

Curriculum Vitae

Guofeng Zhang

1 Contact information

- Correspondence address: Department of Applied Mathematics, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong
- Tel: +852 2766 6936
- Fax: +852 2764 4382
- Email: guofeng.zhang@polyu.edu.hk
- Homepage: <https://www.polyu.edu.hk/ama/profile/gfzhang>

2 Education

- Ph.D., 2005.08, Applied Mathematics, University of Alberta, Edmonton, Canada
- M.Sc., 2000.08, Applied Mathematics, Northeastern University, Shenyang, China
- B.Sc., 1998.07, Applied Mathematics, Northeastern University, Shenyang, China

3 Career history

- 2017.07 - current, Associate Professor, Hong Kong Polytechnic University
- 2011.12 - 2017.06, Assistant Professor, Hong Kong Polytechnic University
- 2010.04 - 2011.12, Research Fellow, Australian National University
- 2009.08 - 2011.09, University Postdoc Fellow, Hong Kong Polytechnic University (with no-pay leave from 2010.04 to 2011.09)
- 2008.07 - 2009.06, Visiting Scholar, University of Western Sydney
- 2007.09 - 2011.12, Associate Professor, University of Electronic Science and Technology of China
- 2006.09 - 2007.08, Faculty Member, Hangzhou Dianzi University
- 2005.09 - 2006.08, Postdoctoral Fellow, University of Windsor

4 Teaching

4.1 Subjects taught at PolyU

- 2020.09 - 2020.12, AMA2112: Mathematics II
- 2020.02-2020.05, AMA1130: Calculus for Engineers
- 2019.09-2019.12, AMA1100: Basic Mathematics I: Calculus and Probability & Statistics
- 2019.01-2019.05, AMA1130: Calculus for Engineers
- 2018.09-2018.12, AMA1100: Basic Mathematics I: Calculus and Probability & Statistics
- 2017.09-2017.12, AMA1100: Basic Mathematics
- 2017.09-2017.12, AMA1008: Calculus and Linear Algebra
- 2016.09-2016.12, AMA523: Optimal Control with Management Science Applications (postgraduate level)
- 2016.09-2016.12, AMA1100: Basic Mathematics
- 2016.01 - 2016.05, AMA2112: Mathematics II
- 2016.01 - 2016.05, AMA251: Further Calculus
- 2015.09 - 2015.12, AMA1100: Basic Mathematics
- 2015.09 - 2015.12, AMA251: Further Calculus (guided study)
- 2015.01 - 2015.05, AMA296: Mathematics II
- 2015.01 - 2015.05, AMA251: Further Calculus
- 2014.09 - 2014.12, AMA150: Calculus I
- 2014.01 - 2014.05, AMA296: Mathematics II
- 2014.01 - 2014.05, AMA164: Statistics II (guided study)
- 2013.09 - 2013.12, AMA150: Calculus I
- 2013.09 - 2013.12, AMA1102: Calculus IA
- 2013.01 - 2013.05, AMA523: Optimal Control with Management Science Applications (postgraduate level)
- 2013.01 - 2013.05, AMA296: Mathematics II
- 2013.01 - 2013.05, AMA164: Statistics II
- 2012.09 - 2012.12, AMA150: Calculus I
- 2012.01 - 2012.05, AMA296: Mathematics II
- 2012.01 - 2012.05, AMA164: Statistics II

4.2 Research postgraduate students

See Table 1 below.

Table 1: Research Postgraduate Students

| Name of student | Program | Year awarded | Institution | My role |
|--------------------|---------|-------------------|--------------------------------|------------------|
| Zhiyuan Dong | Ph.D. | graduated, 2016 | PolyU | chief supervisor |
| Lei Cui | Ph.D. | graduated, 2017 | PolyU | co-supervisor |
| Lejia Gu | Ph.D. | under supervision | PolyU | chief supervisor |
| Yun Shi | Ph.D. | graduated, 2018 | PolyU | co-supervisor |
| Xiaoqiang Wang | Ph.D. | under supervision | PolyU | co-supervisor |
| Yui Chi Peter Yuen | M.Sc. | 2013 | PolyU | chief supervisor |
| Shi Wang | Ph.D. | 2013 | Australian National University | co-supervisor |

