

# Dawei Lu

## Curriculum Vitae

June 2020

Department of Physics, Southern University of  
Science and Technology (SUSTech)  
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### Education

- 2012 Ph.D. Hefei National Laboratory for Physical Sciences at Microscale  
University of Science and Technology of China  
Supervisor: Prof. Jiangfeng Du  
Thesis: *Quantum Simulation towards Quantum Chemistry with NMR Simulators*
- 2007 B.Sc. Special Class for Gifted Young  
University of Science and Technology of China  
Supervisor: Prof. Jiangfeng Du  
Thesis: *Application of Strongly Modulating Pulses in Liquid NMR*

### Experience

- 2019.03-present Associate Professor Department of Physics  
Southern University of Science and Technology
- 2017.08-2019.03 Assistant Professor Department of Physics  
Southern University of Science and Technology
- 2016.09-2017.08 Postdoctoral fellow Institute for Quantum Computing and Department of Physics  
University of Waterloo  
Raymond Laflamme and Bei Zeng Group
- 2012.09-2016.09 Postdoctoral fellow Institute for Quantum Computing and Department of Physics  
University of Waterloo  
Raymond Laflamme Group
- 2007.09-2012.07 PhD candidate Hefei National Laboratory for Physical Sciences at Microscale  
University of Science and Technology of China  
Jiangfeng Du Group

### Research Interest

- Quantum information processing in nuclear and electron spin magnetic resonance systems.
- Development of spin control techniques to achieve high-fidelity coherent control.
- Benchmarks in large-scale systems.
- Quantum simulation towards large-scale quantum systems.
- Experimental realization of adiabatic quantum computing model.
- Quantum state tomography and process tomography.

### Honors and Awards

- 2020 Pearl River Recruitment Program of Talents (Youth)
- 2020 Peng Cheng Professor
- 2018 National 1000-Talent Youth Plan
- 2017 Overseas High-Caliber Personnel in Shenzhen (Peacock Plan)
- 2012 CAS Presidential Scholarship

## Grants

2017-2020	RMB 1M	PI, SUSTech Supporting Funds
2018-2023	RMB 5M	PI, Start-Up, Shenzhen Science and Technology Innovation Commission
2019-2024	RMB 2M	PI, National 1000-Talent Youth Plan
2019-2024	RMB 3M	PI, SUSTech Supporting Funds for National 1000-Talent Youth Plan
2019-2022	RMB 0.6M	PI, China National Natural Science Foundation
2019-2020	RMB 0.5M	PI, Shenzhen Science and Technology Innovation Commission
2019-2022	RMB 1.2M/10.54M	Co-PI, China National Natural Science Foundation
2019-2024	RMB 1.4M/4.16M	Co-PI, Ministry of Science and Technology of China
2020-2022	RMB 0.5M	PI, Department of Science and Technology of Guangdong Province

## Professional Membership

2014-present Review Editor: Frontiers in Quantum Computing

## Peer-review Services

**Grants:** China National Natural Science Foundation; Swiss National Science Foundation

**Journals:** Phys. Rev. Lett., Rep. Prog. Phys, Phys. Rev. X/A/B/Applied, National Science Review, New J. Phys., Quantum Sci. Technol., Sci. Bull., J. Phys. A: Math. Theor., Sci. China Phys. Mech. Astron., Front. ICT, Sci. Rep. *etc*

## Preprints

(\*: equal contributions; †: corresponding author)

