



## David Goldhaber-Gordon

Professor of Physics and, by courtesy, of Applied Physics

### Bio

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#### BIO

David earned his AB in Physics and AM in History of Science from Harvard in 1994, and his Ph.D. in Physics from the Massachusetts Institute of Technology in 1999, as a Hertz Fellow. During his Ph.D., David made the first demonstration of the Kondo effect in a semiconductor nanostructure. The Kondo effect is the interaction of a magnetic impurity atom with a surrounding metal host, and David's contribution enabled study of this classic system in a new and more tunable context, spurring a world-wide renaissance in this area. Also during this period, with colleagues at the MITRE Corporation he published an influential article examining the implications of novel nanoelectronic devices for computing. Following his Ph.D. he spent two years as a Junior Fellow in the Harvard Society of Fellows, then joined the faculty at Stanford University.

David has received a number of distinctions. In 2002, he received the inaugural George E. Valley Prize of the American Physical Society. This prize is awarded every 2-3 years to one early-career individual, for his or her outstanding contribution to the knowledge of physics. Also in 2002, he received the University of Illinois's McMillan Award in condensed matter physics, the premier recognition for a young condensed matter physicist. More recently he received the 2006 Award for Initiatives in Research from the National Academy of Sciences (one awarded per year), and a Packard Fellowship. He has also received young investigator awards from the Navy, Air Force, Sloan Foundation, Research Corporation, National Science Foundation, and Hellman Faculty Scholars program.

#### ACADEMIC APPOINTMENTS

- Professor, Physics
- Professor (By courtesy), Applied Physics
- Principal Investigator, Stanford Institute for Materials and Energy Sciences

#### ADMINISTRATIVE APPOINTMENTS

- Senator, Faculty Senate, Stanford University, (2016-2020)
- Chair, Faculty Senate Committee on Graduate Studies, Stanford University, (2016-2018)
- Professor of Physics with Tenure, Experimental Condensed Matter, Stanford University, (2013- present)
- Director, Center for Probing the Nanoscale, an NSF Nanoscale Science and engineering Center, Stanford University, (2011-2014)
- Associate Professor of Physics with Tenure, Experimental Condensed Matter, Stanford University, (2008-2013)
- Co-founder, Center for Probing the Nanoscale, Stanford University, (2003- present)
- Deputy Director, Center for Probing the Nanoscale, Stanford University, (2003-2011)
- Assistant Professor of Physics, Experimental Condensed Matter, Stanford University, (2001-2008)
- Member of Technical Staff, The MITRE Corporation, (2000-2001)

- Junior Fellow, Harvard Society of Fellows, Harvard University, Cambridge, MA, (1999-2001)

## **HONORS AND AWARDS**

- Fellow, American Physical Society (2018)
- Award for Excellence and Achievement, Center for Excellence in Education (2013)
- Weston Visiting Professorship, Weizmann Institute (2010 - 2011)
- Air Force Presidential (PECASE) Awardee, United States Air Force (2003 - 2007)
- Young Investigator Award, Office of Naval Research (2001 - 2004)
- Inaugural speaker for young investigator seminar, AFOSR/ONR (2007)
- Research Innovation Award, Research Corporation (2004 - 2006)
- Best paper by a young author, International Conference on Physics of Semiconductors (ICPS) (1998)
- Best Paper, Review of nanoelectronic computing, MITRE Corp (1997)
- Martin Deutsch Award, MIT (1997)
- MIT Karl Taylor Compton PhD Fellow, MIT (1994 - 1996)
- Hellman Faculty Scholar, Stanford University (2008)
- David and Lucille Packard Fellowship, Packard Foundation (2004-2009)
- Sloan Fellowship, Alfred P. Sloan Foundation (2003-2005)
- Hertz PhD Fellow, Fannie and John Hertz Foundation (1994-1999)
- Award for Initiatives in Research, National Academy of Sciences (2006)
- Inaugural recipient of the George E. Valley Prize, American Physical Society (2002)
- William McMillan Award, University of Illinois Urbana-Champaign, Department of Physics (2002)

