Wencen Wu

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Professional Positions

Assistant Professor
Department of Computer Engineering
San Jose State University

Aug. 2018 { present
San Jose, CA

Assistant Professor
Department of Electrical, Computer, and Systems Engineering
Rensselaer Polytechnic Institute

Nov. 2013 { June 2018
Troy, NY

Postdoctoral Fellow
School of Electrical and Computer Engineering
Georgia Institute of Technology

Aug. 2013 { Oct. 2013
Atlanta, GA

Education

Ph.D. in Electrical and Computer Engineering
Georgia Institute of Technology, Atlanta, GA
Sigma Xi Best Ph.D Thesis Award

Aug 2013

M.Sc. in Electrical and Computer Engineering
Georgia Institute of Technology, Atlanta, GA

Mar 2010

M.Sc. in Electronic, Information and Electrical Engineering
Shanghai Jiao Tong University, Shanghai, China

Mar 2009

B.Sc. in Electronic, Information and Electrical Engineering
Shanghai Jiao Tong University, Shanghai, China

Jun 2006

Research Interests

Robotics, machine learning, estimation theory, and control theory as applied to cyber-physical systems and autonomous multi-robot systems in challenging tasks

Sponsored Research Projects:

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Publications

Peer-reviewed Book Chapters

D. Chang, **W. Wu**, and F. Zhang, \Glider CT: Analysis and Experimental Validation", in *Distributed Autonomous Robotic Systems*, ser. Springer Tracts in Advanced Robotics. Springer, Volume 112, 285 - 298, 2016.

D. Chang, X. Liang, **W. Wu**, C. R. Edwards, and F. Zhang, \Real-time Modeling of Ocean Current for Navigating Underwater Glider Sensing Networks," ser. *Studies in Computational Intelligence*, Springer, ch. *Cooperative Robots and Sensor Networks*. Volume 507, pp 61-75, 2014.

Peer-reviewed Journal Papers

W. Wu, Y. Zhang, J. You, and M. Li, \Parameter Identi cation of Spatial-Temporal Varying Processes by a Multi-Robot System in Realistic Di usion Fields", Robotica, under review.

S. Al-Abri, **W. Wu**, F. Zhang, \A Gradient-Free 3-dimensional Source Seeking Strategy with Robustness

M. H. Jahnes, D. J. Glowny, T. A. Spa ord, J. L. Clough, E. S. Herkenham, **W. Wu**, and A. A. Julius, \Generating Enthusiasm for Mathematics Through Robotics", *2017 American Society for Engineering Education (ASEE) Annual Conference & Exposition*, 2017.

S. Chatterjee and **W. Wu**, \Cooperative Curve Tracking in Two Dimensions Without Explicit Estimation of the Field Gradient", *in Proc. of the IEEE 4th International Conference on Control, Decision and Information Technologies*, 0167-0712, 2017.

J. You, Y. Zhang, M. Li, K. Su, F. Zhang, and **W. Wu**, \Cooperative Parameter Identi cation of Advection-di usion Processes Using a Mobile Sensor Network", *in Proc. of the American Control Conference (ACC 2017)*, 3230 - 3236, 2017. (Invited paper)

M. Li, K. Su, Y. Zhang, J. You, and **W. Wu**, \Experimental Validation of Di usion Coe cient Identi cation Using a Multi-Robot System", *in Proc. of the 2016 IEEE MIT Undergraduate Research Technology Conference*, accepted, 2016.

J. You, F. Zhang, and **W. Wu**, \Cooperative Filtering for Parameter Identi cation of Di usion Processes", *in Proc. of the IEEE Conference on Decision and Control (CDC 2016)*, 4327-4333, 2016. (Invited paper)

L. Lu, J. You, and **W. Wu**, \Constrained Fast Source Seeking Using Two Nonholonomic Mobile Robots Without Gradient Estimation", *in Proc. of the American Control Conference (ACC 2016)*, 7295-7301, 2016.

W. Wu, A. Song, P. Varnell, and F. Zhang, \Cooperatively Mapping of the Underwater Acoustic Channel by Robot Swarms", in *Proc. of the 9th ACM International Conference on UnderWater Networks and Systems* (WUWNet14), Article no. 20, 2014.

D. Chang, **W. Wu**, and F. Zhang, \Glider CT: Analysis and Experimental Validation", in *Proc. of the International Symposium on Distributed Autonomous Robotic Systems*, 196-209, 2014. (**Best Paper Award Finalist**)

W. Wu, F. Zhang, and Y. Wardi, \Target Localization: Energy-Information Trade-o s using Mobile Sensor Networks", in *Proc. of the IEEE Conference on Decision and Control (CDC2014)*, 2944-2949, 2014.

W. Wu, D. Chang, and F. Zhang, "A Bio-inspired Robust 3D Plume Tracking Strategy Using Mobile Sensor Networks ," in *Proc. of the IEEE Conference on Decision and Control (CDC2013), 4571-4578, 2013.* (**Invited tutorial paper**)

W. Wu, D. Chang, and F. Zhang, "Glider CT: Reconstructing Flow Fields from Predicted Motion of Underwater Gliders", in *Proc. of the 8th ACM International Conference on Underwater Networks & Systems* (WUWNET13), Article No. 47, 2013.

W. Wu, F. Zhang, and Y. Wardi, \Energy-Information Tradeo s in Motion and Sensing for Target Localization," in *Proc. of the European Control Conference (ECC2013)*, 1250-1255, 2013.

D. Chang, **W. Wu**, D. R. Webster, M. Weissburg, and F. Zhang, \A Bio-inspired Pluming Tracking Algorithm for Mobile Sensing Swarms in Turbulent Flow," in *Proc. of the IEEE International Conference on Robotics and Auto92(Y)83(ou51(o)51((on)-37g-479(-442((In)28(vited)-329(C82(Be7333(1250-1255,)921-926.)]TJ/*

W. Wu and F. Zhang, \Curvature Based Cooperative Exploration of Three Dimensional Scalar Fields," in *Proc. of the 2010 American Control Conference (ACC2010)*, pp. 2909-2915, 2010.

Professional Activities

Grant Reviewer

{ NSF EPCN program (2015, 2016), CPS program (2016), and HBCU-RISE program (2016)

Peer Reviewer for Automatica, Robotica, Systems & Control Letters, Computer Networks, Cyber Physical Systems, IEEE Transactions on Robotics, IEEE Transactions on Automatic Control, IEEE Transactions on Control of Network Systems, IEEE Transactions on Control Systems Technology, IEEE Transactions on Cybernetics, IEEE Robotics and Automation Magazine, IEEE Robotics and Automation Letters, Journal of Marine Science and Engineering, IEEE International Conference on Robotics and Automation, IEEE Multi-conference on Systems and Control, IEEE International Conference on Decision and Control, IEEE/RSJ Conference on Intelligent Robots and Systems, American Control Conference, IEEE International Conference on Automation Science and Engineering, IEEE Global Communications Conference

Program Committee Member

{ 2015 IEEE 82nd Vehicular Technology Conference

{ 2012 Georgia Tech Decision and Control (DCL) Student Symposium

{ IEEE Manufacturing Automation & Robotics Controls Technical Committee

Organizer of the invited session: Recent Trends in Mobile Sensor Networks, 2015 IEEE Conference on Decision and Control

Publication Chair of 2014 ACM International Conference on UnderWater Networks and Systems

Publicity Chair of 2019 IEEE International Conference on Decentralized AppcP2sl5024(er)f681(ostruMan)e333(System