Wei Han

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Professional Experiences

- **Assistant Professor** 2014.09 -- Present
  International Center for Quantum Materials
  Peking University, Beijing, China
  Principle investigator: *Lab for Spintronics and Emergent Materials*
- **Postdoctoral Fellow** 2012.02 – 2014.09
  IBM Almaden Research Center, San Jose, CA, USA

Education

- **Ph. D., Physics** 2006.09 – 2012.01
  University of California, Riverside, Riverside, CA, USA
  Dissertation: "*Spin Transport and Relaxation in Graphene and Germanium*"
- **B. S., Materials Physics** 2002.09 – 2006.07
  University of Science and Technology of China, China

Research Interests

- Spintronics in low dimensional quantum materials
- Spin Hall effect and spin orbit torque
- Novel materials and interface states
- Molecular beam epitaxy

Awards and Honors

- 2016 IUPAP Young Scientist Prize in Magnetism (C9), 2016
- 1000 Talents award for Young Scientists of China, 2015
- APS GMAG student dissertation award, American Physics Society, 2012
- Robert T. Poe Memorial Graduate Scholarship Award, UCR, 2012
- Chinese Government Award for Outstanding Students Abroad, Chinese government, 2012

- Chancellor's & college dissertation fellowship UCR, 2011
- Leo Falicov student award, American Vacuum Society 56th national meeting, 2009
- Benjamin C. Shen memorial graduate scholarship award, UCR, 2009
- Dean's distinguished fellowship, UCR, 2006-2008
- Outstanding student scholarship, USTC, 2004, 2005
- Zhang Zongzhi Sci-Tec scholarship, USTC, 2003

Professional Activities

- Symposium organizer for APS March meeting symposiums, 2014, 2016, 2018.
- Program committee for the InterMag 2018.
- Scientific committee for the Symposium: "*Spintronics in semiconductors, 2D Materials and topological insulators*", Fall meeting of the European Materials Research Society, 2017, 2018.
- Manuscript referee for *Nature Materials, Nature Nanotechnology, Physics Review Letters*, *Nano Lett, Physics Review B, Reports on Progress in Physics, 2D Materials, etc.*

Selected publications

[1] **W. Han***, Y. Otani, and S. Maekawa, "*Quantum Materials for Spin and Charge Conversion*", **npj Quantum Materials**, in press (2018).

[2] W. Yuan, Q. Zhu, T. Su, Y. Yao, W. Xing, Y. Chen, Y. Ma, X. Lin, J. Shi*, R. Shindou, X. C. Xie*, and **W. Han***, "*Experimental Signatures of Spin Superfluid Ground State in Canted Antiferromagnet Cr_2O_3 via Nonlocal Spin Transport*", **Science Advances**, 4, eeat1098, (2018).

[3] W. Xing†, Y. Chen†, P. M. Odenthal, X. Zhang, W. Yuan, T. Su, Q. Song, T. Wang, J. Zhong, S. Jia, X. C. Xie, Y. Li, and **W. Han***, "*Electric field effect in multilayer $Cr_2Ge_2Te_6$: a ferromagnetic 2D material*", **2D Materials** 4, 024009 (2017).

[4] Q. Song†, H. Zhang†, T. Su, W. Yuan, Y. Chen, W. Xing, J. Shi*, J. R. Sun*, and **W. Han***, "*Observation of Inverse Edelstein Effect in Rashba-Split 2DEG between $SrTiO_3$ and $LaAlO_3$ at Room Temperature*", **Science Advances** 3, e1602312 (2017).

[5] Q. Song, J. Mi, D. Zhao, T. Su, W. Yuan, W. Xing, Y. Chen, T. Wang, T. Wu, X. H. Chen, X. C. Xie, C. Zhang*, J. Shi*, and **W. Han***, "*Spin Injection and Inverse Edelstein Effect in the Surface States of Topological Kondo Insulator SmB_6*", **Nature Communications** 7:13485 (2016).

