

Curriculum Vitae

PABLO JARILLO-HERRERO

PERSONAL INFORMATION

Date/place of birth: June 11, 1976 in Valencia (Spain)
Nationality: Spanish - US Permanent Resident
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EDUCATION

- Aug 01 – Oct 05 Ph.D. in Physics (Cum Laude), Delft Univ. of Technology, The Netherlands
Thesis advisor: Prof. Leo P. Kouwenhoven
- Sep 99 – Jun 01 M.Sc. in Physics, Univ. of California San Diego, USA
- Sep 94 – Jul 99 Licenciado en Ciencias Físicas (M.Sc. in Physics), Univ. of Valencia, Spain

EMPLOYMENT

- Jul 11 - present Mitsui Career Development Professor, Massachusetts Institute of Technology, USA
- Jan 08 - present Assistant Professor of Physics, Massachusetts Institute of Technology, USA
- Oct 06 - Dec 07 Nano Research Initiative Fellow, Columbia University, USA
- Oct 05 - Sept 06 Postdoc, Kavli Inst. of Nanoscience, Delft Univ. of Technology, The Netherlands

AWARDS AND HONORS

- Presidential Early Career Award for Scientists and Engineers (PECASE), 2012.
- APS March Meeting Double Tutorial Speaker (Graphene Tutorial and Topological Insulators Tutorial), 2012.
- DOE Early Career Award, 2011.
- IUPAP Young Scientist Prize in Semiconductor Physics, 2010.
- Packard Fellowship, 2009.
- Alfred P. Sloan Research Fellowship, 2009.
- NSF Career Award, 2008.
- MIT Wade Fund Award, 2008.
- Spanish Royal Physics Society Young Investigator Award, Spain, 2007.
- IUPAP Young Author Best Paper Award, ICPS 2006.
- PhD *Cum Laude*, Delft University of Technology, 2005.
- Distinguished Teaching Assistant, Univ. of California San Diego, 2000.
- Meyer Fellowship, Univ. of California San Diego, 2000.
- Premio Nacional de Terminación de Carrera, 1999 (Top Physics Undergraduate in Spain).
- Premio Comunidad Valenciana, 1999 (Top Undergraduate in the State of Valencia).

- Premio Extraordinario de Licenciatura, University of Valencia, 1999 (Best Physics Undergraduate 1994-99).
- Beca de Colaboración, University of Valencia, 1998 (Spanish National Student Fellowship).
- Bronze Medal, National Physics Olympiads, Spain, 1994.

SUPERVISED UNDERGRADUATES, GRADUATE STUDENTS, POSTDOCS AND VISITORS.

Undergraduate students:

- 1) Mello, Olivia (MIT), Spring & Summer 12 UROP.
- 2) Chen, Yu-An (MIT), Fall 11, Spring & Summer 12 UROP.
- 3) Fisher, Kevin (MIT), Summer & Fall 11, IAP & Spring 12 UROP. Will enter Stanford EECS Graduate Program in Fall 2012.
- 4) Angarita, Maria Paula (Florida International U.), MIT MSRP, Summer 11. Will enter MIT's Technology and Science Policy Program in Fall 2012.
- 5) del Alamo, Miguel (U.Barcelona, Spain), summer visitor, Summer 11. Currently at U. Barcelona.
- 6) Orona, Lucas (MIT), IAP, Spring, Summer & Fall 11, IAP, Spring & Summer 12 UROP
- 7) Nair, Nityan (MIT), IAP, Spring, Summer & Fall 11, IAP, Spring & Summer 12 UROP. Nityan has won a Goldwater Scholarship in Apr 2012.
- 8) Zhang, Khang (MIT), Fall 10, IAP & Spring 11 UROP. Currently at MIT.
- 9) Surakitbovorn, Kawin (MIT), Fall 10, IAP, Spring & Summer 11 UROP. Currently at MIT.
- 10) Wei, Haofei (MIT), Spring, Summer & Fall 10, IAP 11 UROP. Currently physics graduate student at Cornell.
- 11) Bulmash, Danny (MIT), IAP, Spring & Summer 10 UROP. Will enter Stanford Physics Graduate Program in Fall 2012.
- 12) Ellison, Rachel (MIT), Spring & Summer 10 UROP. Currently at MIT.
- 13) Chen, Linda (MIT), IAP, Spring & Summer 10 UROP. Currently at MIT.
- 14) Cottle, Amy (MIT), Fall 09 UROP. Currently at Cambridge University.
- 15) Geller, Sarah (MIT), Summer & Fall 09 UROP. Currently at MIT.
- 16) Kennedy, Chris (MIT), Spring & Summer 09 UROP. Currently graduate student in math at Ohio State University.
- 17) van Tilburg, Ken (MIT), Spring, Summer, Fall 09 & Spring 10 UROP. Currently physics graduate student at Stanford.
- 18) Gamalski, Andrew CMSE REU, Arizona State University (Jul-Aug 2008). Received Marshall Scholarship to study PhD at University of Cambridge.
- 19) Shen, Fangfei (MIT), Summer 08 UROP. Science Writer for DAEdALUS
- 20) Wright, Alexandra (MIT), 5 weeks volunteer research, MIT (Apr-May 2008). Currently at Exxon Mobil.

