

Curriculum Vita

Dr. Wanjun Jiang

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Education History:

01/2006-09/2010

Ph.D. in Condensed Matter Physics

Department of Physics and Astronomy
The University of Manitoba, Winnipeg, Manitoba, Canada

Thesis: Magnetic and Transport Properties of Colossal Magnetoresistance Manganites and Magnetic Semiconductors

Advisor: Gwyn Williams

09/2001-07/2005

B.Sc. in Microelectronics

School of Physics
Lanzhou University, Lanzhou, Gansu, China.

Thesis: Magnetization Anisotropy of Soft Magnetic Thin Film

Advisor: Prof. Desheng Xue

Work Experience & Interests:

- 01. 2019 – present **Associate Professor**, Department of Physics,
Tsinghua University, China
- Sep. 2016 – 12.2018 **Assistant Professor**, Department of Physics,
Tsinghua University, China
- 2014 – 2016 **Postdoctoral Scholar**, Material Science Division, Argonne National Lab
(Advisors: Dr. Suzanne te Velthuis and Axel Hoffmann)
- 2010 – 2014 **Postdoctoral Scholar**, Department of Electrical Engineering, UCLA
(Advisor: Professor Kang L. Wang)

Professional Services:

- Referee for scientific journals including:
Nature family (Physics, Nanotechnology, Materials, Comm.), Science Advance,
Physical Review journal (RMP, Letters, X, B, Applied, Materials), Nano Letters,
Advanced Materials, APL, Scientific Reports, etc.

- Referee of research grants including:
1: NSF of China,
2: Office of Science, Department of Energy, USA,
3: Laboratory Directed Research Development of Argonne National Laboratory, USA,
4: Swiss National Science Foundation, Switzerland.

Publication list:

Wanjun's current research lies on the frontier of interfacial nanospintronics where the interplay between electronic spin, charge, and symmetry are extremely important. Wanjun has published more than 79 peer-reviewed scientific journals which earned him *h* - index=39 and a total citations > 6700. As leading and corresponding authors, his publications can be found in Science, Nature Physics, Nature Electronics, Physics Reports, Physical Review Letters and Physical Review B.

A full list of publications can also be found at his Google scholar website:

<https://scholar.google.com/citations?user=J3yWhfAAAAAJ&hl=en>

1. Compensated magnetic insulators for extremely fast spin-orbitronics
Heng-An Zhou, Yiqing Dong, Teng Xu, Kun Xu, Luis Sánchez-Tejerina, Le Zhao, You Ba, Pierluigi Gargiani, Manuel Valvidares, Yonggang Zhao, Mario Carpentieri, Oleg A Tretiakov, Xiaoyan Zhong, Giovanni Finocchio, Se Kwon Kim, **Wanjun Jiang***
[Preprint at: arXiv preprint arXiv:1912.01775.](#)
2. Non-Volatile Magnetic Memory Combined with AND/NAND Boolean Logic Gates Based on Geometry-Controlled Magnetization Switching
Ziyao Lu, Chengyue Xiong, Hongming Mou, Zhaochu Luo, **Wanjun Jiang**, Xixiang Zhang, XZ Zhang
[IEEE Magnetics Letters, in press \(2021\).](#)
3. Néel-Type Elliptical Skyrmions in a Laterally Asymmetric Magnetic Multilayer
Baoshan Cui, Dongxing Yu, Ziji Shao, Yizhou Liu, Hao Wu, Pengfei Nan, Zentai Zhu, Chuangwen Wu, Tengyu Guo, Peng Chen, Heng-An Zhou, Li Xi, **Wanjun Jiang**, Hao Wang, Shiheng Liang, Haifeng Du, Kang L Wang, Wenhong Wang, Kehui Wu, Xiufeng Han, Guangyu Zhang, Hongxin Yang, Guoqiang Yu
[Advanced Materials, 2006924 \(2021\).](#)
4. Electrically Reconfigurable 3D Spin-Orbitronics
Yiqing Dong, Teng Xu, Heng-An Zhou, Li Cai, Huaqiang Wu, Jianshi Tang, **Wanjun Jiang***
[Advanced Functional Materials 31 \(9\), 2007485 \(2021\).](#)
5. Evolution of domain structure in Fe₃GeTe₂
Siqi Yin, Le Zhao, Cheng Song, Yuan Huang, Youdi Gu, Ruyi Chen, Wenxuan Zhu, Yiming Sun, Wanjun Jiang, Xiaozhong Zhang, Feng Pan
[Chinese Physics B 30 \(2\), 027505 \(2021\).](#)

