XIANG RONG WANG

EDUCATION

Ph.D. IN PHYSICS Oct. 1990
University of Rochester, USA

MASTER OF ARTS IN PHYSICS May 1986
University of Rochester

BACHELOR IN PHYSICS July 1984
Wuhan University, Wuhan, P. R. China

EXPERIENCE

PROFESSOR 7/09-present
Physics Department, HKUST

ASSOCIATE PROFESSOR 1/01-6/09
Physics Department, HKUST

ASSISTANT PROFESSOR 8/92-12/00
Physics Department, HKUST

RESEARCH ASSOCIATE 9/90-7/92
Physics Department, University of Minnesota, USA

HONORS

- **Selectee of 1000-Talent Scheme** 12/2010
  Central Government, P.R. China
- **Taishan Oversea Professor** 4/10-present
  Shandong Provincial Government
- **Guest Professor of** 6/03-present
  Institute of Solid State Physics,
  Chinese Academy of Sciences, Hefei, P. R. China
- **Guest Chair Professor of** 9/2011-present
  Wuhan University, P. R. China
- **Honorary Professor of** 12/02-2010
  Wuhan University, P. R. China
- **Guest Professor of** 12/03-12/05
  Beijing Normal University, P. R. China
- **Member of the Advisory Board, Division** 7/01-present
  of Theoretical & Computational Physics,
  Institute of Physics, Chinese Academy
  of Sciences, Beijing, P. R. China
- **Associate Member of the Centre of** 9/09-present
  Theoretical and Computational
  Physics, HK University
- **Minnesota Supercomputer Institute** 1991
  Research Fellow
- **CUSPEA Selectee, China–United States** 1984

PROFESSIONAL ACTIVITIES:

- **Member of Organizing Committee of 12th National** 26-29 Aug. 2013
  Conference on Magnetism , Lanzhou, China
- **Editor-in-Chief of Advances in** 5 May 2013-
  Condensed Matter Physics 4 May 2015
  http://www.hanspub.org/Journal/CMP.html
- **Convenor of Gordon Research Conferences (GRC)** 2011
  on Spin Dynamics in Nanostructures
  2013 GRC Chair, Hong Kong, China
- **Coordinator of 2012 International Workshop on** 1-3 Dec. 2012

Frontiers of Theoretical and Computational Physics and Chemistry, Hong Kong, China

• **Members of Expert Committee of 973-project "Control of electron spins in novel quantum materials"**	2012
• **Member of Organizing Committee of 2011 International Workshop on Frontiers of Theoretical and Computational Physics and Chemistry**, Haikou, China	21-24 Dec. 2011
• **Members of Expert Committee of 973-project "Control and applications of high-frequency magnetic nano-materials"**	2011
• **Member of Editorial Board of Optoelectronics** • **http://www.hanspub.org/journal/oe/**	
• **Advisory Board Members of The 1st Annual World Congress of Nano-S&T**, Dalian, China	23-26 Oct. 2011
• **Member of Program Committee of 2011 International Magnetics Conference (INTERMAG 2011)**, Taipei	25-29 April 2011
• **Member of Organizing Committee of 11th National Conference on Magnetism** , Shijiazhuang, China	9-11 July 2011
• **Member of Organizing Committee of the 6th Cross-Strait and International Conference on Quantum Manipulation,** Beijing, China	10-12 Dec. 2010
• **Member of Organizing Committee of 2010 International Workshop on Frontiers of Theoretical and Computational Physics and Chemistry**, Xiamen, China	18-21 Dec. 2010
• **Member of Organizing Committee of the 3rd International Workshop on Solid State Quantum Computing & the Hong Kong Forum on Quantum Control**, Hong Kong, China	12-14 Dec. 2009
• **Member of Organizing Committee of The 2nd Guangdong-Hong Kong Joint Workshop in Physics**, Hong Kong,	11-12 Dec. 2009
• **Member of Organizing Committee of 10th National Conference on Magnetism** , Hangzhou, China	26-29 Aug. 2009
• **Member of Organizing Committee of 5th International Workshop on Frontiers of Theoretical and Computational Physics and Chemistry**, Suzhou, China	30 Oct. - 2 Nov. 2009
• **Session Chairman of INTERMAG 2009 Sacramento, CA, USA**	4-8 May 2009
• **General Secretary and Member of Organizing Committee of The 1st Guangdong-Hong Kong Joint Workshop in Physics**, Guangzhou, China	11-12 Oct. 2008
• **Member of Organizing Committee of 4th International Workshop on Frontiers of Theoretical and Computational Physics and Chemistry**, Hohhot, China	26-29 July 2008
• **Session Chairman of 2007 MRS Fall Meeting, Boston, USA I2: Magnetoresistance, Principles and Devices**	26-30 Nov. 2007
• **Member of Organizing Committee of 3rd International Workshop on Frontiers of Theoretical and Computational Physics and Chemistry**, Qing Dao, China	10-12 Aug. 2007
• **Member of Organizing Committee of 9th National Conference on Magnetism**, Hefei, China	4-7 Aug. 2007
• **Member of Organizing Committee of 2nd International Workshop on Frontiers of Theoretical and Computational Physics and Chemistry**, Zhang Jia Jie, China	8-9 July 2006
• **Session Chairman of The 5th International Conference on Condensed Matter Theory and Materials Computation, Lanzhou, China**	10-15 July 2006

