

Curriculum Vitae

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EDUCATION

Ph.D. Majoring in Operations Research and Cybernetics Institute of Systems Science, Chinese Academy of Sciences	2009.09–2014.07 Beijing, China
BS.c. Majoring in Applied Mathematics College of Sciences, Harbin Engineering University	2005.09–2009.07 Harbin, China

WORKING EXPERIENCE

Professor Beijing University of Posts and Telecommunications	2024.01–Present Beijing, China
Associate Professor Beijing University of Posts and Telecommunications	2019.01–2023.12 Beijing, China
Lecturer Beijing University of Posts and Telecommunications	2014.07–2018.12 Beijing, China

RESEARCH INTERESTS

Nonlinear Systems and Control, Distributed Decision-making and Control, Machine Learning, Robotics

FUNDED PROJECTS

Online Decision-making and Control Co-design for Uncertain Nonlinear Multi-agent Systems PI, National Natural Science Foundation of China, No. 62473057	2025.01–2028.12
Optimal Coordination for Nonlinear Multi-agent Systems by a Hierarchical Design and Its Applications PI, National Natural Science Foundation of China, No. 61973043	2020.01–2023.12
Coordinated Control and Optimization of Nonlinear Multi-agent Systems via Generalized Output Regulation PI, National Natural Science Foundation of China, No. 61503033	2016.01–2018.12
Coordinated Control and Optimization of Nonlinear Multi-agent Systems PI, Fundamental Research Funds for the Central Universities, No. 24820152015RC36	2015.01–2016.10

ACADEMIC ACTIVITIES

Membership

- IEEE Member (2014–)
- IEEE Student Member (2012–2013)
- IEEE Control Systems Society Member (2012–)

Professional Service

- General Secretary, CAA TCCT Symposium on Nonlinear Systems and Control (2025–)
- Committee Member, CICC Technical Committee on Active Disturbance Rejection Control (2023–)
- Committee Member, CAA TCCT Symposium on Nonlinear Systems and Control (2015–)
- Organizing Committee Chair, CAA TCR Frontier Forum on Robotics and Unmanned Systems, Beijing, 2025
- Publicity & Publication Chair, 9th Nonlinear Systems and Control Conference, Guangzhou, 2025
- Publicity & Publication Chair, 8th Nonlinear Systems and Control Conference, Taiyuan, 2024
- Session Organizer and Chair, “Advances in Co-design of Decision-making and Control”, 42nd Chinese Control Conference (CCC), Tianjin, 2023
- Session Organizer and Co-Chair, “Cooperative Control and Optimization with Uncertainties”, 41st Chinese Control Conference (CCC), Hefei, 2022
- Session Organizer and Chair, “Nonlinear Control and Optimization”, 40th Chinese Control Conference (CCC), Shanghai, 2021
- Session Co-Chair, “Nonlinear and Multi-agent Systems: Modelling and Control”, 40th Chinese Control Conference (CCC), Shanghai, 2021
- Session Organizer and Chair, “Nonlinear Control and Optimization”, 39th Chinese Control Conference (CCC), Shenyang, 2020
- Session Organizer and Chair, “Distributed Optimization and Computation”, 38th Chinese Control Conference (CCC), Guangzhou, 2019
- Session Co-Chair, “Multi-agent Systems and Distributed Control”, 37th Chinese Control Conference (CCC), Wuhan, 2018
- Session Organizer and Chair, “Multi-agent Coordination and Optimization”, International Symposium on Mathematical Theory of Networks and Systems (MTNS), Hong Kong, 2018
- Session Chair, “Multi-agent Systems and Distributed Control”, 36th Chinese Control Conference (CCC), Dalian, 2017
- Program Committee Member, 1st Symposium of Chinese Nonlinear Systems and Control, Beijing, 2016
- Session Organizer and Co-Chair, “Recent Developments in Nonlinear Control”, 35th Chinese Control Conference (CCC), Chengdu, 2016
- Session Co-Chair, “Systems Theory and Control Theory”, 31st Chinese Control Conference (CCC), Hefei, 2012

Reviewer for

- Automatica ◊ IEEE Trans. Autom. Control ◊ IEEE CDC ◊ IEEE ICRA . . .