5 Research

Research Interests: quantum information and control; digital control; nonlinear dynamics analysis and control. [864 citations, H index: 16, from [Google Scholar](#)]

ORCID: [0000-0001-5854-5247](https://orcid.org/0000-0001-5854-5247)

5.1 Papers under review

- [1] Xiaoqiang Wang, Lejia Gu, Heung-wing Joseph Lee, and **Guofeng Zhang** (corresponding author), “Quantum tensor singular value decomposition with applications to recommendation systems,” arXiv:1910.01262 [quant-ph], 2019.
- [2] Z. Dong, W. Cui, and G. Zhang (corresponding author), “On the dynamics of a quantum coherent feedback network of cavity-mediated double quantum dot qubits,” arXiv:2004.03870v1 [quant-ph], 2020.

5.2 Journal papers

- [1] **Guofeng Zhang**, Ian R. Petersen, and Jinghao Li, “Structural characterization of linear quantum systems with application to back-action evading measurement,” *IEEE Transactions on Automatic Control*, 65(7), 3157-3163, 2020.
- [2] **Guofeng Zhang**, “Single-photon coherent feedback control and filtering,” In: *Baillieul J., Samad T. (eds) Encyclopedia of Systems and Control*, Springer, London, 2020.
- [3] **Guofeng Zhang** and Yu Pan, “On the dynamics of two photons interacting with a two-qubit coherent feedback network,” *Automatica*, 117, 108978, 2020 (**Full Paper**).
- [4] Mengshi Zhang, Guyan Ni and **Guofeng Zhang**, “Iterative methods for computing U-eigenvalues of non-symmetric complex tensors with application in quantum entanglement,” *Computational Optimization and Applications*, 75, 779-798 (2020).

- [5] **Guofeng Zhang** and Ian R. Petersen, “Structural decomposition for quantum two-level systems,” *Automatica*, 113, 108751, 2020.
- [6] Qing Gao, **Guofeng Zhang** (corresponding author), and Ian R. Petersen, “An improved quantum projection filter,” *Automatica*, 112, 108716, 2020 (**Full Paper**).
- [7] Gangshan Jing, **Guofeng Zhang**, Heung Wing Joseph Lee, and Long Wang, “Angle-based shape determination theory of planar graphs with application to formation stabilization,” *Automatica*, 105, 117-129, July, 2019 (**Full Paper**).
- [8] Gaopeng Duan, Aming Li, Tao Meng, **Guofeng Zhang**, and Long Wang, Energy cost for controlling complex networks with linear dynamics, *Physical Review E*, 99:052305, 2019.
- [9] Zhiyuan Dong, **Guofeng Zhang** (corresponding author), and Nina H. Amini, “Quantum filtering for a two-level atom driven by two counter-propagating photons,” *Quantum information Processing*, 18:136, 2019.
- [10] Zhiyuan Dong, **Guofeng Zhang** (corresponding author), and Nina H. Amini, “On the response of a two-level system to two-photon inputs,” *SIAM Journal on Control and Optimization*, 57(5), 3445-3470, 2019.
- [11] Qing Gao, **Guofeng Zhang** (corresponding author), and Ian R. Petersen, “An exponential quantum projection filter for open quantum systems,” *Automatica*, 99, 59-68, 2019 (**Full Paper**).
- [12] Xiaofeng Wang, **Guofeng Zhang**, and Weijian Kong, “Evolutionary dynamics of the prisoner’s dilemma with expellers,” *Journal of Physics Communications*, 3:015011, 2019.
- [13] Maolin Che, Yimin Wei, Liqun Qi, and **Guofeng Zhang**, “Geometric measures of entanglement in multipartite pure states via complex-valued neural networks,” *Neurocomputing*, 313, 25-38, 2018.
- [14] Shi Wang, Hendra I. Nurdin, **Guofeng Zhang**, and Matthew R. James, “Representation and network synthesis for a class of mixed quantum-classical linear stochastic systems,” *Automatica*, 96(10), 84-97, 2018 (**Full Paper**).
- [15] Gangshan Jing, **Guofeng Zhang**, Heung Wing Joseph Lee, and Long Wang, “Weak rigidity theory and its application to formation stabilization,” *SIAM Journal on Control and Optimization*, 56(3), 2248-2273, 2018.
- [16] Liqun Qi, **Guofeng Zhang** (corresponding author), and Guyan Ni, “How entangled can a multi-party system possibly be?” *Physics Letters A*, 382, 1465-1471, 2018.
- [17] **Guofeng Zhang**, Symeon Grivopoulos, Ian R. Petersen, and John E. Gough, “The Kalman decomposition for linear quantum systems,” *IEEE Transactions on Automatic Control*, 63(2), 331-346, 2018 (**Full Paper**).
- [18] Zhiyuan Dong, **Guofeng Zhang** (corresponding author), and Nina H. Amini, “Single-photon quantum filtering with multiple measurements,” *International Journal of Adaptive Control and Signal Processing*, 32(3), 528-546, 2018.

