Kevin J. Leahy

Contact Information	BU Robotics Lab, 750 Commonwealth Ave., Room B25/29 Boston, MA 02215	781-690-3388 kjleahy@bu.edu

Research Interests

Robotics, formal methods, multi-agent systems

Education

Boston University, Boston MA

Ph.D., Mechanical Engineering, *Expected:* December 2016

- Thesis Topic: *Multi-Agent Persistent Surveillance under Temporal Logic Constraints*
- Advisors: Calin Belta, Ph.D and Mac Schwager, Ph.D

Boston University, Boston, MA

B.A., Economics, May 2009

- *Cum Laude*

Research Experience

Research Assistant January 2014 to present
Department of Mechanical Engineering,
Boston University
Supervisor: Calin Belta, Ph.D and Mac Schwager, Ph.D

Summer Research Intern May 2016 to August 2016
Intelligence and Decision Technologies Group,
MIT Lincoln Laboratory

Journal Publications

1. **Leahy, K.**, Zhou, D., Vasile, C.-I., Oikonomopoulos, K., Schwager, M., and Belta, C."Persistent Surveillance for Unmanned Aerial Vehicles Subject to Charging and Temporal Logic Constraints." *Autonomous Robots*, 2015.
2. Phelps, C., O'Sullivan, A., Ladapo, J., Weinstein, M.C., **Leahy, K.**, and Douglas, P. "Cost effectiveness of a gene expression score and myocardial perfusion imaging for diagnosis of coronary artery disease." *American Heart Journal*, 167(5):697–706, 2014.
3. Lawrence, D., Maschio, M., **Leahy, K.**, Yunger, S., Easaw, J., and Weinstein, M.C. "Economic analysis of bevacizumab, cetuximab, and panitumumab with fluoropyrimidine based chemotherapy in the first line treatment of KRAS wild-type metastatic colorectal cancer (mCRC)." *Journal of Medical Economics*, 16(12):1387–1398, 2013.
4. Parthan, A., **Leahy, K.**, O'Sullivan, A., Iakoubova, O., Bare, L., Devlin, J., and Weinstein, M.C. "Cost-effectiveness of targeted high-dose atorvastatin therapy following genotype testing in patients with acute coronary syndrome." *Pharmacoeconomics*, 31(6):519–531, 2013.

Conference Proceedings

1. **Leahy, K.**, Aksaray, D., and Belta, C. "Informative Path Planning under Temporal Logic Constraints with Performance Guarantees", In *Proc. of the American Control Conference (ACC)*, Seattle, Washington, 2017. **Submitted**.
2. Haghighi, I., **Leahy, K.**, Ivison, R., and Belta, C. "Semi-supervised Pattern Synthesis in Spatially Distributed Dynamical Systems", In *Proc. of the American Control Conference (ACC)*, Seattle, Washington, 2017. **Submitted**.

3. Vasile, C.-I., **Leahy, K.**, Cristofalo, E., Jones, A., Schwager, M. and Belta, C. "Control in Belief Space with Temporal Logic Specifications", In *Proc. of the IEEE Conference on Decision and Control (CDC)*, Las Vegas, Nevada, 2016. **Accepted**.

4. Cristofalo, E., **Leahy, K.**, Vasile, C.-I., Montijano, E., Schwager, M. and Belta, C. "Localization of a Ground Robot by Aerial Robots for GPS-deprived Control with Temporal Logic Constraints." In *Proc. of the International Symposium on Experimental Robotics (ISER 16)*, Tokyo, Japan, 2016. **Accepted**.

5. **Leahy, K.**, and Schwager, M. "Always Choose Second Best: Tracking a Moving Target on a Graph with a Noisy Binary Sensor", In *Proc. of the European Control Conference (ECC)*, Aalborg, Denmark, 2016.

6. **Leahy, K.**, Kannappan, P., Jardine, A., Tanner, H., Heinz, J., and Belta, C. "Integration of Deterministic Inference with Formal Synthesis for Control under Uncertainty". In *Proc. of the American Control Conference (ACC)*, Boston, Massachusetts, 2016.