## **BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS**

- Member, Selection Committee, George E. Valley Prize, American Physical Society (2004 - 2004)
- Member, Selection Committee, Apker Award, American Physical Society (2006 - 2008)
- Member, Selection Committee, William McMillan Award, University of Illinois (2007 - 2010)
- Member, Stanford University Nanofabrication Facility Faculty Advisory Board (2005 - present)
- Member, Stanford University Engineering-Physics Faculty Group (2011 - present)
- Member, Stanford University Nanofacilities Committee (2008 - present)
- Director, Board of Directors, South Peninsula Hebrew Day School (2009 - 2015)
- Member, University Graduate Study Committee, Stanford University (2014 - present)
- Chair, Graduate Study Committee, Physics Department, Stanford University (2008 - 2010)
- Chair, Graduate Study Committee, Physics Department, Stanford University (2011 - 2013)
- Chair, Condensed Matter Experiment Faculty Search Committee, Physics Department, Stanford University (2011 - present)
- Member, Long-range Planning Committee, Physics Department, Stanford University (2014 - present)
- Member, Undergraduate Study Committee, Stanford University (2008 - present)
- Member, Atomic, Molecular, and Optical Physics Faculty Search Committee, Stanford University (2002 - 2008)
- Member, Condensed Matter Theory Faculty Search Committee, Stanford University (2007 - 2009)
- Member, Committee to Revamp the Freshmen Labs, Stanford University (2007 - 2008)
- Member, Stanford University Nanofabrication Facility Executive Committee (2013 - present)

## PROFESSIONAL EDUCATION

- PhD, Massachusetts Institute of Technology , Physics (1999)
- AM, Harvard University, Cambridge, MA , History of Science (1994)
- AB, Harvard University, Cambridge, MA , Physics (1994)

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

How do electrons organize themselves on the nanoscale?

We know that electrons are charged particles, and hence repel each other; yet in common metals like copper billions of electrons have plenty of room to maneuver and seem to move independently, taking no notice of each other. Professor Goldhaber-Gordon studies how electrons behave when they are instead confined to tiny structures, such as wires only tens of atoms wide. When constrained this way, electrons cannot easily avoid each other, and interactions strongly affect their organization and flow. The Goldhaber-Gordon group uses advanced fabrication techniques to confine electrons to semiconductor nanostructures, to extend our understanding of quantum mechanics to interacting particles, and to provide the basic science that will shape possible designs for future transistors and energy conversion technologies. The Goldhaber-Gordon group makes measurements using cryogenics, precision electrical measurements, and novel scanning probe techniques that allow direct spatial mapping of electron organization and flow. For some of their measurements of exotic quantum states, they cool electrons to a fiftieth of a degree above absolute zero, the world record for electrons in semiconductor nanostructures.

## Teaching

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### COURSES

#### 2019-20

- Advanced Physics Laboratory: Project: PHYSICS 108 (Spr)
- Electricity, Magnetism and Waves Laboratory: PHYSICS 64 (Win)
- Electricity, Magnetism, and Waves: PHYSICS 63 (Win)

#### 2018-19

- Advanced Physics Laboratory: Project: PHYSICS 108 (Spr)
- Electrons in Nanostructures: PHYSICS 275 (Win)

#### 2017-18

- Advanced Physics Laboratory: Project: PHYSICS 108 (Spr)

#### 2016-17

- Advanced Physics Laboratory: Project: PHYSICS 108 (Win, Spr)
- Condensed Matter Seminar: APPPHYS 470 (Spr)

### STANFORD ADVISEES

#### Postdoctoral Faculty Sponsor

Evgeny Mikheev

#### Doctoral Dissertation Advisor (AC)

Molly Andersen, John Bartel, Joe Finney, Eli Fox, Connie Hsueh, Rupini Kamat, Winston Pouse, Linsey Rodenbach, Ilan Rosen, Aaron Sharpe, Steven Tran