- [19] Yu Pan and **Guofeng Zhang** (corresponding author), “Scattering of few photons by a ladder-type quantum system,” *Journal of Physics A: Mathematical and Theoretical*, 50(34), 345301, July, 2017.
- [20] John E. Gough and **Guofeng Zhang**, “Classical and quantum stochastic models of resistive and memristive circuits,” *Journal of Mathematical Physics*, 58, 073505, July 2017.
- [21] **Guofeng Zhang**, “Dynamical analysis of quantum linear systems driven by multi-channel multi-photon states,” *Automatica*, 83, 186-198, September 2017 (**Full Paper**).
- [22] Liqun Qi, **Guofeng Zhang**, Daniel Braun, Fabian Bohnet-Waldruff, Olivier Giraud, “Regularly decomposable tensors and classical spin states,” *Communications in Mathematical Sciences*, 15(6), 1651-1665, 2017.
- [23] Lei Cui, Zhiyuan Dong, **Guofeng Zhang** (corresponding author), and Heung Wing Joseph Lee, “Mixed LQG and H_∞ coherent feedback control for linear quantum systems,” *International Journal of Control*, 90(12), 2575-2588, 2017.
- [24] Zhiyuan Dong, Lei Cui, **Guofeng Zhang** (corresponding author), and Hongchen Fu, “Wigner spectrum and coherent feedback control of continuous-mode single-photon Fock states,” *Journal of Physics A: Mathematical and Theoretical*, 49(43), 435301, 2016. [Figure 7 in the paper was used in the cover page of this issue.]
- [25] Liang Qiao, Qingling Zhang, and **Guofeng Zhang**, “Admissibility analysis and control synthesis for T-S fuzzy descriptor systems,” *IEEE Transactions on Fuzzy Systems*, 25(4), 929-740, 2017 (**Full Paper**).
- [26] Hongting Song, **Guofeng Zhang** (corresponding author), and Zairong Xi, “Continuous-mode multi-photon filtering,” *SIAM Journal on Control and Optimization*, 54(3):1602-1632, 2016 (31 pages). [an extended version: <https://arxiv.org/abs/1307.7367v3>].
- [27] Yu Pan, Daoyi Dong, and **Guofeng Zhang** (corresponding author), “Exact analysis of the response of quantum systems to two photons using a QSDE approach,” *New Journal of Physics*, 18, 033004, 2016.
- [28] Yu Pan, **Guofeng Zhang**, and Matthew R. James, “Analysis and control of quantum finite-level systems driven by single-photon input states,” *Automatica*, 69:18-23, 2016.
- [29] Shenglong Hu, Liqun Qi, and **Guofeng Zhang** (corresponding author), “Computing the geometric measure of entanglement of multipartite pure states by means of non-negative tensors,” *Physical Review A*, 93, 012304, 2016.
- [30] Yi Zhang, Qiaoling Zhang, and **Guofeng Zhang**, “ H^∞ control of T-S fuzzy fish population logistic model with the invasion of alien species,” *Neurocomputing*, 173:724-733, 2016.
- [31] John E. Gough and **Guofeng Zhang**, “Generating nonclassical quantum input field states with modulating filters,” *EPJ Quantum Technology*, 2(1), 2:15, 2015. In [31], the problem of generating nonclassical states by quantum linear systems is investigated. When initialized in a coherent state or number state (Fock state), it is shown that by tuning its Hamiltonian and coupling to its environment, the system is able to produce quite a few class of nonclassical quantum states, e.g., coherent states, Schrödinger