• **Session Chairman of 2006 International Conference on Frontiers of Nonlinear and Complex Systems**, Hong Kong, China	24-26 May 2006
• **Organizer of 1st International Workshop on Frontiers of Theoretical and Computational Physics and Chemistry** Yantai, China	22-25 May 2005
• **Session Chairman of The 4th International Conference on Condensed Matter Theory and Materials Computation, Chengdu, China**	11-16 July 2005
• **Session Chairman of 2004 MRS Fall Meeting, Boston, USA**	28 Nov. - 3 Dec. 2004
• **Session Chairman of The 3rd International Conference on Condensed Matter Theory and Materials Computation, Dalian, China**	12-16 July 2004
• **Session Chairman of The 2nd International Conference on Condensed Matter Theory and Materials Computation, Weihai, China**	20-24 July 2003
• **Plenary Session Chairman of National Conference on Nanosciences and Surface Sciences, Beijing, China**	23-26 Mar. 2003
• **Session Chairman of The 1st International Conference on Condensed Matter Theory and Materials Computation, Weihai, China**	9-13 July 2002
• **Board member of 5th Chinese Vacuum and Surface Physics Society**	2001

PUBLICATIONS IN PROCEEDINGS:

(1) "An electron beam dump search for light, short-lived particles", E.M. Riordan *et al.*, *Proceeding of the XXIII International Physics,* Vol 1, 635-637 (1986) (World Scientific)

(2) "Quantum interference effects in the hopping conductivity", Y. Shapir, X.R. Wang, E. Medina, and M. Kardar, in *Hopping and Related Phenomena,* edited by H. Fritzsche & M. Pollak, World Scientific, p169-179.

(3) "Jahn-Teller effect of cations in water: the cupric ion in water", J.W. Halley, X.R. Wang, and L. Curtiss, *Proceedings of the 182nd Electrochemical Meeting*, 62 (1992).

(4) "The transfer matrix approach to the self-avoiding walk and the trail in fractal spaces", X.R. Wang, Physica A **205**, 391-398 (1994).

(5) "Fractal behavior of the shortest path aggregation: simulations and RG calculations", X.R. Wang, Physica A **205**, 380-390 (1994).

(6) "Double-chain localization in the presence of random flux", W.L. Chan, X.R. Wang, and X.C. Xie, *Proceedings of The 1'st International Conference on Frontiers of Physics*, Shantou, PRC, Aug. 5-9, 1995.

(7) "Level-crossing induced negative magnetoresistance in the nearest-neighbor hopping conduction", X.R. Wang, X.C. Xie, and S.C. Ma, *Proceedings of The Second CCAS Mesoscopic Physics Workshop*, March 31- April 4, 1997, Beijing.

(8) "Giant negative magnetoresistance in non-magnetic quantum dot arrays in the nearest-neighbor hopping conduction", X.R. Wang, Journal of Korean Physical Society **34**, 170-174 (1999).

