

## David Goldhaber-Gordon

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### Employment

Aug 2011–

#### Stanford University

Director, Center for Probing the Nanoscale, an NSF Nanoscale Science and Engineering Center. Renewed through 2014.

Palo Alto, CA

Sept 2008–

Associate Professor of Physics with Tenure, Experimental Condensed Matter.

Sept 2003–

Co-founder and Deputy Director, Center for Probing the Nanoscale.

Sept 2001–

Assistant Professor of Physics, Experimental Condensed Matter.

#### Harvard University

July 1999–

Junior Fellow in the Harvard Society of Fellows. Researching electronic quantum states and many-body interactions in semiconductor nanostructures.

Cambridge, MA

Aug 2001

#### The MITRE Corporation

Summer

Member of Technical Staff. Researching motion of submicron granular matter shaken in vacuum, to search for a “granular liquid” state. Research costs and salary paid by MITRE, but research conducted at Harvard.

Cambridge, MA

2000, 2001

### Education

#### Massachusetts Institute of Technology

June 1994–

Supported by Hertz Foundation PhD Fellowship. Working with Prof. Marc Kastner in collaboration with Prof. Udi Meirav (Weizmann Institute) and Dr. Olivier Klein. Thesis title: The Kondo Effect in a Single-Electron Transistor.

Cambridge, MA

June 1999

Spent September 1995–July 1996 at the Weizmann Institute to fabricate and characterize samples.

#### Harvard University

1990–1994

- AB Magna Cum Laude with high honors in Physics
- AM in History of Science. My coursework focused on history of Mathematics, Astronomy, and Physics.
- Master’s Paper: Laplace and Boscovich: Controversy over the comets

Cambridge, MA

## Awards

- National Academy of Sciences Award for Initiatives in Research, 2006. One given per year – field rotates.
- Inaugural recipient of the George E. Valley Prize of the American Physical Society, 2002. This prize is awarded every two years to an early-career individual (then under the age of thirty, now within five years of Ph.D.) “to recognize his or her outstanding scientific contribution to the knowledge of physics”.
- William McMillan Award, highest accolade for an early-career condensed matter physics experimentalist or theorist, 2002.
- Hellman Faculty Scholar, Stanford, 2008.
  
- Weston Visiting Professorship, Weizmann Institute, 2010-2011.
  
- Chambers Fellow, Stanford, 2008
  
- Mel Schwartz Fellowship, Stanford Physics Department, 2007. Competitively awarded support for a research project based on proposal to department.
- David and Lucille Packard Fellow, 2004-9.
  
- Air Force Presidential (PECASE) Awardee, 2003-7 (one of two nationwide).
  
- Office of Naval Research Young Investigator, 2001–4.
  
- Inaugural speaker for AFOSR/ONR young investigator seminar, 2007. Audience included chief scientist of Air Force and head of Air Force Office of Scientific Research.
- Research Corporation Research Innovation Award 2004-6.
  
- Terman Fellow, Stanford, 2003–5.
  
- Alfred P. Sloan Foundation Fellowship, 2003–5.
  
- Best paper by a young author, Int’l Conf. on Physics of Semiconductors, 1998.
  
- Review of nanoelectronic computing chosen MITRE Corp. best paper of 1997.
  
- Martin Deutsch Award for the most promising experimental physics graduate work at MIT for 1997.
- Hertz Foundation PhD Fellow 1994–9.
  
- Office of Naval Research Fellowship, 1994: declined in favor of Hertz.
  
- MIT Karl Taylor Compton PhD Fellow 1994–6. Two fellowships were awarded to prospective graduate students in physics from over 400 applicants.

