

# HAI LIN

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## EDUCATION

Ph.D., University of Notre Dame, USA, Electrical Engineering Aug. 2005  
M.S., University of Notre Dame, USA, Electrical Engineering May. 2002  
M.S., Chinese Academy of Sciences, China, Systems and Control July. 2000  
B.S., University of Science and Technology Beijing, China, Automatic Control July. 1997

## RESEARCH INTEREST

My research focuses on the multidisciplinary study of the problems at the intersection of control, networks, computation and life sciences. In particular, my current research thrusts include

**Cyber-Physical Systems:** with the aim to build theoretical foundations for a provably correct formal design of large scale cyber-physical systems.

**Multi-robot Cooperative Tasking:** with the aim to develop a scalable and provably correct design method that can guarantee the accomplishment of high-level team missions in uncertain environments through automatic synthesis of local coordination mechanisms and control laws.

## WORKING EXPERIENCE

Associate Professor, University of Notre Dame June. 2015 - Present  
Assistant Professor, University of Notre Dame Jan. 2012 - May. 2015  
Assistant Professor, National University of Singapore May. 2006 - Dec. 2011  
Postdoctoral Research Associate, University of Notre Dame Sep. 2005 - May, 2006

## TEACHING EXPERIENCE

Advanced Control Systems Spring, 2015  
Cyber-Physical Systems: Verification Fall, 2014  
Discrete Event Systems Spring, 2014  
Control Systems Fall, 2012 - 2013  
Hybrid Dynamical Systems Spring, 2012 - 2013; Fall, 2015  
Modeling for Mechatronic Systems Fall, 2008 - 2011  
Matlab and Labview for EE Spring, 2008 - 2011  
Signals Spring & Fall, 2006 - 2011  
Analytical Methods Spring, 2007

## PROFESSIONAL ACTIVITIES

**Editorial Work:** Associate Editor for IEEE Transactions on Automatic Control (2016-present); Associate Editor for Journal of Intelligent & Robotic Systems (2012-present); Associate Editor for Unmanned Systems (2012-present); Associate Editor for Control Theory and Technology (2013-present); Associate Editor for IEEE Conference Editorial Board (2008-present).

**Committee Work:** Committee Chair for IEEE CSS Discrete Event Systems Technical (2016-present); Committee member for IFAC Technical Committee on Discrete Event and Hybrid Systems (2012-present); Publication Chair for the 12th IEEE International Conference on Control & Automation (ICCA) 2016; Program committee member for the 5th IFAC Conference on Analysis and Design of

Hybrid Systems (ADHS) 2015; Publication Chair for ICCA 2014 and 2013; Registration Chair for the 21st Mediterranean Conference on Control and Automation (MED), 2013; Program Chair for the 5th IEEE International Conference on Cybernetics and Intelligent Systems (CIS) 2011; Program Chair for the 4th IEEE International Conference on Cybernetics and Intelligent Systems (CIS) 2010; Registration Chair for ICCA 2009 and 2010, etc.

**Society Work:** Vice-Chair, IEEE Systems, Man and Cybernetics Singapore Chapter (2011); Chair, IEEE Systems, Man and Cybernetics Singapore Chapter (2009, 2010); Financial Chair, IEEE Systems, Man and Cybernetics Singapore Chapter (2007-2009), etc.

**Invited Talks:** Invited visit and talks at the Academy of Mathematics and Systems Science, Chinese Academy of Sciences, Aug 2015; Invited visit and talk at the University of Connecticut, Oct 2014; Invited visit and talk at the Mitsubishi Electric Research Laboratories in Boston, Oct 2014; Invited summer school lectures at the University of Science and Technology, China, July 2014; Invited panel talk at the 30th IEEE International Conference on Data Engineering, Chicago, March 31-April 4, 2014; Invited visit and talk at the University of Denver, November 2013; Invited talk at the 2nd Midwest Workshop on Game and Control Theory, Notre Dame, April 2013; Invited visit and talk at the University of Denver, May 2012; Invited talk at the 1st Midwest Workshop on Game and Control Theory, UIUC, April 2012; Invited visit and talk at the Northeastern University, September 2011; Invited talk at the Boston University, June 2011; Invited Speaker for the 2010 Summer School on Intelligent Robotics, Chengdu, August 2010; Invited keynote for the 1st International Workshop on Control Systems Science and Engineering, Chengdu, August 2010; Invited Speaker for the International Workshop on Recent Advances in Control Engineering and Sciences, Xiamen, August 2010; Invited talk at the Nanyang Technological University, Singapore, April 2008, etc.

