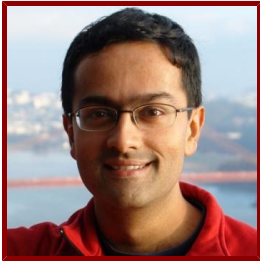


Stanford



Srinivas Raghu

Associate Professor of Physics and of Photon Science

Bio

ACADEMIC APPOINTMENTS

- Associate Professor, Physics
- Associate Professor, Photon Science Directorate
- Principal Investigator, Stanford Institute for Materials and Energy Sciences

ADMINISTRATIVE APPOINTMENTS

- Postdoctoral Scholar, Stanford University, (2006-2010)
- Assistant Professor, Rice University, (2010-2011)
- Assistant Professor - Photon Science, SLAC National Accelerator Laboratory, Stanford University, (2011- present)
- Assistant Professor, Physics Department, Stanford University, (2011- present)

HONORS AND AWARDS

- Terman Fellowship, Stanford University (2012)
- Sloan Research Fellowship, Alfred P. Sloan Foundation (2012)
- Young Investigator Award, U.S. Department of Energy (2012)

PROFESSIONAL EDUCATION

- Ph.D., Princeton University , Physics (2006)

Teaching

COURSES

2020-21

- Condensed Matter Seminar: APPPHYS 470 (Spr)
- Intermediate Electricity and Magnetism I: PHYSICS 120 (Win)

2018-19

- Condensed Matter Seminar: APPPHYS 470 (Aut, Win, Spr)
- Mathematical Methods for Physics: PHYSICS 112 (Win)
- Partial Differential Equations of Mathematical Physics: PHYSICS 111 (Aut)

2017-18

- Mathematical Methods for Physics: PHYSICS 112 (Win)

STANFORD ADVISEES

Yuval Gannot

Doctoral Dissertation Reader (AC)

Connie Hsueh, Kyuho Lee, Chao Wang

Postdoctoral Faculty Sponsor

Chaitanya Murthy

Doctoral Dissertation Advisor (AC)

Pavel Nosov, Jonathan San Miguel, Jun Ho Son

Publications

PUBLICATIONS

- **Two-Dimensional Non-Fermi-Liquid Metals: A Solvable Large-N Limit** *PHYSICAL REVIEW LETTERS*
Aguilera Damia, J., Kachru, S., Raghu, S., Torroba, G.
2019; 123 (9)
- **Two-Dimensional Non-Fermi-Liquid Metals: A Solvable Large-N Limit.** *Physical review letters*
Damia, J. A., Kachru, S., Raghu, S., Torroba, G.
2019; 123 (9): 096402
- **Publisher Correction: Carrier density and disorder tuned superconductor-metal transition in a two-dimensional electron system.** *Nature communications*
Chen, Z., Swartz, A. G., Yoon, H., Inoue, H., Merz, T. A., Lu, D., Xie, Y., Yuan, H., Hikita, Y., Raghu, S., Hwang, H. Y.
2018; 9 (1): 4570
- **Superconducting Tunneling Spectroscopy of Spin-Orbit Coupling and Orbital Depairing in Nb :SrTiO3** *PHYSICAL REVIEW LETTERS*
Swartz, A. G., Cheung, A. C., Yoon, H., Chen, Z., Hikita, Y., Raghu, S., Hwang, H. Y.
2018; 121 (16): 167003
- **Carrier density and disorder tuned superconductor-metal transition in a two-dimensional electron system** *NATURE COMMUNICATIONS*
Chen, Z., Swartz, A. G., Yoon, H., Inoue, H., Merz, T. A., Lu, D., Xie, Y., Yuan, H., Hikita, Y., Raghu, S., Hwang, H. Y.
2018; 9
- **Carrier density and disorder tuned superconductor-metal transition in a two-dimensional electron system.** *Nature communications*
Chen, Z., Swartz, A. G., Yoon, H., Inoue, H., Merz, T. A., Lu, D., Xie, Y., Yuan, H., Hikita, Y., Raghu, S., Hwang, H. Y.
2018; 9 (1): 4008
- **Polaronic behavior in a weak-coupling superconductor** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Swartz, A. G., Inoue, H., Merz, T. A., Hikita, Y., Raghu, S., Devereaux, T. P., Johnston, S., Hwang, H. Y.
2018; 115 (7): 1475–80
- **Non-Fermi-liquid superconductivity: Eliashberg approach versus the renormalization group** *PHYSICAL REVIEW B*
Wang, H., Raghu, S., Torroba, G.
2017; 95 (16)
- **Emergent particle-hole symmetry in the half-filled Landau level** *PHYSICAL REVIEW B*
Mulligan, M., Raghu, S., Fisher, M. P.
2016; 94 (7)
- **Spin-orbit coupling and odd-parity superconductivity in the quasi-one-dimensional compound Li_{0.9}Mo₆O₁₇** *PHYSICAL REVIEW B*
Platt, C., Cho, W., McKenzie, R. H., Thomale, R., Raghu, S.
2016; 93 (21)
- **Composite fermions and the field-tuned superconductor-insulator transition** *PHYSICAL REVIEW B*

