Holly Borowski — Curriculum Vitae

Contact Information

University of Colorado, Aerospace Engineering Department
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Research Interests

Game theory applied to distributed control systems. Convergence rates, efficiency, vulnerability to adversarial influence, and the role of information in multi-agent systems.

Education

University of Colorado, Boulder, Boulder, CO USA, GPA: 3.96/4.0

Ph.D. Student, Aerospace Engineering (expected graduation date: May 2016)
Advisors: Dr. Jason Marden and Dr. Eric Frew

San Francisco State University, San Francisco, CA USA, GPA: 4.0/4.0

Mathematics coursework (M.A. level, no degree pursued)

USAF Academy, Colorado Springs, CO USA, GPA: 3.63/4.0

B.S., Mathematics, June, 2004

Honors and Awards

Academic:
Philanthropic Educational Organization Scholarship, 2015
Zonta International Amelia Earhart Scholarship, 2014
NASA Aeronautics Graduate Scholarship, 2012
P. Sylow Algebra Scholarship (Mathematics), 2008

Military:
Joint Service Commendation Medal
Air Force Commendation Medal with one oak leaf cluster
Global War on Terrorism Expeditionary Medal
Space and Missile Systems Center nominee for 2010 Women in Aerospace Award

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Professional Experience: University of Colorado

Graduate Research Assistant **8/2012 - present**
Performing research on game theoretic methods for distributed control, including convergence rates, efficiency, and the role of information in games.

Teaching Assistant, Discrete Mathematics, ECEN Department **Fall 2013**

Graduate Research Assistant, RECUV **8/2011 - 8/2012**
Performing research on unmanned aircraft path planning and decision making under uncertainty with the Research and Engineering Center for Unmanned Vehicles (RECUV).

Discovery Learning Apprenticeship Mentor **Spring 2012, 2013, 2014**
Mentored undergraduate students in developing engineering research posters.

Professional Experience: **US Air Force**

Deputy Mission Manager (Captain) **8/2008 - 8/2010**
Managed integration efforts for the Space Test Program - S26 mission. Ensured the mission's four satellites, two cubesats, and launch vehicle met schedule and technical requirements for launch in November 2010.

World Class Athlete Program Cyclist (Lieutenant) **1/2007 - 8/2008**
Competed in national and international level road cycling events for the US Air Force.

12th Aircraft Maintenance Unit Assistant Officer in Charge (Lieutenant) **8/2004 - 12/2006**
Responsible for Global Hawk Unmanned Aircraft System (UAS) sortie generation, fleet health, workforce training, and maintenance discipline. Developed readiness requirements for Global Hawk combat operations in the transition from a prototype to an operational system.

380th Expeditionary Aircraft Maintenance Unit Officer in Charge (Lieutenant) **6/2005 - 11/2005**
Led a 20 person team to maintain the Global Hawk UAS at Al Dhafra Air Base, UAE in support of Operations Iraqi Freedom and Enduring Freedom. Chosen to lead a 16 member extraction team to Kabul, Afghanistan to repair and retrieve a diverted Global Hawk aircraft.

Journal Publications

Borowski, H., Marden, J., "Fast Convergence in Semi-Anonymous Potential Games." to appear in the *IEEE Transactions on Control of Network Systems*

Borowski, H., Marden, J., Shamma, J., "Learning Efficient Correlated Equilibria." submitted for journal publication, 2015.

Conference Publications

Borowski, H., Marden, J. "Understanding the Influence of Adversaries in Distributed Systems." *the 54th IEEE Conference on Decision and Control*, 2015.

Borowski, H., Marden, J., Shamma, J. "Learning Efficient Correlated Equilibria." *the 53rd IEEE Conference on Decision and Control*, 2014.

Borowski, H., Marden, J. "Fast Convergence in Trajectories of Semi-Anonymous Potential Games." *the IEEE American Control Conference,* 2014.

Borowski, H., Marden, J., Frew, E. "Fast Convergence in Semi-Anonymous Potential Games." *the 52nd IEEE Conference on Decision and Control*, 2013.

Borowski, H., Marden, J., Leslie, D., Frew, E. "Coarse Resistance Tree Methods for Stochastic Stability Analysis." *the 52nd IEEE Conference on Decision and Control*, 2013.

Borowski, H., Frew, E. "An Evaluation of Path Planners for Guidance With Vision Based Simultaneous Localization and Mapping." *AIAA Guidance, Navigation, and Control Conference*, 2012.

Borowski, H., Isoz O. Eklöf, F.M., Lo, S., Akos, D. "Detecting False Signals With Automatic Gain Control." *GPS World*, April 2012.

Borowski, H., Reese K., Motola, M. "Responsive Access to Space: Space Test Program Mission S26." *IEEE Aerospace Conference*, 2010.

Workshop Presentations and Invited Talks

"Understanding the Influence of Adversaries in Distributed Systems." International Conference on Game Theory. Stony Brook University, 2015.

"Learning Correlated Equilibria." Workshop on Control and Game Theory. 2014.

"Fast Convergence in Semi-Anonymous Potential Games" International Conference on Game Theory. Stony Brook University, 2014.

Tutorial Presentation: "How Long to Equilibrium?" IEEE Conference on Decision and Control, 2013.

"Coarse Resistance Tree Methods for Stochastic Stability Analysis." SIAM Conference on Control and its Applications, 2013.