6. Electric-field control of skyrmions in multiferroic heterostructure via magnetoelectric coupling
You Ba, Shihao Zhuang, Yike Zhang, Yutong Wang, Yang Gao, Hengan Zhou, Mingfeng Chen, Weideng Sun, Quan Liu, Guozhi Chai, Jing Ma, Ying Zhang, Huanfang Tian, Haifeng Du, **Wanjun Jiang**, Cewen Nan, Jia-Mian Hu, Yonggang Zhao
[Nature communications 12 \(1\), 1-10 \(2021\).](#)
7. Absence of spin Hall magnetoresistance in Pt/(CoNi)_n multilayers
Yongwei Cui, Xiaoyu Feng, Qihan Zhang, Hengan Zhou, **Wanjun Jiang**, Jiangwei Cao, Desheng Xue, Xiaolong Fan
[Physical Review B 103 \(2\), 024415 \(2021\).](#)
8. Rapid Kerr imaging characterization of the magnetic properties of two-dimensional ferromagnetic Fe₃GeTe₂
Li Cai, Chenglin Yu, Liangyang Liu, Wei Xia, Heng-An Zhou, Le Zhao, Yiqing Dong, Teng Xu, Zidong Wang, Yanfeng Guo, Yonggang Zhao, Jinsong Zhang, Luyi Yang, Lexian Yang, **Wanjun Jiang***
[Applied Physics Letters 117 \(19\), 192401 \(2020\).](#)
9. Thermal generation, manipulation and thermoelectric detection of skyrmions
Zidong Wang, Minghua Guo, Heng-An Zhou, Le Zhao, Teng Xu, Riccardo Tomasello, Hao Bai, Yiqing Dong, Soong-Geun Je, Weilun Chao, Hee-Sung Han, Sooseok Lee, Ki-Suk Lee, Yunyan Yao, Wei Han, Cheng Song, Huaqiang Wu, Mario Carpentieri, Giovanni Finocchio, Mi-Young Im, Shi-Zeng Lin, **Wanjun Jiang***
[Nature Electronics 3 \(11\), 672-679 \(2020\).](#)
10. Spin-Topology Dependent Brownian Diffusion of Skyrmions
Le Zhao, Zidong Wang, Xichao Zhang, Jing Xia, Keyu Wu, Heng-An Zhou, Yiqing Dong, Guoqiang Yu, Kang L Wang, Xiaoxi Liu, Yan Zhou, **Wanjun Jiang***
[Physical Review Letters 125, 027206 \(2020\).](#)
11. High Spin Hall Conductivity in Large-Area Type-II Dirac Semimetal PtTe₂
Hongjun Xu, Jinwu Wei, Hengan Zhou, Jiafeng Feng, Teng Xu, Haifeng Du, Congli He, Yuan Huang, Junwei Zhang, Yizhou Liu, Han-Chun Wu, Chenyang Guo, Xiao Wang, Yao Guang, Hongxiang Wei, Yong Peng, **Wanjun Jiang**, Guoqiang Yu, Xiufeng Han
[Advanced Materials 32 \(17\), 2000513 \(2020\).](#)
12. Imaging magnetization switching induced by spin-orbit torque in perpendicularly magnetized Ta/CoFeB structure
Xiaoyang Liu, Liyang Liao, Fenghua Xue, Lu Sun, Yihong Fan, **Wanjun Jiang**, Shilei Zhang, Cheng Song, Xufeng Kou
[IEEE Transactions on Magnetics 56 \(5\), 1-6 \(2020\).](#)
13. Generation and Hall effect of skyrmions enabled via using nonmagnetic point contacts
Zidong Wang, Xichao Zhang, Jing Xia, Le Zhao, Keyu Wu, Guoqiang Yu, Kang L. Wang, Xiaoxi Liu, Suzanne G. E. te Velthuis, Axel Hoffmann, Yan Zhou, **Wanjun Jiang***
[Physical Review B 100, 184426 \(2019\).](#)