**Panelist:** for National Science Foundation of USA (2012-present).

**Book Reviewer:** for IEEE Transactions on Automatic Control.

**Membership:** IEEE Senior Member (2010-present); IEEE Member (2005-2010).

## FUNDED PROJECTS

### On-going Projects

1. NSF CAREER: Multi-robot cooperative tasking through local coordination design (PI), 400,000 USD, 2013-2018.
2. NSF CPS Synergy: Dependable Multi-Robot Cooperative Tasking in Uncertain and Dynamic Environments (Lead-PI), 1,400,000 USD, 2015-2018.
3. NSF CPS Synergy: Resilient Wireless Sensor-Actuator Networks (co-PI), 1,000,000 USD, 2012-2015.

### Completed Projects in Singapore

1. TL: Coordination and Control of Multi-Robot Systems: Hybrid System Approaches (PI), 2009-2012.
2. TDSI: Development of a Sophisticated 3D Indoor Navigation System for UAVs (co-PI), 2010-2012.
3. TDSI: Cooperative Reconfiguration Control for Multiple UAVs (PI), 2008-2011.
4. NUS: The Regulatory Effects of miRNAs in Glioma Cells: Systems Biology Approach (PI), 2007-2008.
5. FRC: Efficient Controller Synthesis for Uncertain Hybrid Systems (PI), 2006-2009.

## SUPERVISED STUDENTS

### Current Students at the University of Notre Dame

Bo Wu, *Networked control systems*, Ph.D. Student (2011-Present)

On-going

Jin Dai, <i>Resilient cyber-physical systems</i> , Ph.D. Student (2011-Present)	On-going
Alireza Partovi, <i>Smart waste water distribution systems</i> , Ph.D. Student (2012-Present)	On-going
Xiaobin Zhang, <i>Human-machine collaboration</i> , Ph.D. Student (2012-Present)	On-going
Yinhao Zhu, <i>Synthesis of probabilistic systems</i> , Ph.D. Student (2014-Present)	On-going
Rafael RodriguesDaSilva, <i>Multi-robot coordination</i> , Ph.D. Student (2014-Present)	On-going
Samuel Silva, <i>Formation control</i> , M.S. Student (2014-Present)	On-going
Bowen Xing, <i>Networked control systems</i> , Ph.D. Exchange Student (2014-2016)	On-going
Kangling Liu, <i>Fault tolerant control</i> , Ph.D. Exchange Student (2015-2016)	On-going
Junhui Liu, <i>Hybrid optimal control</i> , Ph.D. Exchange Student (2015-2016)	On-going
Qian Liu, <i>Formal methods in control</i> , Ph.D. Exchange Student (2015-2017)	On-going

### Students Supervised at the National University of Singapore

Xiaoyang Li, <i>Stochastic control systems</i> , Ph.D. (2008-2013)	Graduated
Ali Karimadini, <i>Hybrid control for unmanned aerial vehicles</i> , Ph.D. (2008-2013)	Graduated
Xiaomeng Liu, <i>Multi-robot coordination</i> , Ph.D. (2008-2012)	Graduated
Yajuan Sun, <i>Hybrid symbolic control</i> , Ph.D. (2008-2012)	Graduated
Zhengui Xue, <i>Quantum feedback control</i> , Ph.D. (2008-2012)	Graduated
Mohammad Karimadini, <i>Cooperative tasking in multi-agent systems</i> , Ph.D. (2007-2012)	Graduated
Yang Yang, <i>Systems biology research</i> , Ph.D. (2006-2011)	Graduated
Alireza Partovi, <i>Micro aerial vehicles design and flight control</i> , M.Eng. (2009-2012)	Graduated
Jin Yao, <i>Vision-based navigation for unmanned aerial vehicles</i> , M.Eng. (2010-2012)	Graduated
Zamani Mohsen, <i>Controllability of multi-agent systems</i> , M.Eng. (2007-2009)	Graduated

### PUBLICATIONS

#### Book

- [B-1] H. Lin and P. J. Antsaklis, *Hybrid Dynamical Systems: Fundamentals and Methods*, Springer, to appear in 2016.