#### Doctoral (Program)

Matt Grant, Matthew Sorensen, Bai Yang Wang

## Publications

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### PUBLICATIONS

- **Tunable correlated Chern insulator and ferromagnetism in a moire superlattice (vol 579, pg 56, 2020) *NATURE***  
Chen, G., Sharpe, A. L., Fox, E. J., Zhang, Y., Wang, S., Jiang, L., Lyu, B., Li, H., Watanabe, K., Taniguchi, T., Shi, Z., Senthil, T., Goldhaber-Gordon, et al  
2020: E3
- **Giant orbital magnetoelectric effect and current-induced magnetization switching in twisted bilayer graphene. *Nature communications***  
He, W. Y., Goldhaber-Gordon, D., Law, K. T.  
2020; 11 (1): 1650
- **Super-geometric electron focusing on the hexagonal Fermi surface of PdCoO<sub>2</sub>. *Nature communications***  
Bachmann, M. D., Sharpe, A. L., Barnard, A. W., Putzke, C., Konig, M., Khim, S., Goldhaber-Gordon, D., Mackenzie, A. P., Moll, P. J.  
2019; 10 (1): 5081
- **Signatures of tunable superconductivity in a trilayer graphene moire superlattice. *Nature***  
Chen, G., Sharpe, A. L., Gallagher, P., Rosen, I. T., Fox, E. J., Jiang, L., Lyu, B., Li, H., Watanabe, K., Taniguchi, T., Jung, J., Shi, Z., Goldhaber-Gordon, et al  
2019
- **Emergent ferromagnetism near three-quarters filling in twisted bilayer graphene. *Science (New York, N.Y.)***  
Sharpe, A. L., Fox, E. J., Barnard, A. W., Finney, J., Watanabe, K., Taniguchi, T., Kastner, M. A., Goldhaber-Gordon, D.  
2019
- **Optical Imaging and Spectroscopic Characterization of Self-Assembled Environmental Adsorbates on Graphene *NANO LETTERS***  
Gallagher, P., Li, Y., Watanabe, K., Taniguchi, T., Heinz, T. F., Goldhaber-Gordon, D.  
2018; 18 (4): 2603–8
- **Chiral transport along magnetic domain walls in the quantum anomalous Hall effect *NPJ QUANTUM MATERIALS***  
Rosen, I. T., Fox, E. J., Kou, X., Pan, L., Wang, K. L., Goldhaber-Gordon, D.  
2017; 2
- **Zero-field edge plasmons in a magnetic topological insulator *NATURE COMMUNICATIONS***  
Mahoney, A. C., Colless, J. I., Peeters, L., Pauka, S. J., Fox, E. J., Kou, X., Pan, L., Wang, K. L., Goldhaber-Gordon, D., Reilly, D. J.  
2017; 8
- **Absorptive pinhole collimators for ballistic Dirac fermions in graphene *NATURE COMMUNICATIONS***  
Barnard, A. W., Hughes, A., Sharpe, A. L., Watanabe, K., Taniguchi, T., Goldhaber-Gordon, D.  
2017; 8
- **Zero-field edge plasmons in a magnetic topological insulator. *Nature communications***  
Mahoney, A. C., Colless, J. I., Peeters, L., Pauka, S. J., Fox, E. J., Kou, X., Pan, L., Wang, K. L., Goldhaber-Gordon, D., Reilly, D. J.  
2017; 8 (1): 1836
- **Disorder from the Bulk Ionic Liquid in Electric Double Layer Transistors. *ACS nano***  
Petach, T. A., Reich, K. V., Zhang, X., Watanabe, K., Taniguchi, T., Shklovskii, B. I., Goldhaber-Gordon, D.  
2017; 11 (8): 8395–8400
- **Robust fractional quantum Hall effect in the N=2 Landau level in bilayer graphene *NATURE COMMUNICATIONS***  
Diankov, G., Liang, C., Amet, F., Gallagher, P., Lee, M., Bestwick, A. J., Tharratt, K., Coniglio, W., Jaroszynski, J., Watanabe, K., Taniguchi, T., Goldhaber-Gordon, D.  
2016; 7
- **Unconventional Correlation between Quantum Hall Transport Quantization and Bulk State Filling in Gated Graphene Devices *PHYSICAL REVIEW LETTERS***  
Cui, Y., Wen, B., Ma, E. Y., Diankov, G., Han, Z., Amet, F., Taniguchi, T., Watanabe, K., Goldhaber-Gordon, D., Dean, C. R., Shen, Z.  
2016; 117 (18)