BS Student Thesis Supervised:

- 1) Wei, Haofei (MIT). "Towards the Fabrication of Suspended Superconductor-Graphene-Superconductor Josephson Junctions", graduated in 2011. Currently physics graduate student at Cornell.

Graduate Students:

- 1) Ma, Qiong, in progress (Sep 2010 – present)
- 2) Fatemi, Valla, in progress (Aug 2010 – present)
- 3) Sanchez-Yamagishi, Javier, in progress (Oct 2008 – present)
- 4) Taychatanapat, Thiti, in progress (Jul 2008 – present)
- 5) Baugher, Britton, in progress (Jan 2008 – present)
- 6) Wang, Joel-I Jan, in progress (Jan 2008 – present)

Postdoctoral Researchers:

- 1) Young, Andrea (co-supervised with Ray Ashoori), Pappalardo Fellow (Jan 2011 – present)
- 2) Katmis, Ferhat (shared with J. Moodera) (Jul 2011 – present)
- 3) Gabor, Nathaniel (Oct 2010 – present).
- 4) Ndukum, Tchefor (Sep 2010 – present)
- 5) Campos, Leonardo (May 2010 – present). Leonardo will interview for a faculty position at UFMG (Belo Horizonte, Brazil) in June 2012.
- 6) Steinberg, Hadar (Jul 2009 – present). Hadar will start a Junior Faculty position at the Hebrew University in Jerusalem in Jul 2013.
- 7) Zaffalon, Michele (Jan 2008 – Feb 2010). Currently at Zurich Instruments

Visitors:

- 1) Campos, Leonardo, visiting graduate student from UFMG, Brazil (May 2008 – Jul 2009)

TEACHING EXPERIENCE

- MIT: 8.03 Vibrations and Waves (SP12), 8.231 Introduction to Solid State Physics (FA11), 8.04 Quantum Mechanics (FA08, SP09, FA09, SP10), 8.14 Junior Physics Laboratory (SP08).
- Physics for Engineers, Delft University of Technology, 2001-2003.
- Teaching Assistant, University of California San Diego, 1999-2001 (general physics, quantum mechanics, physics for engineers, advanced solid state laboratory).

MIT SERVICE

- 2012: - Co-Director of the MIT Center for Graphene Devices and Systems
- MIT's Center for Materials Science and Engineering Internal Advisory Committee member
- Faculty Advisory Board member in MIT's nMaSS Materials Research Facility Committee
- Part III Exam Committee
- Organizer Boston Area Carbon Nanoscience (BACON) Seminars (Year around)
- CMX Graduate Admissions Reviewer & Open House Organizer (Jan-Apr)
- 2011: - MIT's CMSE Internal Advisory Committee member
- Part I Exam Grader (Aug)
- Participated in Commencement (Jun)
- PhD Thesis committee Sejoong Kim and Paul Antohi (Apr)
- Dinner with MIT Undergraduate Association (Apr)