#### Book Review

- [BR-1] H. Lin, Review of the book *Switched Linear Systems: Control and Design* (Z. Sun and S.S. Ge, London: Springer-Verlag, 2005), *IEEE Transactions on Automatic Control*, vol. 51, no. 9, pp. 1585-1586, 2006.
- [BR-2] H. Lin, Review of the book *Constrained Optimal Control of Linear and Hybrid Systems* (Francesco Borelli, Berlin: Springer-Verlag, 2003), *IEEE Transactions on Automatic Control*, vol. 50, no. 7, pp. 1069-1070, 2005.

#### Book Chapters

- [BC-1] A. Karimodini, G. Cai, B. M. Chen, H. Lin, and T. H. Lee, "Hierarchical control design of a UAV helicopter," in *Advances in Flight Control Systems*, Chp 12, , pp.239-260, INTECH, 2011.
- [BC-2] H. Lin and P. J. Antsaklis, "Hybrid dynamical systems: Stability and stabilization," Chapter 30 in *The Control Handbook*, W. S. Levine Ed., 2010, in press. (Invited Chapter)
- [BC-3] H. Lin and P. J. Antsaklis, "Robust regulation of polytopic uncertain linear hybrid systems with networked control system applications," Chapter in *Stability and Control of Dynamical Systems with Applications*, D. Liu and P. J. Antsaklis Eds., Chp. 4, pp. 83-108, Birkhäuser, 2003. (Invited Chapter)

#### Editorial for Journal

- [Ed-1] H. Lin and Z. Ji, *Transactions of the Institute of Measurement and Control*, Vol. 32, no. 5, pp. 443-444, 2010.

### Journal Papers

- [J-1] Q. Li and H. Lin, “Effects of Mixed-Modes on the Stability Analysis of Switched Time-Varying Delay Systems,” to appear in *IEEE Transactions on Automatic Control*, 2016.
- [J-2] T. Li, H. Lin, and J. Zhao, “Cooperative optimization with inseparable cost functions,” to appear in *IET Control Theory & Applications*, 2015.
- [J-3] Z. Ji, H. Lin, and H. Yu, “Protocols design and uncontrollable topologies construction for multi-agent networks,” *IEEE Transactions on Automatic Control*, vol. 60, no. 3, pp. 781-786, 2015.
- [J-4] K. Liu, Z. Fei, B. Yue, J. Liang, and H. Lin, “Adaptive sparse principal component analysis for enhanced process monitoring and fault isolation,” *Chemometrics and Intelligent Laboratory Systems*, vol. 146, pp. 426-436, 2015.
- [J-5] Q. Quan, K.Y. Cai, and H. Lin, “Additive-state-decomposition-based tracking control framework for a class of nonminimum phase systems with measurable nonlinearities and unknown disturbances,” *International Journal of Robust and Nonlinear Control*, vol. 25, no. 2, pp. 163-178, 2015.
- [J-6] A. Karimoddini and H. Lin, “Hierarchical hybrid symbolic robot motion planning and control,” *Asian Journal of Control*, vol. 17, no. 1, pp. 23-33, 2015.
- [J-7] M. Karimadini, A. Karimoddini, and H. Lin, “Cooperative tasking for deterministic specification automata,” to appear in *Asian Journal of Control*, 2015.
- [J-8] H. Lin and P. J. Antsaklis, “Hybrid dynamical systems: An introduction to control and verification,” *Foundations and Trends in Systems and Control*, vol 1, no. 1., pp. 1-172, 2014.
- [J-9] H. Lin, “Mission Accomplished: An introduction to formal methods in mobile robot motion planning and control,” *Unmanned Systems*, vol 2, no. 2., pp. 201-216, 2014.
- [J-10] Y. Sun, H. Lin, and B. M. Chen, “Bisimilarity enforcing supervisory control for deterministic specifications,” *Automatica*, vol. 50, no. 1, pp. 287-290, 2014.
- [J-11] A. Karimoddini, H. Lin, B. M. Chen, and T. H. Lee, “Hierarchical hybrid modeling and control of an unmanned helicopter,” *International Journal of Control*, vol. 87, No. 9, pp. 1779-1793, 2014.
- [J-12] J. Dai and H. Lin, “A learning-based synthesis approach to decentralized supervisory control of discrete event systems with unknown plants,” *Control Theory and Technology*, vol. 12, no. 3, pp. 218-233, 2014.
- [J-13] X. Liu, H. Lin, and B. M. Chen, “Structural controllability of switched linear systems,” *Automatica*, vol. 49, no. 12, pp. 3531-3537, 2013.
- [J-14] Z. Xue, H. Lin, and T. H. Lee, “Identification of unknown parameters for a class of two-level quantum systems,” *IEEE Transactions on Automatic Control*, vol. 58, no. 7, pp. 1805-1810, 2013.
- [J-15] A. Karimoddini, H. Lin, B. M. Chen, and T. H. Lee, “Hybrid three-dimensional formation control for unmanned helicopters,” *Automatica*, vol. 49 no. 2, pp. 424-433, 2013.
- [J-16] X. Liu, H. Lin, and B. M. Chen, “Graph-theoretic characterizations of structural controllability for multi-agent system with switching topology,” *International Journal of Control*, vol. 86, no. 2, pp. 222-231, 2013.

