PERSONAL INFORMATION

Hung Manh La, Ph.D.

Director, Advanced Robotics and Automation (ARA) Lab

Associate Editor of IEEE Transactions on Human-Machine Systems

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SUMMARY

Dr. Hung La is an expert in Robotics and Control Systems. He has authored/co-authored over 85 papers in major journals and international conferences. Some of his papers have won best conference paper awards and best paper finalist (i.e., ICRA2017, ACC2009). He was a key member of the CAIT team (Rutgers University) who successfully developed the Robotic Assisted Bridge Inspection Tool (RABIT) for the Federal Highway Administration in 2013. He has managed over $2.5 Million of Federal funded projects (NSF, NASA, DOT) as the role of PI and Co-PI.

EDUCATION

- Post-Doctor in Robotics and Control Systems, Rutgers University, New Jersey, USA, Sept. 2011 - Aug. 2012 (Advisor: Prof. Nenad Gucunski)
- Ph.D. in Electrical and Computer Engineering, Oklahoma State University, Oklahoma, USA, Aug. 2007- Aug. 2011 (Advisor: Prof. Weihua Sheng)
- M.S. in Electrical and Computer Engineering, Thai Nguyen University of Technology, Vietnam, Aug. 2001- Aug. 2003 (Advisor: Prof. Lap Q. Vo)
- B.S. in Electrical Engineering, Thai Nguyen University of Technology, Vietnam, Aug. 1996 - May 2001 (Advisor: Prof. Vy V. Nguyen)

WORK APPOINTMENTS

- Assistant Professor (Tenure Track), Dept. of Computer Science and Eng., University of Nevada, Reno, Jul. 2014 to Present
- Research Faculty, Center for Advanced Infrastructure and Transportation, Rutgers University, Sept. 2012 to Aug. 2014
- Post-Doctor, Center for Advanced Infrastructure and Transportation, Rutgers University, Sept. 2011 to Aug. 2012.
- Grad Research Assistant, Electrical and Computer Engineering Dept., Oklahoma State University, Aug.2007 to Aug. 2011.
- Senior lecturer (tenured), Electrical Engineering Dept., Thai Nguyen University of Technology, Aug. 2003 to Aug. 2007.
- Lecturer, Electrical Engineering Dept., Thai Nguyen University of Technology, Sept. 2001 to Aug. 2003.

RESEARCH INTEREST

- Autonomous robotic systems
  - Autonomous vehicles/robots
  - Human/robot interactions and learning
- Mobile sensor networks/Multi-robot systems
  - Cooperative formation control, sensing and learning
  - Intelligent sensing and embedded computation
- Automation science and engineering
  - Civil infrastructure (bridges) inspection and evaluation
  - Intelligent transportation systems
- Dynamic systems and controls
  - Nonlinear, robust, and adaptive control system design
  - Smart materials/structures and vibration control

AWARDS AND HONORS

- **Best CSE Researcher Award**, Department of Computer Science and Engineering, University of Nevada, Reno, 2017.
- **Best Service Robot Paper Finalist**, *2017 IEEE International Conference on Robotics and Automation (ICRA),* May 29-June 3, 2017, Singapore.
- **Ten Best Paper Short List** "Development of a Smart Shoe for Building a Real-Time 3D Map" the *32nd International Symposium on Automation and Robotics in Construction and Mining* (ISARC), June 15-18, 2015, Oulu, Finland.
- **Best Paper Award** "iChair: Intelligent Powerchair for Severely Disabled People," *ISAAT International Conference on Modeling of Complex Systems and Environments* (MCSE), June 8-10, 2015, Da Nang, Vietnam.
- ASCE (American Society of Civil Engineers**)** New Jersey Section - 2014 Project of the Year
- The 2014 ASCE **Charles Pankow Award** for Innovation for Robotics Assisted Bridge Inspection Tool (RABIT^{TM}), at the ASCE's Outstanding Projects and Leaders (OPAL) Gala, March 20, 2014, Arlington, Virginia, USA. Charles Pankow award is one of the most prestigious awards from ASCE.
- **Best Paper Award** "Hybrid system of reinforcement learning and flocking control in multi-robot domain," *Conference on Theoretical and Applied Computer Science*, November 5, 2010, Oklahoma, USA.
- **Best Paper Presentation** "Moving targets tracking and observing in a distributed mobile sensor network," in Session of the Control of Networks, *American Control Conference*, June 10 - 12, 2009, St. Louis, Missouri, USA.
- **Best Paper Award** "Multi-target tracking and observing in mobile sensor networks". Conference on Theoretical and Applied Computer Science (TACS09), October 24, 2009,
- **Travel Award** to attend the American Control Conference, Missouri, USA, 2009.
- **First prize of the 2008 Electrical and Computer Engineering Design Day,** Oklahoma State University. Project titled "Multiple Dynamic Target Tracking and Observing in a Mobile Sensor Network".

TEACHING EXPERIENCES

University of Nevada, Reno (2014-Present): Instructor

o CPE201: Digital Design, Fall 2018

o CPE470/670: Autonomous Mobile Robots, Fall 2016, Fall2017

o CS455/655: Mobile Sensor Networks, Spring 2016, Spring 2017, Spring2018

o CS791: Special Topics: Robotics, Fall 2015, Spring 2017, Spring2018

o CS491X/691X/791X: Special Topics: Robotics, Fall 2014

Rutgers University (2013-2014): Instructor

o Robotics and Applications, New Jersey Governor's School Class, July 2014

o Robotics and Applications, New Jersey Governor's School Class, July 2013

Thai Nguyen University of Technology (2001-2007): Instructor

o EE301. Electronic devices.
o EE320. Analog circuit techniques.
o EE402. Digital circuit techniques.

GRANTS

- **Total as PI: $1,400,518**
- **Total as Co-PI: $1,046,567**
- **Total as Senior Personnel: $941,073**

EXTERNAL GRANTS

12. NASA Space Grant:
Hung M. La (PI), David Feil-Seifer (Co-PI), and Tin Nguyen (Co-PI): **NVSCG: Robotics and Big Data Curriculum for Undergraduate and Graduate Students of UNR College of Engineering.** *Nevada NASA Space Grant Consortium Research Infrastructure.* Amount: **$25,000**. Duration: 1 year: July 2018- June 2019.

11. NSF RET Grant:
Hung M. La (SP), Kostas Alexis (PI), and Lei Yang (Co-PI), et al.: **RET Site: Cross-disciplinary Research Experiences on Smart Cities for Nevada Teachers: Integrating Big Data into Robotics.** *NSF.* Amount: **$581,073**. Duration: 3 years: Sept 2018- Aug 2021.

10. Industry Grant:
Hung M. La (PI) **Highly Accurate Image Processing for Concrete Images.** *Japan Nine Sigma, under Penta-Ocean Constructions Co., LTD.* Amount: **$200,000**. Duration: 1.5 years: September 2018- April 2020.

9. NSF REU Grant:

Hung M. La (SP), David Feil-Seifer (PI), Shamik Sengupta (Co-PI), Monica Nicolescu (SP) and Kostas Alexis (SP): **REU Site: Collaborative Human-Robot Interaction.** *NSF Research Experiences for Undergraduates.* Amount: **$360,000**. Duration: 3 years: Feb 2018- Jan 2021.

8. NASA Space Grant:

Hung M. La (PI), David Feil-Seifer (Co-PI): **Collaborative Control of Multiple UAVs for Wildfire Tracking and Monitoring.** *Nevada NASA Space Grant Consortium Research Infrastructure.* Amount: **$30,000**. Duration: 10 months: July 2017- April 2018.