- Dinner with MIT – Society of Hispanic Professional Engineers (Mar)
 - Dinner with MIT Undergraduate Women in Physics (Mar)
 - Lab Tour for the Northeastern Undergraduate Women in Physics Conference held at MIT (Jan)
 - Organizer Topological Insulator Lectures for Condensed Matter Experimentalists, given by Dr. Liang Fu (Harvard) (Jan - Feb)
 - Organizer Boston Area Carbon Nanoscience (BACON) Seminars (Year around)
 - Part III Exam Committee
 - Physics Representative in MIT Materials Research Facility Committee
 - CMX Open House Co-organizer
- 2010:
- Organizer Topological Insulator Lectures for Condensed Matter Experimentalists, given by Dr. Liang Fu (Harvard) (Dec)
 - Organizer Boston Area Carbon Nanoscience (BACON) Seminars (Year around)
 - PhD Thesis Committee Paul Antohi (Dec)
 - Hosted MIT MSRP Hispanic student Maria Paula Angarita for 8 weeks.
 - Part III Exam Committee
 - Physics Representative in MIT Materials Research Facility Committee (Nov-)
 - Co-organizer Mildred Dresselhaus 80th Birthday Symposium (Jul-Dec)
 - Lunch w/ Physics Visiting Committee (Oct)
 - Graduate Admissions CMX Reviewer/Open House Organizer (Jan-Apr 2010)
 - Gave IAP Lecture on Graphene (Jan)
- 2009:
- Organizer Boston Area Carbon Nanoscience (BACON) Seminars (Year around)
 - Part III Exam Committee, 3 students (Dec)
 - PhD Thesis Committee Marc van Huizanen (Dec)
 - Dinner with the Society of Physics Students (Nov)
 - Gave talk for the Materials Processing Center Industrial Advisory Board review (Oct)
 - Hosted Jonathan Vargas-Rodriguez, undergraduate student from UMET, Puerto Rico, for 2 weeks (Jun), as part of the CMSE partnership program with UMET. My graduate student Javier Sanchez-Yamagishi spent 2 weeks in Puerto Rico visiting UMET (Dec)
 - Gave talk at Science and Engineering Program for Teachers (SEPT) meeting (Jun)
 - Part III Exam Committee
 - Graduate Admission Applications Reviewer for CMX (Jan/Feb)
 - Gave Talk at MTL Industrial Advisory Board review (Jan)
- 2008:
- Founder and organizer Boston Area Carbon Nanoscience (BACON) Seminars (Year around)
 - Gave Talk at MTL Microlunch (Nov)
 - Gave talk at Physics Breakfast (Oct).
 - Gave talk for the Materials Processing Center Industrial Advisory Board review (Oct)
 - Graded Section 1 of part I Fall 2008 General Exams (Aug)
 - Gave talk at Science and Engineering Program for Teachers (SEPT) meeting (Jun)

- Met with Portuguese Officials for MIT –Portugal collaboration (Apr).
- PhD Thesis Committee of Hyungbin Son (Apr)
- Gave talk at Physics Staff Meeting (Mar)
- Gave talk at Physics Faculty Lunch (Feb)
- Graduate Admission Applications Reviewer for CMX. (Jan/Feb)

EXTERNAL SERVICE & MEMBERSHIP

- Organizing Scientific Committee: Graphene 2012, Brussels, Apr 2012.
- Reviewer AFOSR, NSF, DOE, ARO, Israeli NSF, Dutch FOM proposals.
- Journal referee: Science, Nature, Nature Physics, Nature Nanotechnology, Nature Materials, Phys. Rev. Lett., Phys. Rev. B, Nano Letters, ACS Nano Research, Carbon, New Journal of Physics, EPL.
- Member: American Physical Society, Materials Research Society, Spanish Royal Physical Society.

EXTERNAL OUTREACH ACTIVITIES

- 2011: - Gave interview (in Spanish) for a new textbook titled “Ciencias del Mundo Contemporáneo” (“Science in the Contemporary World”) edited by MacGraw-Hill. This book will be studied by millions of high school students in Spain and, possibly, Latin-American countries. It includes at the end of each chapter an interview with a young researcher on the chapter’s topic (in my case Nanoscience).
- Radio Interview for Actualidad 1020 Miami, radio station catering to Hispanics in Miami.
 - The NOVA-PBS documentary “Making Stuff: Smaller” was aired Jan 26, and it’s available on-line (<http://www.pbs.org/wgbh/nova/tech/making-stuff-smaller.html>). It featured interview to PJH and graphene demonstration by minority student Javier Sanchez-Yamagishi.
- 2010: - Hosted film crew for a NOVA-PBS series on materials research “Making Stuff”.
- Interview (in Spanish) for El Mundo newspaper supplement “*Innovadores*” (Innovators).
- 2009: - Honors project interview with Arturo Leon, a Hispanic physics major at the Honors College of Miami Dade College, Florida (Nov)
- Translated 2 computer animation applets from the Physics Education Technology group at UC Boulder (“Ladybug Motion in 2D” and “States of Matter”) into Spanish (May)
- 2008: - Interview (in Spanish) for TV program “Tecnopolis” from the Universidad Politecnica de Valencia, Spain.

EDUCATIONAL COMMONS

- Participated in Commencement Ceremony, 2011.
- Supervised 16 UROPs for a total of 52 UROP-semesters.
- Supervised 1 MSRP student (summer 2011).
- Gave IAP lecture on Graphene, Jan 2010.

- Graduate Academic Advisor of: Ibon Santiago, Ongjen Illic, Andrew Lai, Anjan Soumyanarayanan, Edbert Sie, Zhan Su.
- Undergraduate Academic Advisor of: Stepen H Face, Sam Bankman-Fried, Saul Wilson, Alina Kononov, Yichao Yu, Shengen Zhang, Luis Gil, David Orozco.