- Mulligan, M., Raghu, S.
2016; 93 (20)
- **Topological properties of ferromagnetic superconductors** *PHYSICAL REVIEW B*
Cheung, A. K., Raghu, S.
2016; 93 (13)
 - **Metallic quantum critical points with finite BCS couplings** *PHYSICAL REVIEW B*
Raghu, S., Torroba, G., Wang, H.
2015; 92 (20)
 - **Spin-triplet superconductivity in a weak-coupling Hubbard model for the quasi-one-dimensional compound Li_{0.9}Mo₆O₁₇** *PHYSICAL REVIEW B*
Cho, W., Platt, C., McKenzie, R. H., Raghu, S.
2015; 92 (13)
 - **Elastoconductivity as a probe of broken mirror symmetries** *PHYSICAL REVIEW B*
Hlobil, P., Maharaj, A. V., Hosur, P., SHAPIRO, M. C., Fisher, I. R., Raghu, S.
2015; 92 (3)
 - **Enhanced pairing of quantum critical metals near $d=3+1$** *PHYSICAL REVIEW B*
Fitzpatrick, A. L., Kachru, S., Kaplan, J., Raghu, S., Torroba, G., Wang, H.
2015; 92 (4)
 - **Evidence for a nematic component to the hidden-order parameter in URu₂Si₂ from differential elastoresistance measurements** *NATURE COMMUNICATIONS*
Riggs, S. C., SHAPIRO, M. C., Maharaj, A. V., Raghu, S., Bauer, E. D., Baumbach, R. E., Giraldo-Gallo, P., Wartenbe, M., Fisher, I. R.
2015; 6
 - **Evidence for a nematic component to the hidden-order parameter in URu₂Si₂ from differential elastoresistance measurements.** *Nature communications*
Riggs, S. C., SHAPIRO, M. C., Maharaj, A. V., Raghu, S., Bauer, E. D., Baumbach, R. E., Giraldo-Gallo, P., Wartenbe, M., Fisher, I. R.
2015; 6: 6425-?
 - **Suppression of spontaneous currents in Sr₂RuO₄ by surface disorder** *PHYSICAL REVIEW B*
Lederer, S., Huang, W., Taylor, E., Raghu, S., Kallin, C.
2014; 90 (13)
 - **Crisscrossed stripe order from interlayer tunneling in hole-doped cuprates** *PHYSICAL REVIEW B*
Maharaj, A. V., Hosur, P., Raghu, S.
2014; 90 (12)
 - **Anomalous Fermi-liquid phase in metallic skyrmion crystals** *PHYSICAL REVIEW B*
Watanabe, H., Parameswaran, S. A., Raghu, S., Vishwanath, A.
2014; 90 (4)
 - **Non-Fermi-liquid behavior of large-N-B quantum critical metals** *PHYSICAL REVIEW B*
Fitzpatrick, A. L., Kachru, S., Kaplan, J., Raghu, S.
2014; 89 (16)
 - **Tunable coupling of two-dimensional superconductors in bilayer SrTiO₃ heterostructures** *PHYSICAL REVIEW B*
Inoue, H., Kim, M., Bell, C., Hikita, Y., Raghu, S., Hwang, H. Y.
2013; 88 (24)
 - **Particle-hole condensates of higher angular momentum in hexagonal systems** *PHYSICAL REVIEW B*
Maharaj, A. V., Thomale, R., Raghu, S.
2013; 88 (20)
 - **Non-Fermi-liquid fixed point in a Wilsonian theory of quantum critical metals** *PHYSICAL REVIEW B*
Fitzpatrick, A. L., Kachru, S., Kaplan, J., Raghu, S.
2013; 88 (12)

