

Monica T. Allen

Research Interests: topological states of matter, graphene and low dimensional materials, superconductivity, advanced imaging techniques in the microwave regime

Education

Ph.D. in Physics, 2016
Harvard University, Cambridge, MA, United States

B.A. in Physics, 2009
Harvard University, Cambridge, MA, United States

Academic and Professional Appointments

3/2019 – present
Assistant Professor, Physics
University of California, San Diego, La Jolla, CA, United States

6/2016 – 3/2019
Urbanek Postdoctoral Fellow, Applied Physics
Stanford University, Stanford, CA, United States

Honors and Awards

2016, Karel Urbanek Postdoctoral Fellow, Stanford University
2010, Office of Science Graduate Fellow (DOE SCGF), awarded by the U. S. Department of Energy
2010, David J. Robbins Prize, Harvard University
2009, Purcell Fellow, Harvard University
2008, NSF MRSEC-REU Summer Research Fellow, Harvard University
2007, Princeton Center for Complex Materials Summer Research Fellow, Princeton University
2006, Herchel Smith Undergraduate Summer Research Fellow
2006, Harvard Program for Research in Science and Engineering Fellow

Selected Publications

M. T. Allen, Y.-T. Cui, E. Y. Ma, M. Mogi, M. Kawamura, I. C. Fulga, D. Goldhaber-Gordon, Y. Tokura, Z.-X. Shen. Visualization of an axion insulating state at the transition between two chiral quantum anomalous Hall states. *Proceedings of the National Academy of Sciences*, 116 (29), 14511-14515 (2019).

M. T. Allen, O. Shtanko, I. C. Fulga, J. Wang, D. Nurgaliev, K. Watanabe, T. Taniguchi, A. R. Akhmerov, P. Jarillo-Herrero, L. S. Levitov, and A. Yacoby. Observation of electron coherence and Fabry-Perot standing waves at a graphene edge. *Nano Letters*, 17, 7380-7386 (2017).

M. T. Allen, O. Shtanko, I. C. Fulga, A. R. Akhmerov, K. Watanabe, T. Taniguchi, P. Jarillo-Herrero, L. S. Levitov, and A. Yacoby. Spatially resolved edge currents and guided-wave electronic states in graphene. *Nature Physics*, 12, 128-133 (2016).

M. T. Allen, J. Martin, A. Yacoby. Gate-defined quantum confinement in suspended bilayer graphene. *Nature Communications* 3:934 (2012).

R. T. Weitz, **M. T. Allen**, B. E. Feldman, J. Martin, and A. Yacoby. Broken-symmetry states in double gated suspended bilayer graphene. *Science* 330, 812-816 (2010).

Selected Invited Talks

3/2019, Invited talk at the James Franck Institute. University of Chicago

7/2018, Invited talk at the Collective Phenomena in Driven Quantum Systems Workshop. Mainz, Germany

2/2018, Solid State Technology and Devices Seminar, EECS Department. University of California, Berkeley

2/2018, Condensed Matter Seminar, Department of Physics. California Institute of Technology

2/2018, LASSP and A&EP Seminar, Department of Applied and Engineering Physics. Cornell University

10/2017, Invited talk at the Institute of Quantum Computing. University of Waterloo

2/2017, Invited talk at the Moore Foundation Emergent Phenomena in Quantum Systems Initiative Postdoctoral Symposium. Aspen, CO

1/2016, Invited talk at the Institute for Molecular Engineering. University of Chicago

12/2015, Condensed Matter Seminar, Department of Physics. Yale University

12/2015, Special Condensed Matter Seminar, Department of Physics. Princeton University

12/2015, Special KIC/LASSP Seminar at the Kavli Institute. Cornell University

11/2015, Invited Seminar, Department of Physics. University of California, Berkeley

11/2015, Invited Seminar, Department of Applied Physics. Stanford University

10/2014, Invited talk, Boston Area Carbon Nanoscience Meeting. Massachusetts Institute of Technology

2/2013, Invited talk, Center for Nanoscale Systems Seminar Series. Harvard University

Professional Activities

2020, Symposium Chair, Spring 2020 Materials Research Society (MRS) Symposium: *Layered van der Waals Heterostructures—Synthesis, Physical Phenomena and Devices*

2017, Session Chair, Moore Foundation Emergent Phenomena in Quantum Systems Initiative Postdoctoral Symposium

2009 – 2016, Undergraduate Advisor for the Women in Science, Technology, Engineering, and Mathematics Program, Harvard University

2013, Session Chair, American Physical Society March Meeting