Magnus Egerstedt

Steve W. Chaddick School Chair and Professor

October 2020

School of Electrical and Computer Engineering
Georgia Institute of Technology
Atlanta, GA 30332
✉ *magnus@gatech.edu*
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ACADEMIC LEADERSHIP

Steve W. Chaddick School Chair, School of Electrical and Computer Engineering, Georgia Institute of Technology (Aug. 2018 – present)

- School Chair for one of the the largest and highest ranked ECE program in the US (numbers are FY 20)
  - All academic programs ranked in the top 6 (*US News & World Report*)
  - Personnel: 108 tenure track faculty, 73 research faculty, 8 academic professionals, 91 administrative staff
  - Financials: $55M sponsored research (600+ research projects), $93M annual expenditures, $59M endowments
  - Students: 1,300+ undergraduate and 1,200+ graduate students, 350+ undergraduate and 450+ graduate degrees awarded annually (largest female undergraduate enrollment in School history at 21% (freshman class 29% female)
- Major Initiatives
  - Interdisciplinary Design Commons: 15,000 s.f. maker space focused on electronics, embedded processors, and analog devices (opened Sept. 2018)
  - Robotarium: A remotely accessible robotics lab used by 1000+ research labs from all continents (except Antarctica)
  - MSECE: Overhauled, professional master's degree in electrical and computer engineering (launched Fall 2019)
  - Undergraduate Curriculum Revision: Simplified and more flexible, "thread-based" degree programs (Fall 2020)
  - Diversity and Inclusion Fellows: Co-director of campus-wide effort on diversity and inclusion
  - Fundraising: Junior professorships, endowed chairs, graduate fellowships, unrestricted Chair's funds, student scholarships, undergraduate entrepreneurship and research opportunities, undergraduate scholarships targeted at Atlanta Public Highschools

Executive Director, Institute for Robotics and Intelligent Machines, Georgia Institute of Technology (Aug. 2016 – July 2018)

- Executive Director for Georgia Tech's multidisciplinary, university-wide robotics institute (all numbers are FY17)
  - 30+ tenure track robotics faculty, 50+ research faculty
  - $30M+ in sponsored research
- Major Initiatives
  - Multidisciplinary PhD program in Robotics, 70+ PhD student enrolled
  - Organizer of DC Roundtables on robotics
  - National Robotics Week: 1000+ high-school students visit campus each year

SCHOLARSHIP

Assistant Professor, Associate Professor, Full Professor, Schlumberger Professor, Julian T. Hightower Chair, Steve W. Chaddick School Chair, Georgia Institute of Technology (Aug. 2001 – present)

- Research areas: Control theory and robotics
- IEEE Fellow, IFAC Fellow, NSF CAREER Award, ICRA Best Multi-Robot Systems Paper Award, Royal Institute of Technology Alumni of the Year, IEEE CSS Distinguished Lecturer, John R. Ragazzini Education Award, School of ECE Distinguished Faculty Member Award, Royal Swedish Academy of Engineering Sciences, ACC O. Hugo Schuck Best Paper Award
- Past IEEE CSS Vice President for Financial Activities, IEEE CSS Vice President for Member Activities, World Economic Forum Taskforce on Future of Work
- 450+ refereed publications, 6 books
- 37 graduated PhD students, 23 graduated MS students
- 25+ plenary and keynote lectures at major controls and robotics conferences
- Instructor and developer of Massive Open Online Course, Control of Mobile Robots, with 250,000+ students enrolled
- $10M+ in sponsored research
- Selected Projects: Distributed decision making in multi-robot teams; Robot ecology and environmental monitoring; Autonomous vehicles (air, ground, under water); Biologically inspired team-formation; The Robotarium
- Selected Media: Wall Street Journal, BBC, NPR, Reuters, Financial Times, Wired, CNN, IEEE Spectrum

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EARNED DEGREES

April 2000 **Ph.D., Applied Mathematics**, *Royal Institute of Technology*, Stockholm, Sweden.

Sept. 1996 **M.S., Engineering Physics**, *Royal Institute of Technology*, Stockholm, Sweden.

March 1996 **B.A., Philosophy and Linguistics**, *Stockholm University*, Stockholm, Sweden.

EMPLOYMENT

Aug. 2018 – present **Steve W. Chaddick School Chair**, *School of Electrical and Computer Engineering*, Georgia Institute of Technology, Atlanta, GA.

Aug. 2016 – July 2018 **Executive Director**, *Institute for Robotics and Intelligent Machines*, Georgia Institute of Technology, Atlanta, GA.

Aug. 2016 – July 2018 **Julian T. Hightower Chair in Systems and Controls**, *School of Electrical and Computer Engineering*, Georgia Institute of Technology, Atlanta, GA.

Jan. 2014 – Aug. 2016 **Associate Chair for Research and External Affairs**, *School of Electrical and Computer Engineering*, Georgia Institute of Technology, Atlanta, GA.

March 2013 – Aug. 2016 **Schlumberger Professor**, *School of Electrical and Computer Engineering*, Georgia Institute of Technology, Atlanta, GA.

July 2010 – present **Professor**, *School of Electrical and Computer Engineering*, Georgia Institute of Technology, Atlanta, GA.

July 2006 – June 2010 **Associate Professor**, *School of Electrical and Computer Engineering*, Georgia Institute of Technology, Atlanta, GA.

Aug. 2001 – June 2006 **Assistant Professor**, *School of Electrical and Computer Engineering*, Georgia Institute of Technology, Atlanta, GA.