1. Y. C. Li\*, T. Xin\*, C. D. Qiu, K. R. Li, G. Q. Liu, J. Li, Y. D. Wan<sup>†</sup>, and **D. W. Lu<sup>†</sup>**, *Dynamical-Invariant-based Holonomic Quantum Gates: Theory and Experiment*, [arXiv:2003.09848](https://arxiv.org/abs/2003.09848) (2020).
2. T. Xin\*, Y. S. Li\*, Y. A. Fan, X. R. Zhu, Y. J. Zhang, X. F. Nie, J. Li<sup>†</sup>, Q. H. Liu<sup>†</sup>, and **D. W. Lu<sup>†</sup>**, *Experimental Detection of the Quantum Phases of a Three-Dimensional Topological Insulator on a Spin Quantum Simulator*, [arXiv:2001.05122](https://arxiv.org/abs/2001.05122) (2020).
3. Y. M. Song\*, Y. Tian\*, Z. Y. Hu, F. F. Zhou, T. T. Xing, **D. W. Lu**, B. Chen<sup>†</sup>, Y. Wang, N. Y. Xu<sup>†</sup>, and J. F. Du<sup>†</sup>, *Pulse-width-induced polarization enhancement of optically-pumped N-V electron spin in diamond*, [arXiv:1912.06284](https://arxiv.org/abs/1912.06284) (2019).
4. X. F. Nie, Z. Zhang, X. Z. Zhao, X. Tao<sup>†</sup>, **D. W. Lu<sup>†</sup>**, and J. Li<sup>†</sup>, *Detecting scrambling via statistical correlations between randomized measurements on an NMR quantum simulator*, [arXiv:1903.12237](https://arxiv.org/abs/1903.12237) (2019).

## Refereed Papers

(\*: equal contributions; †: corresponding author)

1. X. F. Nie\*, B. B. Wei\*, X. Chen, Z. Zhang, X. Z. Zhao, C. D. Qiu, Y. Tian, Y. L. Ji, X. Tao<sup>†</sup>, **D. W. Lu<sup>†</sup>**, and J. Li<sup>†</sup>, *Experimental Observation of Equilibrium and Dynamical Quantum Phase Transitions via Out-of-Time-Ordered Correlators*, **Phys. Rev. Lett.** **124**, 250601 (2020). [arXiv](https://arxiv.org/abs/1903.12237)
2. T. Xin, X. F. Nie, X. Y. Kong, **D. W. Lu<sup>†</sup>**, and J. Li<sup>†</sup>, *Quantum state tomography via a variational hybrid quantum-classical method*, **Phys. Rev. Applied** **13**, 024013 (2020). [arXiv](https://arxiv.org/abs/1903.12237)
3. T. Xin, S. J. Wei, J. L. Cui, J. X. Xiao, I. Arrazola, L. Lamata, X. Y. Kong, **D. W. Lu<sup>†</sup>**, E. Solano, and G. L. Long<sup>†</sup>, *Quantum algorithm for solving linear differential equations: Theory and experiment*, **Phys. Rev. A** **101**, 032307 (2020). [arXiv](https://arxiv.org/abs/1903.12237)
4. T. Xin, S. R. Lu, N. P. Cao, G. Anikeeva, **D. W. Lu**, J. Li<sup>†</sup>, G. L. Long, and B. Zeng<sup>†</sup>, *Local-measurement-based quantum state tomography via neural networks*, **npj Quantum Information** **5**, 109 (2019). [arXiv](https://arxiv.org/abs/1903.12237)