PUBLICATIONS

1. M. Yankowitz, J. Xue, D. Cormode, J.D. Sanchez-Yamagishi, K. Watanabe, T. Taniguchi, P. Jarillo-Herrero, P. Jacquod, B.J. LeRoy, “*Emergence of Superlattice Dirac Points in Graphene on Hexagonal Boron Nitride*” *Nature Physics* (in press, available online: doi:10.1038/nphys2272) (2012)*
2. J. Sanchez-Yamagishi, T. Taychatanapat, K. Watanabe, T. Taniguchi, A. Yacoby, and P. Jarillo-Herrero, “*Quantum Hall Effect, Screening and Layer-Polarized Insulating States in Twisted Bilayer Graphene*”. *Phys. Rev. Lett.* **108**, 076601 (2012).*
3. J. W. McIver, D. Hsieh, H. Steinberg, P. Jarillo-Herrero and N. Gedik, “*Control over topological insulator photocurrents with light polarization*”. *Nature Nanotechnology* **7**, 96 (2012).
4. J. Xue, J. Sanchez-Yamagishi, K. Watanabe, T. Taniguchi, P. Jarillo-Herrero, B. J. LeRoy, “*Long wavelength local density of states oscillations near graphene step edges*”. *Phys. Rev. Lett.* **108**, 016801 (2012).*
5. P.P.J. Haazen, J.-B. Laloë, T.J. Nummy, H.J.M. Swagten, P. Jarillo-Herrero, D. Heiman, and J.S. Moodera, “*Ferromagnetism in thin-film Cr-doped topological insulator Bi₂Se₃*”. *App. Phys. Lett.* **100**, 082404 (2012).
6. N. M. Gabor, J. W. Song, Q. Ma, N. L. Nair, K. Watanabe, T. Taniguchi, L. S. Levitov, and P. Jarillo-Herrero, “*Hot carrier Assisted Intrinsic Photoresponse in Graphene*” *Science* **334**, 638 (2011).*
7. H. Steinberg, J.-B. Laloë, V. Fatemi, J.S. Moodera, and P. Jarillo-Herrero, “*Electrically Tunable Surface-to-Bulk Coherent Coupling in Topological Insulator Thin Films*”. *Phys. Rev. B.* **84**, 233101 (2011).*
8. H. Wang, T. Taychatanapat, A. Hsu, K. Watanabe, T. Taniguchi, P. Jarillo-Herrero, and T. Palacios, “*BN/Graphene/BN Transistors for RF Applications*” *IEE Electron device Letters* **32**, 1209 (2011).*
9. T. Taychatanapat, K. Watanabe, T. Taniguchi and P. Jarillo-Herrero, “*Quantum Hall Effect and Landau Level Crossing of Dirac Fermions in Trilayer Graphene*” *Nature Physics* **7**, 621 (2011).*
10. J. Xue, J. Sanchez-Yamagishi, D. Bulmash, P. Jacquod, K. Watanabe, T. Taniguchi, P. Jarillo-Herrero and B.J. LeRoy. “*STM Spectroscopy of Ultra-Flat Graphene on Hexagonal Boron Nitride*” *Nature Materials* **10**, 282 (2011).*
11. H. Steinberg, D.R. Gardner, Y.S. Lee and P. Jarillo-Herrero, “*Surface State Transport and Ambipolar Electric Field Effect in Bi₂Se₃ Nanodevices*”