PUBLICATIONS

Books

- Y. Tang. Optimal Consensus Algorithms for Uncertain High-order Multi-agent Systems. Beijing: BUCT Press, 2023. (in Chinese)
- Y. Tang. Abstraction-based Hierarchical Control of Complex Systems and its Applications. Beijing: Science Press, 2018. (in Chinese)

Journal Papers

1. X. Zheng, L. Wei, P. Yi, and Y. Tang. Distributed Nash equilibrium seeking for uncertain linear multi-agent systems by output feedback integral control. Asian Journal of Control, accepted.
2. Y. Tang, R. Li, H. Liu, and K. Zhu. Event-triggered design for optimal output consensus of high-order multi-agent systems. International Journal of Control, 98(6): 1343–1350, 2025.
3. R. Li, Y. Zhang, Y. Tang, and S. Li. Positive consensus for heterogeneous multi-agent systems over jointly connected graphs. IEEE Control Systems Letters, 8: 2451–2456, 2024.
4. Y. Zhang, Y. Tang, Z. Tu, and Y. Hong. Distributed algorithm for solving variational inequalities over time-varying unbalanced digraphs. Control Theory and Technology, 22: 431–441, 2024.
5. R. Li, Y. Tang, and S. Li. Robust positive consensus for heterogeneous multi-agent systems. International Journal of Control, Automation and Systems, 22(4): 1129–1137, 2024.
6. R. Yu, Y. Tang, P. Yi, and L. Li. Distributed Nash equilibrium seeking dynamics with discrete communication. IEEE Transactions on Neural Networks and Learning Systems, 35(3): 4347–4353, 2024.

7. R. Li, Y. Zhang, Y. Tang, and S. Li. Observer-based leader-following consensus for positive multi-agent systems over time-varying graphs. *Journal of the Franklin Institute*, 360(17): 13380–13394, 2023.
8. K. Zhu, Y. Tang. Primal-dual ε -subgradient method for distributed optimization. *Journal of Systems Science and Complexity*, 36: 577–590, 2023.
9. Y. Tang, P. Yi. Nash equilibrium seeking for high-order multi-agent systems with unknown dynamics. *IEEE Transactions on Control of Network Systems*, 10(1): 321–332, 2023.
10. K. Zhu, Y. Zhang, and Y. Tang. Distributed optimization with inexact oracle. *Kybernetika*, 58(4): 578–592, 2022.
11. Y. Tang, H. Qin. Decision-making and control co-design for multi-agent systems: a hierarchical design methodology. *Control Theory and Technology*, 20(3): 439–441, 2022.
12. Y. Tang, D. Wang. Neural-network-based constrained optimal coordination for heterogeneous uncertain nonlinear multi-agent systems. *International Journal of Robust and Nonlinear Control*, 32(14): 8134–8146, 2022.
13. Y. Tang, P. Yi, Y. Zhang, D. Liu. Nash equilibrium seeking over directed graphs. *Autonomous Intelligent Systems*, 2: 7, 2022.
14. Y. Tang, K. Zhu. Optimal consensus for uncertain multi-agent systems by output feedback. *International Journal of Robust and Nonlinear Control*, 32(4): 2084–2099, 2022.
15. Y. Tang, X. Wang. Optimal output consensus for nonlinear multi-agent systems with both static and dynamic uncertainties. *IEEE Transactions on Automatic Control*, 64(4): 1733–1740, 2021.
16. Y. Tang. Multi-agent optimal consensus with unknown control directions. *IEEE Control Systems Letters*, 5(4): 1201–1206, 2021.
17. Y. Tang, H. Zhu, and X. Lv. Achieving optimal output consensus for discrete-time linear multi-agent systems with disturbance rejection. *IET Control Theory & Applications*, 15(5): 749–757, 2021.
18. Y. Tang. Distributed optimal steady-state regulation for high-order multi-agent systems with external disturbances. *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, 50(11): 4828–4835, 2020.
19. Y. Tang, Z. Deng, and Y. Hong. Optimal output consensus of high-order multi-agent systems with embedded technique. *IEEE Transactions on Cybernetics*, 49(5): 1768–1779, 2019.
20. Y. Tang. Distributed optimization for a class of high-order nonlinear multi-agent systems with unknown dynamics. *International Journal of Robust and Nonlinear Control*, 28(17): 5545–5556, 2018.
21. Y. Tang, P. Yi. Distributed coordination for a class of nonlinear multi-agent systems with regulation constraints. *IET Control Theory & Applications*, 12(1): 1–9, 2018.
22. W. Song, Y. Tang, Y. Hong, and X. Hu. Relative attitude formation control of multi-agent systems. *International Journal of Robust and Nonlinear Control*, 27(18): 4457–4477, 2017.
23. Y. Tang. Coordination of heterogeneous nonlinear multi-agent systems with prescribed behaviors. *International Journal of Control*, 90(10): 2197–2205, 2017.
24. Y. Tang. Output average consensus over heterogeneous multi-agent systems via two-level approach. *Kybernetika*, 53(2): 282–295, 2017.
25. Y. Tang. Robust consensus tracking of heterogeneous multi-agent systems under switching topologies. *Journal of Systems Science and Complexity*, 19(5): 1226–1237, 2016.
26. Y. Tang. Coordination of multi-agent systems under switching topologies via disturbance observer based approach. *International Journal of Systems Science*, 47(16): 3900–3907, 2016.
27. Y. Tang, Y. Hong, and X. Wang. Distributed output regulation for a class of nonlinear multi-agent systems with unknown-input leaders. *Automatica*, 62(1): 154–160, 2015.
28. Y. Tang. Output consensus of nonlinear multi-agent systems with unknown control directions. *Kybernetika*, 51(2): 335–346, 2015.
29. Y. Tang. Leader-following coordination problem with an uncertain leader in a multi-agent system. *IET Control Theory & Applications*, 8(10): 773–781, 2014.
30. Y. Tang, Y. Hong. Hierarchical control design of multi-agent networks with approximate simulation. *Acta Automatica Sinica*, 39(6): 868–874, 2013.
31. L. Gao, Y. Tang, W. Chen and H. Zhang. Consensus seeking in multi-agent systems with an active leader and communication delays. *Kybernetika*, 47(5): 773–789, 2011.