5. Y. Wang, W. T. Ji, Z. H. Chai, Y. H. Guo, M. Q. Wang, X. Y. Ye, P. Yu, L. Zhang, X. Qin, P. F. Wang, F. Z. Shi, X. Rong, **D. W. Lu**<sup>†</sup>, X. J. Liu<sup>†</sup>, and J. F. Du<sup>†</sup>, *Experimental observation of dynamical bulk-surface correspondence for topological phases*, **Phys. Rev. A** **100**, 052328 (2019). [arXiv](#)
6. K. R. Li, Y. N. Li, M. X. Han, S. R. Lu, J. Zhou, D. Ruan, G. L. Long, Y. D. Wan<sup>†</sup>, **D. W. Lu**<sup>†</sup>, B. Zeng<sup>†</sup>, and R. Laflamme, *Quantum Spacetime on a Quantum Simulator*, **Communications Physics** **2**, 122 (2019). [arXiv](#)
7. J. Li<sup>†</sup>, Z. H. Luo, T. Xin, H. Y. Wang, D. Kribs, **D. W. Lu**<sup>†</sup>, B. Zeng<sup>†</sup>, and R. Laflamme, *Experimental Implementation of Efficient Quantum Pseudorandomness on a 12-spin System*, **Phys. Rev. Lett.** **123**, 030502 (2019). [arXiv](#)
8. W. Q. Zheng, H. Y. Wang, T. Xin, X. F. Nie<sup>†</sup>, **D. W. Lu**<sup>†</sup>, and J. Li<sup>†</sup>, *Optimal Bounds on State Transfer Under Quantum Channels with Application to Spin System Engineering*, **Phys. Rev. A** **100**, 022313 (2019). [arXiv](#)
9. Z. H. Luo, Y. Z. You, J. Li, C. M. Jian, **D. W. Lu**<sup>†</sup>, C. K. Xu, B. Zeng<sup>†</sup>, and R. Laflamme, *Observing Fermion Pair Instability of the Sachdev-Ye-Kitaev Model on a Quantum Spin Simulator*, **npj Quantum Information** **5**, 7 (2019). [arXiv](#).
10. K. R. Li<sup>\*</sup>, M. X. Han<sup>\*</sup>, D. X. Qu, Z. C. Huang, G. L. Long, Y. D. Wan<sup>†</sup>, **D. W. Lu**<sup>†</sup>, B. Zeng, and R. Laflamme, *Measuring Holographic Entanglement Entropy on a Quantum Simulator*, **npj Quantum Information** **5**, 30 (2019). [arXiv](#).
11. G. R. Feng, F. Cho, H. Katiyar, J. Li, **D. W. Lu**, J. Baugh<sup>†</sup>, and R. Laflamme<sup>†</sup>, *Closed-Loop Quantum Optimal Control in a Solid-State Two-Qubit System*, **Phys. Rev. A** **98**, 052341 (2018). [arXiv](#).
12. S. R. Lu<sup>\*</sup>, S. L. Huang<sup>\*</sup>, K. R. Li, J. Li<sup>†</sup>, J. X. Chen, **D. W. Lu**<sup>†</sup>, Z. F. Ji, Y. Shen, D. L. Zhou, and B. Zeng, *A Separability-Entanglement Classifier via Machine Learning*, **Phys. Rev. A** **98**, 012315 (2018). [arXiv](#).
13. **D. W. Lu**<sup>†</sup>, *Speeding up the "quantum" mountain climb*, **Front. Phys.** **13**, 130313 (2018).
14. T. Xin, S. L. Huang, S. R. Lu, K. R. Li, Z. H. Luo, Z. Q. Yin, J. Li<sup>†</sup>, **D. W. Lu**<sup>†</sup>, G. L. Long<sup>†</sup>, B. Zeng, *NMRCloudQ: A Quantum Cloud Experience on a Nuclear Magnetic Resonance Quantum Computer*, **Sci. Bull.** **63**, 17 (2018). [arXiv](#).