- [J-17] A. Karimoddini, H. Lin, B. M. Chen, and T. H. Lee, "A Bumpless Hybrid Supervisory Control Algorithm for the formation of Unmanned Helicopters," *Mechatronics*, vol. 23, no. 6, pp. 677-688, 2013.
- [J-18] F. Liu and H. Lin, "Reliable decentralized supervisors for discrete event systems under communication delays: Existence and verification," *Asian Journal of Control*, vol. 15, no. 5, pp. 1346-1355, 2013.
- [J-19] Q. Quan, H. Lin, and K.Y. Cai, "Output feedback tracking control by additive state decomposition for a class of uncertain systems," *International Journal of Systems Science*, 2013.  
DOI:10.1080/00207721.2012.757379
- [J-20] S. Zhao, J. Sun, and H. Lin, "Hybrid impulsive control for closed quantum systems," *The Scientific World Journal*, vol: 2013, Article ID: 545091, 2013.
- [J-21] S. Zhao, H. Lin, J. Sun, and Z. Xue, "An implicit Lyapunov control for finite-dimensional closed quantum systems," *International Journal of Robust and Nonlinear Control*, vol. 22, no. 11, pp. 1212-1228, 2012.
- [J-22] S. Zhao, H. Lin, and Z. Xue, "Switching control of closed quantum systems via Lyapunov method," *Automatica*, vol. 48, no. 8, pp. 1833-1838, 2012.
- [J-23] Y. Sun, H. Lin, and B. M. Chen, "An input-output simulation approach to controlling multi-affine systems for linear temporal logic specifications," *International Journal of Control*, vol. 85, no. 10, pp. 1464-1476, 2012.
- [J-24] Z. Ji, H. Lin, and H. Yu, "Leaders in multi-agent controllability under consensus algorithm and tree topology," *Systems & Control Letters*, vol. 61, no. 9, pp. 918-925, 2012.
- [J-25] Z. Xue, H. Lin, and T. H. Lee, "Analysis and control of closed quantum systems based on real-valued dynamics," *IET Control Theory & Applications*, vol. 6, no. 16, pp. 2576-2584, 2012.
- [J-26] X. Wang and H. Lin, "Design and frequency analysis of continuous finite-time-convergent differentiator," *Aerospace Science and Technology*, vol. 18, no. 1, pp. 69-78, 2012.
- [J-27] Q. Ling, H. Gu, H. Lin, and Y. Kang, "Bounds on the optimal quantization performance of dynamically quantized linear systems with bounded noise," *Asian Journal of Control*, vol. 14, no. 2, pp. 538-547, 2012.
- [J-28] S. Zhao, J. Sun, and H. Lin, "Geometric analysis of reachability and observability for impulsive systems on complex field," *Journal of Applied Mathematics*, vol. 2012, Article ID 876120, 12 pages, 2012. doi:10.1155/2012/876120.
- [J-29] W. Gu, C. Xiang, Y. V. Venkatesh, D. Huang and H. Lin, "Facial Expression Recognition using Radial Encoding of Local Gabor Features and Classifier Synthesis," *Pattern Recognition*, vol. 45, no. 1, pp. 80-91, 2012.
- [J-30] M. Karimadini and H. Lin, "Fault-tolerant cooperative tasking for multi-agent systems," *International Journal of Control*, vol. 84, no. 12, pp. 2092-2017, 2011.
- [J-31] M. Karimadini and H. Lin, "Guaranteed global performance through local coordinations," *Automatica*, vol. 47, no. 5, pp. 890-898, 2011.
- [J-32] A. Karimoddini, H. Lin, B. M. Chen, and T. H. Lee, "Hybrid formation control of unmanned aerial vehicles," *Mechatronics*, vol. 21, no. 5, pp. 886-898, 2011.
- [J-33] X. Wang and H. Lin, "Design and control for rotor-fixed wing hybrid aircraft," *Proceedings of the Institution of Mechanical Engineers, Part G, Journal of Aerospace Engineering*, vol. 225, no. 7, 831-847, 2011.