Conference Papers

1. C. Xu, Y. Zhang, C. Hu, Z. Li, and Y. Tang. Nash equilibrium seeking with disturbance rejection. In *Proc. of 44th Chinese Control Conference (CCC)*: 6094–6098, Chongqing, 2025.

2. R. Li, Y. Zhang, Y. Tang, and S. Li. Event-based consensus control for positive multi-agent systems over time-varying graphs. In Proc. of 37th Chinese Control and Decision Conference (CCDC): 5683–5688, Xiamen, 2025.
3. Z. Zhuang, Y. Tang, C. Zhong, and S. Meng. Optical flow graph clustering based visual SLAM in dynamic environments. In Proc. of 37th Chinese Control and Decision Conference (CCDC): 5059–5064, Xiamen, 2025.
4. Z. Jiang, C. Xu, Y. Zhang, and Y. Tang. Minimization of finite sums with disturbed gradients. In Proc. of 43rd Chinese Control Conference (CCC): 5955–5959, Kunming, 2024.
5. X. Zheng, Y. Zhang, C. Hu, and Y. Tang. Online Nash equilibrium seeking with time-varying payoff functions. In Proc. of 14th Asian Control Conference (ASCC): 2402–2406, Dalian, 2024.
6. Y. Zhang, Y. Tang. Distributed projection algorithm for solving variational inequalities. In Proc. of 8th International Conference on Network Intelligence and Digital Content (IC-NIDC): 285–289, Beijing, 2023.
7. Y. Tang, X. Zheng. Nash equilibrium seeking for a class of uncertain nonlinear multi-agent systems. In Proc. of 42nd Chinese Control Conference (CCC): 809–813, Tianjin, 2023.
8. Y. Zhang, R. Li, and Y. Tang. Solving linear equations with disturbance rejection. In Proc. of 41st Chinese Control Conference (CCC): 4926–4931, Hefei, 2022.
9. Y. Tang. Distributed Nash equilibrium seeking algorithms for uncertain linear multi-agent systems. In Proc. of 13th Asian Control Conference (ASCC): 2277–2281, Jeju Island, 2022.
10. K. Zhu, Y. Tang. Optimal consensus with inexact first-order information. In Proc. of 40th Chinese Control Conference (CCC): 5499–5503, Shanghai, 2021.
11. Y. Tang, H. Liu, R. Li, and K. Zhu. Distributed optimization for high-order multi-agent systems via event-triggered control. In Proc. of 40th Chinese Control Conference (CCC): 5385–5389, Shanghai, 2021.
12. F. Chen, J. Zheng, and Y. Tang. Modified LSTM-CNN model for arrhythmia classification with mixed handcrafted features. In Proc. of 33rd Chinese Control and Decision Conference (CCDC): 1858–1862, Kunming, 2021. (**Most Popular Academic Works Award**)
13. Y. Tang. Distributed optimization for uncertain linear multi-agent systems by integral control. In Proc. of 16th IEEE International Conference on Control & Automation (ICCA): 546–551, Sapporo, 2020.
14. K. Zhu, H. Zhu, and Y. Tang. On the boundedness of subgradients in distributed optimization. In Proc. of 39th Chinese Control Conference (CCC): 4912–4917, Shenyang, 2020.
15. Y. Tang. Distributed optimization for multi-agent systems with unknown high-frequency-gain signs. In Proc. of 39th Chinese Control Conference (CCC): 599–603, Shenyang, 2020.
16. Y. Tang, H. Zhu, and X. Lv. Distributed optimization for discrete-time linear multi-agent systems. In Proc. of 38th Chinese Control Conference (CCC): 5665–5669, Guangzhou, 2019.