7. US-DOT Grant:

Hung M. La (PI at UNR), Sushil Louis (Co-PI at UNR), Genda Chen (Lead PI at Missouri S&T), Paul Oh (PI at UNLV), Desroches Reginald (PI at Georgia Tech), Anil Agrawal (PI at CUNY), George Hearn (PI at Univ. of Colorado Boulder): **Inspecting and Preserving Infrastructure through Robotic Exploration (INSPIRE).** *US Department of Transportation.* Total amount: **$7M**. UNR portion**: $721,995**. Duration 5 years and 10 months: November 30, 2016 – September 30, 2022.

6. NASA Seed RID Grant:

Hung M. La (PI), David Feil-Seifer (Co-PI) and Paul Oh (Co-PI at UNLV): **UGV-UAV Hybrid System for Unstructured Environment Exploration.** *Nevada NASA Seed Research Infrastructure Development.* Amount: **$83,523**. UNR portion $73,523. Duration: 1 year: September 2016- August 2017.

5. Nevada NASA Space Consortium Grant:

H. M. La (Co-PI), Dave Feil-Seifer (PI), Monica Nicolescu (co-PI), Logan Yliniemi (co-PI): **Undergraduate and Graduate Robotics Curriculum for UNR College of Engineering.** *Nevada NASA Space Consortium.* Amount: **$76,568**. Duration: 1 year: July 2016 – June 2017.

4. NSF Grant: NSF-IIP-1639092

Hung M. La (PI). ICorps: **Advanced 3D Software for Ground Penetrating Radars**. *NSF- Innovation Corps Program (ICorps)*. Amount: **$50,000;** 1.5 years: Apr. 2016- Sept. 2017.

3. NSF Grant: NSF-IIP-1559942

H. M. La (PI). I-Corps Team: **Drone and Robotic Systems for Civil Infrastructure Inspection and Environmental Monitoring**. *NSF- Innovation Corps Program (ICorps)*. Amount: **$50,000**; 11 months: Nov. 2015- Sept. 2016.

2. NSF Grant: NSF-IIP-1535716

Hung M. La (PI). ICorps Team: **Development and Commercialization of Bridge Inspection Robotic Systems**. *NSF- Innovation Corps Program (ICorps)*. Amount: **$50,000**; 6 months: Apr. 2015- Sept. 2015.

1. NSF Grant: NSF-NRI-1426828

Hung M. La (Co-PI), Jingang Yi (PI at Rutgers), Nenad Gucunski (Co-PI at Rutgers) and Dezhen Song (PI at Texas A&M). **NRI: Collaborative: Minimally Invasive Robotic Non-Destructive Evaluation and Rehabilitation for Bridge Decks (Bridge-MINDER)**. *NSF- National Robotics Initiative (NRI)*. Amount: **$928,499**; 4 years: Aug. 2014- July. 2018.

INTERNAL GRANTS

9. UNR VPRI Travel Grant

H. M. La (PI). Travel grant to UR 2018 conference. Amount: **$500**. June, 2018.

8. UNR CoEN DF

H. M. La (PI), Sushil Louis (Co-PI), David Feil-Seifer (PI), Monica Nicolescu (Co-PI) and Wanliang Shan (Co-PI). **Expanding Robotics Teaching and Experimenting.** College of Engineering Differential Fees, University of Nevada, Reno. Amount: **$35,000**; 12 months: July 2018- June 2019.

7. UNR VPRI Travel Grant

H. M. La (PI). Travel grant to ICRA 2017 conference. Amount: **$1,000**. Feb. 2017.

6. UNR NAASIC SEED FUNDING

H. M. La (PI). **Bridge-LOVER.** NAASIC Seed Funding, University of Nevada, Reno. Amount: **$10,000**; 12 months: May 2016- May 2017.

5. UNR CoEN DF

H. M. La (Co-PI), David Feil-Seifer (PI) and Monica Nicolescu (Co-PI). **Long-Range Sensors to Modernize Equipment.** College of Engineering Differential Fees, University of Nevada, Reno. Amount: **$7,425**; 12 months: July 2017- June 2018.

4. UNR CoEN DF

H. M. La (Co-PI), S. Louis (PI) and S. Liu (Co-PI). **Virtual, augmented and mixed reality interfaces in games, simulations and designs.** College of Engineering Differential Fees, University of Nevada, Reno. Amount: **$25,000**; 12 months: July 2017- June 2018.

3. UNR CoEN DF

H. M. La (Co-PI), Y. Liao (PI), B. Li (Co-PI) and P. Menezes (Co-PI). **Development of advanced manufacturing lab.** College of Engineering Differential Fees, University of Nevada, Reno. Amount: **$100,000** (CoEN); 12 months: July 2017- June 2018.

2. UNR CoEN DF

H. M. La (Co-PI), David Feil-Seifer (PI) and Monica Nicolescu (Co-PI). **Robotics for Experimentation in the Classroom.** College of Engineering Differential Fees, University of Nevada, Reno. Amount: **$41,500**; 12 months: July 2016- June 2017.

1. UNR CoEN DF

H. M. La (PI) and Gokhan Pekcan (Co-PI). **Robots and Sensors for Curriculum Enhancement.** College of Engineering Differential Fees, University of Nevada, Reno. Amount: **$45,000**; 12 months: July. 2015- June. 2016.

RESEARCH ASSISTANT PROFESSOR AND POSTDOC MENTORING

1. Siming Liu. Research Assistant Professor. Research Topic: Work force training based simulation for bridge inspection using multi UAV+UGV systems. Started Spring 2017.
2. Jesse Leaman. Postdoc. Research Topic: Smart wheelchair development for severely disabled people. Started Spring 2015.

GRADUATE STUDENT ADVISING

Student Graduated:

1. Spencer Gibb (MS: Advisor). MS Thesis: NDE data analysis and fusion for infrastructure inspection robots. Defended in May 2018. Nov with Scientific Games Corp.
2. Ashutosh Singandhupe (MS: Advisor). MS Thesis: Securing a UAV Using Features from an EEG Signal. Defended in August 2017. Now with ScadaTEC Inc.

3. Devin Connell (MS: Advisor). MS Thesis: Dynamic Path Planning and Replanning for Mobile Robot Team Using RRT*. Defended in May 2017. Now with Nevada Sierra Corp.

4. Tuan D. Le (MS: Advisor). MS Thesis: A Multi-Functional Robot for Civil Infrastructure Inspection. Defended in April 2017. Now with Norwegian University.

5. Alexander Woods (MS: Advisor). MS Thesis: An Extended Potential Field Controller for use on Aerial Robots. Defended in April 2016. Now with Nevada Nanotech Systems, Inc.

6. Hannah Huh (Undergrad/Davidson Academy: Advisor). Research topic: SLAM for mobile robots. Now with Princeton University (Princeton, NJ), 2017.

7. Jesus Senchez (Undergrad: Advisor). Research topic: IR Localization for steel climbing robot. Now with Bastian Solutions (Dallas, TX), 2015.

PhD Student Advising:

1. Daniel Mendez (PhD student). Research Topic: Multi-agent collaborative learning system. Started in Spring 2016 and Graduate Expectation in Fall 2020.

2. Hai H. Nguyen (PhD student). Research Topic: Deep learning framework for mobile robot manipulators. Started in Fall 2018 and Graduate Expectation in Spring 2022.

3. Huy X. Pham (PhD student). Research Topic: UAV+UGV collaborative learning and control for unstructured environment exploration. Started in Spring 2017 and Graduate Expectation in Fall 2020.

4. Luan V. Nguyen (PhD student). Research Topic: NDE path planning driven for civil infrastructure inspection robots. Started in Fall 2014 (at UNR) and Fall 2012 (at Rutgers) and Graduate Expectation in 2019.

PhD Student Committee:

5. Nithya Mohan (PhD student)- Department of Electrical and Biomedical Engineering. Thesis proposal title: Developing a Bio-inspired, Self-Powered, and Direct-digitized Micro Pressure Sensing System for Monitoring Brain Aneurysm. Defended in Dec. 2017. Chair: Dr. Yantao Shen.