## Colloquia and invited conference talks on electrons in nanostructures\*

Jul. 2012	<b>Majorana fermions in condensed matter</b>	Leiden, Netherlands
Jun. 2012	<b>Quantum Matter from the Nano- to the Macroscale</b>	Dresden, Germany
Apr. 2012	<b>8<sup>th</sup> Capri Spring School on Transport in Nanostructures Superconducting Hybrid Nanostructures</b>	Capri, Italy
Feb. 2012	<b>American Physical Society Annual Meeting</b>	Boston, MA
Feb. 2012	<b>Aspen Center for Physics New Paradigms for Low-Dimensional Electronic Materials</b>	Aspen, CO
Jan. 2012	<b>Center for International Collaboration of the Institute of Physics, Chinese Academy of Sciences</b>	Beijing, China
Dec. 2011	<b>Kavli Institute for Theoretical Physics</b>	Santa Barbara, CA
Dec. 2011	<b>Joint Quantum Institute (JQI) Seminar</b>	Gaithersburg, MD
Aug. 2011	<b>Hertz Fellows Conference (talk on augmented reality)</b>	Santa Cruz, CA
July 2011	<b>Free University of Berlin Colloquium</b>	Berlin, Germany
May 2011	<b>Hebrew University Physics Colloquium</b>	Jerusalem, Israel
Apr. 2011	<b>Technion Physics Colloquium</b>	Haifa, Israel
Mar. 2011	<b>Weizmann Institute Physics Colloquium</b>	Rehovot, Israel
Jan. 2011	<b>Jerusalem Winter School on Topological Insulators</b>	Jerusalem, Israel
Dec. 2010	<b>Israel Physics Society Annual Meeting</b>	Tel Aviv, Israel
Nov. 2010	<b>Tel Aviv University Physics Colloquium</b>	Tel Aviv, Israel
Oct. 2010	<b>Ben Gurion University Physics Colloquium</b>	Beersheva, Israel
Sep. 2010	<b>Novel Quantum States in Condensed Matter</b>	Beijing, China
Aug. 2010	<b>Gordon Conference on Organic Electronics</b>	South Hadley, MA
Nov. 2009	<b>Gotham Metro Physics Graduate Student Meeting: Plenary Speaker</b>	New York, NY
Sep. 2009	<b>Packard Annual Workshop</b>	Monterey, CA
Aug. 2009	<b>Workshop on Complex Oxide Heterostructures</b>	Santa Barbara, CA

Jul. 2009	<b>Intel Graphene Workshop</b>	Beaverton, OR
Jun. 2009	<b>Hebrew University Physics Colloquium</b>	Jerusalem, Israel
May 2009	<b>Perspectives of Mesoscopic Physics: Joe Imry 70th Birthday Symposium</b>	Rehovot, Israel
Nov. 2008	<b>Canadian Institute for Advanced Research Nanoelectronics Meeting</b>	Halifax, Nova Scotia
Oct. 2008	<b>Stanford Physics Colloquium</b>	Stanford, CA
Aug. 2008	<b>ICTP Conference Graphene Week</b>	Trieste, Italy
May 2008	<b>ICTP Workshop on Quantum Phenomena and Information: From Atomic to Mesoscopic Systems</b>	Trieste, Italy
May 2008	<b>Fine Theoretical Physics Institute Workshop on Quantum Magnetism</b>	Minneapolis, MN
Mar. 2008	<b>US-Israel Meeting on Nanoelectronics, AFOSR</b>	San Francisco, CA
Feb. 2008	<b>New Horizons in Condensed Matter Physics</b>	Aspen, CO
Jan. 2008	<b>Functional Engineered Nanoarchitectonics Annual Meeting</b>	Los Angeles, CA
Oct. 2007	<b>Images of the Nanoscale: From Creation to Consumption</b>	Columbia, SC
Oct. 2007	<b>Columbia Physics Colloquium</b>	New York, NY
Oct. 2007	<b>LBNL Molecular Foundry Annual Meeting</b>	Berkeley, CA
Sep. 2007	<b>Cornell Physics Colloquium</b>	Ithaca, NY
Sep. 2007	<b>3rd European Conference on the Fundamental Problems of Mesoscopic Physics and Nanoelectronics</b>	Mojacar, Spain
Aug. 2007	<b>New Frontiers in Quantum Impurity Physics. Keynote and another invited talk</b>	Dresden, Germany
June 2007	<b>Inaugural ONR/AFOSR Young Investigator Seminar</b>	Arlington, VA
May 2007	<b>UCSB Physics Colloquium</b>	Santa Barbara, CA
May 2007	<b>Strongly-Correlated Electron Systems 2007</b>	Houston, TX
Apr. 2007	<b>Oak Ridge National Lab Colloquium</b>	Oak Ridge, TN
Apr. 2007	<b>University of Connecticut Distinguished Lecture</b>	Storrs, CT
Mar. 2007	<b>University of British Columbia Physics Colloquium</b>	Vancouver, Canada