cat states and single-photon states. In particular, a class of multi-photon states can be generated if the tunable coupling and Hamiltonian satisfy certain conditions. It should be noted that the class of single-channel multi-photon states investigated in [31] are separable states; in other words, each state is a product of a multi-photon state for each individual channel. The response of linear quantum systems to this class of multi-channel multi-photon states has been studied in Section 3 of [34]. generate colored noise (nonclassical states) from white noise (the vacuum state); a class of multi-photon states is generated by means of a populated multi-mode cavity with tunable couplings. single-channel case. The multi-photon states generated is of the form $\prod_{i=1}^N (B^*(\xi_i))^{k_i} |\text{vac}\rangle$, in other words, there are k_i photons with pulse shape ξ_i .

$$A(t) = -i \begin{bmatrix} \omega_1 & & \\ & \ddots & \\ & & \omega_N \end{bmatrix} - \frac{1}{2} \lambda(t)^\dagger \lambda(t).$$

$$\dot{\Phi}(t) = A(t)\Phi(t), \quad \Phi(0) = I.$$

$$\xi(t) = \lambda(t)\Phi(t).$$

- [32] John E. Gough and **Guofeng Zhang** (corresponding author), “On realization theory of quantum linear systems”, *Automatica*, 59:139-151, 2015 (**Full Paper**).
- [33] Shenglong Hu, Liqun Qi, Yisheng Song, and **Guofeng Zhang** (corresponding author), “Geometric measure of quantum entanglement for multipartite mixed states,” *International Journal of Software and Informatics*, 8(3-4):317-326, 2014.
- [34] **Guofeng Zhang**, “Analysis of quantum linear systems’ response to multi-photon states,” *Automatica*, 50(2): 442-451, 2014 (**Full Paper**).
- [35] Shi Wang, Hendra I. Nurdin, **Guofeng Zhang**, and Matthew R. James, “Quantum optical realization of classical linear stochastic systems,” *Automatica*, 49(10): 3090-3096, 2013.
- [36] **Guofeng Zhang** and Matthew R. James, “On the response of quantum linear systems to single photon input fields,” *IEEE Transactions on Automatic Control*, 58(5): 1221-1235, 2013 (**Full Paper**).
- [37] **Guofeng Zhang**, Heung-wing Joseph Lee, Bo Huang, and Hu Zhang, “Coherent feedback control of linear quantum optical systems via squeezing and phase shift,” *SIAM Journal on Control and Optimization*, 50(4): 2130-2150, 2012.
- [38] Chuanxin Bian, **Guofeng Zhang** (corresponding author), and Heung-wing Joseph Lee, “Squeezing enhancement of degenerate parametric amplifiers via coherent feedback control,” *International Journal of Control*, 85(12):1865-1875, 2012.
- [39] **Guofeng Zhang** and Matthew R. James, “Quantum feedback networks and control: a brief survey,” *Chinese Science Bulletin*, 57(18):2200-2214, 2012. [online: <http://arxiv.org/abs/1201.6020v3>].
- [40] **Guofeng Zhang** and Matthew R. James, “Direct and indirect couplings in coherent feedback control of linear quantum systems,” *IEEE Transactions on Automatic Control*, 56(7): 1535-1550, 2011 (**Full Paper**).