6. Touqeer Ahmad (PhD student)- Dissertation proposal title: Machine Learning based Mountainous Skyline Detection and Visual Ge Localization. Defended in Dec. 2017. Chair: Dr. George Bebis.

7. Ebrahim Emami (PhD student). Thesis topic: Crater detection on planetary images using computer vision and machine learning. Chair: Dr. George Bebis.

8. Janelle Blankenburg (PhD student)- Dissertation topic: Machine learning techniques to solve the problem of task allocation for multi-robot systems. Chair: Dr. David Feil-Seifer.

Master Student Advising:

1. Daniel Mendez (Master student). Research Topic: Multi-agent collaborative learning system. Started in Spring 2016 and Graduate Expectation in Spring 2018.

2. Adarsh Sehgal (Master student). Research Topic: Semantic SLAM for mobile robots. Starting Fall 2017 and Graduate Expectation in Spring 2019.

Master Student Committee:

3. Harinder Singh Toor (MS: Committee)- Department of Electrical and Biomedical Engineering. MS Report: Unscented

Kalman consensus filter for sensor networks with sensor saturations. Defended in August 2017 (Chair: Dr. Hao Xu)

4. Sanket Lokhande (MS: Committee)- Department of Electrical and Biomedical Engineering. MS Thesis: Intelligent Design for Real Time Networked Multi-Agent Systems. Defended in August 2017. (Chair: Dr. Hao Xu)

5. Abhijaat Sidher (MS: Committee)- Department of Electrical and Biomedical Engineering. MS Thesis: Prosthesis Design and Object Recognition Based Grasping of a 3D Printed Anthropomorphic Artificial Hand. Defended in August 2017. (Chair: Dr. Yantao Shen)

6. Weixin Yang (MS: Committee)- Department of Electrical and Biomedical Engineering. MS Thesis: Biomorphic Hyper-Redundant Snake Robot: Locomotion Simulation, 3D Printed Prototype and Inertial-Measurement-Unit-Based Motion Tracking. Defended in December 2016. Now PhD student at EBME, UNR. (Chair: Dr. Yantao Shen)

7. Mehdi Rahimi (MS: Committee)- Department of Electrical and Biomedical Engineering (EBME). MS Thesis: Towards Developing a Scanning Position Sensitive Detector (PSD) Microscopy: PSD Measurement Enhancement, Adaptive Local Scanning and Implementation. Defended in August 2016. Now PhD student at EBME, UNR. (Chair: Dr. Yantao Shen

DEPARTMENT COMMITTEE

1. Department Colloquium Committee Chair: August 2016 – July 2017.
2. Department Graduate Committee Member: July 2014 – July 2016; August 2017-Present.
3. Department Colloquium Committee Member: July 2014 – July 2016.
4. Department Personnel – Search Committee (Computer Engineering and Games): Fall 2017
5. Department Personnel – Search Committee (High Performance Computing): Spring 2017
6. Department Personnel – Search Committee (Big Data): Spring 2017
7. Department Personnel – Search Committee (Cybersecurity): Spring 2016
8. Department Personnel – Search Committee (Big Data): Spring 2016

PUBLICATIONS (GOOGLE CITATION: 1084+)

(Name with underline is my student/postdoc, and Name with * is corresponding author.)

Patents:

[P1] **H. M. La**, Steel climbing robot with magnetic wheels. US patent: PCT/US2017/061387. June 07, 2018.

Journal Publications:

Journals Accepted

[J31] T. Nguyen*, H. Warner, **H. M. La**, H. Mohammadi, D. Simon, and H. Richter. State Estimation For An Agonistic-Antagonistic Muscle System. *Asian Journal of Control, Wiley publisher*, June 25, 2018. DOI:10.1002/asjc.1916 (Accepted). Impact Factor: **1.528**.

Journals Published

[J30] A. Singandhupe, **H. M. La***, D. Feil-Seifer. Reliable Security Algorithm for Drones Using Individual Characteristics From an EEG Signal. *IEEE Access*, Volume 6, Issue 1, December, 2018. Impact Factor: **3.244**.

[J29] S. Gibb, **H. M. La***, T. Le, L. Nguyen, R. Schmid, H. Pham. Non-Destructive Evaluation Sensor Fusion with Autonomous Robotic System for Civil Infrastructure Inspection. ***Journal of Field Robotics***, April. 2018. Impact Factor: **4.882**. (In Press)

[J28] D. Connell, and **H. M. La***. RRT*-Based Dynamic Path Planning and Replanning for Mobile Robots. ***International Journal of Advanced Robotic Systems***, Jan. 2018. Impact Factor: **0.987**. (To appear)

[J27] **H. M. La***, T. Dinh, N. Pham, Q. Ha, and A. Pham. Automated robotic monitoring and inspection of steel structures and bridges. ***Robotica, Cambridge University Press***, pages 1-21. 2018. Impact Factor: **1.554**. (In Press)

[J26] H. X. Pham, **H. M. La***, D. Feil-Seifer, and M. Deans. A Distributed Control Framework for Multiple Unmanned Aerial Vehicles for Dynamic Wildfire Tracking. ***IEEE Transactions on Systems, Man and Cybernetics: Systems***, April 2018. Impact Factor: **2.35**. (In Press)

[J25] M. Nguyen*, **H. M. La**, and K. Teague. Collaborative and Compressed Mobile Sensing for Data Collection in Distributed Robotic Networks, ***IEEE Transactions on Control of Network Systems***, pp.1-12, September 2017. Impact Factor: **1.66**. (In Press)

[J24] A. Woods, and **H. M. La***. A Novel Potential Field Controller for Use on Aerial Robots. ***IEEE Transactions on Systems, Man and Cybernetics: Systems***, May 2017. Impact Factor: **2.35**. (In Press)

[J23] T. Nguyen, **H. M. La***, T. D. Le, and M. Jafari. Formation Control and Obstacle Avoidance of Multiple Rectangular Agents with Limited Communication Ranges, ***IEEE Transactions on Control of Network Systems***, Volume: 4, Issue: 4, Pages: 680-691, Dec. 2017. Impact Factor: **1.66**.

[J22] **H. M. La***, N. Gucunski, K. Dana, and S. H. Kee. Development of an Autonomous Bridge Deck Inspection Robotic System. ***Journal of Field Robotics***, Volume: 34, Issue: 8, Pages: 1489 – 1504, Dec. 2017. Impact Factor: **4.882**.

[J21] P. Nguyen*, H. Nguyen, D. Nguyen, T. N. Dinh, **H. M. La** and T. Vu. ParkSense: Automatic Parking Positioning by Leveraging In-Vehicle Magnetic Field Variation. ***IEEE Access***, Volume 5, pp. 25021 – 25033, Dec. 2017. Impact Factor: **3.244**.

[J20] J. Leaman, and **H. M. La***. A Comprehensive Review of Smart Wheelchairs: Past, Present and Future. ***IEEE Transactions on Human-Machine Systems***, Volume: 47, Issue: 4, Pages: 486 – 499, Aug. 2017. Impact Factor: **2.493**.

[J19] L. Jin, S. Li*, **H. M. La**, and X. Luo. Manipulability Optimization of Redundant Manipulators Using Dynamic Neural Networks. ***IEEE Transactions on Industrial Electronics***. Volume 64, Issue 6, Pages 4710 – 4720, June 2017. Impact Factor: **7.168**.

[J18] F. Munoz, E. Quesada, **H. M. La***, S. Salazar, S. Commuri, and L. R. Carrillo. Adaptive consensus algorithms for real-time operation of multi-agent systems affected by switching network events. ***International Journal of Robust and Nonlinear Control***, Volume 27, Issue 9, Pages 1566–1588, June 2017 . Impact Factor: **3.393**.