Mar. 2007	<b>Simon Fraser University Physics Colloquium</b>	Vancouver, Canada
Jan. 2007	<b>Workshop on Spins in Nanostructures</b>	Aspen, CO
July 2006	<b>Course: Principles of Advanced Electromagnetic Materials: One of Eight Lecturers</b>	McLean, VA
July 2006	<b>Summer Program on Interactions, Coherence &amp; Control in Mesoscopic Systems: Weekly Invited Talk</b>	Aspen, CO
June 2006	<b>UC Riverside Physics Colloquium</b>	Riverside, California
Jan. 2006	<b>Hebrew University Physics Colloquium</b>	Jerusalem, Israel
Jan. 2006	<b>Bar Ilan University Physics Colloquium</b>	Ramat Gan, Israel
Jan. 2006	<b>Conference on Interactions and Dynamics in Low-Dimensional Quantum Systems</b>	Rehovot, Israel
Dec. 2005	<b>California NanoSystems Monthly Seminar</b>	Los Angeles, CA
Dec. 2005	<b>UC Santa Cruz Physics Colloquium</b>	Santa Cruz, CA
Dec. 2005	<b>NSF Nanoscale Science and Engineering Annual Meeting</b>	Arlington, VA
Sep. 2005	<b>Spintronics'05 Meeting</b>	Poznan, Poland
Sep. 2005	<b>Packard Fellows Annual Meeting</b>	Santa Cruz, CA
Aug. 2005	<b>Frontiers of Science within Nanoscience</b>	Boston, MA
May 2005	<b>Canadian Institute for Advanced Research Quantum Materials Meeting</b>	Vancouver, BC
May 2005	<b>Pacific Institute for Theoretical Physics Showcase Meeting</b>	Vancouver, BC
Apr. 2005	<b>Non-Equilibrium and Correlation Effects in Low-Dimensional Structures</b>	Minneapolis, MN
Apr. 2005	<b>SUNY Stony Brook Physics Colloquium</b>	Stony Brook, NY
Apr. 2005	<b>Physics for the 3rd Millennium II: Plenary Speaker</b>	Huntsville, AL
Dec. 2004	<b>Technion Physics Colloquium</b>	Haifa, Israel
Dec. 2004	<b>Weizmann Institute Physics Colloquium</b>	Rehovot, Israel
Nov. 2004	<b>UCSD Physics Colloquium</b>	San Diego, CA
Oct. 2004	<b>IBM Almaden Science Colloquium</b>	San Jose, CA