- Nano Letters* **10**, 5032 (2010).
12. T. Taychatanapat and P. Jarillo-Herrero, “*Electronic Transport in Dual Gated Bilayer Graphene at Large Displacement Fields*”
Phys. Rev. Lett. **105**, 166601 (2010).*
 13. P. Jarillo-Herrero, “*Pulling Apart Molecular Magnetism*”
Science (Perspectives) **328**, 1362 (2010).
 14. M.C. Lemme, D.C. Bell, J.R. Williams, L.A. Stern, B.W.H. Baugher, P. Jarillo-Herrero and C.M. Marcus, “*Etching of Graphene Devices with a He-Ion Beam*”
ACS Nano **3**, 2674 (2009).*
 15. L. Campos, V. Manfrinato, J. Sanchez-Yamagashi, J. Kong and P. Jarillo-Herrero, “*Cristallographic etching and nanoribbon formation in single layer graphene*”
Nano Letters **9**, 2600 (2009).*
 16. B. Özyilmaz, P. Jarillo-Herrero, D. Efetov and P. Kim,
“*Electronic Transport in Locally Gated Graphene Nanoconstrictions*”
Appl. Phys. Lett. **91**, 192107 (2007).
 17. B. Özyilmaz, P. Jarillo-Herrero, D. Efetov, D.A. Abanin, L.S. Levitov and P. Kim,
“*Electronic Transport and Quantum Hall Effect in Bipolar Graphene p-n-p Junctions*”
Phys. Rev. Lett. **99**, 166804 (2007).
 18. H.B. Heersche, P. Jarillo-Herrero, J.B. Oostinga, L.M.K. Vandersypen and A. Morpurgo.
“*Manifestations of phase-coherent transport in graphene - The Josephson effect, weak localization, and aperiodic conductance fluctuations*”
European Physical Journal-Special Topics **148**, 27 (2007).
 19. H.B. Heersche, P. Jarillo-Herrero, J.B. Oostinga, L.M.K. Vandersypen and A. Morpurgo,
“*Induced superconductivity in graphene*”.
Solid State Communications **143**, 72 (2007).
 20. H.B. Heersche*, P. Jarillo-Herrero*, J.B. Oostinga, L.M.K. Vandersypen and A. Morpurgo, “*Bipolar supercurrent in graphene*”. *Equal contribution.
Nature **446**, 56 (2007).
 21. S. Sapmaz, P. Jarillo-Herrero, L.P. Kouwenhoven and H.S.J. van der Zant, “*Quantum dots in carbon nanotubes*”
Semiconductor Science and Technology **21**, s52 (2006) (Focus issue on Charge transport in carbon nanotubes).
 22. S. Sapmaz, C. Meyer, P. Beliczynski, P. Jarillo-Herrero and Leo P. Kouwenhoven,
“*Excited state spectroscopy in carbon nanotube double quantum dots*”.
Nano Letters **6**, 1350 (2006) (featured in the cover).
 23. P. Jarillo-Herrero, J.A. van Dam and L.P. Kouwenhoven., “*Quantum supercurrent transistors in carbon nanotubes*”
Nature **439**, 953 (2006).
 24. S. Sapmaz, P. Jarillo-Herrero, Ya.M. Blanter, C. Dekker and H.S.J. van der Zant,
“*Tunneling in suspended carbon nanotubes assisted by longitudinal phonons*”
Phys. Rev. Lett. **96**, 026801 (2006).

25. S. Sapmaz, P. Jarillo-Herrero, Ya.M. Blanter and H.S.J. van der Zant, “*Coupling between electronic transport and longitudinal phonons in suspended nanotubes*”. *New Journal of Physics* **7**, 243 (2005), (Focus issue on Nano-ElectroMechanical Systems).
26. P. Jarillo-Herrero, J. Kong, H.S.J. van der Zant, C. Dekker, L.P. Kouwenhoven and S. De Franceschi, “*Tunable Orbital Pseudospin and Multi-level Kondo Effect in Carbon Nanotubes*”. *Proceedings of the Int. Winterschool on Electronic Properties of Novel Materials* (2005).
27. P. Jarillo-Herrero, J. Kong, H.S.J. van der Zant, C. Dekker, L.P. Kouwenhoven and S. De Franceschi, “*Electronic transport spectroscopy of carbon nanotubes in a magnetic field*” *Phys. Rev. Lett.* **94**, 156802 (2005).
28. S. Sapmaz, P. Jarillo-Herrero, J. Kong, C. Dekker, L.P. Kouwenhoven and H.S.J. van der Zant, “*Electronic excitation spectrum of metallic carbon nanotubes*” *Phys. Rev. B* **71**, 153402 (2005).
29. P. Jarillo-Herrero, J. Kong, H.S.J. van der Zant, C. Dekker, L.P. Kouwenhoven and S. De Franceschi, “*Orbital Kondo effect in carbon nanotubes*” *Nature* **434**, 484 (2005).
30. P. Jarillo-Herrero, S. Sapmaz, C. Dekker, L.P. Kouwenhoven and H.S.J. van der Zant, “*A few electron-hole semiconducting carbon nanotube quantum dot*” *Proceedings of the International Winterschool on Electronic Properties of Novel Materials* (2004).
31. P. Jarillo-Herrero, S. Sapmaz, C. Dekker, L.P. Kouwenhoven and H.S.J. van der Zant, “*Electron-hole symmetry in a semiconducting carbon nanotube quantum dot*” *Nature* **429**, 389 (2004).

*: An asterisk at the end of journal citation indicates publications arising from supervised PhD Thesis.