[J17] L. V. Nguyen, and **H. M. La***. Real-Time Human Foot Motion Localization Algorithm With Dynamic Speed. ***IEEE Transactions on Human-Machine Systems***, Vol. 46, No. 6, pp. 822-833, Dec. 2016. Impact Factor: **2.493**.

[J16] L. V. Nguyen, **H. M. La***, J. Sanchez, and T. Vu. A Smart Shoe for Building a Real-Time 3D Map, ***Elsevier Journal of Automation in Construction***, Vol. 71, pp.2-12, Sept 2016. Impact Factor: **2.919**.

[J15] P. Prasanna, K. J. Dana*, N. Gucunski, B. B. Basily, **H. M. La**, R. S. Lim, and H. Parvardeh, Automated crack detection on concrete bridges. ***IEEE Transactions on Automation Science and Engineering***, Vol.13, No. 2, pp. 591 – 599, April 2016. Impact Factor: **3.502.**

[J14] N. Gucunski*, S. H. Kee, **H. M. La**, B. Basily, and A. Maher. Delamination and concrete quality assessment of concrete bridge decks using a fully autonomous RABIT platform. ***International Journal of Structural Monitoring and Maintenance***, Vol. 2, No. 1, pp. 19-34, 2015. Impact Factor: **1.021**.

[J13] **H. M. La***, N. Gucunski, S. H. Kee, and L. V. Nguyen, Data analysis and visualization for the bridge deck inspection and evaluation robotic system. ***Springer Journal of Visualization in Engineering***, 3:6, February 2015.

[J12] **H. M. La***, W. Sheng, and J. Chen, Cooperative and active sensing in mobile sensor networks for scalar field mapping. ***IEEE Transactions on Systems, Man and Cybernetics: Systems***, pp.1-12, Vol. 45, No. 1, Jan. 2015. Impact Factor: **2.35**.

[J11] **H. M. La***, R. Lim, and W. Sheng, Multi-robot cooperative learning for predator avoidance. ***IEEE Transactions on Control Systems Technology***. pp.52-63, Vol. 23, No. 1, Jan. 2015. Impact Factor: **3.882**.

[J10] R. S. Lim, **H. M. La**, and W. Sheng*, A robotic crack inspection and mapping system for bridge deck maintenance, ***IEEE Transactions on Automation Science and Engineering***, pp. 367-378, Vol. 11, No. 2, April 2014. Impact Factor: **3.502**.

[J9] N. Gucunski*, A. Maher, B. B. Basily, **H. M. La**, R. S. Lim, H. Parvardeh, and S. H. Kee. Robotic Platform RABIT for Condition Assessment of Concrete Bridge Decks Using Multiple NDE Technologies. ***Journal of Croatian Society for Non Destructive Testing***, No. 12, pp. 5-12, 2013.

[J8] **H. M. La***, R. S. Lim, B. B. Basily, N. Gucunski, J. Yi, A. Maher, F. A. Romero, and H. Parvardeh. Mechatronic and control systems design for an autonomous robotic system for high-efficiency bridge deck inspection and evaluation. ***IEEE Transactions on Mechatronics***, pp. 1655-1664, Vol. 18, No. 6, December, 2013. Impact Factor: **4.357**.

[J7] **H. M. La**, and W. Sheng*, Multi-agent motion control in cluttered and noisy environments. ***Journal of Communications***, pp. 32-46, Vol. 8, No. 1, Jan. 2013.

[J6] **H. M. La***, and W. Sheng, Distributed sensor fusion for scalar field mapping using mobile sensor networks. ***IEEE Transactions on Cybernetics***, pp. 766-778, Vol. 43, No. 2, April, 2013. Impact Factor: **7.384**.

[J5] **H. M. La**, R. S. Lim, J. Du, S. Zhang, G. Yan, and W. Sheng*, Development of a small-scale research platform for intelligent transportation systems. ***IEEE Transactions on Intelligent Transportation Systems***, pp. 1753 – 1762, Vol. 13, Issue 4, Dec. 2012. Impact Factor: **3.724**.

[J4] **H. M. La**, and W. Sheng*, Dynamic targets tracking and observing in a mobile sensor network. ***Elsevier Journal on Robotics and Autonomous Systems***, pp. 996–1009, Vol. 60, Issue 7, July 2012. Impact Factor: **1.95**.

[J3] W. Sheng*, and **H. M. La**, Network of cooperating mobile sensors used for mapping. ***SPIE Newsroom / Defense & Security***, August 30th, 2011.

[J2] C. V. Nguyen, and **H. M. La***, A method of designing a sliding controller for SISO nonlinear model based on diffeomorphism. ***Journal of Science and Technology, Thai Nguyen University***, Vol. 2, No. 1, 2006 (In Vietnamese).

[J1] **H. M. La***, and L. Q. Vo, Improving quality of robot control by using adaptive control method based on the basic model. ***Journal of Science and Technology, Thai Nguyen University***, Vol. 1, No. 4, 2004 (In Vietnamese).

Book chapters:

[B3] T. Nguyen, **H. M. La***, V. Azimi, T-H. Han. Bounded Distributed Flocking Control of Mobile Nonholonomic Robots, *in Swarm Intelligence: Volume 1: Principles, Current Algorithms and Methods,* IET Publisher, 2017.

[B2] **H. M. La***, Multi-Robot Swarm for Scalar Field Mapping, *in Handbook of Research on Design, Control, and Modeling of Swarm Robotics, IGI Global*, pp.383-395, Dec. 2015.

[B1] **H. M. La***, and W. Sheng, Flocking control algorithms for multiple agents in cluttered and noisy environments*, in Bio-Inspired Self-Organizing Robotic Systems*, *Studies in Computational Intelligence,* Springer-Verlag Berlin Heidelberg, Vol. 355, pp. 53-79, 2011.

Conference Publications:

[50] M. Rahimi, S. Gibb, Y. Shen, and **H. M. La***. A Comparison of Various Approaches to Reinforcement Learning Algorithms for Multi-robot Box Pushing. *Proceedings of the **Springer International Conference on Engineering Research and Applications (ICERA)***, December 1-2, 2018, Thai Nguyen, Vietnam. (Submitted)

[C49] L. Nguyen , S. Gibb, H. X. Pham, and **H. M. La***. A Mobile Robot for Automated Civil Infrastructure Inspection and Evaluation. *Proceedings of the 16th **IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR),*** August 6-8, 2018, Philadelphia, PA, USA.

[C48] H. X. Pham, **H. M. La***, D. Feil-Seifer, and L. Nguyen. Reinforcement Learning for Autonomous UAV Navigation Using Function Approximation. *Proceedings of the 16th **IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR),*** August 6-8, 2018, Philadelphia, PA, USA.

[C47] H. X. Pham, **H. M. La***, D. Feil-Seifer, and L. Nguyen. Performance Comparison of Function Approximation-based Q Learning Algorithms for Autonomous UAV Navigation. ***The 15th IEEE International Conference on Ubiquitous Robots (UR)***, June 26-30, 2018, Hawaii, USA.

[C46] S. Gibb, **H. M. La***, S. Louis. A Genetic Algorithm for Convolutional Network Structure Optimization for Concrete Crack Detection In Proceedings of the 2018 ***IEEE Congress on Evolutionary Computation (IEEE CEC)***, July 8-13, 2018, Rio de Janeiro, Brazil.

[C45] S. Gibb, T. D. Le, **H. M. La***, R. Schmid, and T. Berendsen. A Multi-functional Inspection Robot for Civil Infrastructure Evaluation and Maintenance. In Proceedings of the ***2017 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)***, September 24-28, 2017, Vancouver, Canada.

[C44] H. X. Pham, **H. M. La***, D. Feil-Seifer, and M. Deans. A Distributed Control Framework for a Team of Unmanned Aerial Vehicles for Dynamic Wildfire Tracking. In Proceedings of the ***2017 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)***, September 24-28, 2017, Vancouver, Canada.