(9) "Metal-insulator transition of 2D electron gas in a random magnetic field", X.R. Wang, X.C. Xie, and D.Z. Liu, J. of Korean Phys. Soc. **34**, 143-147 (1999).

(10) "An external ac bias induced expansion of dynamic dc voltage bands in a weakly coupled GaAs/AlGaAs superlattice", H.T. He, Z.Z. Sun, X.R. Wang, Y.Q. Wang and J.N. Wang, *Proceeding of 27th International Conference on the Physics of Semiconductor*, p1011, Flagstaff, Arizona, July 26-30 (2004).

(11) "A unified picture of the scaling to non-scaling transition of quantum Hall systems", X.R. Wang, G. Xiong and Q. Niu, *Proceeding of 27th International Conference on the Physics of Semiconductor*, p539, lagstaff, Arizona, July 26-30 (2004).

(12) "Magnetization reversal by microwave in magnetic tunnel junctions", T. Moriyama, R. Cao, J.Q. Xiao, J. Lu, X.R. Wang, Q. Wen, and H.W. Zhang, J. Appl. Phys. 103, 07A906 (2008).

(13) "Optimal spin-current pulse of the Stoner-Wohlfarth problem", X.R. Wang and Z.Z. Sun, J. Appl. Phys. 103, 07D901 (2008); Selected for the Virtual Journal of Nanoscale Science & Technology.

JOURNAL PUBLICATIONS

(1) "Search for short-lived axions in an electron-beam dump experiment", E.M. Riordan *et al.*, Phys. Rev. Lett. **59**, 755-758 (1987).

(2) "Absence of h/e periodicity of the Aharonov-Bohm oscillations in square metallic lattice", Y. Shapir and X.R. Wang, Europhysics Lett. **4**, 1165-1170 (1987).

(3) "Interference of directed paths in disordered systems", E. Medina, M. Kardar, Y. Shapir, and X.R. Wang, Phys. Rev. Lett. **62**, 941-944 (1989).

(4) "Analysis of multiscaling structure in diffusion-limited aggregation: a kinetic renormalization-group approach", X.R. Wang, Y. Shapir, and M. Rubinstein, Phys. Rev. A. **39**, 5974-5983 (1989).

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(7) "Scaling of the shortest path aggregation", X.R. Wang, Phys. Rev. A. (Rapid Communication) **40**, 6767-6770 (1989).

(8) "Magnetic field effects on strongly localized electrons", E. Medina, M. Kardar, Y. Shapir, and X.R. Wang, Phys. Rev. Lett. **64**, 1816-1819 (1990).

(9) "Exact enumeration approach to tunneling in disordered system", X.R. Wang, Y. Shapir, E. Medina, and M. Kardar, Phys. Rev. B. **42**, 4559-4562 (1990).

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(12) "The universal behavior of the shortest path aggregation", X.R. Wang

and X.F. Wang, Phys. Rev. A. **45**, 1274-1277 (1992).

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(19) "Magnetic-field effects on localization in a fractal spaces", X.R. Wang, Phys. Rev. B **53**, 12035-12039 (1996).

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Selected for Virtual Journal of Nanoscale Science & Technology.

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assisted tunneling measurements", S.D. Wang, Z.Z. Sun, N. Cue, and X.R. Wang, Physics Letters A **299**, 271 (2002).

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(60) "External ac-signal-controlled dynamics of electric field domains in a

GaAs/AlAs superlattice", H.T. He, Z.Z. Sun, X.R. Wang, Y.Q. Wang, W.K. Ge, and J.N. Wang, Solid State Communications, **136**, 572-575 (2005).

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dynamics", X. R. Wang, Modern Physics Letters B 24(21), 22152224 (2010).

(92) "Comment on "Interaction-induced shift of the cyclotron resonance of graphene using infrared spectroscopy", W. Zhu, Q. W. Shi, J. G. Hou, and X. R. Wang, Phys. Rev. Lett. 105, 159703 (2010).