- [J-34] F. Liu, H. Lin, and Z. Dziong, “Bisimilarity control of partially observed nondeterministic discrete event systems and a test algorithm,” *Automatica*, vol. 47, no. 4, pp. 782-788, 2011.
- [J-35] X. Liu, H. Lin, and B. M. Chen, “Null controllability of planar bimodal piecewise linear systems,” *International Journal of Control*, vol. 88, no. 4, pp. 766-782, 2011.
- [J-36] X. Dong, B. M. Chen, G. Cai, H. Lin, and T. H. Lee, “Development of a comprehensive software system for implementing cooperative control of multiple unmanned aerial vehicles,” *International Journal of Robotics and Automation*, vol. 26, No. 1, pp. 49-63, 2011.
- [J-37] X. Wang and H. Lin, “Design and analysis of continuous hybrid differentiator,” *IET Control Theory & Applications*, vol. 5, no. 11, pp. 1321-1334, 2011.
- [J-38] Z. Ji, H. Lin, G. Feng, and X. Guo, “Controllability structure decomposition for switched linear systems,” *Transactions of the Institute of Measurement and Control*, vol. 32, no. 6, pp. 736-755, 2010. (Invited Paper)
- [J-39] F. Liu and H. Lin, “Reliable supervisory control for general architecture of decentralized discrete event systems,” *Automatica*, vol. 46, no. 9, pp. 1510-1516, 2010.
- [J-40] H. Lin and P. J. Antsaklis, “Asymptotic disturbance attenuation properties for uncertain switched linear systems” *Nonlinear Analysis: Hybrid Systems*, vol. 4, no. 2, pp. 279-290, 2010. (Invited Paper)
- [J-41] Z. Huang, C. Xiang, H. Lin, and T.H. Lee, “Necessary and sufficient conditions for regional stabilizability of generic switched linear systems with a pair of planar subsystems,” *International Journal of Control*, vol. 83, no. 4, pp. 694-715, 2010.
- [J-42] Z. Ji, Z. Wang, H. Lin, and Z. Wang, “Controllability of multi-agent systems with time-delay in state and switching topology,” *International Journal of Control*, vol. 83, no. 2, pp. 371-386, 2010.
- [J-43] S. Dai, H. Lin, and S. Ge, “Scheduling and control co-design for a collection of networked control systems with uncertain delays,” *IEEE Transactions on Control Systems Technology*, vol. 18, no. 1, pp. 66-78, 2010.
- [J-44] Q. Ling, M. Lemmon, and H. Lin, “Asymptotic stabilization of dynamically quantized nonlinear systems in feedforward form,” *Journal of Control Theory and Applications*, vol. 8, no. 1, pp. 27-33, 2010. (Invited Paper)
- [J-45] Z. Ji, Z. Wang, H. Lin, and Z. Wang, “Interconnection topologies for multi-agent coordination under leader-follower framework,” *Automatica*, vol. 45, no. 12, pp. 2857-2863, 2009.
- [J-46] Z. Ji, H. Lin, and T. H. Lee, “A new perspective on criteria and algorithms for reachability of discrete-time switched linear systems,” *Automatica*, vol. 45, no. 6, pp. 1584-1587, 2009.
- [J-47] Y. Yang, K. S. Lee, C. Xiang and H. Lin, “Biological mechanisms revealed by a mathematical model for p53-Mdm2 core regulation,” *IET Systems Biology*, vol. 3, no. 4, pp. 229-238, 2009.
- [J-48] H. Lin and P. J. Antsaklis, “Stability and stabilizability of switched linear systems: A survey of recent results,” *IEEE Transactions on Automatic Control*, vol. 54, no. 2, pp. 308 - 322, 2009.
- [J-49] H. Lin, “Hybrid output feedback stabilization for LTI systems with single output,” *IEEE Transactions on Automatic Control*, vol. 53, no. 7, 1736-1740, 2008.
- [J-50] H. Lin and P. J. Antsaklis, “Hybrid state feedback stabilization with  $l_2$  performance for discrete-time switched linear systems,” *International Journal of Control*, vol. 81, no. 7, pp. 1114 - 1124, 2008.
- [J-51] J. Sun and H. Lin, “Stationary oscillation of impulsive delayed system and its application to chaotic neural networks,” *Chaos*, vol. 18, no. 3, pp. 1054-1500, 2008.