- [41] **Guofeng Zhang**, Long Wang, and Tongwen Chen, “Complexity analysis of networked-based dynamical systems,” *Journal of Systems Science and Complexity*, 24: 413-432, 2011.
- [42] Jinliang Shao, Tingzhu Huang, and **Guofeng Zhang**, “Linear system based approach for solving some related problems of M-matrices,” *Linear Algebra and its Applications*, 432(1): 327-337, 2010.
- [43] **Guofeng Zhang** and Weixing Zheng, “Stability and bifurcation analysis of a class of networked dynamical systems,” *IEEE Transactions on Circuits and Systems II: Express Briefs*, 56(8): 664-668, 2009.
- [44] Junyan Yu, Long Wang, **Guofeng Zhang**, and Mei Yu, “Output feedback stabilisation of networked control systems via switched system approach,” *International Journal of Control*, 82(9): 1665-1677, 2009.
- [45] Bin Wu, Long Wang, **Guofeng Zhang** (corresponding author), and Jing Wang, “Linguistic consensus on a circle,” *International Journal Information and Systems Sciences*, 5(2): 219-229, 2009.
- [46] **Guofeng Zhang**, Xiang Chen and Tongwen Chen, “Digital redesign via the generalised bilinear transformation,” *International Journal of Control*, 82(4):741-754, 2009.
- [47] **Guofeng Zhang**, Xiang Chen, and Tongwen Chen, “A mixed-integer programming approach to networked control systems,” *International Journal of Numerical Analysis and Modeling*, 5:590-611, 2008.
- [48] **Guofeng Zhang**, Tongwen Chen, and Xiang Chen, “Performance recovery in digital implementation of analogue systems,” *SIAM Journal on Control and Optimization*, 45(6):2207-2223, 2007.
- [49] **Guofeng Zhang**, Guanrong Chen, Tongwen Chen, and Maria B. D’Amico, “Dynamical analysis of a networked control system,” *International Journal of Bifurcation and Chaos*, 17(1):61-83, 2007 (Tutorials and Reviews).
- [50] **Guofeng Zhang**, Guanrong Chen, Tongwen Chen, and Yanping Lin, “Analysis of a type of nonsmooth dynamical systems,” *Chaos, Solitons & Fractals*, 30:1153-1164, 2006.
- [51] **Guofeng Zhang** and Tongwen Chen, “Networked control systems: a perspective from chaos,” *International Journal of Bifurcation and Chaos*, 15(10):3075-3101, 2005 (Tutorials and Reviews).
- [52] **Guofeng Zhang** and Tongwen Chen, “Comparing digital implementation via the bilinear and step-invariant transformations,” *Automatica*, 40(2):327-330, 2004.
- [53] **Guofeng Zhang**, Qingling Zhang, Tongwen Chen, and Yanping Lin, “On Lyapunov theorems for descriptor systems,” *Dynamics of Continuous, Discrete and Impulsive Systems, Series B: Applications and Algorithms*, 10(5):709-726, 2003.

5.3 Conference papers

- [1] Zhiyuan Dong, **Guofeng Zhang**, Ai-Guo Wu, “Covariance Functions for Quantum Linear System Driven by Few Photons,” 39th Chinese Control Conference (CCC), pp. 5800-5804, 2020.

