, M. Randeria and N. Trivedi, *Phys. Rev. Lett.* **87**, 217002 (2001).
- (9) Role of Spatial Amplitude Fluctuations in Highly Disordered s-Wave Superconductors, A. Ghosal, M. Randeria, and N. Trivedi, *Phys. Rev. Lett.* **81** 3940 (1998).
- (10) “Conductor-insulator Quantum Phase Transitions”, editors: V. Dobrosavljevic, N. Trivedi, and J. Valles, Oxford University Press (2012).

## **Synergistic activities**

**(1) Outreach:** Public Lectures “Physics in the City”, London, June 10-14, 2013.

Director and organizer of 3 “Festival of Physics” in partnership with Columbus Science Museum COSI, October 2007 (“Emergence”); July 2009 (“Super cool atoms”); October 2011 (“My Quantum Mom”).

Director, “Scientific Thinkers” program at Innis Elementary School, Columbus, OH (largely minority school labeled as Academic Emergency) to engage in inquiry-based science.

**(2) Conference Organization:** “Disorder, Dynamics, Frustration and Topology in Quantum Condensed Matter”, Aspen Center of Physics, (2013); “Quantum Vortices and Fluctuations in Superconductors and Superfluids”, Aspen Center of Physics, (2009); “15th Recent Progress in Many Body Theories”, Columbus, OH (2009); “Conductor-Insulator Quantum Phase Transitions” (2008).

**(3) Committees:** Member, DOE-BES panel to review programs at Oak Ridge National Laboratory (2011); Member-at-large American Physical Society; Member, NSERC proposal review panel, Canada; Member, NSF MRSEC panel (2009); Member INCITE DOE review panel for large scale computations, (2008,2012); Member, Advisory Committee, Division of Condensed Matter Physics, APS; Steering Committee, ICAM (2006-).

**Collaborators:** P. Adams (Louisiana State Univ); V. Dobrosavljevic (NHFML), J. Freericks (Georgetown); A. Garg (UC Santa Cruz); Y. Kato (ISSP, Japan); H.R. Krishnamurthy (IISc Bangalore); N. Kawashima (ISSP, Japan); P.A. Lee (MIT), C. Menotti (Trento, Italy), T. Paiva (Rio de Janeiro); M.Randeria (OSU); R. Scalettar (UC Davis); J. Schmalian (Ames); T. Senthil (MIT), V. Shenoy (IISc); P. Woodward (OSU); J. Valles (Browne), Q. Zhou (Maryland).

## **Graduate and Postdoctoral Advisors:**

**Graduate Advisor:** Neil W. Ashcroft (Cornell University)

**Postdoctoral Advisor:** David M. Ceperley, (University of Illinois, Urbana-Champaign); Philip B. Allen (State University of New York, Stony Brook)

## **Thesis Advisor and Postgraduate-scholar sponsor:**

**Current postgraduate scholars:** Mehdi Kargarian, David Nozadze

**Current graduate students:** W. Cole (Presidential Fellow 2013), E. Duchon, O. N. Meetei (Presidential Fellow 2012), M. Swanson (NSF Fellow)

**Current undergraduate students:** Robert Ivancic, Nickolas Sedblock, Nathan Turner, Natalie Zeleznick

**Postdoctoral Fellows Mentored:** Y.-L. Loh (U. North Dakota), A. Mukherjee (U. British Columbia, Canada), K.B. Bouadim (Max Planck, Stuttgart); S.-Y. Chang (Argentina).

**Previous graduate students (incl. joint):** A. Ghosal (IISER, India), D. Heidarian (U. Toronto); A. Garg (SN Bose India); R. SenSarma (U. Maryland); A. Paramekanti (U. Toronto).

Sara Rajaram (Institute for Defense Analysis), Julia Janczak

**Previous undergraduate students:** Joseph Garrett (grad Maryland)