



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., SSRR2018, 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 Paper Finalist**, the *16th IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR)*, August 6-8, 2018, Philadelphia, PA, USA.
- **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 (RABITTM), 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

- CPE201: Digital Design, Fall 2018
- CPE470/670: Autonomous Mobile Robots, Fall 2016, Fall 2017
- CS455/655: Mobile Sensor Networks, Spring 2016, Spring 2017, Spring 2018
- CS791: Special Topics: Robotics, Fall 2015, Spring 2017, Spring 2018
- CS491X/691X/791X: Special Topics: Robotics, Fall 2014

Rutgers University (2013-2014): Instructor

- Robotics and Applications, New Jersey Governor's School Class, July 2014
- Robotics and Applications, New Jersey Governor's School Class, July 2013

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

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

GRANTS

- **Total as PI: \$1,495,518**
- **Total as Co-PI: \$1,046,567**
- **Total as Senior Personnel: \$941,073**

EXTERNAL GRANTS

14. NASA Space Grant:

Hung M. La (PI): Deep Reinforcement Learning Framework for Robotic Manipulation. *Nevada NASA Space Grant Consortium Research Infrastructure.* Amount: **\$45,000**. Duration: 8 months: September 1, 2018- April 9, 2019.

13. NASA Seed RID Grant:

Hung M. La (PI), David Feil-Seifer (Co-PI): Leveraging human electrocardiogram signals for UAV security enhancement. *Nevada NASA Seed Research Infrastructure Development.* Amount: **\$50,000**. Duration: 10 months: September 1, 2018- June 30, 2019.

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: **\$50,000**. Duration: 8 months: July 1, 2018- April 9, 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) **Accurate Crack and Defects Localization Using Region-based Convolutional Neural Networks (R-CNNs).** *Japan Nine Sigma, under Penta-Ocean Constructions Co., LTD.* Amount: **\$150,000.** Duration: 1.5 years: January 2019- June 2021.

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- Dec. 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. Huy Pham (MS: Advisor). MS Thesis: Design Distributed Control and Learning Algorithms for a Team of UAVs for Optimal Field Coverage. Defended in November 2018.
2. Spencer Gibb (MS: Advisor). MS Thesis: NDE data analysis and fusion for infrastructure inspection robots. Defended in May 2018. Now with Scientific Games Corp.
3. Ashutosh Singandhupe (MS: Advisor). MS Thesis: Securing a UAV Using Features from an EEG Signal. Defended in August 2017. Now with ARA lab as a PhD student.
4. 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.
5. Tuan D. Le (MS: Advisor). MS Thesis: A Multi-Functional Robot for Civil Infrastructure Inspection. Defended in April 2017. Now with Norwegian University.
6. Alexander Woods (MS: Advisor). MS Thesis: An Extended Potential Field Controller for use on Aerial Robots. Defended in April 2016. Now with Lockheed Martin's Autonomous Systems group, Denver, CO.
7. Hannah Huh (Undergrad/Davidson Academy: Advisor). Research topic: SLAM for mobile robots. Now with Princeton University (Princeton, NJ), 2017.
8. Jesus Sanchez (Undergrad: Advisor). Research topic: IR Localization for steel climbing robot. Now with Bastian Solutions (Dallas, TX), 2015.

PhD Student Advising:

1. Ashutosh Singandhupe (PhD student). Research Topic: UAV-UGV security and control framework. Started in Fall 2015 and Graduate Expectation in Fall 2020.
2. Daniel Mendez (PhD student). Research Topic: Multi-agent collaborative learning system. Started in Spring 2016 and Graduate Expectation in Fall 2020.
3. Dzung Bui (PhD student). Research Topic: Multi-agent collaborative control and learning. Started in Spring 2019 and Graduate Expectation in Fall 2022.
4. Hai H. Nguyen (PhD student). Research Topic: Deep learning framework for mobile robot manipulators. Started in Fall 2018 and Graduate Expectation in Spring 2022.
5. Luan V. Nguyen (PhD student). Research Topic: Simultaneous human foot localization and mapping using wearable sensors. Started in Fall 2014 (at UNR) and Fall 2012 (at Rutgers) and Graduate Expectation in 2019.
6. Son T. Nguyen (PhD student). Research Topic: Climbing robotic systems for steel bridge inspection and evaluation. Started in Spring 2019 and Graduate Expectation in Fall 2022.
7. Umme H. Billah (PhD student). Research Topic: NDE data processing using deep learning. Started in Spring 2019 and Graduate Expectation in Fall 2022.

PhD Student Committee:

8. Nithya Mohan (PhD student)- Department of Electrical and Biomedical Engineering. Dissertation topic: 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.

9. Touqeer Ahmad (PhD student)- Dissertation topic: Machine Learning based Mountainous Skyline Detection and Visual Ge Localization. Defended in Dec. 2017. Chair: Dr. George Bebis.
10. Ebrahim Emami (PhD student). Dissertation topic: Crater detection on planetary images using computer vision and machine learning. Chair: Dr. George Bebis.
11. Janelle Blankenburg (PhD student)- Dissertation topic: Machine learning techniques to solve the problem of task allocation for multi-robot systems. Proposal plan to defended in September 2018. Chair: Dr. David Feil-Seifer.
12. Santosh Banisetty (PhD student)- Dissertation topic: machine learning and optimization tools to solve the problem of Socially-Aware Navigation. Proposal plan to defend in January 2019. Chair: Dr. David Feil-Seifer.
13. Mehdi Rahimi (PhD student) – Dissertation topic: Biomedical robotics. Proposal plan to defend in Dec. 2018. Chair: Dr. Yantao Shen.