- **Quantum critical metals in $d=3+1$ dimensions** *PHYSICAL REVIEW B*
Mahajan, R., Ramirez, D. M., Kachru, S., Raghu, S.
2013; 88 (11)
- **Band structure effects on the superconductivity in Hubbard models** *PHYSICAL REVIEW B*
Cho, W., Thomale, R., Raghu, S., Kivelson, S. A.
2013; 88 (6)
- **Higher angular momentum pairing from transverse gauge interactions** *PHYSICAL REVIEW B*
Chung, S. B., Mandal, I., Raghu, S., Chakravarty, S.
2013; 88 (4)
- **Kerr effect as evidence of gyrotropic order in the cuprates** *PHYSICAL REVIEW B*
Hosur, P., Kapitulnik, A., Kivelson, S. A., Orenstein, J., Raghu, S.
2013; 87 (11)
- **Spin-orbit coupling in $\text{LaAlO}_3/\text{SrTiO}_3$ interfaces: magnetism and orbital ordering** *NEW JOURNAL OF PHYSICS*
Fischer, M. H., Raghu, S., Kim, E.
2013; 15
- **Theory of 'hidden' quasi-1D superconductivity in Sr_2RuO_4** *10th International Conference on Materials and Mechanisms of Superconductivity (M2S)*
Raghu, S., Chung, S. B., Lederer, S.
IOP PUBLISHING LTD.2013
- **Optimal T-c of cuprates: The role of screening and reservoir layers** *PHYSICAL REVIEW B*
Raghu, S., Thomale, R., Geballe, T. H.
2012; 86 (9)
- **Charge and spin collective modes in a quasi-one-dimensional model of Sr_2RuO_4** *PHYSICAL REVIEW B*
Chung, S. B., Raghu, S., Kapitulnik, A., Kivelson, S. A.
2012; 86 (6)
- **Field-Induced p-Wave Superconducting State of Mesoscopic Systems** *PHYSICAL REVIEW LETTERS*
Huo, J., Chen, W., Raghu, S., Zhang, F.
2012; 108 (25)
- **Majorana zero modes in a quantum Ising chain with longer-ranged interactions** *PHYSICAL REVIEW B*
Niu, Y., Chung, S. B., Hsu, C., Mandal, I., Raghu, S., Chakravarty, S.
2012; 85 (3)
- **Effects of longer-range interactions on unconventional superconductivity** *PHYSICAL REVIEW B*
Raghu, S., Berg, E., Chubukov, A. V., Kivelson, S. A.
2012; 85 (2)
- **Thermodynamics of phase formation in the quantum critical metal $\text{Sr}_3\text{Ru}_2\text{O}_7$** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Rost, A. W., Grigera, S. A., Bruin, J. A., Perry, R. S., Tian, D., Raghu, S., Kivelson, S. A., Mackenzie, A. P.
2011; 108 (40): 16549-16553
- **Superconductivity from repulsive interactions in the two-dimensional electron gas** *PHYSICAL REVIEW B*
Raghu, S., Kivelson, S. A.
2011; 83 (9)
- **Hidden Quasi-One-Dimensional Superconductivity in Sr_2RuO_4** *PHYSICAL REVIEW LETTERS*
Raghu, S., Kapitulnik, A., Kivelson, S. A.
2010; 105 (13)
- **Superconductivity in the repulsive Hubbard model: An asymptotically exact weak-coupling solution** *PHYSICAL REVIEW B*
Raghu, S., Kivelson, S. A., Scalapino, D. J.
2010; 81 (22)

- **Collective Modes of a Helical Liquid** *PHYSICAL REVIEW LETTERS*
Raghu, S., Chung, S. B., Qi, X., Zhang, S.
2010; 104 (11)
- **Microscopic theory of the nematic phase in Sr₃Ru₂O₇** *PHYSICAL REVIEW B*
Raghu, S., Paramakanti, A., Kim, E. A., Borzi, R. A., Grigera, S. A., Mackenzie, A. P., Kivelson, S. A.
2009; 79 (21)
- **Time-Reversal-Invariant Topological Superconductors and Superfluids in Two and Three Dimensions** *PHYSICAL REVIEW LETTERS*
Qi, X., Hughes, T. L., Raghu, S., Zhang, S.
2009; 102 (18)
- **Vortex-dynamics approach to the Nernst effect in extreme type-II superconductors dominated by phase fluctuations** *PHYSICAL REVIEW B*
Raghu, S., Podolsky, D., Vishwanath, A., Huse, D. A.
2008; 78 (18)
- **Analogs of quantum-Hall-effect edge states in photonic crystals** *PHYSICAL REVIEW A*
Raghu, S., Haldane, F. D.
2008; 78 (3)
- **Minimal two-band model of the superconducting iron oxypnictides** *PHYSICAL REVIEW B*
Raghu, S., Qi, X., Liu, C., Scalapino, D. J., Zhang, S.
2008; 77 (22)
- **Topological Mott insulators** *PHYSICAL REVIEW LETTERS*
Raghu, S., Qi, X., Honerkamp, C., Zhang, S.
2008; 100 (15)
- **Theory of the three-dimensional quantum hall effect in graphite** *PHYSICAL REVIEW LETTERS*
Bernevig, B. A., Hughes, T. L., Raghu, S., Arovas, D. P.
2007; 99 (14)
- **Nernst effect and diamagnetism in phase fluctuating superconductors** *PHYSICAL REVIEW LETTERS*
Podolsky, D., Raghu, S., Vishwanath, A.
2007; 99 (11)