[C43] A. Singandhupe, **H. M. La***, D. Feil-Seifer, P. Huang, L. Guo, and M. Li. Securing a UAV Using Individual Characteristics From an EEG Signal. In Proceedings of the 2***017 IEEE International Conference on Systems, Man, and Cybernetics (SMC)***, Oct. 5-8, 2017, Banff, Canada.

[C42] D. Connell, and **H. M. La***. Dynamic Path Planning and Replanning for Mobile Robots using RRT*. In Proceedings of the ***2017 IEEE International Conference on Systems, Man, and Cybernetics (SMC)***, Oct. 5-8, 2017, Banff, Canada.

[C41] T. Nguyen, and **H. M. La***. Distributed Formation Control of Nonlonolomic Mobile Robots by Bounded Feedback in the Presence of Obstacles. In Proceedings of the ***2017 IEEE International Conference on Real-time Computing and Robotics (RCAR)***, July 14-18, 2017, Okinawa, Japan.

[C40] T. D. Le, S. Gibb, N. H. Pham, **H. M. La***, L. Falk, and T. Berendsen. Autonomous Robotic System using Non-Destructive Evaluation methods for Bridge Deck Inspection. In Proceedings of the ***2017 IEEE International Conference on Robotics and Automation (ICRA)****,* May 29-June 3, 2017, Singapore. (**Best Paper Finalist**)

[C39] <u>S. Gibb</u>, and **H. M. La***. Automated Rebar Detection for Ground-Penetrating Radar**.** ***The 12th International Symposium on Visual Computing (ISVC)***, December 12-14, 2016 Las Vegas, Nevada, USA.

[C38] <u>N. H. Pham</u>, and **H. M. La***. Design and Implementation of an Autonomous Robot for Steel Bridge Inspection. In Proceedings of the ***54th Annual Allerton Conference on Communication, Control, and Computing***, pages 1-8, Sept. 27-30, 2016, Urbana-Champaign, Illinois, USA.

[C37] T. Nguyen, T. T. Han, and **H. M. La***. Distributed Flocking Control of Mobile Robots by Bounded Feedback. In Proceedings of the ***54th Annual Allerton Conference on Communication, Control, and Computing***, pages 1-6, Sept. 27-30, 2016, Urbana-Champaign, Illinois, USA.

[C36] T. H. Dinh, Q. P. Ha*, and **H. M. La**. Computer vision-based method for concrete crack detection. In Proceedings of the ***14th International Conference on Control, Automation, Robotics and Vision (ICARCV)***, pages 1-7, November 13-15, 2016, Phuket, Thailand.

[C35] <u>J. Leaman</u>, **H. M. La*,** and <u>L. V. Nguyen</u>. Development of a Smart Wheelchair for People with Disabilities. In Proceedings of the ***12th IEEE International Conference on Multisensor Fusion and Integration for Intelligent Systems (MFI)***, pages 1-6, September 19-21, 2016, Baden-Baden, Germany.

[C34] A. D. Dang, **H. M. La*,** and J. Horn. Distributed Formation Control for Autonomous Robots Following Desired Shapes in Noisy Environment. In Proceedings of the ***12th IEEE International Conference on Multisensor Fusion and Integration for Intelligent Systems (MFI)***, pages 1-6, September 19-21, 2016, Baden-Baden, Germany.

[C33] <u>A. Woods</u>, **H. M. La***, and Q. P. Ha. A Novel Extended Potential Field Controller for Use on Aerial Robots. In Proceedings of ***the 12th Conference on Automation Science and Engineering (CASE)***, pages 1-6, August 21-24, Dallas, Texas, USA.

[C32] T. T. Han, **H. M. La***, and T. T. Nguyen. Flocking of Mobile Robots by Bounded Feedback. In Proceedings of ***the 12th Conference on Automation Science and Engineering (CASE)***, pages 1-6, August 21-24, Dallas, Texas, USA.

[C31] <u>N. H. Pham</u>, **H. M. La***, Q. P. Ha, S. N. Dang, A. H. Vo, and Q. H. Dinh, Visual and 3D Mapping for Steel Bridge Inspection Using a Climbing Robot. In Proceedings of the ***33rd International Symposium on Automation and Robotics in Construction and Mining*** **(ISARC)**, pages 1-8, July 18-21, 2016, Auburn, Alabama, USA.

[C30] <u>L. V. Nguyen</u>, and **H. M. La***. A Human Foot Motion Localization Algorithm Using IMU. In Proceedings of ***American Control Conference*** **(ACC),** pages, July 6-8, 2016, Boston, MA, USA.

[C29] <u>A. Woods</u>, and **H. M. La***. Dynamic Target Tracking and Obstacle Avoidance using a Drone, ***the 11th International Symposium on Visual Computing*** **(ISVC),** Dec. 14-16, 2015, Las Vegas, USA.

[C28] <u>M. Jafari*</u>, S. Sengupta and **H. M. La**, Adaptive Flocking Control of Multiple Unmanned Ground Vehicles by Using a UAV, ***the 11th International Symposium on Visual Computing*** **(ISVC)**, December 14-16, 2015 Las Vegas, Nevada, USA.

[C27] M. T. Nguyen*, **H. M. La,** and K. A. Teague. Compressive and Collaborative Mobile Sensing for Scalar Field Mapping in Robotic Networks. In Proceedings of ***the 53rd Annual Allerton Conference on Communication, Control, and Computing,*** pages, Sept. 29-Oct. 2, 2015, Urbana-Champaign, Illinois, USA.

[C26] N. Gucunski*, S. Kee, **H. M. La**, B. Basily, A. Maher, and H. Ghasemi. Implementation of a Fully Autonomous Platform for Assessment of Concrete Bridge Decks RABIT. In Proceedings of **Structures Congress,** pages 367-378, April 23-25, 2015, Portland, Oregon, USA.

[C25] L. V. Nguyen, and **H. M. La***. Development of a Smart Shoe for Building a Real-Time 3D Map. In Proceedings of the *32nd International Symposium on Automation and Robotics in Construction and Mining* **(ISARC),** pages, June 15-18, 2015, Oulu, Finland.

[C24] K. Dinh, N. Gucunski, J. Y. Kim, T. Duong, and **H. M. La***. Attenuation-based Methodology for Condition Assessment of Concrete Bridge Decks using GPR. In Proceedings of the *32nd International Symposium on Automation and Robotics in Construction and Mining* **(ISARC),** pages, June 15-18, 2015, Oulu, Finland.

[C23] T. Nguyen, **H. M. La*,** and M. Jafari. On the Formation Control of a Multi Vehicle System, the *2nd ISSAT International Conference on Modeling of Complex Systems and Environments* **(MCSE),** pages, June 8-10, 2015, Da Nang, Vietnam.

[C22] L. V. Nguyen, **H. M. La***, and T. Duong. Dynamic Human Gait Phase Detection Algorithm. The *2nd ISSAT International Conference on Modeling of Complex Systems and Environments* **(MCSE),** pages, June 8-10, 2015, Da Nang, Vietnam.

[C21] J. Leaman, and **H. M. La***. iChair: Intelligent Powerchair for Severely Disabled People, the *2nd ISSAT International Conference on Modeling of Complex Systems and Environments* **(MCSE),** pages, June 8-10, 2015, Da Nang, Vietnam.

[C20] N. Gucunski, B. Basily, S. H. Kee, H. M. La, and H. Pavardeh. Multi NDE Technology Condition Assessment of Concrete Bridge Decks by RABITTM Platform. In Proceedings of *NDE/NDT for Structural Materials Technology for Highway & Bridges Conference*, August 25, 2014.