[6] W. Zhang†, **W. Han†** (Co-1st), S.-H. Yang, Y. Sun, Y. Zhang, B. Yan, and S. S. P. Parkin*,

"*Giant facet-dependent spin-orbit torque and spin Hall conductivity in the triangular antiferromagnet $IrMn_3$*", **Science Advances**, 2, e1600759 (2016).

[7] W. Zhang†, **W. Han†** (Co-1st), X. Jiang, S-H. Yang, and S. S. P. Parkin*, "*Role of transparency of platinum–ferromagnet interfaces in determining the intrinsic magnitude of the spin Hall effect*", **Nature Physics**, 11, 496–502 (2015).

[8] **W. Han**, R. K. Kawakami*, M. Gmitra, and J. Fabian*, "*Graphene spintronics*", **Nature Nanotechnology** 9, 794-807 (2014).

[9] **W. Han**, X. Jiang, A. Kajdos, S.-H. Yang, S. Stemmer, and S. S. P. Parkin*, "*Spin injection and detection in lanthanum- and niobium-doped $SrTiO_3$ using the Hanle technique*", **Nature Communications** 4:2134 (2013).

[10] **W. Han**, R. K. Kawakami*, "*Spin Relaxation in Single Layer and Bilayer Graphene*", **Physics Review Letters**107, 047207 (2011).

[11] **W. Han**, K. Pi, K. M. McCreary, Y. Li, J. J. I. Wong, A. G. Swartz, and R. K. Kawakami*, "*Tunneling Spin Injection into Single Layer Graphene*", **Physics Review Letters** 105, 167202 (2010).

Other Publications

[12] Y. Yao, Q. Song, Y. Takamura, J. P. Cascales, W. Yuan, Y. Ma, Y. Yun, J. S. Moodera, X. C. Xie, and **W. Han***, "*Probe of Spin Dynamics in Superconducting NbN Thin Films via Spin Pumping*", arxiv:1710,10833v1 (2018).

[13] Y. Yun†, Y. Ma†, T. Su, W. Xing, Y. Chen, Y. Yao, R. Cai, W. Yuan, and **W. Han***, "*Role of La doping for topological Hall effect in epitaxial EuO films*". **Physical Review Materials** 2, 034201 (2018)

[14] Y. Chen†, W. Xing†, X. Wang†, B. Shen, W. Yuan, T. Su, Y. Ma, Y. Yao, J. Zhong, Y. Yun, X. C. Xie, S. Jia*, and **W. Han***, "*Role of Oxygen in Ionic Liquid Gating on Two-Dimensional $Cr_2Ge_2Te_6$: A Non-oxide Material*", **ACS Applied Materials and Interfaces** 10, 1383 (2018).

[15] Y. Yun†, Y. Ma†, S. Tao, W. Xing, Y. Chen, T. Su, W. Yuan, J. Wei, X. Lin, Q. Niu, X. C. Xie, and **W. Han***, "*Observation of long phase-coherence length in epitaxial La-doped CdO thin films*", **Physics Review B** 96, 245310 (2017).

[16] P. Xu, **W. Han**, P. M. Rice, J. Jeong, M. G. Samant, K. Mohseni, H. L. Meyerheim, S. Ostanin, I. V. Maznichenko, I. Mertig, E. K. U. Gross, A. Ernst, and S. S. P. Parkin*, "*Reversible formation of two-dimensional electron gas at the $LaFeO_3/SrTiO_3$ interface via control of oxygen vacancies*", **Advanced Materials** 1604447 (2017).

[17] W. Yuan, T. Wang, T. Su, Q, Song, W. Xing, Y. Chen, and **W. Han***, "*Positive Exchange Bias between Permalloy and Twined (11-10)-Cr2O3 Films*", **Journal of Magnetism**

and Magnetic Materials 422, 397-401 (2017).