PUBLICATIONS SUBMITTED AND IN PREPARATION

1. T. Taychatanapat, K. Watanabe, T. Taniguchi, and P. Jarillo-Herrero, “*Tunable magnetic electron focusing in mono-, bi-, and tri-layer graphene*”. (**in preparation**) (2012).
2. L. Campos, A.F. Young, K. Surakitbovorn, K. Watanabe, T. Taniguchi, and P. Jarillo-Herrero. “*Quantum and classical confinement of resonant states in a trilayer graphene Fabry-Pérot interferometer*”, (**to be submitted to Nature Physics**) (2012).
3. Y. H. Wang, D. Hsieh, E. J. Sie, H. Steinberg, D. R. Gardner, Y. S. Lee, P. Jarillo-Herrero, and N. Gedik, “*Observation of intrinsic Dirac fermion cooling on the surface of a topological insulator*” *Phys. Rev. Lett.* (*under review*) (2012).
4. Q.H. Wang, Z. Jin, K.K. Kim, A.J. Hilmer, G.L.C. Paulus, C-J. Shih, M-H. Ham, J. Sanchez-Yamagishi, K. Watanabe, T. Taniguchi, J. Kong, P. Jarillo-Herrero, and M.S.

Strano, “*Chemical reactivity imprint lithography on graphene: Controlling the substrate influence on electron transfer reactions*”.
Nature Chemistry (under review) (2012).

INVITED TALKS AT INTERNATIONAL CONFERENCES

1. ***Talk to be given***
ICREA Workshop on Topological Insulators, San Feliu de Guixols, Spain, Jun 2013.
2. ***Talk to be given***
MRS Spring Meeting, San Francisco, Apr 2013.
3. ***Quantum Transport and Optoelectronics in Graphene on Boron Nitride Devices***
NanoPeter 2012, Saint Petersburg, Russia, Jun 2012.
4. ***Quantum Transport and Optoelectronics in Graphene on Boron Nitride Devices***
Graphene Weeks, Delft, The Netherlands, Jun 2012.
5. ***Quantum Transport in Graphene on Boron Nitride Devices***
Nonequilibrium Transport in Low-Dimensional Systems, Kfar Blum, Israel, Apr 2012.
6. ***Quantum Transport and Optoelectronics in Graphene on Boron Nitride Devices***
26th International Winterschool on Electronic Properties of Novel Materials, Kirchberg, Austria, Mar 2012.
7. ***Electronic Transport in Topological Insulators***
Invited Tutorial on Topological Insulators at APS March Meeting, Boston, Mar 2012.
8. ***Graphene 1, 2, 3... and A, B, C...***
Invited Tutorial on Graphene at APS March Meeting, Boston, Mar 2012.
9. ***Quantum Transport in Dirac Materials***
APS March Meeting, Boston, USA, Mar 2012.
10. ***Quantum Transport and Optoelectronics in Graphene on Boron Nitride Devices***
Graphene Workshop, KITP Santa Barbara, Jan 2012.
11. ***Electronic Transport in Graphene on Boron Nitride Devices***
Workshop on Quantum Spintronics, Sardinia, Italy, Oct 2011.
12. ***Electronic Transport in Graphene on Boron Nitride Devices***
Recent Progress in Graphene Research, Seoul, South Korea, Oct 2011.
13. ***Electronic Transport in Graphene on Boron Nitride Devices***
ICMAT 2011, Singapore, Jul 2011.
14. ***Electronic Transport in Graphene on Boron Nitride Devices***
Highlights in Quantum Condensed Matter Physics, San Sebastian, Spain, Jun 2011.
15. ***Electronic Transport in Graphene on Boron Nitride Devices***
Graphene 2011, Bilbao, Spain, Apr 2011.
16. ***Electronic Transport in Graphene on Boron Nitride Devices***
Frontiers in Nanoscale Science and Technology Workshop (FNST2011), Tokyo, Japan, Jan 2011.
17. ***Effective Transport gap in Bilayer Graphene***
Electronic Properties of Graphene, Princeton, USA, Oct 2010.
18. ***Electronic Transport in Novel Low Dimensional Conductors***
International Conference Physics Semiconductors (ICPS 2010), Seoul, Korea, Jul 2010.
19. ***Electronic Transport in Bilayer Graphene***
Graphene Satellite Symposium to NT10, Montreal, Canada, Jun 2010.