Aug. 2004	<b>Gordon Research Conf. on Magnetic Nanostructures</b>	Big Sky, MT
Aug. 2004	<b>Summer Institute on Semiconductor Devices and Manufacturing</b>	Stanford, CA
Feb. 2004	<b>GersonFest at LBNL</b>	Berkeley, CA
Jan. 2004	<b>Workshop on Spins in Nanostructures: Public talk</b>	Aspen, CO
Aug. 2003	<b>Summer Institute on Nanotechnology</b>	Stanford, CA
May 2003	<b>SLAC Physics Colloquium</b>	Stanford, CA
Dec. 2002	<b>UIUC Physics Colloquium</b>	Urbana, IL
Apr. 2002	<b>UC Davis Physics Colloquium</b>	Davis, CA
Apr. 2002	<b>SFSU Physics Colloquium</b>	San Francisco, CA
Mar. 2002	<b>APS George E. Valley Prize talk</b>	Indianapolis, IN
Feb. 2002	<b>Stanford Material Science Colloquium</b>	Stanford, CA
Dec. 2001	<b>ITP Mesoscopics Workshop</b>	Santa Barbara, CA
Nov. 2001	<b>IBM Physical Sciences Colloquium</b>	Almaden, CA
Oct. 2001	<b>"An Open World of Physics" Symposium</b>	Stony Brook, NY
Jul. 2001	<b>Maurice Goldhaber Symposium</b>	Brookhaven, NY
Jan. 2001	<b>University of Georgia Physics Department Colloquium</b>	Athens, GA
Nov. 2000	<b>Iowa State Physics Department Colloquium</b>	Ames, IA
Oct. 2000	<b>NEC Symp. on Spins in Mesoscopic Electron Systems</b>	Nasu, Japan
July 2000	<b>ICTP Correlated Electron Systems Workshop</b>	Trieste, Italy
May 2000	<b>NATO Workshop on Size-dependent Kondo Effect</b>	Pecs, Hungary
May 2000	<b>TPI Workshop on Interactions and Chaos in Mesoscopic Systems</b>	Minneapolis, MN
August 1999	<b>Strongly Correlated Electron Systems (SCES-99)</b>	Nagano, Japan
August 1999	<b>Electronic Properties of 2-Dimensional Systems (EP2DS-13)</b>	Ottawa, Canada

March 1999	<b>NRIM Symposium on Quantum Phenomena in Advanced Materials at High Magnetic Fields</b>	Tsukuba, Japan
Jan. 1999	<b>Rencontres de Moriond</b>	Les Arcs, France
Dec. 1998	<b>ITP Mesoscopics Workshop</b>	Santa Barbara, CA
Sept. 1998	<b>PHASDOM98: Meeting of the European Consortium on Mesoscopic Systems</b>	Neuchatel, Switzerland
August 1998	<b>ICTP Mesoscopics Workshop</b>	Trieste, Italy
August 1998	<b>Int'l Conference on the Physics of Semiconductors</b>	Jerusalem, Israel
March 1998	<b>APS Annual Meeting</b> In addition to giving an invited talk, I was one of four instructors for a tutorial on semiconductor quantum dots, with hundreds of attendees.	Los Angeles, CA

\*In addition to the talks listed above, during the last ten years I have also given about seventy-five smaller or more specialized seminars at universities and companies, including IBM T.J. Watson Research Center, Lucent Technologies Bell Labs, Agilent, HP, MIT, Harvard, Stanford, Cornell, U. of Illinois Urbana, Berkeley, University of Chicago, U. Michigan, U. Penn, SUNY Stony Brook, U. of Illinois Chicago, Rutgers, Weizmann Institute, Ben Gurion University, Yale, Princeton, UC Davis, Sandia National Lab, Max Planck Institute-Stuttgart, UC San Diego, UC Berkeley, TU Delft, Northwestern, Bar Ilan University. Over this period, my graduate students and postdocs have also given around fifteen invited talks and many more contributed talks at conferences.

## **Professional and University Service**

### **(a) Service to professional organizations**

- Reviewer for Nature, Nature Materials, Nature Physics, Nature Communications, Science, Phys. Rev. Lett., Appl. Phys. Lett., J. Appl. Phys., Nano Letters, ACS Nano and Phys. Rev. B.
- Reviewer for NSF (Division of Materials Research), DOE (both Basic Energy Sciences and Oak Ridge Center for Nanophase Materials Science), AFOSR, ARO, the Research Corporation, the Israel Science Foundation, the US-Israel Binational Science Foundation, the Swiss NSF and the European Nanoscience Network.
- Selection committee for George E. Valley Prize of the American Physical Society, the Society's top recognition for an early-career researcher, 2004.
- Selection committee for the American Physical Society's Apker Award, the top recognition for undergraduate researchers, 2006-2008.
- Selection committee for the University of Illinois's William McMillan Prize, the top recognition for early-career condensed matter experimentalists and theorists, 2007-2010.