14. Quantifying chiral exchange interaction for Néel-type skyrmions via Lorentz transmission electron microscopy
Wanjun Jiang*, Sheng Zhang, Xiao Wang, Charudatta Phatak, Qiang Wang, Wei Zhang, Matthias B. Jungfleisch, John E. Pearson, Yizhou Liu, Jiadong Zang, Xuemei Cheng, Amanda Petford-Long, Axel Hoffmann and Suzanne G. E. te Velthuis
[Physical Review B, 99,104402 \(2019\)](#).
15. A Spin–Orbit-Torque Memristive Device
Shuai Zhang, Shijiang Luo, Nuo Xu, Qiming Zou, Min Song, Jijun Yun, Qiang Luo, Zhe Guo, Ruofan Li, Weicheng Tian, Xin Li, Hengan Zhou, Huiming Chen, Yue Zhang, Xiaofei Yang, **Wanjun Jiang**, Ka Shen, Jeongmin Hong, Zhe Yuan, Li Xi, Ke Xia, Sayeef Salahuddin, Bernard Dieny, Long You
[Advanced Electronic Materials, 1800782 \(2019\)](#).
16. Electric Field-Induced Creation and Directional Motion of Domain Walls and Skyrmion Bubbles
Chuang Ma, Xichao Zhang, Jing Xia, Motohiko Ezawa, **Wanjun Jiang**, Teruo Ono, S. N. Piramanayagam, Akimitsu Morisako, Yan Zhou, and Xiaoxi Liu
[Nano Letters. 19, 353-361 \(2019\)](#).
17. Antidamping-Torque-Induced Switching in Biaxial Antiferromagnetic Insulators
X. Z. Chen, R. Zarzuela, J. Zhang, C. Song, X. F. Zhou, G. Y. Shi, F. Li, H. A. Zhou, **Wanjun Jiang**, F. Pan, and Y. Tserkovnyak
[Phys. Rev. Lett. 120, 207204 \(2018\)](#).
18. Observation of unconventional anomalous Hall effect in epitaxial CrTe thin films
Dapeng Zhao, Liguo Zhang, Iftikhar Ahmed Malik, Menghan Liao, Wenqiang Cui, Xinqiang Cai, Cheng Zheng, Luxin Li, Xiaopeng Hu, Ding Zhang, Jinxing Zhang, Xi Chen, **Wanjun Jiang***, Qikun Xue
[Nano Research, 11, 3116, \(2018\)](#).
19. Room-temperature skyrmions in an antiferromagnets-based heterostructures
Guoqiang Yu, Alec Jenkins, Xin Ma, Seyed Armin Razavi, Congli He, Gen Yin, Qiming Shao, Qing lin He, Hao Wu, Wenjing Li, **Wanjun Jiang**, Xiufeng Han, Xiaoqin Elaine Li, Ania Claire Bleszynski Jayich, Pedram Khalili Amiri, and Kang L. Wang
[Nano Lett., 18\(2\), 980 \(2018\)](#).
20. Size analysis of sub-resolution objects by Kerr microscopy
I. V. Soldatov, W. Jiang, S. G. E. te Velthuis, A. Hoffmann, and R. Schafer
[Applied Physics Letters 112, 262404 \(2018\)](#).
21. Skyrmions in magnetic multilayers
Wanjun Jiang*, Gong Chen, Kai Liu, Jiadong Zang, Suzanne G. E., te velthuis, Axel Hoffmann
[Physics Reports, 703, 1-49 \(2017\)](#).
22. Unidirectional spin-torque driven magnetization dynamics
Joseph Sklenar, Wei Zhang, Matthias B. Jungfleisch, Hilal Saglam, Scott Grudichak, **Wanjun Jiang**, John E. Pearson, John B. Ketterson, and Axel Hoffmann
[Phys. Rev. B 95, 224431 \(2017\)](#).

23. Direct observation of the skyrmion Hall effect
Wanjun Jiang*, Xichao Zhang, Guoqiang Yu, Wei Zhang, M. Benjamin Jungfleisch, John E. Pearson, Kang L. Wang, Olle Heinonen, Yan Zhou, Suzanne G. E. te Velthuis*, and Axel Hoffmann*
Nature Physics, **13**, 162-169 (2017).
24. Room-Temperature Skyrmion Shift Device for Memory Application
Guoqiang Yu, Pramey Upadhyaya, Qiming Shao, Hao Wu, Gen Yin, Xiang Li, Congli He, **Wanjun Jiang**, Xiufeng Han, Pedram Khalili Amiri, and Kang L. Wang
Nano Lett., **17**(1) pp261-268 (2017).
25. Insulating Nanomagnets Driven by Spin Torque
Matthias B. Jungfleisch, Junjia Ding, Wei Zhang, **Wanjun Jiang**, John E. Pearson, Valentine Novosad, and Axel Hoffmann
Nano Lett., **17**(1) pp8-14 (2017).
26. Perspective: Interface generation of spin-orbit torques
Joseph Sklenar, Wei Zhang, Matthias B. Jungfleisch, **Wanjun Jiang**, Hilal Saglam, John E. Pearson, John B. Ketterson, and Axel Hoffmann
J. Appl. Phys. **120**(18), 047001 (2016).
27. Effect of heavy metal layer thickness on spin-orbit torque and current-induced switching in Hf|CoFeB|MgO structures
Mustafa Akyol, **Wanjun Jiang**, Guoqiang Yu, Yabin Fan, Mustafa Gunes, Ahmet Ekicibil, Pedram Khalili Amiri, Kang L Wang
Applied Physics Letters **109** (2), 022403 (2016).
28. Dynamic response of an artificial square spin ice
MB Jungfleisch, W Zhang, E Iacocca, J Sklenar, J Ding, **W Jiang**, S Zhang, JE Pearson, V Novosad, JB Ketterson, O Heinonen, A Hoffmann
Physical Review B **93** (10), 100401(2016).
29. Spin Hall effects in metallic antiferromagnets—perspectives for future spin-orbitronics
Joseph Sklenar, Wei Zhang, Matthias B Jungfleisch, **Wanjun Jiang**, Hilal Saglam, John E Pearson, John B Ketterson, Axel Hoffmann
AIP Advances, **5**, 055603, (2016).
30. *Research Update: Spin transfer torques in permalloy on monolayer MoS₂*
Wei Zhang, Joseph Sklenar, Bo Hsu, **Wanjun Jiang**, Matthias B Jungfleisch, Jiao Xiao, Frank Y Fradin, Yaohua Liu, John E Pearson, John B Ketterson, Zheng Yang, Axel Hoffmann
APL Mater. **4**, 032302 (2016).
31. *Versatile Fabrication of Self-Aligned Nanoscale Hall Devices using Nanowire Masks*
Jianshi Tang, Guoqiang Yu, Chiu-Yen Wang, Li-Te Chang, **Wanjun Jiang**, Congli He, Kang L Wang
Nano letters, **16**, 3109-3115 (2016).
32. Interface-driven spin-torque ferromagnetic resonance by Rashba coupling at the interface between non-magnetic materials
M. Jungfleisch, W. Zhang, J Sklenar, **W Jiang**, J. Pearson, J. Ketterson, A. Hoffmann
Physical Review B, **93**, 224419, (2016).