- [2] W.-L. Li, **G. Zhang**, and R.-B. Wu. “The dynamical model of flying-qubit control systems,” In 20th IFAC World Congress, volume 50, pp.1755-11759, 2020.
- [3] Lejia Gu, Xiaoqiang Wang, and **Guofeng Zhang**, “Quantum Higher Order Singular Value Decomposition,” 2019 IEEE International Conference on Systems, Man, and Cybernetics (SMC), pp. 1166-1171, Bari, Italy, 6-9 October, 2019.
- [4] Gaopeng Duan, Aming Li, Tao Meng, Guofeng Zhang, and Long Wang, “Upper bound of the minimum energy cost for controlling complex networks,” the 38th Chinese Control Conference, pp. 5393-5398, Guangzhou, China 27-30, 2019.
- [5] Q. Gao and **Guofeng Zhang**, “Quantum projection filtering for open quantum systems,” in *Proc. the 56th IEEE Conference on Decision and Control*, pp. 5529-5534, Melbourne, Australia, December 12-15, 2017.
- [6] Zhiyuan Dong, **Guofeng Zhang**, and Nina H. Amini, “Exact analysis of quantum filter for systems driven by two counter-propagating single-photon states,” in *Proc. the 20th World Congress of The International Federation of Automatic Control*, pp. 12246-12251, Toulouse, France, July 9-14, 2017.
- [7] S. Grivopoulos, **Guofeng Zhang**, I. R. Petersen, and J. E. Gough, “The Kalman decomposition for linear quantum stochastic systems,” in *Proc. the 2017 American Control Conference*, pp. 1073-1078, Seattle, WA, USA, May 2017.
- [8] Zhiyuan Dong, **Guofeng Zhang**, and Nina H. Amini, “Quantum filtering for multiple measurements driven by fields in single-photon states,” in *Proc. the 2016 American Control Conference*, pp. 4754-4759, July 6-8, Boston, MA, USA.
- [9] Zhiyuan Dong, **Guofeng Zhang**, and Nina H. Amini, “Quantum filtering for multiple measurements driven by two single-photon states,” in *Proc. 12th World Congress on Intelligent Control and Automation (WCICA)*, pp. 3011-3015, June 12-15, 2016, Guilin, China.
- [10] Yu Pan, **Guofeng Zhang**, Wei Cui, and Matthew R. James, “Single photon inverting pulse for an atom in a cavity,” in *Proc. 54th IEEE Conference on Decision and Control*, pp. 6429-6433, Osaka, Japan, December 15-18, 2015.
- [11] Chuanxin Bian, **Guofeng Zhang**, and Heung-wing Joseph Lee, “ $LQG|H_\infty$ control of linear quantum stochastic systems,” in *Proc. 34th Chinese Control Conference*, pp. 8303-8308, July 28-30, 2015, Hangzhou, China.
- [12] Shi Wang, Hendra I. Nurdin, **Guofeng Zhang**, and Matthew R. James, “Synthesis and structure of mixed quantum-classical linear systems,” in *Proc. 51st IEEE Conference on Decision and Control*, pp. 1093-1098, Maui, Hawaii, USA, December 10-13, 2012.
- [13] **Guofeng Zhang** and Matthew R. James, “On the response of linear quantum stochastic systems to single-photon inputs and pulse shaping of photon wave packets,” in *Proc. 2011 Australian Control Conference (AUCC)*, Engineers Australia, Australia, pp. 62-67, 2011.

- [14] Shi Wang, Hendra I. Nurdin, **Guofeng Zhang**, and Matthew R. James, “Implementation of classical linear stochastic systems using quantum optical components,” in *Proc. 2011 Australian Control Conference (AUCC)*, Engineers Australia, Australia, pp. 351-356, 2011.
- [15] **Guofeng Zhang**, Xiang Chen, and Tongwen Chen, “ ℓ_p -equivalence of discretizations of analog controllers,” in *Proc. the 17th IFAC World Congress*, pp. 15232-15237, Seoul, Korea, July 6-11, 2008.
- [16] **Guofeng Zhang**, Xiang Chen, and Tongwen Chen, “Performance comparison of digital implementation of analog systems,” in *Proc. 46th Conference on Decision and Control*, pp. 785-790, New Orleans, December 12-14, 2007.
- [17] **Guofeng Zhang**, Xiang Chen, and Tongwen Chen, “A model predictive control approach to networked control systems,” in *Proc. 46th Conference on Decision and Control*, pp. 3339-3344, New Orleans, December 12-14, 2007.