15. **D. W. Lu**<sup>\*†</sup>, K. R. Li<sup>\*</sup>, J. Li<sup>\*</sup>, H. Katiyar, A. J. Park, G. R. Feng, T. Xin, H. Li, G. L. Long, A. Brodutch, J. Baugh, B. Zeng<sup>†</sup>, and R. Laflamme, *Enhancing quantum control by bootstrapping a quantum processor of 12 qubits*, **npj Quantum Information** **3**, 45 (2017). [arXiv](#).
16. J. Li<sup>†</sup>, S. L. Huang<sup>†</sup>, Z. H. Luo, K. R. Li, **D. W. Lu**, and B. Zeng<sup>†</sup>, *Optimal design of measurement settings for quantum-state-tomography experiments*, **Phys. Rev. A** **96**, 032307 (2017). [arXiv](#).
17. K. R. Li, Y. D. Wan, L. Y. Hung, T. Lan, G. L. Long, **D. W. Lu**<sup>†</sup>, B. Zeng, and R. Laflamme, *Experimental Identification of Non-Abelian Topological Orders on a Quantum Simulator*, **Phys. Rev. Lett.** **118**, 080502 (2017). [arXiv](#)
18. K. R. Li, G. F. Long, H. Katiyar, T. Xin, G. R. Feng, **D. W. Lu**<sup>†</sup>, and R. Laflamme, *Experimentally superposing two pure states with partial prior knowledge*, **Phys. Rev. A** **95**, 022334 (2017). [arXiv](#)
19. H. Katiyar<sup>†</sup>, A. Brodutch<sup>†</sup>, **D. W. Lu**<sup>†</sup>, and R. Laflamme<sup>†</sup>, *Experimental violation of the Leggett-Carg inequality in a three-level system*, **New J. Phys.** **19**, 023033 (2017). [arXiv](#)
20. T. Xin<sup>\*</sup>, **D. W. Lu**<sup>\*</sup>, J. Klassen<sup>\*</sup>, N. K. Yu<sup>†</sup>, Z. F. Ji, J. X. Chen, X. Ma, G. L. Long, B. Zeng<sup>†</sup>, and R. Laflamme, *Quantum state tomography via reduced density matrices*, **Phys. Rev. Lett.** **118**, 020401 (2017). [arXiv](#)
21. G. R. Feng, B. Buonacorsi, J. J. Wallman, F. H. Cho, D. Park, T. Xin, **D. W. Lu**, J. Baugh, and R. Laflamme, *Estimating the coherence of noise in quantum control of a solid-state qubit*, **Phys. Rev. Lett.** **117**, 260501 (2016). [arXiv](#)
22. X. Rong, **D. W. Lu**, X. Kong, J. P. Geng, Y. Wang, F. Z. Shi, C. K. Duan, and J. F. Du<sup>†</sup>, *Harnessing the power of quantum systems based on spin magnetic resonance: from ensembles to single particles*, invited review article, **Advances in Physics: X** **2**, 125 (2016).
23. H. Y. Wang, W. Q. Zheng, N. K. Yu, K. R. Li, **D. W. Lu**, T. Xin, C. Li, Z. F. Ji, D. Kribs, B. Zeng<sup>†</sup>, X. H. Peng<sup>†</sup>, and J. F. Du, *Quantum state and process tomography via adaptive measurements*, **Sci. China Phys. Mech. Astron.** **59**, 100313 (2016). [arXiv](#)
24. J. Li, **D. W. Lu**, Z. H. Luo, R. Laflamme, X. H. Peng<sup>†</sup>, and J. F. Du<sup>†</sup>, *Approximation of reachable set for coherently controlled open quantum systems: application to quantum state engineering*, **Phys. Rev. A** **94**, 012312 (2016). [arXiv](#)