33. Generation of chiral magnetic bubbles by inhomogeneous spin-Hall currents
O. Heinonen, **Wanjun Jiang**, H. Somaily, Suzanne G. E. te Velthuis, Axel Hoffmann
[Physical Review B, 93, 094407 \(2016\)](#).
34. All-electrical detection of spin dynamics in magnetic antidot lattices by the inverse spin Hall effect
Matthias Jungfleisch, Wei Zhang, Junjia Ding, **Wanjun Jiang**, Joseph Sklenar, John E. Pearson, John Ketterson, Axel Hoffmann
[Applied Physics Letters, 108, 052403 \(2016\)](#).
35. *Mobile Néel skyrmions at room temperature: status and future*
Wanjun Jiang*, Wei Zhang, Guoqiang Yu, M. Benjamin Jungfleisch, Pramey Upadhyaya, Hamoud Somaily, John E. Pearson, Yaroslav Tserkovnyak, Kang L. Wang, Olle Heinonen, Suzanne G. E. te Velthuis*, and Axel Hoffman*
[AIP Advances, 6, 055602 \(2016\)](#).
36. *Spin Hall effects in metallic antiferromagnets—perspectives for future spin-orbitronics*
Joseph Sklenar, Wei Zhang, Matthias B Jungfleisch, **Wanjun Jiang**, Hilal Saglam, John E Pearson, John B Ketterson, Axel Hoffmann
[AIP Advances, 6, 055603 \(2016\)](#).
37. Large spin-wave bullet in a ferrimagnetic insulator driven by the spin Hall effect
M. B. Jungfleisch, W. Zhang, J. Sklenar, J. Ding, **W. Jiang**, H. Chang, F. Y. Fradin, J. E. Pearson, J. B. Ketterson, V. Novosad, M. Wu, and A. Hoffmann
[Physical Review Letters, 116, 057601 \(2016\)](#).
38. Blowing Magnetic Skyrmion Bubbles
Wanjun Jiang, Pramey Upadhyaya, Wei Zhang, Guoqiang Yu, Benjamin Jungfleisch, Frank Fradin, John Pearson, Yaroslav Tserkovnyak, Olle Heinonen, Kang L. Wang, Suzanne G. E. te Velthuis, and Axel Hoffmann*
[Science, 349, 6245 \(2015\)](#).
39. Driving and detecting ferromagnetic resonance in insulators with the spin Hall effect
Joseph Sklenar, Wei Zhang, Matthias B. Jungfleisch, **Wanjun Jiang**, Houchen Chang, John E. Pearson, Mingzhong Wu, John B. Ketterson, and Axel Hoffmann
[Physical Review B, 92, 174406 \(2015\)](#).
40. New pathways towards efficient metallic spin Hall spintronics
Matthias Benjamin Jungfleisch, Wei Zhang, **Wanjun Jiang***, Axel Hoffmann
[SPIN 5 \(03\), 1530005 \(2015\)](#).
41. All-electrical manipulation of magnetization dynamics in a ferromagnet by antiferromagnets with anisotropic spin Hall effects
Wei Zhang, Matthias B Jungfleisch, Frank Freimuth, **Wanjun Jiang**, Joseph Sklenar, John E Pearson, John B Ketterson, Yuriy Mokrousov, Axel Hoffmann
[Physical Review B, 92, 144405 \(2015\)](#).
42. Reduced spin Hall effects from magnetic proximity
Wei Zhang, Matthias Jungfleisch, **Wanjun Jiang**, Yaohua Liu, John Pearson, Suzanne G. E. te Velthuis, and Axel Hoffmann
[Physical Review B, 89, 104421 \(2015\)](#).
43. Spin pumping and inverse spin Hall effects - insights for future spin-orbitronics
Wei Zhang, Matthias Jungfleisch, **Wanjun Jiang**, Joseph Sklenar, Frank Fradin, John Pearson, John Ketterson, and Axel Hoffmann
[Journal of Applied Physics, 117, 172210 \(2014\)](#).