20. ***Electronic Transport in Graphene Nanostructured Devices***
MRS Spring Meeting, San Francisco, Apr 2010.
21. ***Anisotropic Etching and Crystallographic Nanoribbon Formation in Graphene***
Graphene Meeting, Benasque, Spain, Jul 2009.
22. ***Anisotropic Etching and Crystallographic Nanoribbon Formation in Graphene***
International Workshop on Recent Progress in Graphene Research, Seoul, Korea, Jun 2009.
23. ***Electronic Transport in Graphene Nanostructures***
Asia Nano 2008, Singapore, Nov 2008.
24. ***Electronic Transport in Graphene Nanostructures***
XIX Latin American Symposium on Solid State Physics, Iguazu, Argentina, Oct 2008.
25. ***Electronic Transport in Graphene Nanostructures***
Quantum Coherence and Controllability at the Mesoscale, San Sebastian, Spain, May 2008.
26. ***Superconducting Junctions in Carbon Electronics***
2007 Gordon Research Conference on Superconductivity, Les Diablerets, Switzerland, Sep 2007.
27. ***Local Gate Control of Electronic Transport in Graphene Nanostructures***
International Conference on the Science and Applications of Nanotubes, Ouro Preto, Brazil, Jun 2007.
28. ***Local Gate Control of Electronic Transport in Graphene Nanostructures***
European Materials Research Society Spring Meeting, Strasbourg, France, May 2007.
30. ***Electronic Transport in Graphene Nanostructures***
International Winterschool on Electronic Properties of Novel Materials, Kirchberg, Austria, Mar 2007.
31. ***Superconducting Junctions in Graphene***
March meeting of the American Physical Society (APS), Denver, USA, Mar 2007.
32. ***Quantum Supercurrent Transistors in Carbon Nanotubes***
International Conference on the Physics of Semiconductors, ICPS 2006, Vienna, Jul 2006.
33. ***Carbon Nanotubes as Quantum Dots***
Frontiers in Nanoscale Science and Technology, San Francisco, Jan 2006.
35. ***Orbital Kondo Effect and Spin Polarization in Carbon Nanotubes.***
March Meeting of the American Physical Society (APS), Los Angeles, USA, Mar 2005.
36. ***Orbital Spectroscopy and Multi-level Kondo Effect in Carbon Nanotubes***
The 28th Fullerene Nanotubes General Symposium, Nagoya, Japan, Jan 2005.
37. ***Few Electron-Hole Carbon Nanotube Quantum Dots.***
International Winterschool on Electronic Properties of Novel Materials, Kirchberg, Austria, Mar 2004.
38. ***Signatures of Mechanical Excitations in Low Temperature Transport in Suspended Carbon Nanotubes.***
International Conference on the Science and Applications of Nanotubes, Seoul, Korea, Jul 2003.

INVITED COLLOQUIA/SEMINARS

1. *Talk to be given*
Physics Colloquium, Caltech, Feb 2013.
2. *2D or not 2D, Quantum Transport and Optoelectronics in Novel Low Dimensional Materials*
Physics/Applied Physics Colloquium, Stanford University, May 2012.
3. *Quantum Transport & Optoelectronics in Graphene on Boron Nitride Devices*
CM Seminar, University of Illinois at Urbana Champaign, USA, Apr 2012.
4. *Quantum Transport & Optoelectronics in Graphene on Boron Nitride Devices*
CM Seminar, University of Pennsylvania, USA, Apr 2012.
5. *Quantum Transport and Optoelectronics in Graphene on Boron Nitride Devices*
CM Seminar, Michigan State University, USA, Feb 2012
6. *2D or not 2D, Electronic Transport in Novel Low Dimensional Materials*
Packard Fellows Conference, Monterrey, USA, Sep 2011
7. *Quantum Electronic Transport in Topological Insulators*
DOE Contractors Meeting, Washington DC, USA, Aug 2011.
8. *Electronic Transport in Graphene on Boron Nitride devices*
MIT-INL Workshop, Braga, Portugal, Jul 2011.
9. *2D or not 2D, Electronic Transport in Novel Low Dimensional Materials*
Columbia NSEC Symposium, Columbia University, USA, Jun 2011.
10. *2D or not 2D, Electronic Transport in Novel Low Dimensional Materials*
Physics Colloquium, Georgetown University, USA, May 2011.
11. *2D or not 2D, Electronic Transport in Novel Low Dimensional Materials*
Physics Colloquium, Dartmouth College, USA, May 2011.
12. *Electronic Transport in Novel Low Dimensional Materials*
Laboratory for Physical Sciences Condensed Matter Seminar, University of Maryland, USA, May 2011.
13. *Electronic Transport in Novel Low Dimensional Materials*
Condensed Matter Seminar, Rutgers, USA, Mar 2011.
14. *2D or not 2D, Electronic Transport in Low-Dimensional Graphitic Systems*
Instituto Catalan de Nanociencia (ICN), Condensed Matter Seminar, Barcelona, Spain, Jan 2011.
15. *Idem*
Instituto Catalan de Fotonica (ICFO), Condensed Matter Seminar, Barcelona, Spain, Jan 2011.
16. *2D or not 2D, Electronic Transport in Novel Low Dimensional Materials*
Harvard Applied Physics Colloquium, Harvard, USA, Apr 2010.
17. *Anisotropic Etching and Crystallographic Nanoribbon Formation in Graphene*
Army Research Laboratory workshop on graphene research, ARL, Adelphi, USA, Aug 2009.
18. *Nanotechnology in a pencil trace*
IFIC Colloquium, Universidad de Valencia, Spain, Jan 2009.
19. *Idem*
Colloquium, Universidad Politecnica de Valencia, Spain, Jan 2009.