5.4 Research grants

1. Hongbin Song and **Guofeng Zhang** (co-investigator), Performance Optimization of a Quantum Teleportation System for Continuous Variables, Shenzhen Fundamental Research Fund under Grant No. JCYJ20190813165207290, Chinese ¥400,000 2020.02-2023.02.
2. **Guofeng Zhang** (principal-investigator) and Ian R. Petersen, Quantum Finite-level Systems: Structure Analysis, Feedback Control, and Filtering, 15203619, 2020 - 2023, HK\$695,919.
3. **Guofeng Zhang** (principal-investigator) and Ian R. Petersen, Quantum Linear Systems: Structure Analysis and Applications, 15208418, 2018 - 2021, HK\$623,386.
4. **Guofeng Zhang** (principal-investigator) and Ian R. Petersen, Control-oriented quantum systems analysis, Hong Kong Research Grant Council, 15206915, 2015 - 2018, HK\$695,854.
5. **Guofeng Zhang** (principal-investigator), John E. Gough, and Matthew R. James, Analysis and feedback control of quantum linear systems, Hong Kong Research Grant Council, RGC PolyU 531213, 2013 - 2016, HK\$645,000.
6. John E. Gough (UK side) and **Guofeng Zhang** (China side), Royal Academy of Engineering UK-China Exchange grant, 2013 - 2015, UK £16,000.
7. **Guofeng Zhang**, Mixed LQG/H^∞ control and sampled-data control of networked quantum control systems, National Natural Science Foundation of China (NSFC), No. 61374057, 2014 - 2017, Chinese ¥790,000.
8. Heung-wing Joseph Lee, Matthew R. James, and **Guofeng Zhang** (co-investigator) Coherent feedback control of quantum optical systems, Hong Kong Research Grant Council, RGC PolyU 5203/10E, 2010 - 2012, HK\$420,000.
9. **Guofeng Zhang**, Complexity analysis and control of network-based hybrid systems, National Natural Science Foundation of China (NSFC), 2009 - 2011, Chinese ¥200,000.

5.5 Invited Talks

- The Mathematics of Quantum Information, March 18-21, 2019, University of Siegen.
- Principle and Application of Control in Quantum Systems (PRACQSYS), Seattle, July 17-20, 2017.
- *Plenary talk* for the 3rd Chinese Intelligent Networks of Things, Guangzhou, China, December 1-3, 2015.
- The 4th China-Australia Workshop on Quantum Control, Hefei, China, September 25-28, 2016 (declined due to time conflict with teaching).
- The 2016 Workshop of Stochastic Optimization and Tensor Analysis, Changsha, China, March 26-29, 2016.
- Principle and Application of Control in Quantum Systems (PRACQSYS) 2015, Sydney, July 20-24, 2015.
- The 3rd China-Australia Workshop on Quantum Control, Brisbane, Australia, September 29-October 3, 2014.
- Quantum Control Engineering: Mathematical Principles and Application, Cambridge, July 21- August 15, 2014.
- The 2nd China-Australia Workshop on Quantum Control, Beijing, China, November 5-8, 2012.

6 Service

- September 2019 - August 2021, DSC member.
- July 2018 - present, Deputy Chairman of DLTC.
- 2010 - present, Guest Associate Editor, International Journal of Bifurcation and Chaos — a journal widely regarded as a leading journal in the exciting fields of chaos theory and nonlinear science.
- Associate Editor for 2015 IEEE Multi-Conference on Systems and Control, Sydney, Australia, September 21-23, 2015.
- Paper review for the following leading journals: SIAM Journal on Control and Optimization, International Journal of Bifurcation and Chaos, IEEE Transaction on Automatic Control, Automatica, IEEE Transaction on Control Systems Technology, IEEE Transaction on Circuits and Systems I: Full Papers, and IEEE Transaction on Circuits and Systems II: Express Briefs, etc..
- One of the five Board Members of the Hong Kong Automatic Control Association (HKACA).
- One of the four General Co-chairs of the 23rd International Symposium on Mathematical Theory of Networks and Systems (MTNS 2018), Hong Kong, July 16 - 20, 2018.
- Presiders of The 13th Pacific Rim Conference on Lasers and Electro-Optics (CLEO Pacific Rim, CLEO-PR 2018), Hong Kong, July 29 -August 3, 2018

- One of the two Student Activities Co-Chairs, IEEE CCTA, Hong Kong, August 19-21, 2019 .
- External examiner for PhD dissertations from University of New South Wales (2012, 2015), University of Hong Kong (2013, 2015, 2018), Australian National University (2015), University of Western Australia (2015), City University of Hong Kong (2018), Australian National University (2019), and The Chinese University of Hong Kong (2019).
- Chair of the 13th Workshop on Principle and Application of Control in Quantum Systems (PRACQSYS), Hong Kong, December 14-18, 2019 (The workshop was cancelled due to social activities).