44. *Spin pumping and inverse Rashba-Edelstein effect in NiFe/Ag/Bi and NiFe/Ag/Sb*
Wei Zhang, Matthias Jungfleisch, **Wanjun Jiang**, John Pearson, Axel Hoffmann
Journal of Applied Physics, **117**, 17C727 (2014).
45. *Spin waves in micro-structured yttrium iron garnet nanometer-thick films*
Matthias Jungfleisch, Wei Zhang, **Wanjun Jiang**, Houchen Chang, Joseph Sklenar, Stephen Wu, John Pearson, Anand Bhattacharya, John Ketterson, Mingzhong Wu, and Axel Hoffmann
Journal of Applied Physics, **117**, 17D128 (2014).
46. Spin Hall effects in metallic antiferromagnets
Wei Zhang, Matthias Jungfleisch, **Wanjun Jiang**, Frank Fradin, John Pearson, Axel Hoffmann, Frank Freimuth and Yury Mokrousov
Physical Review Letters, **113**, 196602, (2014).
47. Electrical Detection of Spin-Polarized Surface States Conduction in $(\text{Bi}_{0.53}\text{Sb}_{0.47})_2\text{Te}_3$ Topological Insulator
Jianshi Tang, Li-Te Chang, Xufeng Kou, Koichi Murata, Eun Sang Choi, Murong Lang, Yabin Fan, Ying Jiang, Mohammad Montazeri, Wanjun Jiang, Yong Wang, Liang He, Kang L Wang
Nano Letters, **14** (9), pp 5423–5429 (2014).
48. *Proximity Induced High Temperature Magnetic Order in Topological Insulator - Ferrimagnetic Insulator Heterostructure*
Murong Lang, Mohammad Montazeri, Mehmet Onbasli, Xufeng Kou, Yabin Fan, Pramey Upadhyaya, Kaiyuan Yao, Frank Liu, Ying Jiang, **Wanjun Jiang**, Kin L. Wong, Guoqiang Yu, Jianshi Tang, Tianxiao Nie, Liang He, Robert N. Schwartz, Yong Wang, Caroline A Ross, and Kang L. Wang
Nano Letters, **14** (6), pp 3459–3465 (2014).
49. Switching of perpendicular magnetization by spin-orbit torques in the absence of external magnetic fields
Guoqiang Yu, Pramey Upadhyaya, Yabin Fan, Juan G. Alzate, **Wanjun Jiang**, Kin L. Wong, So Takei, Scott A. Bender, Li-Te Chang, Ying Jiang, Murong Lang, Jianshi Tang, Yong Wang, Yaroslav Tserkovnyak, Pedram Khalili Amiri & Kang L. Wang
Nature Nanotechnology, **9**, 548–554 (2014).
50. Magnetization switching through spin-Hall-effect-induced chiral domain wall propagation
Guoqiang Yu, Pramey Upadhyaya, Kin L Wong, **Wanjun Jiang**, Juan G Alzate, Jianshi Tang, Pedram Khalili Amiri, Kang L Wang
Physical Review B, **89**, 104421 (2014).
51. Magnetization switching through giant spin–orbit torque in a magnetically doped topological insulator heterostructure
Yabin Fan, Pramey Upadhyaya, Xufeng Kou, Murong Lang, So Takei, Zhenxing Wang, Jianshi Tang, Liang He, Li-Te Chang, Mohammad Montazeri, Guoqiang Yu, **Wanjun Jiang**, Tianxiao Nie, Robert N Schwartz, Yaroslav Tserkovnyak, Kang L Wang
Nature Materials **13**, 699–704, (2014).
52. *Electric-Field Control of Ferromagnetism in Mn-Doped ZnO Nanowires*
Li-Te Chang, Chiu-Yen Wang, Jianshi Tang, Tianxiao Nie, Wanjun Jiang, Chia-Pu Chu, Shamsul Arifin, Liang He, Manekkathodi Afsal, Lih-Juann Chen, Kang L Wang
Nano Letters, **14** (4), pp 1823–1829 (2014).