Jan. 2000 – July 2001 **Postdoctoral Scholar**, *Division of Engineering and Applied Sciences*, Harvard University, Cambridge, MA.

Aug. 1996 – Dec. 1999 **Research Assistant**, *Division of Optimization and Systems Theory*, Royal Institute of Technology, Stockholm, Sweden.

COURTESY APPOINTMENTS

Jan. 2016 – present **Adjunct Professor**, *Woodruff School of Mechanical Engineering*, Georgia Institute of Technology, Atlanta, GA.

Oct. 2015 – present **Adjunct Professor**, *Guggenheim School of Aerospace Engineering*, Georgia Institute of Technology, Atlanta, GA.

June 2007 – present **Adjunct Professor**, *School of Interactive Computing*, Georgia Institute of Technology, Atlanta, GA.

June 2018 – July 2018 **Visiting Professor**, *Department of Systems and Control Engineering*, Tokyo Institute of Technology, Tokyo, Japan.

June 2017 – July 2017 **Visiting Professor**, *Centre de Recherche en Automatique de Nancy*, University of Lorraine, Nancy, France.

June 2015 – July 2015 **Visiting Professor**, *Department of Engineering*, Roma Tre University, Rome, Italy.

May 2007 – Dec. 2007 **Visiting Professor**, *School of Computer Science and Communications*, Royal Institute of Technology, Stockholm, Sweden.

HONORS AND AWARDS

AWARDS

- The Sweden-America Foundation Research Award, 2000.
- Outstanding Teaching Fellow Award, Division of Engineering and Applied Science, Harvard University, 2001.
- *IEEE Transactions on Automatic Control*, Outstanding Reviewer Award, 2002.
- Best Presentation in Session, *American Control Conference*, 2002, 2004, 2006, 2009, 2010, 2011, 2012, 2013, 2014, 2015.
- Outstanding Junior Faculty Member Award, School of Electrical and Computer Engineering, Georgia Institute of Technology, 2005.
- *Automatica*, Outstanding Reviewer Award, 2005.
- Recipient of "Thank a Teacher" Certificate from the Georgia Tech Center for Enhancement of Teaching and Learning, 2006, 2011, 2012, 2013, 2014, 2015, 2017, 2018.
- Georgia Institute of Technology Teaching Efficiency Award, 2011, 2012, 2015, 2017.
- Senior Member of the IEEE (2005) and Fellow (2012).
- Distinguished Lecturer, IEEE Control Systems Society (2013-2015).
- Royal Institute of Technology Alumni of the Year, 2013.
- Georgia Tech College of Engineering/Georgia Power Professor of Excellence, 2013.
- W. Marshall Leach, Jr./Eta Kappa Nu Outstanding Senior Teacher Award, 2013.
- CSL Distinguished Lecturer, UIUC, 2013.
- *Journal of Nonlinear Analysis: Hybrid Systems*, Outstanding Reviewer Award, 2014.
- Georgia Tech Outstanding Doctoral Thesis Advisor Award, 2015.
- Georgia Tech Outstanding Professional Education Award, 2015.
- John R. Ragazzini Education Award, American Automatic Control Council, 2015.
- Peter Sagirow Distinguished Lecturer, University of Stuttgart, 2015.
- Dayawansa Memorial Lecturer, Texas Tech University, 2016.
- Distinguished Mercer Lecturer, RPI, Rochester, NY, 2016.
- *IEEE International Conference on Robotics and Automation*, Best Multi-Robot Systems Paper Award, 2017.
- Georgia Tech Research Corporation *Creating the Next Award* for Innovation and Impact in Robotics, 2017.
- School of Electrical and Computer Engineering Distinguished Faculty Achievement Award, Georgia Institute of Technology, 2018.
- Foreign Member, Royal Swedish Academy of Engineering Sciences, 2019.
- O. Hugo Schuck Best Paper Award. *American Control Conference*, 2019.
- Fellow, International Federation of Automatic Control (IFAC), 2020.

PLENARIES AND KEYNOTES

- "Algebraic Graph Theory for Multi-Agent Coordination". Plenary at *ROBOMAT - Workshop on Robotics and Mathematics*, Coimbra, Portugal, Sept. 17, 2007.
- "Hybrid Control of Networked, Dynamical Systems". Plenary at *CCE - International Conference on Electrical Engineering, Computer Science, and Automatic Control*, Mexico City, Mexico, Nov. 12, 2008.
- "Control of Networked Systems". Plenary at *Mathematical Theory of Networks and Systems*, Budapest, Hungary, July 9, 2010.
- "Biologically Inspired Control of Multi-Robot Systems". Plenary at *AAAI Symposium on Human Control of Bio-Inspired Swarms*, Arlington, DC, Nov. 2012.
- "Control of Multi-Robot Systems: From Formations to Human-Swarm Interactions". Semi-Plenary at the *IEEE Conference on Decision and Control*, Maui, Hawaii, Dec. 2012.
- "The Mechanics of an Engineering MOOC". Keynote at the *ASME Leadership Conference*, San Diego, CA, March 2013.
- "Distributed control of multi-robot systems: From local rules to global properties". Plenary at the *International Conference on Dynamics of Differential Equations*, Atlanta, GA, March 2013.
- "Mechanics of an Engineering MOOC". Keynote at the *Workshop on Education and Cyber-Physical Systems*, Philadelphia, PA, April 8, 2013.
- "Robots Everywhere: Even In The Classroom". Keynote address at the Alumni Week, *Royal Institute of Technology*, Stockholm, Sweden, Oct. 5, 2013.
- "From Global Properties to Local Rules for Multi-Agent Systems". Plenary at the *Chinese Conference on Decision and Control*, Changsha, China, June 2, 2014.
- "The Mechanics of a CPS MOOC: The Good, The Bad, The Ugly". Keynote address at the *Cyber-Physical Systems PI Meeting*, Washington D.C., Nov. 6, 2014.
- "Control and Coordination of Multi-Robot Teams". Plenary at the *International Conference on Control, Automation, Robotics and Vision*, Singapore, Dec. 10, 2014.