(93) "Evaluation of the Green's function of disordered graphene", W. Zhu, Q. W. Shi, X. R. Wang, X. P. Wang J. L. Yang, J. Chen, and G. Hou, Phys. Rev. B 82, 153405 (2010); arXiv:1005.3592. Selected for Virtual Journal of Nanoscale Science & Technology.

(94) "Optimal spin current pattern for fast domain wall propagation in nanowires", P. Yan, Z. Z. Sun, J. Schliemann and X. R. Wang, Europhysics Letters **92**, 27004 (2010).

(95) "Current-induced domain wall motion with adiabatic and nonadiabatic spin torques in magnetic nanowires", Z. Z. Sun, P. Yan, J. Schliemann and X. R. Wang, European Physical Journal B **79**, 449-453 (2011).

(96) "A theory for magnetic-field effects of nonmagnetic organic semiconducting materials", X. R. Wang and S. J. Xie, Europhysics Letters **92**, 57013 (2010).

(97) "Shape of the Landau subbands in disordered graphene", W. Zhu, H.Y. Yuan, Q. W. Shi, G. Hou, and X. R. Wang, Phys. Rev. B **83**, 153408 (2011).

(98) "Quantum spinon oscillations in a finite one-dimensional transverse Ising model", Zi Cai, Lei Wang, X. C. Xie, U. Schollwock, X. R. Wang, M. Di Ventra, and Yupeng Wang Phys. Rev. B **83**, 155119 (2011).

(99) "Spin transfer torque enhancement in dual spin valves in the ballistic regime", P. Yan, Z. Z. Sun, and X. R. Wang, Phys. Rev. B **83**, 174430 (2011).

(100) "All-magnonic spin-transfer torque and domain wall propagation", P. Yan, X. S. Wang and X. R. Wang, Phys. Rev. Lett. **107**, 177207 (2011).

(101) "Topological transition of graphene from quantum Hall metal to quantum Hall insulator at $\nu = 0$", W. Zhu, H. Y. Yuan, Q. W. Shi, J. G. Hou and X. R. Wang, New J. of Physics **13**, 113008 (2011).

(102) "Vacancy-induced splitting of the Dirac nodal point in graphene", W. Zhu, W. Li, Q. W. Shi, X. R. Wang, J.L. Yang, and G. Hou, Phys. Rev. B **85**, 073407 (2012).

(103) "Domain wall propagation through spin wave emission", X. S. Wang, P. Yan, Y.H. Shen, G.E.W. Bauer, and X. R. Wang, Phys. Rev. Lett. **109**, 167209 (2012).

(104) "Self-sustained current oscillations in spin-blockaded quantum dots", B. Hu and X. R. Wang, Phys. Rev. B **87**, 035311 (2013).

(105) "Temperature effect on spin relaxation in organic semiconductors" S. Yin, S.J. Xie, K. Gao, and X. R. Wang, SYNTHETIC METALS 165, 35-39 (2013).

(106) "Instability of Walker Propagating Domain Wall in Magnetic Nanowires", B. Hu and X. R. Wang, Phys. Rev. Lett. **111**, 027205 (2013).

(107) "Observation of Current-Driven Oscillatory Domain Wall Motion in Ni80Fe20/Co Bilayer Nanowire", W. Zhang, P.K.J. Wong, P. Yan, J. Wu, S.A. Morton, X.R. Wang, X.F. Hu, Y.B. Xu, A. Scholl, A. Young, I. Barsukov, M Appl. Phys. Lett. **103**, 042403 (2013).

(108) "Anti-levitation in integer quantum Hall systems", C. Wang, Y. Avishai, Y. Meir, and X.R. Wang Phys. Rev. B **89**, 045314 (2014).

(109) "Domain wall pinning in notched nanowires", H.Y. Yuan and X.R. Wang, Phys. Rev. B **89**, 054423 (2014).