- **Ballistic miniband conduction in a graphene superlattice.** *Science*  
Lee, M., Wallbank, J. R., Gallagher, P., Watanabe, K., Taniguchi, T., Fal'ko, V. I., Goldhaber-Gordon, D.  
2016; 353 (6307): 1526-1529
- **Voltage-Controlled Interfacial Layering in an Ionic Liquid on SrTiO<sub>3</sub>** *ACS NANO*  
Petach, T. A., Mehta, A., Marks, R., Johnson, B., Toney, M. F., Goldhaber-Gordon, D.  
2016; 10 (4): 4565-4569
- **Switchable friction enabled by nanoscale self-assembly on graphene** *NATURE COMMUNICATIONS*  
Gallagher, P., Lee, M., Amet, F., Maksymovych, P., Wang, J., Wang, S., Lu, X., Zhang, G., Watanabe, K., Taniguchi, T., Goldhaber-Gordon, D.  
2016; 7
- **Universal Fermi liquid crossover and quantum criticality in a mesoscopic system.** *Nature*  
Keller, A. J., Peeters, L., Moca, C. P., Weymann, I., Mahalu, D., Umansky, V., Zaránd, G., Goldhaber-Gordon, D.  
2015; 526 (7572): 237-240
- **Precise Quantization of the Anomalous Hall Effect near Zero Magnetic Field** *PHYSICAL REVIEW LETTERS*  
Bestwick, A. J., Fox, E. J., Kou, X., Pan, L., Wang, K. L., Goldhaber-Gordon, D.  
2015; 114 (18)
- **A high-mobility electronic system at an electrolyte-gated oxide surface** *NATURE COMMUNICATIONS*  
Gallagher, P., Lee, M., Petach, T. A., Stanwyck, S. W., Williams, J. R., Watanabe, K., Taniguchi, T., Goldhaber-Gordon, D.  
2015; 6
- **Composite fermions and broken symmetries in graphene.** *Nature communications*  
Amet, F., Bestwick, A. J., Williams, J. R., Balicas, L., Watanabe, K., Taniguchi, T., Goldhaber-Gordon, D.  
2015; 6: 5838-?
- **Unexpected edge conduction in mercury telluride quantum wells under broken time-reversal symmetry.** *Nature communications*  
Ma, E. Y., Calvo, M. R., Wang, J., Lian, B., Mühlbauer, M., Brüne, C., Cui, Y., Lai, K., Kundhikanjana, W., Yang, Y., Baenninger, M., König, M., Ames, et al  
2015; 6: 7252-?
- **A high-mobility electronic system at an electrolyte-gated oxide surface.** *Nature communications*  
Gallagher, P., Lee, M., Petach, T. A., Stanwyck, S. W., Williams, J. R., Watanabe, K., Taniguchi, T., Goldhaber-Gordon, D.  
2015; 6: 6437-?
- **Local imaging of high mobility two-dimensional electron systems with virtual scanning tunneling microscopy** *APPLIED PHYSICS LETTERS*  
Pelliccione, M., BARTEL, J., Sciambi, A., Pfeiffer, L. N., West, K. W., Goldhaber-Gordon, D.  
2014; 105 (18)
- **Gate-tunable superconducting weak link and quantum point contact spectroscopy on a strontium titanate surface** *NATURE PHYSICS*  
Gallagher, P., Lee, M., Williams, J. R., Goldhaber-Gordon, D.  
2014; 10 (10): 748-752
- **Emergent SU(4) Kondo physics in a spin-charge-entangled double quantum dot** *NATURE PHYSICS*  
Keller, A. J., Amasha, S., Weymann, I., Moca, C. P., Rau, I. G., Katine, J. A., Shtrikman, H., Zarand, G., Goldhaber-Gordon, D.  
2014; 10 (2): 145-150
- **Insulating behavior at the neutrality point in single-layer graphene.** *Physical review letters*  
Amet, F., Williams, J. R., Watanabe, K., Taniguchi, T., Goldhaber-Gordon, D.  
2013; 110 (21): 216601-?
- **Kondo effect in a single-electron transistor** *NATURE*  
Goldhaber-Gordon, D., Shtrikman, H., Mahalu, D., Abusch-Magder, D., Meirav, U., Kastner, M. A.  
1998; 391 (6663): 156-159
- **Visualization of an axion insulating state at the transition between 2 chiral quantum anomalous Hall states.** *Proceedings of the National Academy of Sciences of the United States of America*  
Allen, M., Cui, Y., Yue Ma, E., Mogi, M., Kawamura, M., Fulga, I. C., Goldhaber-Gordon, D., Tokura, Y., Shen, Z.  
2019