7. **Leahy, K.**, Jones, A., Schwager, M., and Belta, C. "Distributed Information Gathering Policies under Temporal Logic Constraints", In *Proc. of the IEEE Conference on Decision and Control (CDC)*, Osaka, Japan, 2015.

8. Aksaray, D., **Leahy, K.**, and Belta, C. "Distributed Multi-Agent Persistent Surveillance Under Temporal Logic Constraints", 5th IFAC Workshop on Distributed Estimation and Control in Networked Systems, Philadelphia, USA, 2015.

9. Svoreňová, M., Chmelík, M., **Leahy, K.**, Ferit Eniser, H., Chatterjee, K., Černá, I., and Belta, C. "Temporal Logic Motion Planning using POMDPs with Parity Objectives", Hybrid Systems: Computation and Control (HSCC) 2015

10. **Leahy, K.**, Zhou, D., Vasile, C.-I., Oikonomopoulos, K., Schwager, M., and Belta, C. "Provable correct persistent surveillance for unmanned aerial vehicles subject to charging constraints." In *Proc. of the International Symposium on Experimental Robotics (ISER 14)*, Marrakech, Morocco, June 2014.

11. Phelps, C., Douglas, P., O'Sullivan, A., Deflin, M., **Leahy, K.**, Elashoff, M., and Ladapo, J. "Cost-effectiveness of a gene expression score and myocardial perfusion imaging for diagnosis of coronary artery disease." The 34th Annual Meeting of the Society for Medical Decision Making. Phoenix, AZ, USA, October 2012.

12. Parthan, A., Iakoubova, O., **Leahy, K.**, O'Sullivan, A., Bare, L., Devlin, J., Weinstein, M.C., and Luke, M. "Cost-effectiveness of targeted statin therapy following genotype testing among acute coronary syndrome patients." The 16th World Congress on Heart Disease. Vancouver, BC, Canada, July 2011.

13. Taylor, D., **Leahy, K.**, and Weinstein, M.C. "Representing uncertainty in calibrated cancer treatment models: a practical approach." The International Society for Pharmacoeconomics and Outcomes Research 16th Annual International Meeting. Baltimore, MD, USA, May 2011.

14. Campbell, J., Tao, C., Keith, M., **Leahy, K.**, and Russo, L. "The pharmacy budget impact of extending reimbursement of lanthanum carbonate to treatment of hyperphosphatemia ($>$ 1.78 mmol/L) in patients with chronic kidney disease pre-dialysis in France and the United Kingdom." The International Society for Pharmacoeconomics and Outcomes Research 13th Annual European Congress. Prague, Czech Republic, November 2010.

Publication Reviewing

Journal Reviewer for:

- European Journal of Control
- IEEE Transactions on Cybernetics
- IEEE Transactions on Human-Machine Systems
- MDPI Sensors
- Robotics and Automation Letters

Conference Reviewer for:

- IEEE Conference on Decision and Control
- International Conference on Intelligent Robots and Systems (IROS)
- International Conference on Robotics and Automation (ICRA)
- Robotics: Science and Systems (RSS)

Teaching Experience

Teaching Fellow — Fall 2015
ME 302 - Engineering Mechanics II
Instructor: Kamil Ekinci, Ph.D
College of Engineering,
Boston University

Teaching Fellow — Spring 2015
EK 102 - Linear Algebra
Instructor: Calin Belta, Ph.D
College of Engineering,
Boston University

Service

Mentor: — June 2014 - Aug 2014

- Research Internship in Science and Engineering (RISE) Program
- Summer Discovery Internships

Curling: — Sept 2013 - Present

- Director of college curling program at Broomstones Curling Club, Wayland, MA

Skills and Interests

Languages:

- English (native), French (fluent)

Computer Programming:

- ROS, Python, MATLAB, Julia, VBA, SAS, C++

Software:

- Solidworks, LaTeX, Microsoft Office

Last updated on September 20, 2016.