- "Heterogeneous Multi-Robot Systems: Smaller, Smarter, Specialized Teams". Plenary at the *Mediterranean Conference on Control and Automation*, Torremolinos, Spain, June 19, 2015.
- "Control and Coordination of Multi-Robot Systems". Plenary at the *International Symposium on Swarm Behavior and Bio-Inspired Robotics*, Kyoto, Japan, Oct. 29, 2015.
- "The Robotarium: An Open, Remote-Access Multi-Robot Testbed". Keynote at the *Workshop on Remote-Access Testbeds*, Arlington, VA, Nov. 12, 2015.
- "Control Education on a Massive Scale: The Good, The Bad, The Ugly ". Plenary at the *IFAC Symposium on Advances in Control Education*, Bratislava, Slovakia, June 1, 2016.
- "Collaborative Robotics: Robots and People, and Even More Robots". Presentation at the *Royal Technology Forum* in honor of the King of Sweden's 70th birthday. Royal Academy of Science, Stockholm, Sweden, Oct. 20, 2016.
- "Control of Multi-Robot Systems: From Formations to Human-Swarm Interactions". Plenary presentation. *Workshop on Complex Networks*, Georgia State University, Nov. 15, 2016.
- "Control and Coordination of Increasingly Larger Teams of Smaller Robots" Keynote presentation at the *National Nanotechnology Coordinated Infrastructure Conference*, Atlanta, GA, Jan. 19, 2017.
- "Up to Speed – Logistics and The Automated Vehicle". Keynote, *SMC3 Jump Start Logistics Conference*, Atlanta, GA, Jan. 24, 2017.
- "Coordinated Control of Multi-Robot Systems for Persistent Environmental Monitoring". Keynote presentation at the *Séminaire Fédération Charles Hermite*, University of Lorraine, Nancy, France, June 22, 2017.
- "Long Duration Autonomy And Constraint-Based Coordination of Multi-Robot Systems". Plenary Lecture at the *Swedish Automatic Control Meeting*, Stockholm, Sweden, June 19, 2018.
- "Long Duration Autonomy And Constraint-Based Coordination of Multi-Robot Systems". Plenary Lecture at the *ASME Dynamic Systems and Control Conference*, Atlanta, GA, Oct. 3, 2018.
- "Long Duration Autonomy And Constraint-Based Coordination of Multi-Robot Systems". Plenary Lecture at the *International Symposium on Nonlinear Dynamics and Control*, Shenyang, China, July 22, 2019.
- "Forward Invariance in Robotics: From Coordinated Multi-Robot Systems to Safe Learning". Plenary Lecture at the *IEEE International Conference on Cybernetics and Intelligent Systems*, Bangkok, Thailand, Nov. 18. 2019.

PROFESSIONAL CONTRIBUTIONS

PROFESSIONAL MEMBERSHIPS

- Fellow, IEEE (Control Systems and Robotics & Automation Societies)
- Fellow, International Federation of Automatic Control (IFAC)
- Vice President for Member Activities, IEEE Control Systems Society, 2019 - present
- Vice President for Financial Activities, IEEE Control Systems Society, 2017 - 2018

EDITORIAL WORK

- Senior Editor, *IEEE Transactions on Control of Networked Systems*, 2016 - 2017.
- Deputy Editor-in-Chief, *IEEE Transactions on Control of Networked Systems*, 2013 - 2016.
- Senior Editor, *Journal of Nonlinear Analysis: Hybrid Systems*, 2014 - 2016.
- Editor, *Electronic Publications – IEEE Control Systems Society*, 2009 - 2012.
- Associate Editor, *IEEE Transactions on Automatic Control*, 2007 - 2011.
- Associate Editor, *IEEE Robotics and Automation Magazine*, 2006 - 2008.
- Associate Editor, *International Journal of Statistics and Systems*, 2005 - 2007.
- Associate Editor, *Journal on Discrete Event Dynamical Systems*, 2010 - 2013.
- Associate Editor, *Journal of Nonlinear Analysis: Hybrid Systems*, 2011 - 2013.
- Associate Editor, *Conference Editorial Board, IEEE Control Systems Society*, 2002-2005.
- Guest Editor, *IEEE Transactions on Automatic Control*, Special Issue on Symbolic Methods for Complex Control Systems. June 2006.
- Guest Editor, *EEE Robotics Magazine*, Special Issue on Multi-Agent Robotics. March 2008.
- Guest Editor, *ACM/Springer Mobile Networks and Applications*, Special Issue on Multi-Robot Systems and Communications. June 2009.
- Guest Editor, *Journal on Discrete Event Dynamical Systems*, Special Issue on Hybrid Dynamical Systems. September 2012.
- Guest Editor, *Journal of Nonlinear Analysis: Hybrid Systems*, Special Issue on Hybrid Control Systems. November 2012.
- Guest Editor, *Journal of Nonlinear Analysis: Hybrid Systems*, Special Issue on Analysis and Design of Hybrid Systems. 2016.
- Guest Editor, *Autonomous Robots*, Special Issue on Foundations of Resilience for Networked Robotic Systems. 2019.