BOOKS/BOOK CHAPTERS:

(1) "Spin Dynamics: Fast Switching of Macro-Spins", in "Nanoscale Magnetic Materials and Applications" Liu, J.P.; Fullerton, E.; Gutfleisch, O.; Sellmyer, D.J. (Eds.), Springer-Verlag New York, LLC, 2009, ISBN: 9780387855981

PATENTS:

(1) US patents entitled "METHOD AND APPARATUS FOR GENERATING GIANT SPIN DEPENDENT CHEMICAL POTENTIAL DIFFERENCE IN NON-MAGNETIC MATERIALS, Patent No.: US 8,013,406 B2 Date of Patent: Sept. 6, 2011, Xiangrong Wang

(2) US patents entitled "MAGNETIZATION SWITCHING THROUGHT MAGNONIC SPIN-TRANSFER TORQUE", Patent No.: US 2013/0082798 A1 Pub. Date: Apr. 4, 2013, Xiangrong Wang, Peng Yan, and Xiansi Wang

GRADUATE STUDENTS:

GRADUATE RESEARCH STUDENTS			
Name	**Degree**	**Year**	**Result**
Willis Wai Lun Chan	**MPhil**	21/8/95	Pass with distinction
Chi Wai Hui	**MPhil**	7/9/95	Pass
Shuk Chuen Ma	**MPhil**	10/97	Pass
Chun Yu Wong	**MPhil**	8/98	Pass
Gang Xiong (Joint Program with Wuhan University)	**Ph.D.**	5/01	Pass
Shi-dong Wang	**Ph.D.**	5/03	Pass
Kwan Lee Chen	**MPhil**	7/04	Pass
Zhouzhou Sun	**Ph.D.**	12/05	Pass
Sun Yin	**Ph.D.**	8/06	Pass
Jie Lu	**Ph.D.**	8/09	Pass
Peng Yan	**Ph.D.**	29/7/11	Pass
Bin Hu	**Ph.D.**	8/7/13	Pass

Title of Thesis:

Mr. Wai Lun Chan: "Magneto-properties in Quasi-1D Disorder Systems".
Mr. Chi Wai Hui: "Phase Transitions in Double Layer Ising Films".
Mr. Shuk Chuen Ma: "A novel mechanism for the negative magnetoresistance of the granular materials in the hopping conduction".
Mr. Chun Yu Wong: "The phase diagram of quasi-3D electron gas in a strong mag-

netic field".
Dr. Gang Xiong: "A new phase diagram of integer quantum Hall systems".
Dr. Shi Dong Wang: "Probing and electron tunneling of quantum dot systems".
Mr. Kwan Lee Chen: "Deformation of limit cycle under random perturbations".
Dr. Zhou Zhou Sun: "Self-sustained current oscillations in weakly coupled superlattices".
Dr. Sun Yin: "Entanglement generation and spin relaxation and decoherence of electrons in quantum dot systems".
Dr. Jie Lu: "Field-driven magnetization dynamics of nanoparticles and nanowires".
Dr. Peng Yan: "Current-Induced Magnetization Dynamics in Magnetic Nanostructures".
Dr. Bin Hu: "Nonlinear Dynamics of Landau-Lifshitz-Gilbert Equation and Its Applications".

INVITED TALKS

(1) "Computer simulations of electron transfer & Jahn-Teller effect in liquids," Hong Kong Workshop on Computational Physics, Sept. 8-11, 1993

(2) "A new approach to the self-avoiding walk & the trail in the finite ramified fractal spaces," The 1'st Asia Pacific Condensed Matter Theory Workshop, August 21-22, 1992, Hong Kong

(3) "Level-crossing induced negative magnetoresistance in the nearest-neighbor hopping conduction," The Second CCAS Mesoscopic Physics Workshop, March 31- April 4, 1997, Beijing

(4) "The general introduction to the continuous quantum phase transitions," invited lecturer (four lectures of 7 hours) in CCAST workshop on quantum phase transition, July 20-24, 1998, Beijing

(5) "Metal-insulator transition of a 2D electron gas in a random magnetic field," and "Giant negative magnetoresistance in non-magnetic quantum dot arrays in the nearest-neighbor hopping conduction",
The 5th CTP Workshop on Statistical Physics, Seoul, Dec. 16-19, 1998

workshop on statistical physics.