- **Quantum-Hall to Insulator Transition in Ultra-Low-Carrier-Density Topological Insulator Films and a Hidden Phase of the Zeroth Landau Level.** *Advanced materials (Deerfield Beach, Fla.)*  
Salehi, M., Shapourian, H., Rosen, I. T., Han, M., Moon, J., Shibayev, P., Jain, D., Goldhaber-Gordon, D., Oh, S.  
2019; e1901091
- **Significant Phonon Drag Enables High Power Factor in the AlGaN/GaN Two-Dimensional Electron Gas.** *Nano letters*  
Yalamarthy, A. S., Munoz Rojo, M., Bruefach, A., Boone, D., Dowling, K. M., Satterthwaite, P. F., Goldhaber-Gordon, D., Pop, E., Senesky, D. G.  
2019
- **Absence of strong localization at low conductivity in the topological surface state of low-disorder Sb<sub>2</sub>Te<sub>3</sub>** *PHYSICAL REVIEW B*  
Rosen, I. T., Yudhistira, I., Sharma, G., Salehi, M., Kastner, M. A., Oh, S., Adam, S., Goldhaber-Gordon, D.  
2019; 99 (20)
- **Using liquid electrolytes in dielectric reliability studies**  
Lanza, M., Tang, K., Meng, A. C., Hui, F., Shi, Y., Han, T., Petach, T., Hitzman, C., Koh, A., Goldhaber-Gordon, D., McIntyre, P. C., IEEE  
IEEE.2018
- **Crystal truncation rods from miscut surfaces** *PHYSICAL REVIEW B*  
Petach, T. A., Mehta, A., Toney, M. F., Goldhaber-Gordon, D.  
2017; 95 (18)
- **Temperature-dependent optical properties of titanium nitride** *APPLIED PHYSICS LETTERS*  
Briggs, J. A., Naik, G. V., Zhao, Y., Petach, T. A., Sahasrabudde, K., Goldhaber-Gordon, D., Melosh, N. A., Dionne, J. A.  
2017; 110 (10)
- **Distinguishing Oxygen Vacancy Electromigration and Conductive Filament Formation in TiO<sub>2</sub> Resistance Switching Using Liquid Electrolyte Contacts.** *Nano letters*  
Tang, K., Meng, A. C., Hui, F., Shi, Y., Petach, T., Hitzman, C., Koh, A. L., Goldhaber-Gordon, D., Lanza, M., McIntyre, P. C.  
2017; 17 (7): 4390–99
- **Cotunneling Drag Effect in Coulomb-Coupled Quantum Dots.** *Physical review letters*  
Keller, A. J., Lim, J. S., Sánchez, D., López, R., Amasha, S., Katine, J. A., Shtrikman, H., Goldhaber-Gordon, D.  
2016; 117 (6): 066602-?
- **Fully CMOS-compatible titanium nitride nanoantennas** *APPLIED PHYSICS LETTERS*  
Briggs, J. A., Naik, G. V., Petach, T. A., Baum, B. K., Goldhaber-Gordon, D., Dionne, J. A.  
2016; 108 (5)
- **Resonant magneto-optic Kerr effect in the magnetic topological insulator Cr:(Sb-x,Bi1-x)(2)Te-3** *PHYSICAL REVIEW B*  
Patankar, S., Hinton, J. P., Griesmar, J., Orenstein, J., Dodge, J. S., Kou, X., Pan, L., Wang, K. L., Bestwick, A. J., Fox, E. J., Goldhaber-Gordon, D., Wang, J., Zhang, et al  
2015; 92 (21)
- **Repairing nanoscale devices using electron-beam-induced deposition of platinum** *JOURNAL OF VACUUM SCIENCE & TECHNOLOGY B*  
Peeters, L., Keller, A. J., Umansky, V., Mahalu, D., Goldhaber-Gordon, D.  
2015; 33 (5)
- **Self-sensing cantilevers with integrated conductive coaxial tips for high-resolution electrical scanning probe metrology** *JOURNAL OF APPLIED PHYSICS*  
Haemmerli, A. J., Harjee, N., Koenig, M., Garcia, A. G., Goldhaber-Gordon, D., Pruitt, B. L.  
2015; 118 (3)
- **Unexpected edge conduction in mercury telluride quantum wells under broken time-reversal symmetry** *NATURE COMMUNICATIONS*  
Ma, E. Y., Calvo, M. R., Wang, J., Lian, B., Muehlbauer, M., Bruene, C., Cui, Y., Lai, K., Kundhikanjana, W., Yang, Y., Baenninger, M., Koenig, M., Ames, et al  
2015; 6
- **Mechanism for the large conductance modulation in electrolyte-gated thin gold films** *PHYSICAL REVIEW B*  
Petach, T. A., Lee, M., Davis, R. C., Mehta, A., Goldhaber-Gordon, D.  
2014; 90 (8)
- **Selective Equilibration of Spin-Polarized Quantum Hall Edge States in Graphene** *PHYSICAL REVIEW LETTERS*