[18] W. Yuan, T. Su, Q. Song, W. Xing, Y. Chen, T. Wang, Z. Zhang, X. Ma, P. Gao, J. Shi*, and **W. Han***, "*Crystal Structure Manipulation of the Exchange Bias in an Antiferromagnetic Film*", **Scientific Reports** 6, 28397 (2016).

[19] Y. Zhao, Q. Song, S.-H. Yang, T. Su, W. Yuan, S. S. P. Parkin, J. Shi*, and **W. Han***, "*Experimental Investigation of Temperature-Dependent Gilbert Damping in Permalloy Thin Films*" **Scientific Reports**, 6, 22890 (2016).

[20] **W. Han***, "*Perspectives for Spintronics in 2D Materials*", **APL Materials**, 4, 032401 (2016).

[21] K.-U. Demasius, T. Phung, W. Zhang, B. P. Hughes, S.-H. Yang, A. Kellock, **W. Han**, A. Pushp, and S. S. P. Parkin*, "*Enhanced spin–orbit torques by oxygen incorporation in tungsten films"*, **Nature Communications** 7:10644 (2016).

[22] X. Zhang, Y. Zhao, Q. Song, S. Jia, J. Shi*, and **W. Han***, "*Magnetic anisotropy of the single crystalline ferromagnetic insulator $Cr_2Ge_2Te_6$*", **Japanese Journal of Applied Physics** 55, 033001 (2016).

[23] W. Yuan, Y. Zhao, C. Tang, T. Su, Q. Song, J. Shi*, and **W. Han***, "*Epitaxial growth and properties of $La_{0.7}Sr_{0.3}MnO_3$ thin films with micrometer wide atomic terraces*", **Applied Physics Letters** 107, 022404 (2015).

[24] D. Sun, T. P. Basel, B. R. Gautam, **W. Han**, X. Jiang, S. S. P. Parkin, and Z. V. Vardeny*, "*Giant magneto-electroluminescence from hybrid spin-organic spin organic light emitting diodes*", **Spin** 04, 1450002 (2014).

[25] A. G Swartz, K. M. McCreary, **W. Han**, H. Wen, and R. K Kawakami*, "*A systematic approach to interpreting Hanle spin precession data in non-local spin valves*", **Proc. SPIE** Vol. 8813, 881328, (2013).

[26] D. Sun, T. Basel, B. Gautam, **W. Han**, X. Jiang, S. S. P. Parkin, and Z. V. Vardeny*, "*Room-temperature magnetically modulated electroluminescence from hybrid organic/inorganic spintronics devices*", **Applied Physics Letters** 103, 042411 (2013).

[27] M. Li, **W. Han**, X. Jiang, J. Jeong, M. G. Samant, and S. S. P. Parkin*, "*Suppression of ionic liquid gate induced metallization of $SrTiO_3$(001) by oxygen*", **Nano Letters** 13, pp 4675–4678 (2013).

[28] A. G. Swartz, K. M. McCreary, **W. Han**, J. J. I. Wong, P. M. Odenthal, H. Wen, J.-R. Chen, R. K. Kawakami*, Y. Hao, R. S. Ruoff, and J. Fabian, "*Integrating MBE materials with graphene to induce novel spin-based phenomena*", **Journal of Vacuum Science and Technology B** 31, 04D105 (2013).

[29] A. G. Swartz, J.-R. Chen, K. M. McCreary, P. M. Odenthal, W. Han, and R. K. Kawakami*, "*Effect of in situ deposition of Mg adatoms on spin relaxation in graphene*",

Physics Review B 87, 075455 (2013).

[30] L. T. Chang, **W. Han**, Y. Zhou, J. Tang, I. A. Fischer, M. Oehme, J. Schulze, R. K. Kawakami, and K. L. Wang*, "*Comparison of Spin Lifetimes in n-Ge Characterized between Three-Terminal and Four-Terminal Nonlocal Hanle Measurements*", **Semiconductor Science and Technology** 28, 015018 (2013).