CONFERENCE ORGANIZING COMMITTEES

- Local Arrangements Co-Chair, *Robotics: Science and Systems*, Atlanta, GA, June 2007.
- Program Chair for North America, *ROBOCOMM*, Athens, Greece, Oct. 2007.
- Student Best Paper Award Committee Chair, *ROBOCOMM*, 2007.
- General Chair, *Hybrid Systems: Computation and Control*, St Louis, MO, Apr. 2008.
- Publications Chair, *IEEE Conference on Decision and Control*, Cancun, Mexico, Dec. 2008.
- Steering Committee, *ROBOCOMM*, 2009.
- Vice Chair: Invited Sessions, *IEEE Conference on Decision and Control*, Atlanta, GA, Dec. 2010.
- Program Co-Chair, *International Symposium on Distributed Autonomous Systems*, Lausanne, Switzerland, Nov. 2010.
- Technical Editor, *IFAC World Congress on Automatic Control*, Milano, Aug. 2011.
- Vice Chair: Invited Sessions, *American Control Conference*, Montreal, Canada, June 2012.
- Program Chair, *IEEE Multi-Conference on Systems and Control*, Nice, France, Oct. 2014.
- General Chair, *ADHS: Analysis and Dynamics of Hybrid Systems*, Atlanta, GA, Oct. 2015.
- General Chair, *Workshop on Remote-Access Testbeds*, Arlington, VA, Nov. 2015.
- General Co-Chair, *IEEE International Conference on Robotics and Automation*, Stockholm, Sweden, May 2016.
- Co-Chair for North America, *ANTS*, Sept. 2016.
- Steering Committee, *ADHS*, 2016-2018.
- Steering Committee, *International Symposium on Multi-Robot and Multi-Agent Systems*, 2017-2020.
- General Co-Chair, *International Conference on Control, Automation, Robotics and Vision*, Singapore, Nov. 2018.
- Program Chair, *IEEE Conference on Decision and Control*, Miami, FL, Dec. 2018.
- General Chair, *IEEE Conference on Decision and Control*, Austin, TX, Dec. 2021.

PROGRAM COMMITTEES

- *International Workshop on the Mathematics and Algorithms of Social Insects* (2003)
- *Hybrid Systems: Computation and Control* (2004, 2005, 2006, 2007, 2010, 2013)
- *IEEE Conference on Decision and Control* (2004, 2007, 2009, 2013, 2017)
- *American Association for Artificial Intelligence National Conference* (2005)
- *Networked Embedded Sensing and Control* (2005)
- *IFAC Conference on Analysis and Design of Hybrid Systems* (2006, 2009)
- *Mediterranean Control Conference* (2006)
- *Robotics: Science and Systems* (2006, 2008)
- *American Control Conference* (2007, 2008)
- *Workshop on the Algorithmic Foundations of Robotics* (2008)
- *Mathematical Theory of Networks and Systems* (2010)
- *IFAC Workshop on Discrete Event Systems* (2010)
- *International Conference on Cyber-Physical Systems* (2016)

MISCELLANEOUS COMMITTEES

- Student Best Paper Award Committee, *IEEE Conference on Decision and Control*, 2004, 2006, 2007, 2012.
- Student Best Paper Award Committee, *American Control Conference*, 2007, 2014, 2016, 2018.
- Student Best Paper Award Committee, *Robotics: Science and Systems*, 2007.
- Student Best Paper Award Committee, *Distributed Autonomous Systems*, 2010.
- Student Best Paper Award Committee, *IEEE Multi-Conference on Systems and Control*, 2014.
- Student Best Paper Award Committee, *Chinese Conference on Decision and Control*, 2014.
- Donald P. Eckman Award Committee, *American Automatic Control Council*, 2013.
- Best Paper Award Committee, *IEEE Control Systems Magazine*, 2013, 2014.
- Axelby Best Paper Award Committee, *IEEE Transactions on Automatic Control*, 2015, 2016, 2017.
- Vice Chair, *International Federation on Automatic Control*, Technical Committee on Discrete Event and Hybrid Systems, 2009 - 2103.
- Elected Member, *IEEE Control Systems Society*, Board of Governors, 2014-2017.
- IEEE Control Systems Society Video Clip Contest Jury Chair, 2015.
- Chair, IEEE Control Systems Society Video Clip Contest, 2017.
- Chair, O. Hugo Schuck Best Paper Committee, American Automatic Control Council, 2020.

GEORGIA TECH CONTRIBUTIONS

- School Chair, School of Electrical and Computer Engineering, Georgia Tech, 2018-present.
- Executive Director, Institute for Robotics and Intelligent Machines (IRIM) at Georgia Tech, 2016-2018.
- Co-Director, Georgia Tech Diversity and Inclusion Fellows Program, 2016-2020.
- Co-Director, Decision and Control Laboratory at Georgia Tech, 2016-2017.
- Associate Chair for Research and External Affairs, School of Electrical and Computer Engineering, Georgia Institute of Technology, 2014-2016.
- Chair, Systems and Controls Technical Interest Group, School of Electrical and Computer Engineering, Georgia Institute of Technology, 2006-2007.
- Director, Georgia Robotics and Intelligent Systems (GRITS) Lab.
- Member, Georgia Tech Center for the Integration of Research, Teaching and Learning Steering Committee, 2017-2019.
- Member, Internal Advisory Board, Center for Machine Learning at Georgia Tech, 2017-present.
- Member, Georgia Tech Smart City Initiative Advisory Council, 2017-2020.
- Mentor, College of Engineering's Mentoring Program for New Faculty, 2016-2017.