53. *Evidence of the two surface states of $(Bi_{0.53}Sb_{0.47})_2Te_3$ films grown by van der Waals epitaxy*
Liang He, Xufeng Kou, Murong Lang, Eun Sang Choi, Ying Jiang, Tianxiao Nie, **Wanjun Jiang**, Yabin Fan, Yong Wang, Faxian Xiu, Kang L Wang
[Scientific Reports 3, 3406, \(2013\)](#).
54. *Interplay between Different Magnetisms in Cr-Doped Topological Insulators*
Xufeng Kou, Murong Lang, Yabin Fan, Ying Jiang, Tianxiao Nie, Jianmin Zhang, Wanjun Jiang, Yong Wang, Yugui Yao, Liang He, Kang L Wang
[ACS Nano., 7 \(10\), pp 9205–9212 \(2013\)](#).
55. *Manipulating Surface-Related Ferromagnetism in Modulation-Doped Topological Insulators*
Xufeng Kou, Liang He, Murong Lang, Yabin Fan, Kin Wong, Ying Jiang, Tianxiao Nie, Wanjun Jiang, Pramey Upadhyaya, Zhikun Xing, Yong Wang, Faxian Xiu, Robert N Schwartz, Kang L Wang
[Nano Letters, 13 \(10\): 4587-4593. \(2013\)](#).
56. *Electrical Spin Injection and Detection in $Mn_5Ge_3/Ge/Mn_5Ge_3$ Nanowire Transistors*
Jianshi Tang, Chiu-Yen Wang, Li-Te Chang, Yabin Fan, Tianxiao Nie, Michael Chan, Wanjun Jiang, Yu-Ting Chen, Hong-Jie Yang, Hsing-Yu Tuan, Lih-Juann Chen, Kang L Wang
[Nano Letters, 13 \(9\), pp 4036–4043 \(2013\)](#).
57. Direct Imaging the Thermally Driven Domain Wall Motion in Magnetic Insulators
Wanjun Jiang, Pramey Upadhyaya, Yabin Fan, Minsheng Wang, Mark Lewis, Murong Lang, Kin L. Wong, Yen-Ting Lin, Liang He, Li-Te Chang, Jianshi Tang, Sergiy Cherepov, Xuezhi Zhou, Robert N. Schwartz and Kang L. Wang
[Physical Review Letters, 110, 177202, \(2013\)](#).
58. Mapping the Domain Wall Pinning Profile by Stochastic Imaging Reconstruction
Wanjun Jiang*, Yabin Fan, Pramey Upadhyaya, Murong Lang, Minsheng Wang, Jianshi Tang, Brian Shieh, Kin L. Wong, Mark Lewis, Liang He, Xinxin Yu, Xufeng Kou, Li-Te Chang, Caifu Zeng, Jing Zhao, Robert N. Schwartz and Kang L. Wang
[Physical Review B, 87, 024427 \(2013\)](#).
59. *Separation of top and bottom surface conduction in Bi_2Te_3 thin films*
Xinxin Yu, Liang He, Murong Lang, **Wanjun Jiang**, Faxian Xiu, Zhiming Liao, Yong Wang, Xufeng Kou, Zhang Peng, Jianshi Tang, Guan Huang, Jin Zou and Kang L Wang
[Nanotechnology, 24, 015705 \(2013\)](#).
60. *Competing Weak Localization and Weak Antilocalization in Ultrathin Topological Insulators*
Murong Lang, Liang He, Xufeng Kou, Pramey Upadhyaya, Yabin Fan, Hao Chu, Ying Jiang, Jens H. Bardarson, **Wanjun Jiang**, Eun Sang Choi, Yong Wang, Nai-Chang Yeh, Joel Moore, and Kang L. Wang
[Nano Letter, 13 \(1\) pp 48-53 \(2013\)](#).
61. Electrical Probing of Magnetic Phase Transition and Domain Wall Motion in Single-Crystalline Mn_5Ge_3 Nanowire
Jianshi Tang, Chiu-Yen Wang, **Wanjun Jiang**, Li-Te Chang, Yabin Fan, Michael Chan, Can Wu, Min-Hsiu Hung, Pei-Hsuan Liu, Hong-Jie Yang, Hsing-Yu Tuan, Lih-Juann Chen, and Kang L. Wang
[Nano Letter, 12 \(12\) pp 6372-6379 \(2012\)](#).

