

Sungjae Cho

Assistant Professor

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EDUCATION

University of Maryland , College Park, MD Doctor of Philosophy in Physics	June 2011
University of Virginia , Charlottesville, VA Master of Science in Physics	May 2005
Seoul National University , Seoul, Korea Bachelor of Science in Physics	Feb. 2003

RESEARCH INTERESTS – Condensed Matter Experiment

Quantum (charge, spin and superconducting) transport in nanostructured materials

EXPERIENCE

Assistant Professor Department of Physics, <i>KAIST (Korea Advanced Institute of Science and Technology)</i>	July 2014 – Present
Postdoctoral Research Associate Department of Physics, <i>University of Illinois at Urbana-Champaign</i>	Sept. 2011– June 2014

PUBLICATIONS

Manuscripts In Progress

- *Anomalous zero-bias conductance peaks in a 3D topological insulator nanowire*
Sungjae Cho*, Alina Yang, John Schneeloch, Zhijun Xu, Genda Gu, Nadya Mason* (**co-correspondence author**)

Peer-reviewed Journal Publications

- *Aharonov-Bohm Oscillations in a Quasi-Ballistic 3D Topological-Insulator Nanowire*
Sungjae Cho*, Brian Dellabetta, Alina Yang, John Schneeloch, Zhijun Xu, Genda Gu, Matthew J. Gilbert, Nadya Mason* (**co-correspondence author**)
Nature Communication 6, 7634 (2015)
- *Disorder-Induced Magnetoresistance in a Two-Dimensional Electron System*
Jinglei Ping, Indra Yudhistira, Navneeth Ramakrishnan, **Sungjae Cho**, Shaffique Adam, Michael S. Fuhrer
Physical Review Letters 113, 047206 (2014)

- *Symmetry protected Josephson supercurrents in three-dimensional topological insulators*
Sungjae Cho, Brian Dellabetta, Alina Yang, John Schneeloch, Zhijun Xu, Tonica Valla, Genda Gu, Matthew J. Gilbert, Nadya Mason
Nature Communication 4, 1689 (2013)
Press coverage: “*Superconducting qualities of topological insulators demonstrated*” at *Phys.org* on Apr 10, 2013, also at *Eurekalert*, *Scienceblog*, *Ecnmag*
- *Surface conduction of topological Dirac electrons in bulk insulating Bi_2Se_3*
Dohun Kim*, **Sungjae Cho***(equal contribution), Nicholas P. Butch, Paul Syers, Kevin Kirshenbaum, Shaffique Adam, Johnpierre Paglione, Michael S. Fuhrer
Nature Physics 8, 460 (2012)
Press coverage: “*Research demonstrates and explains surface conduction in a topological insulator*” at *Phys.org* on July 12, 2012
- *Topological insulator quantum dot with tunable barriers*
Sungjae Cho, Dohun Kim, Paul Syers, Nicholas P. Butch, Johnpierre Paglione, and Michael S. Fuhrer
Nano Letters 12, 469 (2012)
- *Insulating behavior in ultrathin bismuth selenide field effect transistors*
Sungjae Cho, Nicholas P. Butch, Johnpierre Paglione, and Michael S. Fuhrer
Nano Letters 11, 1925 (2011)
Press coverage: “*Topological insulator becomes insulating at the surface*” at *Physicsworld* on March 3, 2011
- *Massless and massive particle-in-a-box states in single-and bi-layer graphene*
Sungjae Cho and Michael S. Fuhrer
Nano Research, 4, 385 (2011)
- *Density inhomogeneity driven percolation metal-insulator transition and dimensional crossover in graphene nanoribbons*
Shaffique Adam, **Sungjae Cho**, Michael S. Fuhrer, Sankar Das Sarma
Physical Review Letters 101, 046404 (2008)
- *Charge transport and inhomogeneity near the minimum conductivity point in graphene*
Sungjae Cho and Michael S. Fuhrer
Physical Review B Rapid Communications 77, 084102(R) (2008)
- *Gate-tunable graphene spin valve*
Sungjae Cho, Yung-Fu Chen and Michael S. Fuhrer
Applied Physics Letters 91, 123105 (2007)
Top twenty most highly cited *American Institute of Physics (AIP)* journal articles on graphene when Nobel prize was awarded to graphene work in 2010

AWARDS

- 2016 POSCO Chung-Am Science Fellow