STARTUPS

Egerstedt is Co-Founder of two startup companies:

- **Motorpsych, Inc.** (Former role: CTO.) Motorpsych provides scripting languages and user interfaces for controlling and interacting with large teams of autonomous vehicles. Status: inactive.
- **ProsumerGrid, Inc.** (Role: Technical Advisor.) ProsumerGrid develops algorithms and decision support for decentralized smart grid operations. Status: active.

ADVISORY BOARDS AND TASKFORCES

- Member, Advisory Board, Pacific Northwest National Lab, Complex Systems Initiative, 2013-2017.
- Member, External Advisory Board, Georgia Tech Research Institute, 2017-2019.
- Member, Advisory Board of the IEEE RAS Technical Committee on Multi-Robot Systems, 2017-present.
- Member, Advisory Board, Georgia Center for Medical Robotics, 2017-2018.
- Member, Advisory Board, Georgia Tech Lorraine, 2017-present.
- Member, World Economic Forum Taskforce on the Future of Work in Advanced Manufacturing, 2019-present.
- Member, External Advisory Board, Super-Smart Society, Tokyo Institute of Technology, 2020-present.
- Member, Executive Committee, ECEDHA (Electrical and Computer Engineering Department Head Association), 2020-present.

STUDENT GUIDANCE

GRADUATED PH.D. STUDENTS

1. **Leandro Barajas**. (Co-advised with Ed Kamen.) Ph.D. Spring 2003. Thesis: *Process Control in High-Noise Environments Using a Limited Number of Measurements.*
2. **Mohamed Babaali**. Ph.D. Spring 2004. Thesis: *Switched Linear Systems: Observability and Observers.*
3. **Abubakr Muhammad.** Ph.D. Fall 2005. Thesis: *Graphs, Simplicial Complexes and Beyond: Topological Tools for Multi-agent Coordination.*
4. **Henrik Axelsson**. (Co-advised with Yorai Wardi.) Ph.D. Spring 2006. Thesis: *Optimal Control of Switched Autonomous Systems: Theory, Algorithms, and Robotic Applications.*
5. **Florent Delmotte**. Ph.D. Fall 2006. Thesis: *Multi-Modal Control: From Motion Description Languages to Optimal Control.*
6. **David Wooden**. Ph.D. Fall 2006. Thesis: *Graph-Based Path Planning for Mobile Robots.*
7. **Tejas Mehta**. Ph.D. Spring 2007. Thesis: *Optimal, Multi-Modal Control With Applications to Robotics.*
8. **Meng Ji**. Ph.D. Summer 2007. Thesis: *Graph-Based Control of Networked Systems.*
9. **Brian Smith**. (Co-advised with Ayanna Howard.) Ph.D. Spring 2009. Thesis: *Automatic Coordination and Deployment of Multi-Robot Systems.*
10. **Xu Chu (Dennis) Ding**. (Co-advised with Yorai Wardi.) Ph.D. Fall 2009. Thesis: *Real-Time Optimal Control of Autonomous Switched Systems.*
11. **Patrick Martin**. Ph.D. Spring 2010. Thesis: *Motion Description Languages: From Specification to Execution.*
12. **Musad Haque**. Ph.D. Fall 2010. Thesis: *Biologically Inspired Control of Heterogeneous Multi-Agent Systems.*
13. **Jonghoek Kim**. (Co-advised with Fumin Zhang.) Ph.D. Spring 2011. Thesis: *Simultaneous Cooperative Exploration and Networking.*
14. **Peter Kingston**. Ph.D. Spring 2012. Thesis: *Fluid-Dynamic Models of Multi-Robot Systems.*

15. **Rahul Chipalkatty**. (Co-advised with Wayne Book.) Ph.D. Spring 2012. Thesis: *Human-in-the-Loop Control of Mobile Robots.*
16. **Philip Twu**. Ph.D. Spring 2012. Thesis: *Abstractions for Design and Analysis of Multi-Robot Systems.*
17. **Amy LaViers**. Ph.D. Summer 2013. Thesis: *Choreographic Abstractions for Style-Based Robotic Motion.*
18. **Waseem Abbas**. Ph.D. Fall 2013. Thesis: *Network-Centric Methods for Heterogeneous Multiagent Systems.*
19. **Hassan Jaleel**. Ph.D. Fall 2013. Thesis: *Power-Aware Control Strategies in Wireless Sensor Networks.*
20. **Greg Droge**. Ph.D. Spring 2014. Thesis: *Behavior-Based Model Predictive Control for Networked Multi-Agent Systems.*
21. **Yasin Yazicioglu**. (Co-advised with Jeff Shamma.) Ph.D. Summer 2014. Thesis: *Decentralized Graph Processes for Robust Multi-Agent Networks.*
22. **Jean-Pierre de la Croix**. Ph.D. Spring 2015. Thesis: *Characterizing and Facilitating Human Interactions with Swarms of Mobile Robots.*
23. **Smriti Chopra**. Ph.D. Spring 2015. Thesis: *Spatio-Temporal Multi-Robot Routing.*
24. **Rowland O'Flaherty.** Ph.D. Spring 2016. Thesis: *A Control Theoretic Perspective on Learning in Robotics.*
25. **Zak Costello**. Ph.D. Spring 2016. Thesis: *Distributed Computation in Networked Systems.*
26. **Yancy Diaz-Mercado**. Ph.D. Spring 2016. Thesis: *Interactions in Multi-Robot Systems.*
27. **Thiagarajan Ramachandran**. Ph.D. Spring 2016. Thesis: *Algorithmically Induced Architectures for Multi-Agent Networks.*
28. **Daniel Pickem**. (Co-advised with Jeff Shamma.) Ph.D. Spring 2016. Thesis: *Self-Reconfigurable Multi-Robot Systems.*
29. **Usman Ali**. (Co-advised with Yorai Wardi.) Ph.D. Summer 2016. Thesis: *Optimal Timing Control with Dwell-Time Constraints.*
30. **Tina Setter**. Ph.D. Spring 2017. Thesis: *Psychologically Consistent Coordinated Control of Multi-Agent Teams.*
31. **Matthew Hale**. (Co-advised with Yorai Wardi.) Ph.D. Spring 2017. Thesis: *Mixed Centralized/Decentralized Coordination Protocols for Multi-Agent Systems.*
32. **Li Wang**. (Co-advised with Aaron Ames.) Ph.D. Spring 2018. Thesis: *Cyber-Physically Secure Multi-Robot Teams Using Control Barrier Certificates.*
33. **Sebastian Ruf**. (Co-advised with Jeff Shamma.) Ph.D. Spring 2018. Thesis: *Control and Influence in Social Networks.*
34. **Paul Glotfelter**. Ph.D. Spring 2019. Thesis: *Specification Composition and Controller Synthesis for Robotic Systems.*
35. **Siddharth Mayya**. Ph.D. Fall 2019. Thesis: *Local Encounters in Robot Swarms: from Localization to Density Regulation.*
36. **Ian Buckley**. Ph.D. Spring 2020. Thesis: *Shape Similar Formation Control for Teams of Mobile Robots.*
37. **Maria Santos**. Ph.D. Summer 2020. Thesis: *Heterogeneous Abstractions for Multi-Robot Coverage Control.*
37. **Gennaro Notomista**. Ph.D. Summer 2020. Thesis: *Persistification of Environmental Monitoring Tasks.*