- [J-52] H. Lin and P. J. Antsaklis, "Switching stabilizability for continuous-time uncertain switched linear systems," *IEEE Transactions on Automatic Control*, vol. 52, No. 4, pp. 633-646, 2007.
- [J-53] G. Zhai, X. Xu, H. Lin and D. Liu, "Extended Lie Algebraic Stability Analysis for switched systems with continuous-time and discrete-time subsystems," *Int. J. Appl. Math. Comput. Sci.*, vol. 17, no. 4, pp. 447-454, 2007.
- [J-54] G. Zhai, H. Lin, X. Xu, J. Imae, and T. Kobayashi, "Analysis of switched normal discrete-time systems," *Nonlinear Analysis, Theory, Methods and Applications*, vol. 66, no. 8, 2007, pp. 1788-1799.
- [J-55] G. Zhai, X. Xu, H. Lin, and A. N. Michel, "Analysis and design of switched normal systems," *Nonlinear Analysis, Theory, Methods and Applications*, vol. 65, no. 12, pp. 2248-2259, 2006.
- [J-56] H. Lin, G. Zhai, and P. J. Antsaklis, "Optimal persistent disturbance attenuation control for linear hybrid systems," *Nonlinear Analysis, Theory, Methods and Applications*, vol. 65, no. 6, pp. 1231-1250, 2006. (Invited Paper)
- [J-57] H. Lin, G. Zhai, and P. J. Antsaklis, "Asymptotic stability and disturbance attenuation properties for a class of networked control systems," *Journal of Control Theory and Applications*, vol. 4, no. 1, 2006, pp. 76-85. (Invited Paper)
- [J-58] H. Lin and P. J. Antsaklis, "Stability and persistent disturbance attenuation properties for networked control systems: Switched system approach," *International Journal of Control*, vol. 78, no. 18, pp. 1447-1458, 2005.
- [J-59] G. Zhai, H. Lin, Y. Kim, J. Imae, and T. Kobayashi, " $\mathcal{L}_2$  gain analysis for switched systems with continuous-time and discrete-time subsystems," *International Journal of Control*, vol. 78, no. 15, pp. 1198-1205, 2005.
- [J-60] G. Zhai and H. Lin, "Controller failure time analysis for symmetric  $\mathcal{H}_\infty$  control systems," *International Journal of Control*, vol. 77, no. 6, pp. 598-605, 2004.
- [J-61] H. Lin, G. Zhai, and P. J. Antsaklis, "Set-valued observer design for a class of uncertain linear systems with persistent disturbance and measurement noise," *International Journal of Control*, vol. 76, no. 16, pp. 1644-1653, 2003.
- [J-62] G. Zhai, H. Lin, A. N. Michel, and K. Yasuda "Stability analysis for switched systems with continuous time and discrete time subsystems," *International Journal of Hybrid Systems*, vol. 3, no. 4, pp. 305-320, 2003.
- [J-63] G. Zhai, H. Lin, and P. J. Antsaklis, "Quadratic stabilizability of switched linear systems with polytopic uncertainties," *International Journal of Control*, vol. 76, no. 7, pp. 747-753, 2003.
- Submitted and Under Review*
- [J-64] Z. Ji, H. Lin, H. Yu, and L. Xiong, "A unified viewpoint on multi-agent controllability under linear consensus algorithm," submitted for publication, 2015.
- [J-65] S. Zhao, H. Lin, J. Sun, and L. Zhou, "Implicit Lyapunov-based control strategy for closed quantum systems with dipole and polarizability coupling," submitted for publication, 2015.
- [J-66] X. Zhu and H. Lin, "Sampled-data fuzzy stabilization of nonlinear systems under nonuniform sampling," submitted for publication, 2015.
- [J-67] Q. Ling, W. Zheng, and H. Lin, "An Iterative Method for Control Gain Design of Multi-Agent Systems with Process Noise," submitted for publication, 2015.
- [J-68] B. Wu and H. Lin, "Formal methods for stability analysis of networked control systems with IEEE 802.15.4 protocol," submitted for publication, 2015.

