
EDUCATION

Stanford University. BS Physics with distinction (highest honor) with minor in Mathematics and Physics departmental honors. 2000

Cornell University. MS Physics, 2004. Ph.D. Theoretical Physics, 2006.
Thesis: “*Magnetic Properties of Nanoscale Conductors*”

EXPERIENCE

Assistant Professor of Physical Science at Yale-NUS College. Yale-NUS College is a landmark partnership between Yale University in New Haven and the National University of Singapore to create a liberal arts and science college in Singapore and to reimagine undergraduate education in the 21st century using the best pedagogical practices. [2012-present]

Assistant Professor of Physics. Graphene Research Center and Department of Physics, National University of Singapore. As a Singapore National Research Foundation Fellow, I have received a \$3 million grant to support independent research on the properties of Dirac fermions in graphene and topological insulators. [2012-present]

National Research Council Fellow with the Center for Nanoscale Science and Technology at the *National Institute of Standards and Technology*. This fellowship from United States National Academy of Sciences provides the opportunity to design and implement collaborative research at US government laboratories. During my fellowship, I worked with *Mark Stiles* on understanding theoretically the **electronic properties of epitaxial graphene** in the extreme conditions of low temperature and high magnetic fields. Our ongoing collaboration with the ultra-low temperature scanning tunneling microscopy group of *Joseph Stroscio* resulted in a publication in *Nature* that studied the role of interactions on epitaxial graphene electrons in a large magnetic field. [2009-2012]

Post-doctoral Research Associate with *Sankar Das Sarma, University of Maryland*
Carrier transport in graphene. My post-doctoral position at Maryland coincided with the flurry of excitement that followed the experimental discovery of atomically thin sheets of carbon. My three most important contributions to the theoretical understanding of graphene include (i) explaining how the linear-in-density conductivity arises from graphene’s modified screening properties [Hwang, Adam, Das Sarma *Phys. Rev. Lett.* (2007), >500 citations]; (ii) understanding the mechanism underlying graphene’s minimum conductivity by employing a self-consistent mean field theory to characterize the screened inhomogeneous density profile and its corresponding electronic transport properties [Adam, Hwang, Galitski and Das Sarma, *Proc. Nat. Acad. Sci.* (2007), >500 citations]; and (iii) characterizing the full crossover from the quantum (phase-coherent) anti-localization electron transport in graphene at weak disorder to the classical scattering regime [Adam, Brouwer and Das Sarma, *Phys. Rev. B, Rapid Communications* (2009)] [2006-2009]

SELECT FELLOWSHIPS, GRANTS, TEACHING and SERVICE

Fellowships

2012 Singapore National Research Foundation Fellowship
2009 United States National Research Council Research Fellowship
2004 Cornell Center for Nanoscale Systems Graduate Research Fellowship
2004 Alice H. Cook Graduate Resident Fellowship, Cornell University
2000 Cornell University Graduate Fellowship
1999 Blanche and Candace Porteous undergraduate scholarship, Stanford University

Research Grants

2012-2017: "*Harnessing Interacting Dirac fermions for future technology*" Singapore National Research Foundation **USD 2.95 million**. Principal Investigator

2013-2016: "*Theoretical study of electrons in low dimensional systems*" Yale-NUS College **USD 143,000**
Principal Investigator

Students Mentored

High school

1. Valery Leng (with M. Stiles), NIST Summer High school Intern Program (2011);
2. Parakh Jain (with M. Stiles), NIST Summer High school Intern Program (2010); semifinalist for the 2011 Intel Science Talent Search
3. Viraaj Jayaram, (2014)

Undergraduate

1. Andy Chen, CIPE summer science experience student (2014)
2. Dylan Ho, Undergraduate Researcher (2014)
3. Nicholas Sebastian, Honors student (undergraduate), 2013-2014
4. Christopher Baldwin (with M. Stiles), NIST Summer Undergraduate Research Fellow (2011);

Graduate

1. Tang Ho Kin, Graduate Student, 2013-present
2. Navneeth Ramakrishnan, Research Assistant, 2013-present
3. Indra Yudhistira, Research Assistant, 2013-present
4. Kush Saha, Summer research program, National University of Singapore (2013)
5. Jia Ning Leaw, Graduate Student, 2014-present

Postdoctoral

1. Joao Rodriguez, Postdoctoral Research Fellow, 2013-present
 2. Mirco Milletari, Postdoctoral Research Fellow, 2013-present
 3. Jeil Jung, Postdoctoral Research Fellow, 2013-present
-

Courses Taught

YNC1132 (with J. Gruber, H-C Kang, N. Tolwinski and M. Weissman) "Science of water" (Spring 03-04, Yale-NUS College).

NES420/BioNb420 (with R. Brann) "*Seminars on Science and Religion*" (Spring 05-06, Cornell University)

NES 307 "*African Identity Films and Discussion*". Seminar for undergraduates at Alice H. Cook House (Fall 05-06, Cornell University)

Biology 299 (with A. Bass) "*Brainstorms*". Discussion seminar for undergraduates at Alice H. Cook House (Spring 04-05, Cornell University)