CURRENT PH.D. STUDENTS

1. **Eric Squires**. Passed the Preliminary Exam Spring 2014. Topic: *Safe Learning in Multi-Robot Systems.*
2. **Anqi Li**. (Co-advised with Byron Boots.) Passed the Preliminary Exam Spring 2017. Topic: *Decentralized Machine Learning.*
3. **Christopher Banks**. (Co-advised with Sam Coogan.) Passed the Preliminary Exam Spring 2019. Topic: *Formal Methods for Multi-Robot Control.*
4. **Yousef Emam**. (Co-advised with Zsolt Kira.) Passed the Preliminary Exam Spring 2019. Topic: *Curiosity-Driven Robot Learning.*

GRADUATED M.S. STUDENTS

1. **Adam Austin**. M.S. Spring 2003. Topic: *Source Coding of Multi-Modal Control Procedures.*
2. **Lucas Osorio**. M.S. Spring 2005. Topic: *Vision-Based Control of Mobile Robotics.*
3. **Johan Isaksson**. M.S. Spring 2006. Topic: *Optimal Timing Control of Hybrid Systems with Applications to Bridge Maintenance.*
4. **Angela Schöllig**. M.S. Summer 2007. Topic: *Hybrid Optimal Control of Systems with Regional Dynamics.*
5. **Jiuguang Wang**. M.S. Spring 2009. Topic: *Implementation of Mobile Sensor Network Platforms.*
6. **Daniel Sinto**. M.S. Spring 2009. Topic: *Biologically Inspired Multi-Robot Foraging.*
7. **Akhil Bahl**. M.S. Fall 2009. Topic: *Dual Decomposition for Decentralized Optimal Control.*
8. **Amjad Dawd**. M.S. Spring 2010. Topic: *Boolean Consensus.*
9. **Edward Macdonald**. M.S. Summer 2011. Topic: *Distributed Assignment Algorithms.*
10. **Daniel Pickem**. M.S. Fall 2011. Topic: *Automatic Self-Assembly in Modular Robotics.*
11. **Akash Verma**. M.S. Fall 2011. Topic: *Control of Distributed Manipulators.*
12. **Eugene Gargas**. M.S. Spring 2012. Topic: *Adaptive Motion Description Languages.*
13. **Jeremy Shively**. M.S. Spring 2012. Topic: *Path Planning for Multi-Robot Convoys.*

14. **Sam Ettinger**. M.S. Fall 2013. Topic: *Coordination Among Lighter-Than-Air Vehicles.*
15. **Karthik Rao**. M.S. Spring 2014. Topic: *Median Consensus Algorithms.*
16. **Paul Bartholomy**. M.S. Spring 2014. Topic: *Motion Imitation for Humanoid Robots.*
17. **Sung Lee**. M.S. Spring 2014. Topic: *Dynamic Coverage Algorithms for Mobile Sensor Networks.*
18. **Matthew Rice**. M.S. Spring 2015. Topic: *Collision-Avoidance in Multi-Robot Systems.*
19. **Valentin Trimaille**. M.S. Summer 2015. Topic: *Collision-Free Multi-Robot Coordination.*
20. **Marius Oei**. M.S. Summer 2016. Topic: *Time-Scale Separation For Heterogeneous Coverage Control.*
21. **Kyle Slovak**. M.S. Spring 2018. Topic: *Coordination of Teams of Aerial Vehicles.*
22. **Mark Olsen**. M.S. Summer 2018. Topic: *Power Aware Coverage Control.*
23. **Xiaoyi (Jeremy) Cai**. M.S. Spring 2019. Topic: *Distributed Multi-Agent Reinforcement Learning.*

