

Mohit Randeria

Professor, Department of Physics
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Education

Indian Institute of Technology	Delhi, India	Electrical Engineering	B.Tech	1980
California Institute of Technology	Pasadena, CA	Physics	M.S.	1982
Cornell University	Ithaca, NY	Physics	Ph.D.	1987

Post-Doctoral Research

Cornell University	Ithaca, NY	Physics	1987
University of Illinois	Urbana-Champaign, IL	Physics	1987–1989

Appointments

2004–present	Professor, Department of Physics, The Ohio State University
Spring 2016	Visiting Professor of Physics, Massachusetts Institute of Technology
Fall 2015	Visiting Professor of Physics, University of California, Berkeley
2002–2003	George A. Miller Visiting Professor, University of Illinois at Urbana-Champaign
1995–2004	Reader, Associate Professor & Professor, Department of Theoretical Physics, Tata Institute of Fundamental Research, Bombay, India
1991–1995	Assistant Scientist and Scientist, Materials Science Division, Argonne National Laboratory
1989–1991	Assistant Professor, Department of Physics, State University of New York at Stony Brook

Honors

2008	Fellow of the American Physical Society
2007	Distinguished Alumni Award, Indian Institute of Technology, Delhi
2002	ICTP Prize, International Center for Theoretical Physics, Trieste
2002	S. S. Bhatnagar Award in Physical Sciences, India
1999	B. M. Birla Science Prize in Physics, India
1998-2003	Swarnajayanti Fellowship in Physical Sciences, India

Areas of Active Research: Theory of Quantum Materials

- Strongly Correlated and Topological Phases in Quantum Materials
- Novel Superconductivity; Superconductor-Insulator Transitions
- Chiral Magnetic Materials; Correlations and Spin-Orbit Coupling in Oxides
- Cold Atoms: Strongly Interacting Fermi Gases and Optical Lattices

Citations: H-index = 69 [Google Scholar]; 60 [ISI Web of Science]

Total of 20,000 citations on Google Scholar (September 2020)

2 papers with over 1000 citations, 3 papers with 500-999 and 47 papers with 100-499 citations

Selected Publications

1. K. Hwang, N. Trivedi, M. Randeria, “Topological magnons with nodal-line and triple-point degeneracies: Implications for thermal Hall effect in pyrochlore iridates”, *Phys. Rev. Lett.* **125**, 047203 (2020).
2. T. Hazra, N. Verma, M. Randeria, “Bounds on the Superconducting Transition Temperature: Applications to Twisted Bilayer Graphene and Cold Atoms”, *Phys. Rev. X* **9**, 031049 (2019).
3. K. Lee, T. Hazra, N. Trivedi, M. Randeria, “Topological Superconductivity in Dirac Honeycomb Systems”, *Phys. Rev. B* **99**, 184514 (2019).
4. S. Gazit, M. Randeria, A. Vishwanath, “Emergent Dirac fermions and broken symmetries in confined and deconfined phases of Z_2 gauge theories”, *Nature Physics* **13**, 484 (2017).
5. S. Rinott, K.B. Chashka, A. Ribak, E. D. L. Rienks, A. Taleb-Ibrahimi, P. Le Fevre, F. Bertran, M. Randeria, A. Kanigel, “Tuning across the BCS-BEC crossover in the multi-band superconductor $\text{Fe}_{1+y}\text{Se}_x\text{Te}_{1-x}$: An angle-resolved photoemission study”, *Science Advances* **3**, e1602372 (2017).
6. M. Kargarian, M. Randeria, Y-M. Lu, “Are the surface Fermi arcs of Dirac semimetals topologically protected?”, *Proc. Nat. Acad. Sci.* **113**, 8648 (2016).
7. Y. L. Loh, M. Randeria, N. Trivedi, C-C. Chang, R. Scalettar, “Superconductor-Insulator Transition and Fermi-Bose Crossovers”, *Phys. Rev. X* **6**, 021029 (2016).
8. J. Rowland, S. Banerjee, M. Randeria, “Skyrmions in Chiral Magnets with Rashba and Dresselhaus Spin-Orbit Coupling”, *Phys. Rev. B* **93**, 020404(R) (2016) (Rapid Comm).
9. S. Banerjee, J. Rowland, O. Erten, M. Randeria, “Enhanced Stability of Skyrmions in Two-Dimensional Chiral Magnets with Rashba Spin-Orbit Coupling,” *Phys. Rev. X* **4**, 031045 (2014).
10. S. Banerjee, O. Erten, and M. Randeria, “Ferromagnetic exchange, spin-orbit coupling and spiral magnetism at the $\text{LaAlO}_3/\text{SrTiO}_3$ interface”, *Nature Physics* **9**, 626 (2013).

Synergistic Activities

Over 25 Invited Talks at International Conferences and Colloquia in past five years (2014–2019).

Co-organizer, Aspen Summer Program on “High Tc Superconductors & Strong Correlations,” Aspen Center of Physics (2016).

Co-organizer, International Conference on “Strong Correlations and the Normal State of High Tc Superconductors,” Max Planck Institute, MPIPKS Dresden (2016).

Co-organizer, International Conference “Spin-Orbit Coupling & Magnetism in Oxides,” Ohio State University (2015).

Co-organizer, International Conference “Correlated Oxides & Oxide Interfaces,” University of Minnesota (2014).