### **(b) Organizing workshops**

- KITP Rapid Response Workshop on Majorana Fermions, Co-Organizer, Dec. 2012. Location: Santa Barbara, CA.
- Aspen Winter Workshop on Spins in Nanostructures, Lead Organizer, Jan. 2004. Location: Aspen, CO.
- First two one-day Annual Workshops of the Center for Probing the Nanoscale, Organizer, May 2005 and 2006. Helped transition workshop to a more distributed organization model for the third workshop, March 2007, but continue to be lead scientific organizer 2008-10. Location: Stanford, CA.
- Two-day workshop on Metrology for Beyond CMOS, covering a wide variety of advanced metrology techniques, Co-organizer, Dec. 2006. Location: San Francisco, CA. This workshop was sponsored jointly by the Center for Probing the Nanoscale, the Center for Functionally Engineered NanoArchitectonics (FENA) at UCLA, and the California NanoSystems Institute (CNSI).

### **(c) University service**

- Center for Probing the Nanoscale (CPN), 2003-present: Co-founder (with Kam Moler) and Deputy Director (now Director) of \$7.5M NSF-sponsored Stanford-IBM joint venture, now renewed for a second five-year term for \$15M total NSF funding. Through CPN, over twenty professors at Stanford, several staff members at IBM, and around thirty graduate students and postdocs work to develop new methods for imaging nanoscale electronic, magnetic, and mechanical properties of materials and structures. I play an active role in all CPN's programs, including K-12 educational outreach (Summer Institute for Middle School Teachers). I led the hiring of two very successful Ph.D.-level Associate Directors, most recently Tobias Beetz in Fall 2008, and when Tobi took a job managing nanofacilities at Stanford I just now led the hiring of a third Associate Director, Maria Wang, a former CPN graduate student fellow who had been working as a consultant for Department of Energy programs.
- Stanford Nanofabrication Facility Faculty Advisory Board, 2005-present. Help set priorities for the facility and plan for future capabilities, especially enhanced electron-beam lithography.
- Stanford Nanofacilities Committee, 2008-present. Help set priorities for future capabilities, especially enhanced electron-beam lithography. Led search and hiring of Senior Scientist for E-beam lithography, Dr. Richard Tiberio, as well as negotiation with vendors for a 40% discount on a cutting-edge \$4M lithography tool. I also negotiated improvements to the tool, which arrived two years ago and has been commissioned, after initially failing to meet our performance goals. I continue to participate in email and phone discussions with our vendor, JEOL, and traveled twice to Japan to evaluate the system. This was perhaps my single biggest activity over 2008-2010. I also led acquisition of two new SEMs for Stanford facilities, negotiating a 40% discount on the \$1.7M package. They have recently been installed in the new Nano Center. I helped acquire a good-quality used etcher for the Stanford Nanofabrication Facility, and re-launched the conversation about updating etcher technologies in that facility. That process is now led by Roger Howe and Jelena Vuckovic, and has caused four new etchers to be acquired and installed. I advised on the associated negotiations.

I continued to actively participate on these last two fronts during my sabbatical year.