CURRENT M.S. STUDENTS

1. **Mark Mote**. Topic: *Run-Time Assurance in Robotic Systems.*
2. **Soobum Kim**. Topic: *Heterogeneous Task Allocation for Teams of Mobile Robots.*
3. **Ricardo Meizoso**. Topic: *Perching Aerial Robots.*

STUDENT RESEARCH AWARDS

- Egerstedt's student, Mohamed Babaali, was a finalist (top 4) for the Student Best Paper Award at the *IEEE Conference on Decision and Control*, 2003.
- Egerstedt's student, Abubakr Muhammad, received the Georgia Institute of Technology Sigma Xi Best Ph.D. Thesis Award, 2005.
- Egerstedt's students, Philip Twu and Rahul Chipalkatty, received the Student Best Paper Award at the *29th Digital Avionics Systems Conference*, 2010.
- Egerstedt's student, Leandro Barajas, received the IEEE Robotics & Automation Society Early Career Award in 2010.
- Egerstedt's student, Rowland O'Flaherty, was a finalist (top 4) for the Student Best Paper Award at the *IEEE International Conference on Automation Science and Engineering*, 2013.
- Egerstedt's student, Yancy Diaz-Mercado won second place in the IEEE Control Systems Society Video Clip Contest, 2014.
- Egerstedt's student, Zak Costello, was a finalist (top 4) for the Student Best Paper Award at the *IEEE Conference on Decision and Control*, 2014.
- Egerstedt's student, Daniel Pickem, was a finalist (top 4) for the Student Best Paper Award at the *IEEE Conference on Decision and Control*, 2015.
- Egerstedt's student, Maria Santos, received the La Caixa Research Award from the La Caixa Foundation, Spain, 2017.

COURSES TAUGHT

The items include the student reported *course survey mean teaching efficiency score* (max 5.0))

- **ECE6557 Manufacturing System Design**: Fall 2001(4.9), Fall 2002(5.0), Fall 2003(4.9), Fall 2006(4.9)
- **ECE2030 Introduction to Computer Engineering**: Spring 2002(4.8)
- **ECE4555 Embedded and Hybrid Control Systems**: Spring 2003(4.3), Spring 2004(4.9), Spring 2006(4.9), Spring 2007(4.7), Summer 2011(5.0), Spring 2013(4.9)
- **ECE6553 Optimal Control and Optimization**: Spring 2005(4.6), Spring 2008(4.9), Spring 2011(4.9), Spring 2014(4.9), Spring 2017(5.0)
- **ECE4761 Industrial Control and Manufacturing**: Spring 2005(4.8), Spring 2006(4.8)
- **ECE6550 Linear Systems and Controls**: Fall 2005(4.8), Fall 2008(4.9), Fall 2011(4.8), Fall 2014 (4.9)
- **ECE3085 Introduction to Systems and Controls**: Fall 2008(4.9), Spring 2012(4.8)
- **ECE6563 Networked Control Systems**: Fall 2009(4.9), Fall 2010(4.9), Fall 2011(4.9), Fall 2015(4.9)
- **ECE6552 Nonlinear Control Systems**: Spring 2010(5.0), Spring 2013(4.9), Spring 2018(5.0)
- **ECE3084 Signals and Systems**: Fall 2012(4.7)

OTHER TEACHING ACTIVITIES

- *New Course Developments*: **ECE4555 Embedded and Hybrid Control Systems** (including a flipped classroom format in Spring 2013); **ECE6563 Networked Control Systems**; **ECE3084 Signal and Systems**
- *MOOC:* **Control of Mobile Robots** – Online course through Coursera taught concurrently since 2013, with over 250,000 students enrolled.

SCHOLARLY ACCOMPLISHMENTS

BOOKS

1. M. Egerstedt and B. Mishra (Eds.). *Hybrid Systems: Computation and Control.* Proceedings of the 11th International Workshop, HSCC 2008, Lecture Notes in Computer Science Series, LNCS 4981, Springer-Verlag, Berlin-Heidelberg, 2008.
2. M. Egerstedt and C.F. Martin. *Control Theoretic Splines: Optimal Control, Statistics, and Path Planning.* Princeton University Press, Princeton, NJ, 2010.
3. M. Mesbahi and M. Egerstedt. *Graph Theoretic Methods in Multiagent Networks.* Princeton University Press, Princeton, NJ, 2010.
4. A. Martinoli, F. Mondada, G. Mermoud, N. Correll, M. Egerstedt, A. Hsieh, L. Parker, and K. Stoy (Eds.). *Distributed Autonomous Robotic Systems*, Springer Tracts in Advanced Robotics, Springer-Verlag. Jan. 2013.
5. A. LaViers and M. Egerstedt (Eds.). *Control and Art*, Springer-Verlag. Jan. 2014.
6. M. Egerstedt. *Robot Ecology: Constraint-Based Control Design for Long-Duration Autonomy.* Princeton University Press, Princeton, NJ, 2021. To appear.