20. ***Electronic Transport in Graphene Nanostructures***
Condensed Matter Seminar, Ohio State University, USA, Nov 2008.
21. ***Electronic transport in locally gated graphene nanostructures***
YESS 08, Washington DC, Jul 2008.
22. ***Nanotechnology in a Pencil Trace***
Nanoscience Day, University of Maryland, USA, May 2008.
23. ***Idem***
Condensed Matter Seminar, Yale University, USA, Apr 2008.
24. ***Nanotechnology in a Pencil Trace***
New York Academy of Sciences Vista Seminar, New York, USA, Jan 2008
25. ***Electronic Transport in Graphene Nanostructures***
IBM Physical Sciences Seminar, IBM Watson Research Center, Yorktown Heights, USA, Jan 2008.
26. ***Quantum Nanoelectronics in Low-Dimensional Carbon Materials***
MIT Physics Department, MIT, USA, Mar 2007.
27. ***Low Temperature Electronic Transport Properties of Graphene***
CIN2-ICN Seminar, Barcelona, Spain, Feb 2007.
28. ***Low Temperature Electronic Transport Properties of Graphene***
MIT Modern Optical Spectroscopy Seminar Series, MIT, USA, Nov 2006.
29. ***Supercurrent in Mesoscopic Graphene***
Condensed Matter Seminar, Harvard University, USA, Nov 2006.
30. ***Quantum Dots in Carbon Nanotubes***
Department of Applied Physics Seminar, Universidad de Alicante, Spain, May 2006.
31. ***Idem***
Condensed Matter Seminar, University of Basel, Switzerland, Feb 2006.
32. ***Carbon Nanotubes as Quantum Dots***
Condensed Matter Seminar, Stanford University, USA, Jan 2006.
33. ***Electronic Transport through Carbon Nanotube Quantum Dots***
Condensed Matter Seminar, Harvard University, USA, Dec 2005.
34. ***Idem***
Condensed Matter Seminar, MIT, USA, Dec 2005.
35. ***Idem***
Nanoscience Center Seminar, Columbia University, USA, Dec 2005.
36. ***Quantum Dots in Carbon Nanotubes.***
QSIT and Laser seminar, ETH Zürich, Switzerland, Nov 2005.
37. ***Magnetic Tuning of Carbon Nanotube Quantum Dots.***
Catalan Institute of Nanotechnology Seminar, Barcelona, Spain, Oct 2005.
38. ***Magnetic Tuning of Carbon Nanotube Quantum Dots.***
Colloquium of the Austrian Chemical-Physical Society (CGP), University of Vienna, Austria, Jun 2005.
39. ***Orbital Spectroscopy and Kondo Effect in Carbon Nanotubes.***
Department of Electrical Engineering Seminar, University of Cambridge, UK, Feb 2005.
40. ***Orbital Spectroscopy and Multi-level Kondo Effect in Carbon Nanotubes.***
NTT seminar, NTT Basic research Laboratories, Atsugi, Japan, Jan 2005.
41. ***Idem.***
Prof. Tarucha's Group Seminar, University of Tokyo, Japan, Jan 2005.

42. *Idem.*
AIST Seminar, AIST, Tsukuba, Japan, Jan 2005.
43. *Orbital Spectroscopy and Kondo Effect in Carbon Nanotubes.*
Condensed Matter Theory Seminar, Ludwig Maximilians Universität Munich, Germany, Nov 2004.
44. *Electronic Transport in Suspended Carbon Nanotube Quantum Dots.*
Department of Applied Physics Seminar, Universidad de Alicante, Spain, May 2004.
45. *Idem.*
Condensed Matter Seminar, Instituto de Ciencias de Materiales Madrid, Spain, May 2004.
46. *Electronic Transport in Suspended Carbon Nanotube Quantum Dots.*
Condensed Matter Theory Seminar, Universität Regensburg, Germany, Jan 2004.
47. *Coulomb Blockade Phenomena in Suspended Carbon Nanotubes.*
Nanophysics Group Seminar, Ludwig Maximilians Universität Munich, Germany, Nov 2002.

RESEARCH CONTRACTS AND GRANTS

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