[C19] **H. M. La***, N. Gucunski, S. H. Kee, J. Yi, T. Senlet, and L. V. Nguyen. Autonomous Robotic System for Bridge Deck Data Collection and Analysis. In Proceedings of *IEEE International Conference on Intelligent Robots and Systems* **(IROS),** pages 1950-1955, September 14-18, 2014, Chicago, USA.

[C18] T. T. Nguyen, and **H. M. La***. Formation Control of Multiple Rectangular Agents with Limited Communication Ranges, *the 10th International Symposium on Visual Computing* **(ISVC),** Dec. 8-10, 2014, Las Vegas, USA.

[C17] **H. M. La***, N. Gucunski, S. H. Kee, and L. V. Nguyen. Visual and Acoustic Data Analysis for the Bridge Deck Inspection Robotic System. In Proceedings of the *31st International Symposium on Automation and Robotics in Construction and Mining* **(ISARC),** pages 50-57, July 9-11, 2014, Sydney, Australia.

[C16] **H. M. La***, R. S. Lim, B. B. Basily, N. Gucunski, J. Yi, A. Maher, F. A. Romero, and H. Parvardeh. Autonomous Robotic System for High-Efficiency Non-Destructive Bridge Deck Inspection and Evaluation. In Proceedings of the *9th IEEE International Conference on Automation Science and Engineering* **(CASE),** pp. 1065-1070, August 17 - 21, 2013, Madison, WI, USA.

[C15] **H. M. La***, W. Sheng, and J. Chen. Cooperative and active sensing in mobile sensor networks for scalar field mapping. In Proceedings of the *9th IEEE International Conference on Automation Science and Engineering* **(CASE),** pp. 843-848, August 17 - 21, 2013, Madison, WI, USA.

[C14] **H. M. La**, R. S. Lim, W. Sheng*, and J. Chen. Cooperative flocking and learning in multi-robot systems for predator avoidance. In Proceedings of *IEEE International Conference on CYBER Technology on Automation, Control and Intelligent Systems* **(CYBER),** May 26 - 29, 2013, Nanjing, China.

[C13] R. S. Lim, **H. M. La**, Z. Shan, and W. Sheng*. Developing a crack inspection robot for bridge maintenance. In Proceedings of *IEEE International Conference on Robotics and Automation* **(ICRA)**, pp. 6288 - 6293 May 9 - 13, 2011, Shanghai, China.

[C12] **H. M. La**, R. S. Lim J. Du, W. Sheng*, G. Li, S. Zhang and H. Chen. A small-scale research platform for intelligent transportation systems. In Proceedings of *IEEE International Conference on Robotics and Biomimetics* (**ROBIO),** pp. 1373 – 1378, December 7-11, 2011, Phuket, Thailand.

[C11**] H. M. La,** and W. Sheng*. Cooperative sensing in mobile sensor networks based on distributed consensus. The *Signal and Data Processing of Small Targets conference, **Proceedings of SPIE's***, Vol. OP110, August 23 - 25, 2011, San Diego, California, USA.

[C10**] H. M. La,** R. S. Lim, H. Chen, and W. Sheng*, Decentralized flocking control with minority of informed agents. In the proceedings of *IEEE Conference on Industrial Electronics and Applications* **(ICIEA),** pp. 1851 - 1856, June 21 - 23, 2011, Beijing, China.

[C9] **H. M. La,** and W. Sheng*. Flocking control of multiple agents in noisy environments. In Proceedings *of the **IEEE International Conference on Robotics and Automation** (**ICRA**)*, pp. 4964 – 4969, May 3 - 8, 2010, Alaska, USA.

[C8] **H. M. La,** R. S. Lim, and W. Sheng*, Hybrid system of reinforcement learning and flocking control in multi-robot domain. In Proceedings of *the **Conference on Theoretical and Applied Computer Science** (**TACS**),* pp. 7-13, November 5, 2010, Stillwater, Oklahoma, USA. **(Best Paper Award)**

[C7] **H. M. La,** and W. Sheng*. Flocking control algorithms for multiple agents in cluttered and noisy environments. W*orkshop in Bio-Inspired Self Organizing Robotic Systems on the **IEEE International Conference on Robotics and Automation** (**ICRA**)*, May 3 - 8, 2010, Alaska, USA.

[C6] **H. M. La,** and W. Sheng*. Multi-target tracking and observing in mobile sensor networks. In Proceedings of *the **Conference on Theoretical and Applied** **Computer** **Science** (**TACS**),* October 24th, 2009, Oklahoma State University, Stillwater, Oklahoma, USA.

[C5] **H. M. La***, T. H. Nguyen, C. H. Nguyen, and H. N. Nguyen. Optimal flocking control for a Mobile Sensor Network Based a Moving Target Tracking. In Proceedings of *the **IEEE International Conference on Systems, Man, and Cybernetics** (**SMC**),* pp. 4801 – 4806, October 11 - 14, 2009, San Antonio, Texas, USA.

[C4] **H. M. La,** and W. Sheng*. Adaptive flocking control for dynamic target tracking in mobile sensor networks. In Proceedings of *IEEE International Conference on Intelligent Robots and Systems* **(IROS)**, pp. 4843 – 4848, October 11 - 15, 2009, St. Louis, Missouri, USA.

[C3] **H. M. La,** and W. Sheng*. Moving targets tracking and observing in a distributed mobile sensor network. In Proceedings of *the **American Control Conference** (**ACC**)*, pp. 3319 – 3324, June 10 - 12, 2009, St. Louis, Missouri, USA. **(Best Paper Presentation in Network Control Session)**

[C2] **H. M. La,** and W. Sheng*. Flocking control of a mobile sensor network to track and observe a moving target. In Proceedings of *IEEE International Conference on Robotics and Automation* **(ICRA)**, pp. 3129 – 3134, May 12 - 17, 2009, Kobe, Japan.

[C1] **H. M. La,** and W. Sheng*. Robust adaptive control with leakage modification for a nonlinear model of Ionic Polymer Metal Composites (IPMC). In Proceedings of *IEEE International Conference on Robotics and Biomimetics* (ROBIO), pp. 1783 – 1788, December 14 - 17, 2008, Bangkok, Thailand.

Media Exposure and News:

[M9] NASA Space Grant Highlight: Collaborative Control of Multiple UAVs for Wildfire Tracking and Monitoring.

Link: https://nasa.epscorspo.nevada.edu/collaborative-control-of-multiple-uavs/

[M8] Interviewed by NBC News in Nov. 2017 "Drones are fighting wildfires in some surprising way."

Link: https://www.nbcnews.com/mach/science/drones-are-fighting-wildfires-some-very-surprising-ways-ncna820966

[M7] Feds (FHWA) demonstrate bridge inspection robot, *By Matt Nussbaum / Pittsburgh Post-Gazette*, June 12, 2014, Available at: http://www.post-gazette.com/news/transportation/2014/06/13/Feds-demonstrate-bridge-inspection-robot/stories/201406130023

[M6] One-of-a-Kind Robot Inspects D.C. Area Bridges, *NBC4 Washington*, Feb.26, 2013.
Link:http://www.nbcwashington.com/news/local/One-of-a-Kind-Robot-Inspects-DC-Area-Bridges-193127901.html

[M5] Bridge Inspection: FWHA deploys robot to collect bridge information, *Roads and Bridges News*, May 20, 2013.

http://tsp2bridge.pavementpreservation.org/2013/05/29/new-robot-to-help-fhwa-save-time-money-on-bridge-inspections/

[M4] N. Gucunski, **H. M. La**, R. S. Lim, B. B. Basily, J. Yi, A. Maher, F. A. Romero, and H. Parvardeh, The future of bridge health management: A revolutionary new technology to assess and monitor bridge deck condition , *Rutgers Transportation Today*, Issue 11, Jan., 2013. Link: http://cait.rutgers.edu/system/files/u10/CAIT_NL11-Jan_2013.pdf

[M3] Rutgers Robot Leads Revolutionary Future of Bridge Health Management, Rutgers University News.
Link: http://soe.rutgers.edu/rutgers-robot-leads-revolutionary-future-bridge-health-management

[M2] W. Sheng, and **H. M. La**, Networks of cooperative mobile sensors for mapping, *SPIE Newsroom*, Aug. 30th, 2011.
Link: https://spie.org/x56920.xml?ArticleID=x56920

[M1] W. Sheng, **H. M. La**, R. S. Lim and Z. Shan, Vision-guided robotics: Intelligent robot performs bridge integrity analysis, *Vision Systems Design*, Sept. 1st, 2011.