[31] K. M. McCreary, A. G. Swartz, **W. Han**, J. Fabian, R. K. Kawakami*, "*Direct Detection of Magnetic Moment Formation in Graphene",* **Physics Review Letters** 109, 186604 (2012).

[32] J. J. I. Wong, A. G. Swartz, R. Zheng, **W. Han**, and R. K. Kawakami*, "*Electric Field Control of the Verwey Transition and Induced Magnetoelectric Effect in Magnetite*", **Physics Review B** 86, 060409(R) (2012).

[33] **W. Han**, J.-R. Chen, D. Wang, K. M. McCreary, H. Wen, A. G. Swartz, J. Shi, and R. K. Kawakami*, "*Spin Relaxation in Single Layer Graphene with Tunable Mobility*", **Nano Letters** 12, 3443–3447 (2012).

[34] **W. Han**, K. M. McCreary, K. Pi, W. H. Wang, Yan Li, H. Wen, J. R. Chen, R. K. Kawakami*, "*Spin Transport and Relaxation in Graphene*", **Journal of Magnetism and Magnetic Materials** 324, 369 (2012).

[35] **W. Han**, J. R. Chen, K. M. McCreary, H. Wen, R. K. Kawakami*, "*Enhanced spin injection efficiency and extended spin lifetimes in graphene spin valves*", **Proceedings of SPIE** Vol. 8100, 81000Q, (2011).

[36] Y. Zhou[‡],**W. Han**[†] (Co-1st), L.-T. Chang, F. Xiu, M. Wang, M. Oehme, I. A. Fischer, J. Schulze, R. K. Kawakami, and K. L. Wang*, "*Electrical spin injection and transport in Germanium*", **Physics Review B** 84, 125323 (2011).

[37] Y. Li, **W. Han**, A. G. Swartz, K. Pi, J. J. I. Wong, S. Mack, D. D. Awschalom, and R. K. Kawakami*, "*Oscillatory spin polarization and magneto-optical Kerr effect in Fe_3O_4 thin films on GaAs(001)",* **Physics Review Letters** 105, 167203 (2010).

[38] A. G. Swartz, J. Ciraldo, J. J. I. Wong, Y. Li, **W. Han**, T. Lin, S. Mack, J. Shi, D. D. Awschalom, and R. K. Kawakami*, "*Epitaxial EuO thin films on GaAs*", **Physics Review Letters** 97, 112509 (2010).

[39] K. Pi, **W. Han**, K. M. McCreary, A. G. Swartz, Y. Li, and R. K. Kawakami*, "*Manipulation of Spin Transport in Graphene by Surface Chemical Doping*", **Physics Review Letters** 104, 187201 (2010).

[40] F. Xiu, Y. Wang, J. Kim, P. Upadhyaya, Y. Zhou, X. Kou, **W. Han**, R. K. Kawakami, J. Zou, and K. L. Wang*, "*Room-Temperature Electric-Field Controlled Ferromagnetism in $Mn_{0.05}Ge_{0.95}$ Quantum Dots*", **ACS Nano,** 4 (8), pp 4948–4954 (2010).

[41] K. M. McCreary, K. Pi, A. G. Swartz, **W. Han**, W. Bao, C. N. Lau, F. Guinea, M. I.

Katsnelson, and R. K. Kawakami*, "*Effect of cluster formation on graphene mobility*", **Physics Review B** 81, 115453 (2010).

[42] J. J. I. Wong, L. Ramirez, A. G. Swartz, A. Hoff, **W. Han**, Y. Li, and R. K. Kawakami*, "*Tailoring interlayer exchange coupling of ferromagnetic films across MgO with Fe nanoclusters*", **Physics Review B** 81, 094406 (2010).

[43] Y. Zhou[†], **W. Han[†]** (Co-1st), Y. Wang, F. Xiu, J. Zou, R. K. Kawakami, and K. L. Wang*, "*Investigating the origin of Fermi level pinning in Ge Schottky junctions using epitaxially grown ultrathin MgO films*", **Applied Physics Letters** 96, 102103 (2010).