25. **D. W. Lu\***, T. Xin\*, N. K. Yu\*, Z. F. Ji, J. X. Chen, G. L. Long, J. Baugh, X. H. Peng, B. Zeng<sup>†</sup>, and R. Laflamme, *Tomography is necessary for universal entanglement detection with single-copy observables*, **Phys. Rev. Lett.** **116**, 230501 (2016). [arXiv](#)
26. A. J. Park<sup>†</sup>, E. McKay, **D. W. Lu<sup>†</sup>**, and R. Laflamme, *Simulation of anyonic statistics and its topological path independence using a 7-qubit quantum simulator*, **New J. Phys.** **18**, 043043 (2016). [arXiv](#)
27. **D. W. Lu<sup>†</sup>**, J. Biamonte, J. Li, H. Li, T. Johnson, V. Bergholm, M. Faccin, Z. Zimborás, R. Laflamme, J. Baugh, and S. Lloyd, *Chiral quantum walks*, **Phys. Rev. A** **93**, 042302 (2016). [arXiv](#)
28. X. Ma, T. Jackson, H. Zhou, J. X. Chen, **D. W. Lu**, M. D. Mazurek, K. A. G. Fisher, X. H. Peng, D. Kribs, K. J. Resch, Z. F. Ji, B. Zeng<sup>†</sup>, and R. Laflamme, *Pure-state tomography with the expectation value of Pauli operators*, **Phys. Rev. A** **93**, 032140 (2016). [arXiv](#)
29. **D. W. Lu**, H. Li, D. Trottier, J. Li, A. Brodutch, A. P. Krismanich, A. Ghavami, G. I. Dmitrienko, G. Long, J. Baugh, and R. Laflamme<sup>†</sup>, *Experimental estimation of average fidelity of a Clifford gate on a 7-qubit quantum processor*, **Phys. Rev. Lett.** **114**, 140505 (2015). [arXiv](#)
30. Z. K. Li, H. Zhou, C. Y. Ju, H. W. Chen, W. Q. Zheng, **D. W. Lu**, X. Rong, C. K. Duan, X. H. Peng<sup>†</sup>, and J. F. Du<sup>†</sup>, *Experimental realization of a compressed quantum simulation of a 32-spin Ising chain*, **Phys. Rev. Lett.** **112**, 220501 (2014).
31. **D. W. Lu**, A. Brodutch<sup>†</sup>, J. Li, H. Li, and R. Laflamme<sup>†</sup>, *Experimental realization of post-selected weak measurements on an NMR quantum processor*, **New J. Phys.** **16**, 053015 (2014). [arXiv](#)
32. **D. W. Lu**, B. R. Xu, N. Y. Xu, Z. K. Li, H. W. Chen, X. H. Peng, R. X. Xu, and J. F. Du<sup>†</sup>, *Quantum chemistry simulation on quantum computers: theories and experiments*, **Phys. Chem. Chem. Phys. Perspective** **14**, 9411 (2012).
33. **D. W. Lu**, N. Y. Xu, B. R. Xu, Z. K. Li, H. W. Chen, X. H. Peng, R. X. Xu, and J. F. Du<sup>†</sup>, *Experimental study of quantum simulation for quantum chemistry with a nuclear magnetic resonance simulator*, **Phil. Trans. R. Soc. A** **370**, 4734 (2012).
34. N. Y. Xu, J. Zhu, **D. W. Lu**, X. Y. Zhou, X. H. Peng<sup>†</sup>, and J. F. Du<sup>†</sup>, *Quantum factorization of 143 on a dipolar-coupling NMR system*, **Phys. Rev. Lett.** **108**, 130501 (2012). [arXiv](#)
35. Z. K. Li\*, M. H. Yung\*, H. W. Chen, **D. W. Lu**, J. D. Whitfield, X. H. Peng, A. Aspuru-Guzik, and J. F. Du<sup>†</sup>, *Solving quantum ground-state problems with nuclear magnetic resonance*, **Sci. Rep.** **1**, 88 (2011). [arXiv](#)
36. **D. W. Lu**, N. Y. Xu, R. X. Xu, H. W. Chen, J. B. Gong, X. H. Peng, and J. F. Du<sup>†</sup>, *Simulation of chemical isomerization reaction dynamics on a NMR quantum simulator*, **Phys. Rev. Lett.** **107**, 020501 (2011). [arXiv](#)
37. H. W. Chen, **D. W. Lu**, B. Chong, G. Qin, X. Y. Zhou, X. H. Peng<sup>†</sup>, and J. F. Du<sup>†</sup>, *Experimental demonstration of probabilistic quantum cloning*, **Phys. Rev. Lett.** **106**, 180404 (2011). [arXiv](#)
38. **D. W. Lu**, J. Zhu, P. Zhou, X. H. Peng, Y. H. Yu, S. M. Zhang, Q. Chen, and J. F. Du<sup>†</sup>, *Experimental implementation of a quantum random-walk search algorithm using strongly dipolar coupled spins*, **Phys. Rev. A** **81**, 022308 (2010).
39. J. F. Du<sup>†</sup>, N. Y. Xu, X. H. Peng, P. F. Wang, S. F. Wu, and **D. W. Lu**, *NMR implementation of a molecular hydrogen quantum simulation with adiabatic state preparation*, **Phys. Rev. Lett.** **104**, 030502 (2010). [arXiv](#)
40. C. L. Ren, **D. W. Lu**, X. H. Peng, M. J. Shi, and J. F. Du<sup>†</sup>, *Experimentally simulating the violation of Bell-type inequalities for generalized GHZ states*, **Phys. Lett. A** **373**, 46, 4222-4226 (2009).