(6) "The negative giant magnetoresistance of quantum dot array in the nearest neighbor hopping conduction" & "Pattern of large polarized molecules on a Van der Waals surface," The CECAM workshop on
surfaces & interfaces far from equilibrium, July 27-29, 1998, Lyon, France

(7) "Instability and oscillations of the sequential tunneling in superlattices,"
99 Korea-Sino Joint Symposium on Semiconductor
Physics and Device Applications, Sept. 12-16, 1999, Korea

(8) "The general introduction to the continuous quantum phase transitions," invited lecturer (two lectures of 3 hours)
The First Summer School in Physics, July 13 - Aug. 20, 1998, Nanjing

(9) "Instability and oscillations of the sequential tunneling in superlattices,"
The International Workshop on Nanostructured
Materials and Interfaces, July 12-16, 1999, BICCP, Beijing

(10) "Plateau Transitions of Integer Quantum Hall Effect,"
2000 BICCP Workshop on Material
Modeling and Simulation, Aug. 21-25, 2000, Beijing

(11) "Instabilities and oscillations of the sequential tunneling in superlattices," The 2nd Annual Workshop of International Center of Quantum Structures, Beijing, May 23, 2001

(12) "Probing a single quantum dot and negative differential capacitance," The National Conference on Nanosciences and Surface Sciences 2001, Beijing, May 27, 2001

(13) "New phase diagram of the quantum Hall effect," XiangShan Science Conferences: The Sciences and Technologies of Strong Magnetic Field, Beijing, April 10, 2002

(14) "Giant negative magnetoresistance in the nearest-neighbor hopping conduction," 2002 CPS Fall Meeting, Aug. 28-31, Beijing.

(15) "Anti-resonance scattering at defect levels in the quantum conductance of a one-dimensional system," The 1'st International Condensed Matter Theory Workshop, Weihai, 9-13 July, 2002

(16) " Negative differential resistance due to the resonance coupling of a quantum-dot dimer," 2003 National Conference on Nanosciences and Surface Sciences, Beijing, March 23-26, 2003

(17) "Brief introduction to Bose-Einstein condensation," invited lecturer in 2003-Summer School on Contemporary Topics of Condensed Matter Physics, International Center of Quantum Structures, CAS, Beijing, July 14-18, 2003

(18) "Scaling to non-scaling transition of quantum Hall systems," 2003-Workshop on the Frontiers of Condensed Matter Physics: Low Dimensional and Strongly Correlated Systems, Institute of Solid State Physics, CAS, Hefei, Aug 22-24, 2003

(19) "Scaling to non-scaling transition of quantum Hall systems," The 12th National Conference on Condensed Matter Theory and Statistical Physics, Shanghai, Oct. 15-19, 2003

(20) "Generation of electron entanglement in quantum dot systems," The 3rd Condensed Matter Theory Workshop, Dalian, 12-16 July, 2004

(21) "Generation of electron entanglement in quantum dot systems," Inter-Pacific Workshop on Nanoscience and Nanotechnology, Hong Kong, 22-24 November, 2004

(22) **Talk 1:** "Fast magnetization switching of Stoner particles: A nonlinear dynamics picture"; **Talk 2:** "A few thoughts on dephasing"; **Talk 3:** "Self-Oscillation in Current Induced Magnetization Reversal"; Invited lecturer in 05'CCAST Mesoscopic Physics Workshop, Beijing, 28 March - 1 April, 2005

(23) "Fast magnetization switching of Stoner particles: A nonlinear dynamics picture," The 4th International Conference on Condensed Matter Theory and Materials Computation, Chengdu, 11-16 July, 2005

(24) "Magnetization reversal of Stoner particles in magnetic field", The 4th Cross-Strait Workshop on Nanoscience and Nanotechnology, 22-25 Aug 2005 Lijiang, Yunnan, PR China

(25) "Magnetization reversal of Stoner particles in magnetic field", The National Conference on Nanosciences and Surface Sciences 2005, Beijing, Sept. 29, 2005

(26) "Self-Oscillation in current induced magnetization reversal", 2005 International Workshop on Frontiers of Theoretical and Computational Physics and Chemistry, Yantai, China, May 22-25, 2005