[44] **W. Han[†]**, Y. Zhou[†] (Co-1st), Y. Wang, Y. Li, J. J. I. Wong, K. Pi, A. G. Swartz, K. M. McCreary, F. Xiu, K. L. Wang, J. Zou, and R. K. Kawakami*, "*Growth of single-crystalline, atomically smooth MgO films on Ge(001) by molecular beam epitaxy*", **Journal of Crystal Growth**, 312, 44 (2010).

[45] **W. Han**, K. Pi, W. H. Wang, K. M. McCreary, Y. Li, W. Bao, P. Wei, J. Shi, C. N. Lau, and R. K. Kawakami*, "*Spin transport in graphite and graphene spin valves*", **Proceedings of SPIE**, Vol. 7398, 739819 (2009).

[46] K. Pi, K. M. McCreary, W. Bao, **W. Han**, Y. F. Chiang, Yan Li, S.-W. Tsai, C. N. Lau, and R. K. Kawakami*, "*Electronic doping and scattering by transition metals on graphene*," **Physics Review B** 80, 075406 (2009).

[47] Y. Zhou, M. Ogawa, M. Bao, **W. Han**, R. K. Kawakami, and K. L. Wang*, "*Engineering of tunnel junctions for prospective spin injection in germanium*", **Applied Physics Letters** 94, 242104 (2009).

[48] **W. Han**, K. Pi, W. Bao, K. M. McCreary, Yan Li, W. H. Wang, C. N. Lau, and R. K. Kawakami*, "*Electrical detection of spin precession in single layer graphene spin valves with transparent contacts*", **Applied Physics Letters** 94, 222109 (2009).

[49] **W. Han**, W. H. Wang, K. Pi, K. M. McCreary, W. Bao, Yan Li, F. Miao, C. N. Lau, and R. K. Kawakami*, "*Electron-Hole Asymmetry of Spin Injection and Transport in Single-Layer Graphene*", **Physics Review Letters** 102, 137205 (2009).

[50] W. H. Wang[†], **W. Han[†]** (Co-1st), K. Pi, K. M. McCreary, F. Miao, W. Bao, C. N. Lau, and R. K. Kawakami*, "*Growth of atomically smooth MgO films on graphene by molecular beam epitaxy*", **Applied Physics Letters** 93, 183107 (2008).

Selected Invited Talks

[1] "*Spin Current in Quantum Materials*", 2018 International Conference on Magnetism (ICM), San Francisco, USA, (to be held in July 2018)

[2] "*Spin and charge conversion in topological surface states and oxide interface states*",

Intermag 2018, Singapore, Singapore (to be held in Apr. 2018).

[3] "*Spin and charge conversion in topological surface states and oxide interface states*", 2018 APS March Meeting, Los Angles, USA (Mar. 2018).

[4] "*Spin and Charge Conversion Due to Spin-Momentum Locking*", 2017 Conference on Magnetism and Magnetic Materials (MMM), Pittsburgh, USA (Nov. 2017).

[5] "*Spin and charge conversion in 2D quantum materials*", Spin Dynamics in Nanostructures, Gordon Research Conferences, Les Diablerets, Switzerland (July 2017).

[6] "*Towards efficient spin orbit torque*" 2017 Conference on Magnetism and Magnetic Materials (MMM), New Orleans, USA (Oct. 2016).

[7] "*Role of transparency of platinum-ferromagnet interface in determining intrinsic magnitude of spin Hall effect*", 2016 APS March Meeting, Baltimore, Maryland, USA (Mar, 2016).

[8] "*Spin Injection and Relaxation in Graphene*," 2012 APS March Meeting, Boston, MA, USA (Feb. 2012).