17. Y. Tang, H. Zhu. Distributed optimization for high-order nonlinear multi-agent systems with unknown dynamics. In Proc. of 37th Chinese Control Conference (CCC), Wuhan, 2018.
18. Y. Tang, X. Wang. Optimal output consensus for a class of uncertain nonlinear multi-agent systems. In Proc. of 2018 American Control Conference (ACC): 2059–2064, Milwaukee, 2018.
19. Y. Tang, H. Zhu. Optimal steady-state regulation of multi-agent systems with embedded technique (extended abstract). In Proc. of 23rd International Symposium on Mathematical Theory of Networks and Systems (MTNS): 101–103, Hong Kong, 2018.
20. Y. Tang. Distributed optimal steady-state regulation in linear multi-agent systems. In Proc. of 36th Chinese Control Conference (CCC): 8524–8529, Dalian, 2017.
21. Y. Tang. Output regulation with unknown-input exosystems. In Proc. of 35th Chinese Control Conference (CCC): 631–636, Chengdu, 2016.
22. Y. Tang. A hierarchical control approach for average consensus over heterogeneous multi-agent systems. In Proc. of 35th Chinese Control Conference (CCC): 7622–7627, Chengdu, 2016.
23. Y. Tang, Y. Hong, and P. Yi. Distributed optimization design based on passivity technique. In Proc. of 12th IEEE International Conference on Control & Automation (ICCA): 732–737, Kathmandu, 2016.
24. Y. Tang. Coordination of heterogeneous nonlinear multi-agent systems with prescribed behaviors. In Proc. of 34th Chinese Control Conference (CCC): 7451–7456, Hangzhou, 2015.
25. Y. Tang, Y. Hong. Hierarchical control design of nonlinear systems based on approximate simulation. In Proc. of 32nd Chinese Control Conference (CCC): 285–290, Xi'an, 2013.
26. Y. Tang, Y. Hong. Hierarchical control design of nonlinear systems based on approximate simulation. In Proc. of 12th International Conference on Control Automation Robotics & Vision (ICARCV): 566–571, Guangzhou, 2012.

27. Y. Tang, Y. Hong. Hierarchical control design of multi-agent networks with approximate simulation. In Proc. of 31st Chinese Control Conference (CCC): 285–290, Hefei, 2012.
28. Y. Tang, Y. Hong. Control design for flexible hierarchical formation of multiple robots. In Proc. of 10th World Congress on Intelligent Control and Automation (WCICA): 3595–3600, Beijing, 2012.
29. Y. Tang, Y. Hong. Tracking a high-dimensional active leader of switching multi-agent systems with communication delays. In Proc. of 30th Chinese Control Conference (CCC): 4926–4931, Yantai, 2011.

COURSES

Modern Control Theory	2023 –
Fundamentals of Sensor and Measurement Technology	2023 –
Nonlinear Control	2021 –
Sensor and Measurement Technology	2022 – 2022
Intelligent Sensing Technologies and Applications	2021 – 2023
Testing Technology and Signal Processing	2015 – 2022
Experiments in Automatic Control	2015 – 2021
Experiments in Analog Circuits	2015 – 2018
Experiments in Digital Circuits	2015 – 2019
Automatic Measuring Instruments and Devices	2014 – 2020