## Book Chapters

1. **D. W. Lu**, A. Brodutch, J. Park, H. Katiyar, T. Jochym-O'Connor, and R. Laflamme, *NMR quantum information processing*, *Electron Spin Resonance (ESR) Based Quantum Computing* (Springer Publishing, 2016). [arXiv](#); [order the book](#)
2. J. F. Du, C. Lei, G. Qin, **D. W. Lu**, and X. H. Peng, *Search via quantum walk*, *Search Algorithms and Applications* (InTech Publishing, 2011). [PDF](#); [order the book](#)

## Conference Organization

01/04/2018 - 01/08/2018, SUSTech  
International Workshop on Physics of Information  
*Executive Chair*

01/03/2018 - 01/07/2018, Harbin Institute of Technology  
Quantum Information, Spacetime and Topological Matter: the 3rd International Conference (QuIST III)  
*Organizer*

## Invited Talks (Selected)

Workshop for Quantum Computing and the Physical Realizations, 20/10/2019, Nanjing University  
*Experimental implementation of efficient quantum pseudorandomness on a 12-spin system*

Frontiers in Quantum Computing and Quantum Information, 17/10/2019, Sichuan Normal University  
*Experimental implementation of efficient quantum pseudorandomness on a 12-spin system*

Quantum Information, Spacetime and Topological Matter: the 5th International Conference (QuIST V) ,  
08/03/2019, Yunnan University  
*Experimental implementation of efficient quantum pseudorandomness on a 12-spin system*

The 5th Conference on Condensed Matter Physics (CCMP V), 30/06/2019, Liyang  
*Experimental implementation of efficient quantum pseudorandomness on a 12-spin system*

Progress In Electromagnetics Research Symposium (PIERS 2019), 19/06/2019, Roma  
*Identifying Topological Orders on an NMR Quantum Processor*

International Symposium on Quantum Computing and Quantum Optics II, 26/05/2019, Zhejiang University  
*Celebrating Marlan Scully's 80th birthday: Quantum Simulation of Topological Orders using NMR*

AI Prospects · Youth Academic Forum, 18/05/2019, University of Chinese Academy of Sciences  
*When Quantum Computing Meets Artificial Intelligence*

Forum on Quantum Artificial Intelligence, 23/04/2019, Peng Cheng Laboratory  
*From Schrödinger's Cat to Quantum Computing*

Guangdong Physical Society Conference, 12/08/2018, South China Normal University  
*NMR Quantum Cloud Computing*

China National Computer Congress (CNCC 2018) , 10/25/2018, Hangzhou, China  
*From Schrödinger's Cat to Quantum Computing*

Progress In Electromagnetics Research Symposium (PIERS 2018) , 08/03/2018, Toyama, Japan  
*Control of 12 Qubits in Nuclear Magnetic Resonance (NMR)*

The 4th Conference on Condensed Matter Physics (CCMP IV) , 07/07/2018, Shanghai  
*Control of 12 Qubits in Nuclear Magnetic Resonance (NMR)*

Quantum Information, Spacetime and Topological Matter: the 4th International Conference (QuIST IV) ,  
07/03/2018, Huangshan University  
*Control of 12 Qubits in Nuclear Magnetic Resonance (NMR)*

Yunqi 2050 Conference, Public Lecture , 05/27/2018, Hangzhou  
*From Schrödinger's Cat to Quantum Computing*

Quantum Information, Spacetime and Topological Matter: the 2nd International Conference (QuIST II) ,  
07/04/2017, Jishou University  
*Quantum Computing in Nuclear Magnetic Resonance*

Micius Forum, 05/19/2017, USTC  
*Quantum Computing in Nuclear Magnetic Resonance*