Other Invited Talks and Seminars

[9] "*Spin Dynamics in Topological Insulator and Superconducting Thin Films*", Low Temperature Physics conference, Xinxiang, P. R. China (Apr. 2018).

[10] "*Spin and charge conversion and spin dynamics in quantum materials*", Seminar, Department of Physics, University of Arizona, Tucson, USA (Feb. 2018).

[11] "*Spin Dynamics in Topological Insulator and Superconducting Thin Films*", the 43rd Reimei/GP-Spin/ICC-IMR Workshop on New Excitations in Spintronics, Sendai, Japan (Jan. 2018)

[12] "*Spin and charge conversion in 2D quantum materials*", Seminar, Ningbo Institute of Industrial Technology, Ningbo, P. R. China (Dec. 2017).

[13] "*Electrical control of magnetism*", 2017 Chinese Conference on Magnetism and Magnetic Materials, Beihai, P. R. China (Nov. 2017).

[14] "*Spin and charge conversion in 2D quantum materials*", Seminar, School of Physics, Shandong University, Jinan, P. R. China (Nov. 2017).

[15] "*Spintronics in 2D Materials*" Grapchina, Nanjing, P. R. China (Sep. 2017).

[16] "*Spin and charge conversion in quantum materials*", 2017 Chinese Physics conferences, Chengdu, P. R. China (Sept. 2017).

[17] "*Spin and charge conversion in quantum materials*", Workshop on Quantum Spintronics at Interfaces, San Sebastian, Spain (Sept. 2017).

[18] "*Spintronics at FM-topological insulator interface*", Spin Summit, Jinggangshan, China (August 2017).

[19] "*Spintronics in the Topological Surface States*", 3rd Conference on Condensed Matter Physics (CCMP-2017), Shanghai, China (June 2017).

[20] "*Spin and charge conversion in quantum materials*", 9th International Conference on Materials for Advanced Technologies (ICMAT 2017), Suntec, Singapore (June 2017).

[21] "*Spin and charge conversion in quantum materials*", International workshop on Spintronics memory and logic, Qingdao, China (June 2017).

[22] *Spin and charge conversion in 2D quantum materials*", Seminar, Department of Physics, The Ohio State University, Ohio, USA (Mar. 2017).

[23] "*Spin injection and inverse Edelstein effect in the surface states of topological Kondo insulator SmB_6*", International symposium on Topological Phases and Functionality of Correlated Electron Systems, Tokyo, Japan (Feb. 2017).

[24] "*Spin and charge conversion in quantum materials*", International School on Topological Science and Topological Matters, Kyoto, Japan (Feb. 2017).

[25] "*Spin and charge conversion in 2D quantum materials*", Seminar, School of Physics, Collaborative Innovation Center of Advanced Microstructures, Nanjing University, Nanjing, China (Jan. 2017).

[26] "*Spin and charge conversion in quantum materials*", Low Temperature Physics conference, Shaoguan, P. R. China (Nov. 2016).

[27] "*Spin and charge conversion in 2D quantum materials*", The 2nd Joint Workshop on Condensed Matter Science between PKU and MPI, Beijing, P. R. China (Nov. 2016).

[28] "*Spin to Charge Conversion in 2D Quantum Materials*" The 6th Annual World Congress of Nano Science & Technology, Singapore (Oct. 2016).

[29] "*Towards Efficient Spin and Charge Conversion*", Seminar, Center for 2D Materials, National University of Singapore, Singapore (Oct. 2016).

[30] "*Spin and charge conversion in quantum materials*", Rice-ICQM Joint workshop, Beijing, P. R. China (Oct. 2016).

[31] "*Spin to Charge Conversion in topological surface states of SmB6*", South University of Science and Technology of China, Shenzhen, P. R. China (July 2016).

[32] "*Spin to Charge Conversion in Quantum Materials*", 6th ICQs Conference, Beijing, P. R. China (June 2016).