62. *Fluctuations in nanoscale magnetoelectronics devices*
Yabin Fan, Igor V. Ovchinnikov, **Wanjun Jiang**, Robert N. Schwartz,
and Kang L. Wang
[Journal of Applied Physics, 112, 094302 \(2012\)](#).
63. *Magnetically Doped Semiconducting Topological Insulators*
Xufeng Kou, **Wanjun Jiang**, Murong Lang, Faxian Xiu, Liang He, Yong Wang, Yong
Wang, Xinxin Yu, Alexei Fedorov, Peng Zhang, and Kang L. Wang
[Journal of Applied Physics, 112, 063912 \(2012\)](#).
64. *Surface dominated conduction in a 6 nm-thick Bi₂Se₃ thin film*
Liang He, Faxian Xiu, Xinxin Yu, Marcus Teague, **Wanjun Jiang**, Yabin Fan, Murong
Lang, Yong Wang, Guan Huang, Nai-Chang Yeh and Kang L. Wang
[Nano Letter, 12 \(3\), pp 1486–1490 \(2012\)](#).
65. *Revelation of Topological surface states in Bi₂Se₃ thin films by in situ Al Passivation*
Murong Lang, Liang He, Faxian Xiu, Xinxin Yu, Jianshi Tang, Yong Wang, Xufeng
Kou, **Wanjun Jiang**, Kang L. Wang
[ACS Nano, 6\(1\), 295-302 \(2012\)](#).
66. *Scaling the Anomalous Hall Effect: A connection between transport and magnetism*
Wanjun Jiang*, Xuezhi Zhou, Gwyn Williams
[Physical Review B, 82, 144424 \(2010\)](#).
67. *Correlation between the Nucleation of a Griffiths-like Phase and Colossal
Magnetoresistance Across the Compositional Metal-Insulator Boundary in
La_{1-x}Ca_xMnO₃*
Wanjun Jiang*, Xuezhi Zhou, Gwyn Williams, Y. Mukovskii, and R. Privezentsev
[Journal of Physics: Conference Series, 200, 012072 \(2010\)](#).
68. *Coexistence of Colossal Magnetoresistance, a Griffiths-Like Phase, and a
Ferromagnetic Insulating Ground State in Single Crystal La_{0.73}Ba_{0.27}MnO₃*
Wanjun Jiang*, Xuezhi Zhou, Gwyn Williams, Y. Mukovskii, and R. Privezentsev.
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69. *Critical behavior from the Anomalous Hall Effect in (GaMn)As*
Wanjun Jiang*, André Wirthmann, Y. S. Gui, X. Z. Zhou, M. Reinwald, W.
Wegscheider, C.-M. Hu, and Gwyn Williams
[Physical Review B, 80, 214409 \(2009\)](#).
70. *Mechanisms Underlying Ferromagnetism Across the Compositional Metal-Insulator
Transition in La_{1-x}Ca_xMnO₃*
Wanjun Jiang*, Xuezhi Zhou, Gwyn Williams, Y. Mukovskii, and R. Privezentsev
[Physical Review B, 79, 214433 \(2009\)](#).
71. *Evolution of Griffiths-phase-like features and colossal magnetoresistance in La_{1-x}Ca_xMnO₃ (0.18≤x≤0.27) across the compositional metal-insulator boundary*
Wanjun Jiang*, Xuezhi Zhou, Gwyn Williams, Y. Mukovskii, and R. Privezentsev.
[Journal of Physics: Condensed Matter, 21, 415603 \(2009\)](#).
72. *Field-dependent ac susceptibility of Ce₂Fe₁₇*
Xuezhi Zhou, **Wanjun Jiang**, and Gwyn Williams.
[Journal of Physics: Condensed Matter, 21, 026018 \(2009\)](#).
73. *Griffiths Phase and Critical Behaviour in Single Crystal La_{0.7}Ba_{0.3}MnO₃:
Phase Diagram for La_{1-x}Ba_xMnO₃, x≤0.33*
Wanjun Jiang, Xuezhi Zhou, Gwyn Williams, Y. M. Mukovskii, and K. Glazyrin
[Physical Review B, 77, 064424 \(2008\)](#).

74. *Critical Behavior and Transport Properties of Single Crystal $Pr_{1-x}Ca_xMnO_3$ ($x=0.27; 0.29$)*
Wanjun Jiang*, Xuezhi Zhou, Gwyn Williams, Y. M. Mukovskii, and K. Glazyrin
[Physical Review B, 78, 144409 \(2008\)](#).
75. *Correlation Between Phase Competition and the Nucleation of a Griffiths-like Phase in $(La_{1-y}Pr_y)_{0.7}Ca_{0.3}Mn^{16/18}O_3$*
Wanjun Jiang*, Xuezhi Zhou, Gwyn Williams
[Europhysics Letters, 84, 47009 \(2008\)](#).
76. *Entropy changes accompanying the magnetic phase transitions in low Si-doped $Ce_2Fe_{17-x}Si_x$ Alloy*
Xuezhi Zhou, **Wanjun Jiang**, Henry Kunkel, and Gwyn Williams
[Journal of Magnetism and Magnetic Materials, 320, 930 \(2008\)](#).
77. *Anomalous Field Dependence of the Inverse Magnetocaloric Effect in $Ce(Fe_{0.93}Ru_{0.07})_2$*
Wanjun Jiang, Xuezhi Zhou, Henry Kunkel, and Gwyn Williams
[Journal of Magnetism and Magnetic Materials, 320, 2144 \(2008\)](#).
78. *Extreme Sensitivity of the Griffiths Phase to Field in Single Crystal $La_{0.73}Ba_{0.27}MnO_3$*
Wanjun Jiang, Xuezhi Zhou, Gwyn Williams, Y. M. Mukovskii, and K. Glazyrin
[Physical Review B, 76, 092404 \(2007\)](#).
79. Is a Griffiths Phase a Prerequisite for Colossal Magnetoresistance?
Wanjun Jiang*, Xuezhi Zhou, Gwyn Williams, Y. M. Mukovskii, and K. Glazyrin
[Physical Review Letters, 99, 177203 \(2007\)](#).