**(e) Departmental service: Stanford Physics Department**

- Colloquium Committee, 2002-5. Co-chair 2003-4, Chair 2004-5. In 2004-5, as sole chair of the committee, I strove to increase the broad appeal of the Colloquium series by asking the speakers to address a first-year graduate student audience, and by including speakers (physicists in academia, industry, or national labs) on such topics as Asteroid Mining, Energy Policy, and the Physics of Violins. In 2005 I facilitated then-graduate student Adam Cohen's vision of having student-hosted colloquia. These special colloquia have become a once-per-quarter tradition. (I've helped transition to a new set of student coordinators)
- Graduate Study Committee, 2001-present. Chair, 2008-2010; resumed in 2011 after sabbatical. I consider acting as an advocate for graduate students and trying to improve their experience at Stanford to be one of my most important roles within the department. In 2009-10 I counseled at least five students whose careers were in jeopardy and have helped them get back on track and even (where applicable) graduate.
- Co-advising. Served as nominal co-advisor and link to the Physics department for seven Physics Ph.D. students working with faculty in other fields: Applied Math, Biochemistry, Chemical Engineering, Chemistry, and Developmental Biology. Also full co-advisor for 3 students from EE and MechE.
- Summer Research College, 2002-present. Mentored fourteen undergraduate researchers in my lab over at least one summer each (about half continued during the academic year or over another summer.) I've also mentored three high-school students, two in academic year 2009-10.
- I have lately been teaching Physics 108, the undergraduate project lab class. For the first time (to my knowledge), in 2010 a group of students prepared their project report for publication. I extensively advised and assisted them on this, though I did not ask or expect to be an author. This work has now been published in the American Journal of Physics, the premier journal for physics pedagogical articles.
  
- Graduate Curriculum Committee 2011-12, ex officio
- Undergraduate advising, 2003-2010, 2011-
- Freshman advising, 2008-2009
- First-year graduate advising, 2007.
- Long-range Planning Committee, 2003.
- Undergraduate Study Committee, 2001-4, 2008-present.
- Undergraduate biophysics advising, 2002-2008.
- Atomic, Molecular, and Optical Physics Faculty Search Committee, 2002-2008.
- Condensed Matter Theory Faculty Search Committee, 2007-09. Diversity officer 2008-09.
- Qualifying Exam Committee, 2005-6.
- Committee to Revamp the Freshman Labs, 2007-8.

**Refereed Publications (see group webpage or Google scholar for most up-to-date list)**

50. A. J. Haemmerli, R. T. Nielsen, W. Kundhikanjana, N. Harjee, D. Goldhaber-Gordon, Z. X. Shen and B. L. Pruitt, "Low-impedance shielded tip piezoresistive probe enables portable microwave impedance microscopy", *Micro & Nano Letters* **7**, pp 321-324 (2012).