**Conference Papers**

- [C-1] X. Zhang, B. Wu, and H. Lin, “Counterexample-guided permissive supervisor synthesis for probabilistic systems through learning,” in *Proc. of the 54th IEEE Conference on Decision and Control*, Osaka, Japan, December 15-18, 2015.
- [C-2] B. Wu, J. Dai, and H. Lin, “Combined Top-Down and Bottom-Up Approach to Cooperative Distributed Multi-Agent Control with Connectivity Constraints,” in *Proc. of the 5th IFAC Conference on Analysis and Design of Hybrid Systems*, Atlanta, Georgia, October 14-16, 2015.
- [C-3] S. Zhao, H. Lin, J. Sun, and L. Zhou, “State transfer for closed quantum systems with dipole and polarizing coupling via implicit Lyapunov control,” in *Proc. of the 34th Chinese Control Conference and SICE Annual Conference 2015*, Hangzhou, China, July 28-30, 2015.
- [C-4] B. Wu and H. Lin, “Counterexample-guided permissive supervisor synthesis for probabilistic systems through learning,” in *Proc. of the 2015 American Control Conference*, Chicago, IL, July 1-3, 2015.
- [C-5] J. Dai and H. Lin, “Learning-based design of fault-tolerant cooperative multi-agent systems,” in *Proc. of the 2015 American Control Conference*, Chicago, IL, July 1-3, 2015.
- [C-6] Xiaobin Zhang and H. Lin, “Stochastic hybrid systems modeling and performance verification of behavior-based robots,” in *Proc. of the 2015 American Control Conference*, Chicago, IL, July 1-3, 2015.
- [C-7] B. Wu, H. Lin, and M. Lemmon, “Formal methods for stability analysis of networked control systems with IEEE 802.15.4 protocol,” in *Proc. of the 53rd IEEE Conference on Decision and Control*, Los Angeles, CA, December 15-17, 2014.
- [C-8] J. Dai and H. Lin, “Automatic synthesis of cooperative multi-agent systems,” in *Proc. of the 53rd IEEE Conference on Decision and Control*, Los Angeles, CA, December 15-17, 2014.
- [C-9] T. Li, J. Zhao, and H. Lin, “Feedback stabilization of switched delay systems under data rate constraints,” in *Proc. of the 33rd Chinese Control Conference*, Nanjing, China, July 28-30, 2014.
- [C-10] J. Dai and H. Lin, “Decentralized supervisory control of discrete event systems with unknown plants: A learning-based synthesis approach,” in *Proc. of the 11th IEEE International Conference on Control and Automation*, Taichung, Taiwan, June 18-20, 2014.
- [C-11] B. Wu, H. Lin, and M. Lemmon, “Stability analysis for wireless networked control system in unslotted IEEE 802.15.4 protocol,” in *Proc. of the 11th IEEE International Conference on Control and Automation*, Taichung, Taiwan, June 18-20, 2014.
- [C-12] A. Partovi and H. Lin, “Assume-guaranteed cooperative satisfaction,” in *Proc. of the 2014 American Control Conference*, Portland, OR, June 4-6, 2014.
- [C-13] A. Karimoddini, M. Karimadini, and H. Lin, “Decentralized hybrid formation control of unmanned aerial vehicles,” in *Proc. of the 2014 American Control Conference*, Portland, OR, June 4-6, 2014.
- [C-14] A. Karimoddini and H. Lin, “Hybrid symbolic control for robot motion planning,” in *Proc. of the 10th IEEE International Conference on Control and Automation*, pp. 1650-1655, Hangzhou, China, June 12-14, 2013.
- [C-15] A. Karimoddini, H. Lin, B. M. Chen, and T. H. Lee, “A smooth hybrid symbolic control for the formation of UAVs over a partitioned space,” in *Proc. of the 2013 American Control Conference*, June 17-19, Washington, DC.
- [C-16] Z. Ji, H. Lin, and H. Yu, “Protocol design for network controllability of multiple agents,” in *Proc. of the 32nd Chinese Control Conference*, Xi’an, China, July 26-28, 2013.



- [C-17] Z. Ji, H. Lin, and J. Gao, "Eigenvector based design of uncontrollable topologies for networks of multiple agents," in *Proc. of the 32nd Chinese Control Conference*, Xi'an, China, July 26-28, 2013.
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