[33] "*Interface Effects on Spin-Orbit Torque and Gilbert damping*", ICNS Mini-Symposium on Spintronics and 2D Materials, Halle, Germany (May 2016).

[34] "*Two Extreme Cases for Spin Orbit Coupling*", Seminar, Institute of Physics, CAS,

Beijing, P. R. China (Dec. 2015).

[35] "*Role of transparency of platinum-ferromagnet interface in determining intrinsic magnitude of spin Hall effect*", SPIE (Spintronics VII), San Diego, CA, USA (Aug. 2015).

[36] "*Introduction of the spin orbit torque*", Spintronics workshop, Peking University, Beijing, P. R. China (July 2015).

[37] "*Spintronics in Two Dimensional Quantum Materials*", 2015 ICAM-China Summer School: The Frontier in Condensed Matter Physics, Beijing, P. R. China (July 2015).

[38] "*Manipulation of magnetism by pure spin current*", Seminar, East China Normal University, Shanghai, P. R. China (June 2015).

[39] "*Two Extreme Cases for Spin Orbit Coupling*", Seminar, Institute of Semiconductors, CAS, Beijing, P. R. China (June 2015).

[40] "*Interface transparency of spin orbit torque*", Spintronics workshop, Beijing Normal University, Beijing, P. R. China (May 2015).

[41] "*Two Extreme Cases for Spin Orbit Coupling*", Seminar, Department of Physics, Beijing Normal University, Beijing, P. R. China (Apr. 2015).

[42] "*Interface transparency of spin orbit torque*", Low Temperature Physics conference, Hangzhou, P. R. China (Apr. 2015).

[43] "*Two Extreme Cases for Spin Orbit Coupling*", Seminar, Department of Physics, University of Science and Technology, Hefei, Anhui, P. R. China (Mar. 2015).

[44] "*Interface transparency of spin orbit torque*", UT Austin-PKU workshop, Austin, TX, USA (Feb. 2015).

[45] "*Graphene: A Promising Material for Spintronics*", Seminar, Department of Materials and Engineering, University of Science and Technology, Hefei, Anhui, P. R. China (Jan 2015).

[46] "*Graphene spintronics*", Seminar, School of Physics and Technology, Wuhan University, Wuhan, Hubei, P. R. China (June 2014).

[47] "*Spin injection and detection in La and Nb doped SrTiO3*", 4th ICQs Conference, Beijing, P. R. China (June 2014).

[48] "*Spintronics in Graphene and Complex Oxides*", Seminar, Department of Physics, Carnegie Mellon University, PA, USA (Feb. 2014).

[49] "*Spintronics in Graphene and Complex Oxides*", Seminar, Department of Physics, Washington State University, WA, USA (Feb. 2014).

[50] "*Spin Injection and Detection in La- and Nb-Doped Strontium Titanate*", 41st Conference on the Physics and Chemistry of Surfaces and Interfaces, Santa Fe, NM,

USA (Jan 2014).

[51] "*Spintronics in Graphene and Complex Oxides*", Seminar, International Center for Quantum Materials, Peking University, Beijing, P. R. China (Dec. 2013).

[52] "*Spin injection and detection in lanthanum- and niobium-doped SrTiO3*", Physical Sciences Symposia-2013, Boston, MA, USA (Sept 2013).

[53] "*Spin Transport in Graphene and Germanium*", IBM Almaden research center, San Jose, CA, USA (Oct. 2011).

[54] "*Spin Transport and Relaxation in Graphene*", Seminar, Cornell University, Ithaca, NY, USA (Sept. 2011).

[55] "*Spin Injection and Relaxation in Graphene*," SPIE (Spintronics IV), San Diego, CA, USA (Aug. 2011).

[56] "*Spin Transport in Graphene and Germanium*", Seminar, Department of Physics, Penn State University, PA, USA (July 2011).

[57] "*Spin Injection and Relaxation in Graphene*", Seminar, Device Research Laboratory, University of California, Los Angeles, CA, USA (Apr. 2011).