Link:http://www.vision-systems.com/articles/print/volume-16/issue-9a/departments/technology-trends/vision-guided-robotics-intelligent-robot-performs-bridge-integrity-analysis.html

Theses:

[T3] **H. M. La**, Cooperative control, learning and sensing in mobile sensor networks, *Ph.D. thesis,* Oklahoma State University, U.S.A., August 2011 (supervised by Prof. Weihua Sheng).

[T2] **H. M. La**, Development of an adaptive controller to control and synthesize nonlinear systems, *Master thesis*, Thai Nguyen University of Technology, Vietnam, Jul. 2003 (supervised by Prof. Lap Q. Vo).

[T1] **H. M. La**, Adaptive control for DC motors, Bachelor thesis, Thai Nguyen University of Technology, Vietnam, Jul. 2001 (supervised by Prof. Vy V. Nguyen).

PRESENTATIONS AND TALKS

- Paper presentations in the 15th IEEE International Conference on Ubiquitous Robots (UR), June 26-30, 2018, Hawaii, USA. May 29-June 3, 2017, Singapore.

- Invited talk: Robotic system development for civil infrastructure inspection, School of Electrical and Computer Engineering, Oklahoma State University (OSU), Dec 28th, 2017, Stillwater, OK, USA.

- Invited talk: Mobile Sensor Networks and Their Applications, Dept. of Automatic Control, Hanoi University of Science and

Technology (HUST), June 11th, 2017, Hanoi, Vietnam.

- Invited talk: Robotic Systems for Bridge Inspections, Thai Nguyen University of Technology (TNUT), June 26th, 2017, Thai Nguyen, Vietnam.

- Paper presentations in the 2017 IEEE International Conference on Robotics and Automation (ICRA), May 29-June 3, 2017, Singapore.

- Paper presentations in the 54th Annual Allerton Conference on Communication, Control, and Computing, Sept. 27-30, 2016, Urbana-Champaign, Illinois, USA.

- Paper presentations in the 12th Conference on Automation Science and Engineering (CASE), August 21-24, Dallas, Texas, USA.

- Paper presentations in the 33nd International Symposium on Automation and Robotics in Construction and Mining (ISARC), July 18-21, 2016, Auburn, Alabama, USA.

- Paper presentations in the American Control Conference (ACC), July 6-8, 2016, Boston, USA

- Paper presentations in the 11th International Symposium on Visual Computing (ISVC), Dec. 14-16, 2015, Las Vegas, USA.

- Paper presentations in the ISSAT International Conference on Modeling of Complex Systems and Environments (MCSE), June 8-10, 2014, Da Nang, Vietnam. .

- Paper presentations in the 10th International Symposium on Visual Computing (ISVC), Dec. 8-10, 2014, Las Vegas, USA.

- Paper presentations in the IEEE International Conference on Intelligent Robots and Systems (IROS), September 14-18, 2014, Chicago, USA.

- Paper presentations in the 31st International Symposium on Automation and Robotics in Construction and Mining (ISARC), July 9-11, 2014, Sydney, Australia.

- Invited talk: Development of Mobile Sensor Networks and Intelligent Robotic Systems for Real World Applications, Dept. of Electrical and Computer Engineering, Southern Illinois University, March 6th, 2014, Carbondale, Illinois.

- Invited talk: Development of Mobile Sensor Networks and Mobile Robotic Systems for Real World Applications, Dept. of Electrical and Computer Engineering, University of Michigan, February 20th, 2014, Dearborn, Michigan.

- Invited talk: Development of Mobile Sensor Networks and Mobile Robotic Systems for Real World Applications, Dept. of Electrical and Computer Engineering, Widener University, February 10th, 2014, Chester, Pennsylvania.

- Paper presentations in the IEEE International Conference on Automation Science and Engineering (CASE), August 17 - 21, 2013, Madison, WI, USA.

- Invited talk: Cooperative Control, Learning and Sensing in Mobile Robot Networks, School of Engineering Control/Robotics seminar, Rutgers University, September, 2011, Piscataway, New Jersey.

- Invited talk: Cooperative Control, Learning and Sensing in Mobile Robot Networks, Department of Technological Studies, Ohio Northern University, June, 2011, Ada, Ohio.

- Paper presentation in the Conference on Theoretical and Applied Computer Science (TACS), 2010, Oklahoma, USA.

- Paper presentation in the workshop of the International Conference on Intelligent Robotics and Automation (ICRA), 2010, Anchorage, Alaska, USA.

- Paper presentation in the International Conference on Intelligent Robotics and Automation (ICRA), 2010, Anchorage, Alaska, USA.

- Paper presentation in the Conference on Theoretical and Applied Computer Science (TACS), 2009, Oklahoma, USA.

- Paper presentation in the International Conference on Intelligent Robots and Systems (IROS), 2009, St. Louis city, Missouri, USA.

- Paper presentation in the American Control Conference (ACC), 2009, St. Louis city, Missouri, USA.

- Poster presentations in the 2007, 2008, 2009 Electrical and Computer Engineering Design Day, Oklahoma State University, USA.

ACADEMIC SERVICE

- Nevada NASA, EPCoR 2017 panel reviewer
- NSF-NRI 2017 panel reviewer
- **Associate Editor** of IEEE Transactions on Human-Machine Systems (Feb. 2016-Present)
- **Editorial Board** of International Journal of Automation and Control (2015- Present)
- **Editorial Board** of International Journal of Robotic Engineering (2015- Present)
- **Guest Editor for Special Issue** "Consensus-based Applications in Networked Systems", International Journal of Robust and Nonlinear Control, 2015-2016
- **Program Chair** of the ISSAT International Conference on Modeling of Complex Systems and Environments (MCSE), June 8-10, 2015, Da Nang, Vietnam.
- **Organized Sessions Chairs:** The 2017 IEEE International Conference on Real-time Computing and Robotics (IEEE RCAR), July 10 to 14, 2017, Okinawa, Japan.

- **Organizer/Track Chair/Co-Chair:**
  - ➢ Collective Adaptive Systems, *the 33rd ACM Symposium on Applied Computing* (SAC), April 9 - 13, 2018, Paul, France.
  - ➢ Recent Advances and Future Directions in Unmanned Vehicle Systems - Theory and Applications. *The 20th World Congress of the International Federation of Automatic Control (IFAC)*, 9-14 July 2017, Toulouse, France.
  - ➢ Collective Adaptive Systems, *the 32nd ACM Symposium on Applied Computing* (SAC), April 3 - 7, 2017, Marrakech, Morocco.
  - ➢ Visual Perception and Robotic Systems, the *12th International Symposium on Visual Computing* (ISVC), Dec. 12-14, 2016, Las Vegas, NV, USA.
  - ➢ Multi-Robot Systems and Mobile Sensor Networks, the *IEEE International Conference on Multisensor Fusion and Integration for Intelligent Systems* (MFI), Baden-Baden, Germany, Sept. 19-21, 2016.
  - ➢ Coordination Models, Languages and Applications, *the 31th ACM Symposium on Applied Computing* (SAC), April 3 - 8, 2016, Pisa, Italy.
  - ➢ Visual Perception and Robotic Systems, the *11th International Symposium on Visual Computing* (ISVC), Dec. 14-16, 2015, Las Vegas, NV, USA.
  - ➢ Coordination Models, Languages and Applications, *the 30th ACM Symposium on Applied Computing* (SAC), April 13 - 17, 2015, Salamanca, Spain.
  - ➢ Visual Perception and Robotic Systems, the *10th International Symposium on Visual Computing* (ISVC), Dec. 8-10, 2014, Las Vegas, NV, USA.
  - ➢ Coordination Models, Languages and Applications, the *29th ACM Symposium on Applied Computing* (SAC), March 24 - 28, 2014, Gyeongju, Korea.