Global Scientists Forum, 03/19/2017, SUSTech  
*Quantum Computing in Nuclear Magnetic Resonance*

Summit forum on quantum science and information science, 06/11/2016, SUSTech  
*Twelve-coherence creation supervised by a quantum computer*

Joint IQC-Technion Workshop, 09/18/2014, University of Waterloo



*Brief Introduction to NMR quantum computing: experiments and techniques*

Quantum Innovators Workshop, 01/28/2014, University of Waterloo  
*Experimental estimation of average fidelity of a Clifford gate on a 7-qubit quantum processor*

The First Annual Conference of Doctoral Students in USTC, 12/24/2011, USTC  
*Simulating quantum chemistry on an NMR quantum computer*

## Contributed Talks

Seminar Talk in Department of Physics, 27/10/2019, Sun Yat-Sen University  
*From Wave-Particle Duality to Quantum Computing*

Seminar Talk in Department of Physics, 20/05/2019, Sichuan Normal University  
*Quantum Simulation of Topological Orders using NMR*

Seminar Talk in Department of Physics, 07/05/2019, Tianjin University  
*Quantum Simulation of Topological Orders using NMR*

Seminar Talk in Department of Physics, 03/01/2019, Shandong University  
*Quantum Simulation of Topological Orders using NMR*

Huawei HiSilicon Technologies Co., Ltd, 04/12/2018  
*Spin-based Quantum Computing*

Seminar Talk in Department of Physics, 12/08/2017, Zhejiang Sci-Tech University  
*Quantum Computing in Nuclear Magnetic Resonance*

Seminar Talk in Department of Physics, 10/18/2017, Zhejiang University  
*Quantum Computing in Nuclear Magnetic Resonance*

Seminar Talk in Institute of Fundamental and Frontier Sciences, 10/16/2017, UESTC  
*Quantum Computing in Nuclear Magnetic Resonance*

Seminar Talk in Department of Physics and Astronomy, 06/03/2017, Wayne State University  
*Quantum Computing in Nuclear Magnetic Resonance*

APS March Meeting, 03/16/2016, Baltimore, MD  
*Experimental estimation of average fidelity of a Clifford gate on a 7-qubit quantum processor*

Seminar Talk in Department of Modern Physics, 01/28/2015, USTC  
*Advanced techniques in NMR quantum computing and benchmarking a 7-qubit NMR system*

Seminar Talk in Department of Mathematics and Statistics, 09/03/2014, University of Guelph  
*Experimental estimation of average fidelity of a Clifford gate on a 7-qubit quantum processor*

IQC Seminar, 02/04/2012, University of Waterloo  
*Simulation of quantum chemistry on an NMR quantum computer*

Weekly Brainstorming in ICQD, 12/09/2011, USTC  
*Quantum simulation*

The Chinese Physical Society Conference, 09/18/2010, Nankai University  
*Factoring 143 adiabatically using an NMR quantum computer*

Workshop on Quantum Engineering and Physics of Coherence Device, 06/20/2010, South China Normal University  
*Implementing quantum random-walk search algorithm using strongly coupled systems*

## Teaching Experience

Course: General Physics I, Fall 2020, SUSTech

Level: Freshmen (170 students)

Duties: Instructor

Course: General Physics II, Spring 2019, SUSTech

Level: Freshmen (168 students)

Duties: Instructor

Course: General Physics II, Spring 2019, SUSTech

Level: Freshmen (157 students)

Duties: Instructor

Course: General Physics I, Fall 2018, SUSTech

Level: Freshmen (150 students)

Duties: Instructor

Course: General Physics II, Spring 2018, SUSTech

Level: Freshmen (130 students)

Duties: Instructor

Course: Undergraduate School on Experimental Quantum Information Processing (USEQIP),  
2016, University of Waterloo

Level: Undergraduate

Duties: Teaching NMR basics and operations on the NMR spectrometer

Course: Undergraduate School on Experimental Quantum Information Processing (USEQIP),  
2015, University of Waterloo

Level: Undergraduate

Duties: Teaching NMR basics and operations on the NMR spectrometer