49. Pouya Moetakef, James R. Williams, Daniel G. Ouelette, Adam P. Kajdos, D. Goldhaber-Gordon, S. James Allen, and Susanne Stemmer, "Carrier-Controlled Ferromagnetism in SrTiO<sub>3</sub>", *Physical Review X* **2**, 021014 (2012).
48. Andrey V. Kretinin, Hadas Shtrikman, David Goldhaber-Gordon, Markus Han, Andreas Weichselbaum, Jan von Delft, Theo Costi, and Diana Mahalu, "Spin-1/2 Kondo effect in an InAs nanowire quantum dot: Unitary limit, conductance scaling, and Zeeman splitting", *Physical Review B* **84**, 245316 (2011) [Editors' Suggestion].
47. Menyong Lee, J. R. Williams, Sipei Zhang, C. Daniel Frisbie, and D. Goldhaber-Gordon, "Electrolyte Gate-Controlled Kondo Effect in SrTiO<sub>3</sub>", *Physical Review Letters* **107**, 256601 (2011) [See accompanying Physics Viewpoint].
46. S. Amasha, I. G. Rau, M. Grobia, R. M. Potok, H. Shtrikman, and D. Goldhaber-Gordon, "Coulomb Blockade in an Open Quantum Dot", *Physical Review Letters* **107**, 216804 (2011).
45. A. Hazeghi, J. A. Sulpizio, G. Diankov, D. Goldhaber-Gordon, and H. S. Philip Wong, "An integrated capacitance bridge for high-resolution, wide temperature range quantum capacitance measurements", *Review of Scientific Instruments* **82**, 053904 (2011).
44. A. Sciambi, M. Pellicione, M.P. Lilly, S. R. Bank, A.C. Gossard, L. N. Pfeiffer, K.W. West, and D. Goldhaber-Gordon, "Vertical field-effect transistor based on wave-function extension", *Physical Review B* **84**, 085301 (2011) [See accompanying Physics Synopsis].
43. Katherine Luna, Eun-Ah Kim, Paul Oreto, Steven A. Kivelson, and David Goldhaber-Gordon, "Local interlayer tunneling between two-dimensional electron systems in the ballistic regime", *Physical Review B* **82**, 235317 (2010).
42. W. M. Wang, N. Stander, R. M. Stoltenberg, David Goldhaber-Gordon, and Zhenan Bao, "Dip-Pen Nanolithography of Electrical Contacts to Single Graphene Flakes", *ACS Nano* **4**, 11, pp 6409-6416 (2010).
41. Judy J. Cha, James R. Williams, Desheng Kong, Stefan Meister, Hailin Peng, Andrew J. Bestwick, Patrick Gallagher, David Goldhaber-Gordon, and Yi Cui, "Magnetic Doping and Kondo Effect in Bi<sub>2</sub>Se<sub>3</sub> Nanoribbons", *Nano Letters* **10**, pp 1076-1081 (2010).
40. C. H. L. Quay, T. L. Hughes, J. A. Sulpizio, L. N. Pfeiffer, K. W. Baldwin, K. W. West, D. Goldhaber-Gordon, and R. de Picciotto, "Observation of a one dimensional spin-orbit gap in a quantum wire", *Nature Physics* **6**, pp 336-339 (2010).
39. M. P. Jura, M. Grobis, M. A. Topinka, L. N. Pfeiffer, K. W. West, and D. Goldhaber-Gordon, "Spatially probed electron-electron scattering in a two dimensional electron gas", *Physical Review B* **82**, 155328 (2010) [Editors' Suggestion].
38. A. Sciambi, M. Pellicione, S. R. Bank, A. C. Gossard, and D. Goldhaber-Gordon, "Virtual scanning tunneling microscopy: A local spectroscopic probe of two-dimensional electron systems", *Applied Physics Letters* **97**, 132103 (2010).
37. P. Gallagher, K. Todd, and D. Goldhaber-Gordon, "Disorder-induced gap behavior in graphene nanoribbons", *Physical Review B* **81**, 115409 (2010) [Editors' Suggestion].
36. M. P. Jura, M. A. Topinka, M. Grobis, L. N. Pfeiffer, K. W. West, and D. Goldhaber-Gordon, "Electron interferometer formed with a scanning probe tip and quantum point contact", *Physical Review B* **80**, 041303(R) (2009).