- **Session Chair:**
  - ➢ Robot Mechatronics: The 15th IEEE International Conference on Ubiquitous Robots (UR), June 26-30, 2018, Hawaii, USA.
  - ➢ Sensor Network: The 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Vancouver, BC, Canada on September 24–28, 2017.
  - ➢ Field Robotics: The 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Vancouver, BC, Canada on September 24–28, 2017.
  - ➢ Robotics and Control: the 54th Annual Allerton Conference on Communication, Control, and Computing, Sept. 27-30, 2016, Urbana-Champaign, Illinois, USA.
  - ➢ Control Architectures and Programming, the*12th Conference on Automation Science and Engineering* (CASE), August 21-24, 2016, Fort Worth, TX, USA
  - ➢ Robotics and Control: the 53th Annual Allerton Conference on Communication, Control, and Computing, Sept. 26-29, 2015, Urbana-Champaign, Illinois, USA.
  - ➢ Robotics and Mechatronics, *the 31st International Symposium on Automation and Robotics in Construction* (ISARC), July 9 to July 11, 2014, Sydney, Australia
  - ➢ Self-organizing multi-agent systems: Technologies and applications, *the 8th International KES Conf. on Agents and Multi-agent Systems – Technologies and Applications*, June 18 – 20, 2014, Chania, Greece

- **Program Committee**:
  - ➢ The 2018 IEEE International Conference on Real-time Computing and Robotics (RCAR), Kandima, Maldives, August 1-5, 2018.
  - ➢ The 13th World Congress on Intelligent Control and Automation (WCICA), Changsha, China, on July 4-8, 2018.
  - ➢ The 2017 IEEE International Conference on Real-time Computing and Robotics (RCAR), July 10 to 14, 2017, Okinawa, Japan.
  - ➢ The 7th International Conference on Swarm Intelligence (ICSI), Fukuoka, Japan, July 27-August 1, 2017
  - ➢ The 6th International Conference on Swarm Intelligence (ICSI), Bali, Indonesia, June 25-30, 2016,
  - ➢ The *4th Annual IEEE International Conference on CYBER Technology in Automation, Control, and Intelligent Systems* (IEEE-CYBER), June 4-7, 2014, Hong Kong, China.
  - ➢ *The 31st International Symposium on Automation and Robotics in Construction* (ISARC), July 9 to July 11, 2014, Sydney, Australia
  - ➢ International Workshop on Autonomic High Performance Computing" (AHPC) at *the International Conference on High Performance Computing & Simulation* (HPCS), July 21-25, 2014, Bologna, Italy
  - ➢ *Conference on Theoretical and Applied Computer Science* (TACS), 2010, Stillwater city, Oklahoma, USA.
  - ➢ *The International Conference on Intelligent Robots and Systems* (IROS), 2009, St. Louis city, Missouri, USA (supporting the organizing committee)

- **Journal Review for:**
  - o **Wiley** Journal of Field Robotics (2016-present)
  - o **IEEE** Transactions on Automatic Control (2015-present)
  - o **EEE** Transactions on Neural Networks and Learning Systems (2016-present)
  - o **IEEE** Transactions on Industrial Informatics (2015-present)
  - o **IEEE** Transactions on Vehicular Technology (2015-present)

- o   **IEEE** Transactions on Control of Network Systems (2014-present)
- o   **IEEE** Transactions on Cybernetics (2014-present)
- o   **IEEE** Transactions on Intelligent Transportation Systems (2014-present)
- o   **IEEE** Transactions on Automation Science and Engineering (2011-present)
- o   **IEEE** Transactions on Systems, Man and Cybernetics: Systems (2013-present)
- o   **IEEE** Transactions on Mechatronics (2014-present)
- o   **ACM** Transactions on Autonomous and Adaptive Systems (2015-present)
- o   **Elsevier** Journal of Robotics and Autonomous Systems (2015-present)
- o   **Elsevier** Journal of Control Engineering Practice (2011-present)
- o   **Elsevier** journal of Franklin Institute (2012-present)
- o   **Elsevier** Journal of Systems Architecture (2013-present)
- o   **Elsevier** Journal of Digital Signal Processing (2014-present)
- o   **Elsevier** Journal of Systems & Control Letters (2012-present)
- o   **Elsevier** Journal of Automation in Construction (2014-present)
- o   **Elsevier** Journal of Construction & Building Materials (2014-present)
- o   **Springer** Journal of Autonomous Agents and Multi-Agent Systems (2013-present)
- o   **Springer** Journal of Visualization in Engineering (2014-present)
- o   **Springer** Journal of Intelligent & Robotic Systems (2016-present)
- o   **SAGE** International Journal of Advanced Robotic Systems (2017-present)
- o   **SAGE** International Journal of Distributed Sensor Networks (2016-present)
- o   **International** Journal of Control (2011-present)
- o   **International** Journal of Automation and Computing (2014-present)
- o   **International** Journal of Automation and Control (2015- Present)
- o   **Journal** of Sensor and Actuator Networks (2012-present)
- o   **Journal** of Actuators (2013-present)
- o   **Journal** of Electronics (2016-present)
- o   **Journal** of Applied Statistics (2013)
- o   **Frontiers** of Information Technology & Electronic Engineering (2016-present)

- **Conference Technical Program Committee:**
  - o   IEEE International Conference on Robotics and Automation (ICRA, 2009-present)
  - o   IEEE Conference on Decision and Control (CDC, 2010-present)
  - o   IEEE International Conference on Intelligent Robots and Systems (IROS, 2009-present)
  - o   IEEE International Conference on Automation and Science Engineering (CASE, 2013-present)
  - o   IEEE CYBER (2014-present)
  - o   IEEE International Conference on Intelligent Transportation Systems (ITS, 2013-present)
  - o   IEEE Global Communications Conference (2015-present)
  - o   IEEE/ASME Conference on Advanced Intelligent Mechatronics (AIM 2010)
  - o   International Symposium on Visual Computing (2014)
  - o   International Symposium on Automation and Robotics in Construction (ISARC, 2014-present)
  - o   ACM Symposium on Applied Computing (SAC, 2013-present)
  - o   International Workshop on Autonomic High Performance Computing (2014)

o   American Control Conference (ACC 2009-present)

o   Dynamic Systems and Control Conference (DSCC, 2013-present)

o   The 4th International Conference on Intelligent and Automation Systems (ICIAS 2016)

o   Conference on Theoretical and Applied Computer Science (TACS, 2009-2010)

o   IFAC Workshop on Networked Robotics (2009)

PROFESSIONAL MEMBERSHIPS

- IEEE Senior Member: 2008– Present. Institute of Electrical and Electronics Engineers (IEEE)
- Member, IEEE Robotics and Automation Society (IEEE RAS)
- ASCE Member: 2014-Present. American Society of Civil Engineers (ASCE)
- IAARC Member: 2015-Present. International Association for Automation and Robotics in Construction (IAARC)
- Member of the Golden Key International Honor Society: 2010 – 2011.
- Member of the International Society of Automation (ISA): 2010 – Present.
- Listed in: Who's Who in America, 2010, 2011, 2014, 2015, 2017, 2018.