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- Amet, F., Williams, J. R., Watanabe, K., Taniguchi, T., Goldhaber-Gordon, D.  
2014; 112 (19)
- **Universal conductance fluctuations in electrolyte-gated SrTiO<sub>3</sub> nanostructures** *APPLIED PHYSICS LETTERS*  
Stanwyck, S. W., Gallagher, P., Williams, J. R., Goldhaber-Gordon, D.  
2013; 103 (21)
  - **Imaging currents in HgTe quantum wells in the quantum spin Hall regime.** *Nature materials*  
Nowack, K. C., Spanton, E. M., Baenninger, M., König, M., Kirtley, J. R., Kalisky, B., Ames, C., Leubner, P., Brüne, C., Buhmann, H., Molenkamp, L. W., Goldhaber-Gordon, D., Moler, et al  
2013; 12 (9): 787-791
  - **Imaging currents in HgTe quantum wells in the quantum spin Hall regime.** *Nature materials*  
Nowack, K. C., Spanton, E. M., Baenninger, M., König, M., Kirtley, J. R., Kalisky, B., Ames, C., Leubner, P., Brüne, C., Buhmann, H., Molenkamp, L. W., Goldhaber-Gordon, D., Moler, et al  
2013; 12 (9): 787-791
  - **Direct measurement of current-phase relations in superconductor/topological insulator/superconductor junctions.** *Nano letters*  
Sochnikov, I., Bestwick, A. J., Williams, J. R., Lippman, T. M., Fisher, I. R., Goldhaber-Gordon, D., Kirtley, J. R., Moler, K. A.  
2013; 13 (7): 3086-3092
  - **Direct Measurement of Current-Phase Relations in Superconductor/Topological Insulator/Superconductor Junctions** *NANO LETTERS*  
Sochnikov, I., Bestwick, A. J., Williams, J. R., Lippman, T. M., Fisher, I. R., Goldhaber-Gordon, D., Kirtley, J. R., Moler, K. A.  
2013; 13 (7): 3086-3092
  - **Insulating Behavior at the Neutrality Point in Single-Layer Graphene** *PHYSICAL REVIEW LETTERS*  
Amet, F., Williams, J. R., Watanabe, K., Taniguchi, T., Goldhaber-Gordon, D.  
2013; 110 (21)
  - **Spatially Resolved Study of Backscattering in the Quantum Spin Hall State** *PHYSICAL REVIEW X*  
Koenig, M., Baenninger, M., Garcia, A. G., Harjee, N., Pruitt, B. L., Ames, C., Leubner, P., Bruene, C., Buhmann, H., Molenkamp, L. W., Goldhaber-Gordon, D.  
2013; 3 (2)
  - **Design of a scanning gate microscope for mesoscopic electron systems in a cryogen-free dilution refrigerator.** *Review of scientific instruments*  
Pelliccione, M., Sciambi, A., BARTEL, J., Keller, A. J., Goldhaber-Gordon, D.  
2013; 84 (3): 033703-?
  - **Design of a scanning gate microscope for mesoscopic electron systems in a cryogen-free dilution refrigerator** *REVIEW OF SCIENTIFIC INSTRUMENTS*  
Pelliccione, M., Sciambi, A., BARTEL, J., Keller, A. J., Goldhaber-Gordon, D.  
2013; 84 (3)
  - **Scanning gate microscopy of localized states in wide graphene constrictions** *PHYSICAL REVIEW B*  
Garcia, A. G., Koenig, M., Goldhaber-Gordon, D., Todd, K.  
2013; 87 (8)
  - **Extreme Mono layer-Selectivity of Hydrogen-Plasma Reactions with Graphene** *ACS NANO*  
Diankov, G., Neumann, M., Goldhaber-Gordon, D.  
2013; 7 (2): 1324-1332
  - **Pseudospin-Resolved Transport Spectroscopy of the Kondo Effect in a Double Quantum Dot** *PHYSICAL REVIEW LETTERS*  
Amasha, S., Keller, A. J., Rau, I. G., Carmi, A., Katine, J. A., Shtrikman, H., Oreg, Y., Goldhaber-Gordon, D.  