(27) "Magnetization reversal of Stoner particles in magnetic field", X. R. Wang and Z. Z. Sun, *Autumn 2005 Meeting of the Chinese Physical Society in Wuhan,* Hubei, 17–21, Sept. 2006

(28) "A new route to chaos via semiconductor superlattices?,"
X. R. Wang, International Conference on Frontiers of
Nonlinear and Complex Systems, Hong Kong, May 24-26, 2006

(29) "Magnetization reversal of Stoner particles by magnetic field",
Z. Z. Sun and X. R. Wang, 11th Annual Conference of The
Physical Society of Hong Kong, Hong Kong, June 10, 2006

(30) "Theoretical limit of minimum switching field and the optimal
field pulse for the fast magnetization reversal," The 14th National
Conference on Condensed Matter Theory and Statistical Physics,
Guangzhou, Nov. 11-13, 2006

(31) "New strategies in fast magnetization reversal," The 5th
International Conference on Condensed Matter Theory and
Materials Computation, Lanzhou, July 10-15, 2006

(32) "A few interesting transport phenomena in quantum nanowires ",
2006 International Workshop on Frontiers of
Theoretical and Computational Physics and Chemistry, Zhang Jia Jie,
China, July 8-9, 2006

(33) "Theoretical limit of polarized electric current in magnetization
reversal", Workshop on the frontier of quantum control and
strongly correlated systems, Beijing, Jan. 26-28, 2007

(34) "Magnetization Reversal of Stoner Particles by Magnetic Fields and
Electric Current", The Third Taiwan International Conference on
Spintronics, Yunlin, Taiwan, July 31 - August 2, 2007

(35) "Theoretical limit in magnetization reversal of Stoner Particles",
The 52nd Conference on Magnetism and Magnetic Materials (MMM 2007),
Tampa, Florida, USA, November 5-9, 2007

(36) "Theoretical limit on the minimal switching field and the switching
current in magnetization reversal (I1.5)", 2007 MRS Fall Meeting,
Boston, MA, USA, November 26 - 30, 2007

(37) "Theoretical limit on the minimal switching field and the current in
magnetization reversal", The 3rd China-Singapore Joint Symposium
on Research Frontiers in Physics, Xiamen, May 25-27, 2007

(38) "On the Stoner-Wolfarth Problem", The 6th
International Conference on Condensed Matter Theory and
Materials Computation, Zhenzhou, July 14-18, 2007

(39) "On the Stoner-Wolfarth Problem", 2007 CPS
Fall Meeting, Sept. 18-22, 2007, Nanjin

(40) "Magnetic field induced domain wall propagation
in magnetic nanowires", 2008 Workshop on Mesoscopic Physics and
Low-Dimensional Systems, Zhuhai, April 25-28, 2008

(41) "The theory of field-induced domain wall propagation in magnetic
nanowires", Bilateral workshop between IOP-Taipei and IOP-Beijing
In celebration of the 80th anniversary of both institutes,
Beijing, June 19-21, 2008

(42) "The theory of field-induced domain wall propagation in magnetic
nanowires", The 7th International Conference on Condensed Matter
Theory and Materials Computation, Taiyuan, July 12-16, 2008

(43) "Inverse square-root field dependence of Conductivity in organic field
effect transistors", 2008 International Workshop on Frontiers
of Theoretical and Computational Physics and Chemistry, Hohhot,

China, July 26-28, 2008

(44) "The theory of magnetic field induced domain wall motion in nanowires," 2008 CPS Fall Meeting, Sept. 18-22, Jinan

(45) "Electronic properties of disordered graphene", 2009 International Workshop on Frontiers of Theoretical and Computational Physics and Chemistry, Suzhou, China, Oct. 30- Nov. 2 , 2009

(46) "The theory of field-induced domain wall propagation in magnetic nanowires", China-Switzerland Bi-National Symposium on Physics Beyond the Cutting Edge, Guangzhou, April 14-17, 2009

(47) "The theory of field-induced domain wall propagation in magnetic nanowires", The 2nd Annual Workshop International Center for Quantum Design of Functional Materials (ICQD) July 13-14, 2009

(48) "The theory of field-induced domain wall propagation in magnetic nanowires", The 10th National Conference on Magnetism, Hangzhou, China Aug. 16-29, 2009