Master Student Advising:

1. Addison Bogardus (Master student). Research Topic: Deep reinforcement learning for mobile robots. Started in Fall 2018 and Graduate Expectation in Spring 2020.
2. Adarsh Sehgal (Master student). Research Topic: Deep reinforcement learning and 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 Personnel – Search Committee (Advanced Manufacturing, Robotics): 2018-2019
2. Department Colloquium Committee Chair: August 2016 – July 2017.
3. Department Graduate Committee Member: July 2014 – July 2016; August 2017-Present.



4. Department Colloquium Committee Member: July 2014 – July 2016.
5. Department Personnel – Search Committee (Computer Engineering and Games): Fall 2017
6. Department Personnel – Search Committee (High Performance Computing): Spring 2017
7. Department Personnel – Search Committee (Big Data): Spring 2017
8. Department Personnel – Search Committee (Cybersecurity): Spring 2016
9. Department Personnel – Search Committee (Big Data): Spring 2016

PUBLICATIONS (GOOGLE CITATION: 1405, AS OF 12/18/2018)

Published 4 patents, 32 journals (16 IEEE Transactions, 2 JFR, 1 Automatica, 13 others), 50 conference papers (4 ICRA, 4 IROS, 2 SSRR, 2 ACC, 3 Allerton, 3 ISARC, 3 CASE, 29 others), and 3 book chapters.

Google Citation Profile:

https://scholar.google.com/citations?hl=en&user=uG-wAt0AAAAJ&view_op=list_works&sortby=pubdate

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

Patents:

[P4] **H. M. La**, A magnetic roller-chain climbing robot for steel bridge and steel structure inspection and evaluation. Submitted to UNR's Innovation Office for filling US Provisional patent: DIS19-05. Sept 19, 2018.

[P3] **H. M. La**, A Universal Convolution Neural Network (U-CNN) for Highly Accurate Defect Detection in Civil Infrastructure Inspection. Submitted to UNR's Innovation Office for filling US Provisional patent: UNR18-018. April 6, 2018.

[P2] **H. M. La**, Multi-functional robotic system for civil infrastructure inspection. US Provisional patent: UNR 18-005. Filled May 25, 2018.

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

Journal Publications:

Journals Published

[J32] L. Jin, S. Li, **H. M. La**, X. Zhang, and B. Hu. Dynamic task allocation in multi-robot coordination for moving target tracking: A distributed approach. *Automatica, Elsevier publisher*, Volume 100, pages 75-81, February 2019. Impact Factor: **6.126**.

[J31] 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: **3.557**.



- [J30] 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 (In Press). Impact Factor: **1.528**.
- [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*, Volume35, Issue6, September 2018, Pages 988-1004. Impact Factor: **4.882**.
- [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**. (In Press)
- [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: **5.131** (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*, Volume 5, Issue 6, pp.1729-1740, December 2018. Impact Factor: **2.84**.
- [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: **5.131** (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: **2.84**.
- [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: **2.563**.
- [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: **2.563**.
- [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: **5.131**.
- [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: **4.883**.
- [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: **8.803**.
- [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: **4.051**.
- [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: **2.638**.
- [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:

- [55] S. T. Nguyen and **H. M. La***. Development of a Steel Bridge Climbing Robot. 2018. (Submitted)
- [54] H. Le, **H. M. La***, and M. Deans. Deep Learning with Experience Ranking Convolutional Neural Network for Robot Manipulator. 2018. (Submitted)
- [53] H. X. Pham, **H. M. La***, D. Feil-Seifer, and A. Nefian. Cooperative and Distributed Reinforcement Learning of Drones for Field Coverage. 2018. (Submitted)
- [52] A. Sehgal, **H. M. La***, S. Louis, and H. Nguyen. Deep Reinforcement Learning using Genetic Algorithm for Parameter Optimization. (Submitted)
- [51] C. Le, H. X. Pham, and **H. M. La***. A Multi-Robotic System for Environmental Cleaning. *Proceedings of the third IEEE International Conference on Robotic Computing (IRC)*, February 25-27, 2019, Naples, Italy. (Accepted)
- [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.
- [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 *2017 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 Nonholonomic 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] S. Gibb, 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] N. H. Pham, 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] J. Leaman, **H. M. La***, and L. V. Nguyen. 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] A. Woods, **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] N. H. Pham, **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] L. V. Nguyen, 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] A. Woods, 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] M. Jafari*, 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. *Workshop 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: FHWA 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

- Research Presentation at Lawrence Livermore National Lab (LLNL), Development of robotic systems from theory to real world applications, Livermore, CA, December 3rd, 2018.
- 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 33rd 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

- Defence Excellence and Security (IDEaS), Department of National Defence, Government of Canada: 2018 panel reviewer
- NSF-CRII Robotics/Vision 2018, panel reviewer
- Nevada NASA, EPCoR 2017, panel reviewer
- NSF-NRI 2017, panel reviewer
- **Associate Editor** of IEEE Transactions on Human-Machine Systems (Feb. 2016-Present):
<http://www.ieeesmc.org/publications/transactions-on-human-machine-systems/associate-editors>
- **Editorial Board** Drones Journal (Oct. 2018-Present): <https://www.mdpi.com/journal/drones/editors>
- **Editorial Board** of International Journal of Automation and Control (2015- Present):
<http://www.inderscience.com/jhome.php?jcode=ijaac>
- **Editorial Board** of International Journal of Robotic Engineering (2015- Present):
<https://www.vibgyorpublishers.org/journals/editorial-board.php?jid=ijre>
- **Guest Editor for Special Issue** “Consensus-based Applications in Networked Systems”, International Journal of Robust and Nonlinear Control, 2015-2016: <https://onlinelibrary.wiley.com/doi/abs/10.1002/rnc.3821>
- **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 **IEEE** 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 Annual Reviews in Control (2018-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.