2013; 110 (4)
  - **Fabrication of samples for scanning probe experiments on quantum spin Hall effect in HgTe quantum wells** *JOURNAL OF APPLIED PHYSICS*  
Baenninger, M., Koenig, M., Garcia, A. G., Muehlbauer, M., Ames, C., Leubner, P., Bruene, C., Buhmann, H., Molenkamp, L. W., Goldhaber-Gordon, D.  
2012; 112 (10)
  - **MAJORANA FERMIONS Doubling down on Majorana** *NATURE PHYSICS*  
Williams, J. R., Goldhaber-Gordon, D.  
2012; 8 (11): 778-779
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- **Molecular Junctions of Self-Assembled Monolayers with Conducting Polymer Contacts** *ACS NANO*  
Neuhausen, A. B., Hosseini, A., Sulpizio, J. A., Chidsey, C. E., Goldhaber-Gordon, D.  
2012; 6 (11): 9920-9931
- **Quantum oscillations from a two-dimensional electron gas at a Mott/band insulator interface** *APPLIED PHYSICS LETTERS*  
Moetakef, P., Ouellette, D. G., Williams, J. R., Allen, S. J., Balents, L., Goldhaber-Gordon, D., Stemmer, S.  
2012; 101 (15)
- **Transmission phase shifts of Kondo impurities** *PHYSICAL REVIEW B*  
Carmi, A., Oreg, Y., Berkooz, M., Goldhaber-Gordon, D.  
2012; 86 (11)
- **Effective Cleaning of Hexagonal Boron Nitride for Graphene Devices** *NANO LETTERS*  
Garcia, A. G., Neumann, M., Amet, F., Williams, J. R., Watanabe, K., Taniguchi, T., Goldhaber-Gordon, D.  
2012; 12 (9): 4449-4454
- **Unconventional Josephson Effect in Hybrid Superconductor-Topological Insulator Devices** *PHYSICAL REVIEW LETTERS*  
Williams, J. R., Bestwick, A. J., Gallagher, P., Hong, S. S., Cui, Y., Bleich, A. S., Analytis, J. G., Fisher, I. R., Goldhaber-Gordon, D.  
2012; 109 (5)
- **Carrier-Controlled Ferromagnetism in SrTiO<sub>3</sub>** *PHYSICAL REVIEW X*  
Moetakef, P., Williams, J. R., Ouellette, D. G., Kajdos, A. P., Goldhaber-Gordon, D., Allen, S. J., Stemmer, S.  
2012; 2 (2)
- **Low-impedance shielded tip piezoresistive probe enables portable microwave impedance microscopy** *MICRO & NANO LETTERS*  
Haemmerli, A. J., Nielsen, R. T., Kundhikanjana, W., HARJEE, N., Goldhaber-Gordon, D., Shen, Z. X., Pruitt, B. L.  
2012; 7 (4): 321-324
- **Tunneling spectroscopy of graphene-boron-nitride heterostructures** *PHYSICAL REVIEW B*  
Amet, F., Williams, J. R., Garcia, A. G., Yankowitz, M., Watanabe, K., Taniguchi, T., Goldhaber-Gordon, D.  
2012; 85 (7)
- **LOW-IMPEDANCE SHIELDED TIP PIEZORESISTIVE PROBE ENABLES PORTABLE MICROWAVE IMPEDANCE MICROSCOPY** *25th IEEE International Conference on Micro Electro Mechanical Systems (MEMS)*  
Haemmerli, A. J., Nielsen, R. T., Kundhikanjana, W., HARJEE, N., Lai, K., Yang, Y. L., Goldhaber-Gordon, D., Shen, Z. X., Pruitt, B. L.  
IEEE.2012
- **Spin-1/2 Kondo effect in an InAs nanowire quantum dot: Unitary limit, conductance scaling, and Zeeman splitting** *PHYSICAL REVIEW B*  
Kretinin, A. V., Shtrikman, H., Goldhaber-Gordon, D., Hanl, M., Weichselbaum, A., von Delft, J., Costi, T., Mahalu, D.  
2011; 84 (24)
- **Electrolyte Gate-Controlled Kondo Effect in SrTiO<sub>3</sub>** *PHYSICAL REVIEW LETTERS*  
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