(49) "Density of states of Landau subbands in disordered graphene", Frontiers of Quantum Transport and Quantum Computation, Huangshan, Sept. 5-7, 2009

(50) "The theory of field-induced domain wall propagation in magnetic nanowires", International Workshop on Nanomagnetism and Spintronics: Current Status and Outlook, Linfen, Shanxi, July 22-24, 2010

(51) "Topological transition of graphene from quantum Hall metal to quantum Hall insulator", 2010 International Workshop on Frontiers of Theoretical and Computational Physics and Chemistry, Xiamen, China, Dec. 18-21, 2010

(53) "Field-driven domain wall propagation in magnetic nanowires", 2010 APS March Meeting, Portland, OR, USA, March 15-19, 2010 (H33.4)

(54) "Field-driven domain wall propagation in magnetic nanowires", Progress in Spintronics and Graphene Research, Kavli Institute for Theoretical Physics, May 28, 2010

(55) "Topological transition of graphene from quantum Hall metal to quantum Hall insulator", Progress in Spintronics and Graphene Research, Kavli Institute for Theoretical Physics, June 15, 2010

(56) "A new mechanism for organic magnetic field effects", Progress in Spintronics and Graphene Research, Kavli Institute for Theoretical Physics, June 28, 2010

(57) "A new concept for the next generation of hard disk driver: Microwave-assistant magnetization reversal", CSRC Workshop on Advanced Monte Carlo Methods and Stochastic Dynamics, Beijing, China, June 20-25, 2010

(58) "All-magnonic spin transfer torque and domain wall propagation", Physics Department, Beijing Normal University, June 7, 2011

(59) "A new mechanism for magnetic-field effects in nonmagnetic organic semiconductors", Department of Material Enigneering, Tsinghua University, Beijing, June 8, 2011

(60) "A new concept for the next generation of hard disk driver: Microwave-assistant magnetization reversal", The 10th National

Conference on Magnetism, Shijiazhuang, China, July 9-11, 2011

(61) "A theory of magnetic field effects in non-magnetic organic semiconductors", Tsinghua University, Beijing, Dec. 20, 2012

(62) "Magnonic spin-transfer torque and domain wall motion", International Magnetics Conference, INTERMAG 2012, Vancouver, Canada, May 7-11, 2012

(63) "Magnonic spin-transfer torque and domain wall motion", Spin Caloritronics IV, Sendai, Japan, 2-5 June 2012

(64) "Magnonic spin-transfer torque and domain wall motion", WUN-SPIN 2012
Sydney, Australia, 23-25 July 2012

(65) "A new mechanism for magnetic field effects in non magnetic organic semiconductors", Molecular Electronics, Kavli Institute for Theoretical Physics, Dec. 19, 2012

(66) "Domain wall motion and spin wave", Spin Caloritronics V, Columbus, Ohio, 12-15 May, 2013

(67) "Instability of Walker Propagating Domain-Wall Mode Magnetic Nanowires", KITP Conference on Concepts in Spintronics, Santa Barbara, 30 Sept.-4 OCt., 2013

(68) "The interplay between spin waves and domain wall motion", Pekin University, Beijing, June 17, 2013

(69) "The interplay between spin waves and domain wall motion", Invited plenary talk, 12th National Conferences on Magnetism Theory, Lanzhou, Aug. 26-29, 2013

(70) "Spin waves and domain wall propagation", Tsinghua University, Beijing, Nov. 29, 2013

(71) "Spin waves and domain wall propagation", Laboratoire de Physique de Materiaux, UMR CNRS 7556, U.H.P.-Nancy I, France, Dec. 4, 2013

(72) "Topological transition of graphene from quantum Hall metal to quantum Hall insulator", Physics Department, Ecole Normale Superieure, Paris, France, Dec. 6, 2013

(73) "Self-Sustained Current Oscillation in Double Quantum-Dot in the Spin-Blockade Regime", Physics Department, Ecole Normale Superieure, Paris, France, Dec. 9, 2013

(74) More than 70 invited colloquia and seminars in the universities and research labs.