35. M. A. Topinka, M. W. Rowell, D. Goldhaber-Gordon, M. D. McGehee, D.S. Hecht, G. Gruner, "Charge Transport in Interpenetrating Networks of Semiconducting and Metallic Carbon Nanotubes", *Nano Letters* **9**, 1866-1871 (2009).
34. Kathryn Todd, Hung-Tao Chou, Sami Amasha, David Goldhaber-Gordon, "Quantum dot behavior in graphene nanoconstrictions", *Nano Letters* **9**, 416-421 (2009).
33. J. Cayssol, B. Huard, and D. Goldhaber-Gordon, "Contact resistance and shot noise in graphene transistors", *Physical Review B* **79**, 075428 (2009).
32. N. Stander, B. Huard, and D. Goldhaber-Gordon, "Evidence for Klein tunneling in Graphene  $p$ - $n$  Junctions", *Physical Review Letters* **102**, 026807 (2009).
31. B. Huard, N. Stander, J.A. Sulpizio, and D. Goldhaber-Gordon, "Evidence of the role of contacts on the observed electron-hole asymmetry in graphene", *Physical Review B* **78**, 121402R (2008).
30. M. Poggio, M.P. Jura, C.L. Degen, M.A. Topinka, H.J.Mamin, D. Goldhaber-Gordon, and D. Rugar, "An off-board quantum point contact as a sensitive detector of cantilever motion", *Nature Physics* **4**, 635-638 (2008).
29. M. Grobis, I.G. Rau, R. M. Potok, Hadas Shtrikman, and D. Goldhaber-Gordon, "Universal scaling in non-equilibrium transport through a single-channel Kondo dot", *Physical Review Letters* **100**, 246601/1-4 (2008).
28. T. Brintlinger, Yi Qi, K.H. Baloch, D. Goldhaber-Gordon, and John Cumings, "Electron Thermal Microscopy", *Nano Letters* **8**, 582-5 (2008).
27. C.H.L. Quay, John Cumings, Sara Gamble, R. de Picciotto, H. Kataura, and D. Goldhaber-Gordon, "Magnetic field dependence of the spin-1/2 and spin-1 Kondo effects in a quantum dot", *Physical Review B* **76**, 245311 (2007).
26. M.P. Jura, M.A. Topinka, L. Urban, A. Yazdani, H. Shtrikman, L.N. Pfeiffer, K.W. West, and D. Goldhaber-Gordon, "Unexpected features of branched flow through high mobility two-dimensional electron gases", *Nature Physics* **3**, 841-845 (2007). Also selected as cover illustration.
25. L. S. Moore and D. Goldhaber-Gordon, "Low-dimensional physics: Magnetic lattice surprise", *Nature Physics* **3**, 295-296 (2007).
24. C. H. L. Quay, John Cumings, S.J. Gamble, A. Yazdani, R. de Picciotto, H. Kataura, and D. Goldhaber-Gordon, "Transport properties of carbon nanotube  $C_{60}$  peapods", *Physical Review B* **76**, 073404/1-5 (2007).
23. B. Huard, J. A. Sulpizio, N. Stander, K. Todd, B. Yang, and D. Goldhaber-Gordon, "Transport measurements across a tunable potential barrier in graphene", *Physical Review Letters* **98**, 236803/1-4 (2007).
22. S. Lüscher, L. S. Moore, T. Rejec, Hadas Shtrikman, Yigal Meir and D. Goldhaber-Gordon, "Charge rearrangement and screening in a quantum point contact", *Physical Review Letters* **98**, 196805/1-4 (2007).
21. R. M. Potok, I. G. Rau, Hadas Shtrikman, Yuval Oreg, and D. Goldhaber-Gordon, "Observation of the two-channel Kondo effect", *Nature* **446**, 167-171 (2007).
20. J. A. Sulpizio, Z. Z. Bandic, and D. Goldhaber-Gordon, "Nanofabrication of top-gated carbon nanotube-based transistors: Probing electron-electron interactions in one-

dimensional systems”, *Journal of Mat. Res.* **21**, 2916–21 (2006).

19. H. T. Chou, D. Goldhaber-Gordon, S. Schmult, M. J. Manfra, A. M. Sergent, and R. J. Molnar, “Single-electron transistors in GaN/AlGaN heterostructures”, *Applied Physics Letters* **89**, 033104/1–3 (2006).
18. J. Cumings, L. S. Moore, H. T. Chou, K. C. Ku, S. A. Crooker, N. Samarth, and D. Goldhaber-Gordon, “A Tunable Anomalous Hall Effect in a Non-Ferromagnetic System”, *Physical Review Letters* **96**, 196404/1–4 (2006).
17. John Cumings, D. Goldhaber-Gordon, A. Zettl, M. R. McCartney, and J. C. H. Spence, “Electron microscopy of the operation of nanoscale devices”, *Materials Research Society Symposium Proceedings* **839**, 165–176 (2005).
16. D. M. Zumbuhl, J. B. Miller, C. M. Marcus, D. Goldhaber-Gordon, J. S. Harris, K. Campman, and A. C. Gossard, “Conductance fluctuations and partially broken spin symmetries in quantum dots”, *Physical Review B* **72**, 081305/1–4 (2005).
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