Invited presentations:

1. Recent progress of skyrmions in magnetic multilayers, ALBA synchrotron, Spain, 2018, Nov
2. Skyrmions in magnetic multilayers, APW, Beijing, 2018, Nov
3. Recent progress of skyrmions in magnetic multilayers, Solid state devices and materials, Tokyo, 2018, Sep
4. Recent progress of skyrmions in magnetic multilayers, KITPC, Beijing, 2018, Sep
5. Recent progress of skyrmions in magnetic multilayers, Tsinghua-U Tohoku joint symposium, Tohoku, Japan, 2018, July
6. Recent progress of skyrmions in magnetic multilayers, Tsinghua-U Tokyo joint symposium, Tokyo, Japan, 2018, July
7. Recent progress of skyrmions in magnetic multilayers, EPFL, Lausanne, Switzerland, 2018, July
8. Skyrmions in magnetic multilayers, International Conference on magnetism (ICM), San Francisco, USA, 2018, July
9. Skyrmions in magnetic multilayers, Intermag, Singapore, 2018, May
10. 斯格明子的拓扑自旋电子学, 中国物理学会年会, 2017
11. Skyrmions at room temperature, IMR, Tohoku Universti, Japan, 2017
12. Topological spintronics, Spin Summit, Jinggangshan, 2017
13. 室温下的斯格明子, 全国凝聚态物理会议, 2017
14. 斯格明子的拓扑自旋电子学, 北京师范大学, 2017
15. 斯格明子的拓扑自旋电子学, 自旋电子学青年论坛, 半导体研究所, 2017

16. Topological spintronics,
Conference on topological magnetism, Hefei High Magnetic Field Lab of CAS, Anhui, (Dec, 2016)
17. Topological spintronics,
Joint workshop between Tsinghua and Riken, Beijing (Dec, 2016)
18. Room-temperature magnetic skyrmion, Institute of semiconductor, CAS, Beijing (Dec, 2016)
19. Room-temperature magnetic skyrmion, 9th Conference on magnetic thin films and nanomagnetism, Boao, Hainan (Nov, 2016)
20. Room-temperature magnetic skyrmion, National conference of Low temperature physics, Shaoguan, Guangdong (Nov, 2016)
21. Room-temperature magnetic skyrmion, Young scholar National Forum of condensed matter physics, Nanjing (Nov, 2016)
22. Room-temperature magnetic skyrmion, Institue of Physics,CAS, Beijing (Nov, 2016)
23. Room-temperature magnetic skyrmion
International Conference on Magnetism and Spintronics
Sol-SkyMag International Conference, San Sebastian, Spain (26th, June, 2016)
24. *Magnetic Skyrmions at room temperature: Topological physics, materials, devices*
Physics Department, University of California, Riverside (4th, April, 2016)
25. *Magnetic Skyrmions at room temperature: Topological physics, materials, devices*
Advanced light source (ALS), Lawrence Berkeley National Lab (30th, March, 2016)
26. *Electrical Creation and Manipulation of Magnetic Skyrmion bubbles*
Physics Department, Northern Illinois University (Jan, 2016)
27. *Electrical Creation and Manipulation of Magnetic Skyrmion bubbles*
13rd Joint MMM-Intermag Conference (Jan, 2016), San Diego, CA
28. *Electrical Creation and Manipulation of Magnetic Skyrmion bubbles*
Materials Science Division, Argonne National Laboratory (Oct, 2015)
29. *Electrical Creation and Manipulation of Magnetic Skyrmion bubbles*
Physics Department, University of Notre Dame (Oct, 2015)
30. *Electrical Creation and Manipulation of Magnetic Skyrmion bubbles*
APS March Meeting (March, 2015), San Antonio, TX

Awards:

1. **1000 talent program (Youth).**
2. **UCLA Chancellor Award for Postdoctoral Research (2012).**
3. **Governor General's Academic Gold Medal, Canadian Government (2010).**
This gold medal is awarded for the academic excellence to the student who achieves the highest academic standing at the Ph.D. level in Canada.
4. Chinese Government Award for Outstanding Self-Financed Students Abroad
5. University of Manitoba Graduate Fellowship (UMGF), 2008-2010
6. Ernst and Ingrid Bock Graduate Award, University of Manitoba, 2008-2009
7. Faculty of Science Graduate Scholarship, University of Manitoba, 2008