BOOK CHAPTERS

1. M. Egerstedt, J. Koo, F. Hoffmann, and S. Sastry. Path Planning and Flight Controller Scheduling for an Autonomous Helicopter. *Lecture Notes in Computer Science 1569 – Hybrid Systems: Computation and Control*, pp. 91-102, Springer Verlag, New York, March 1999.
2. M. Egerstedt. Behavior Based Robotics Using Hybrid Automata. *Lecture Notes in Computer Science 1790 – Hybrid Systems: Computation and Control*, pp. 103-116, Springer-Verlag, New York, March 2000.
3. M. Egerstedt. Motion Description Languages for Multi-Modal Control in Robotics. In *Control Problems in Robotics, Springer Tracts in Advanced Robotics* (A. Bicchi, H. Cristensen and D. Prattichizzo Eds.), Springer-Verlag, pp. 75-90, Las Vegas, NV, Dec. 2002.
4. A. Austin and M. Egerstedt. Mode Reconstruction for Source Coding and Multi-Modal Control. *Lecture Notes in Computer Science 2623 – Hybrid Systems: Computation and Control*, pp. 36-49, Springer-Verlag, Prague, The Czech Republic, April 2003.
5. L.G. Barajas, A. Kansal, A. Saxena, M. Egerstedt, A. Goldstein, and E.W. Kamen. Modeling and Control of SMT Manufacturing Lines Using Hybrid Dynamic Systems. *Lecture Notes in Computer Science 2623 – Hybrid Systems: Computation and Control*, pp. 66-80, Springer-Verlag, Prague, The Czech Republic, April 2003.
6. M. Egerstedt and C.F. Martin. Optimal Control and Monotone Smoothing Splines. *New Trends in Nonlinear Dynamics and Control*, Springer Verlag Lecture Notes in Control and Information Sciences, pp. 279-294, Berlin, Germany, Dec. 2003.
7. M. Babaali and M. Egerstedt. Observability for Switched Linear Systems. *Lecture Notes in Computer Science 2993 – Hybrid Systems: Computation and Control*, pp. 48-63, Springer-Verlag, Philadelphia, PA, Mar. 2004.
8. A. Muhammad and M. Egerstedt. Decentralized Coordination with Local Interactions: Some New Directions. *Workshop on Cooperative Control*, Springer-Verlag, Lecture Notes in Control and Information Sciences, Vol. 309, pp. 153-170, 2004.
9. T. Mehta and M. Egerstedt. Learning Multi-Modal Control Programs. *Lecture Notes in Computer Science 3414 – Hybrid Systems: Computation and Control*, pp. 466-479, Springer-Verlag, Zurich, Switzerland, March 2005.
10. M. Egerstedt. Control of Autonomous Mobile Robots. *Handbook of Networked and Embedded Control*, D. Hristu and B. Levine, Eds., pp. 767-778, Birkhauser, Boston, MA, 2005.
11. F. Delmotte and M. Egerstedt. From Empirical Data to Multi-Modal Control Procedures. *New Directions in Control Theory and Applications*, Vol. 321, pp. 81-96, Springer-Verlag, Lubbock, TX, 2005.
12. A. Muhammad, M. Ji, and M. Egerstedt. Applications of Connectivity Graph Processes in Networked Sensing and Control. *Networked Embedded Sensing and Control*, Lecture Notes in Control and Information Sciences (LNCIS), Springer, Vol. 331, 2006.
13. S. Azuma, M. Egerstedt, and Y. Wardi. Output-Based Optimal Timing Control of Switched Systems. *Hybrid Systems: Computation and Control*, Springer-Verlag, pp. 64-78, Santa Barbara, CA, March 2006.
14. G. Ferrari-Trecate, M. Egerstedt, A. Buffa, and M. Ji. Laplacian Sheep: A Hybrid, Stop-Go Policy for Leader-Based Containment Control. *Hybrid Systems: Computation and Control*, Springer-Verlag, pp. 212-226, Santa Barbara, CA, March 2006.
15. M. Egerstedt, T. Murphey, and J. Ludwig. Motion Programs for Puppet Choreography and Control. *Hybrid Systems: Computation and Control*, Springer-Verlag, pp. 190-202, Pisa, Italy April 2007.
16. J.M. McNew, E. Klavins, and M. Egerstedt. Solving Coverage Problems with Embedded Graph Grammars. *Hybrid Systems: Computation and Control*, Springer-Verlag, pp. 413-427, Pisa, Italy April 2007.

17. P. Caines, M. Egerstedt, R. Malhame, and A. Schollig. A Hybrid Bellman Equation for Bimodal Systems. *Hybrid Systems: Computation and Control*, Springer-Verlag, pp. 656-659, Pisa, Italy April 2007.
18. P. Martin and M. Egerstedt. Optimization of Multi-Agent Motion Programs with Applications to Robotic Marionettes. *Hybrid Systems: Computation and Control*, Springer-Verlag, Apr. 2009.
19. A. Schild, M. Egerstedt, and J. Lunze. Optimal Control for a Class of Planar Impulsive Hybrid Systems with Controllable Resets. *Hybrid Systems: Computation and Control*, Springer-Verlag, Apr. 2009.
20. S. LaValle and M. Egerstedt. An Information Space View of "Time": From Clocks to Open-Loop Control. *Emergent Problems in Nonlinear Systems and Control*, pp. 93-106, Springer-Verlag, Berlin, Heidelberg, 2009.
21. M. Powers, D. Wooden, M. Egerstedt, H. Christensen, and T. Balch. The Sting Racing Team's Entry to the Urban Challenge. *Experiences from the DARPA Urban Challenge*, C. Rouff and M. Hinchey (Eds.), Springer-Verlag, 2011.
22. P. Martin, J.P. de la Croix, and M. Egerstedt. Pancakes: A Software Framework for Distributed Robot and Sensor Network Applications. *Springer Tracts in Advanced Robotics*, Springer-Verlag, 2012.
23. A. LaViers, L. Teague, and M. Egerstedt. Style-based Robotic Motion in Contemporary Dance Performance. *Controls and Art*, Springer-Verlag, Jan. 2014.
24. P. Kingston, J. von Hinezmeyer, and M. Egerstedt. Metric Preference Learning with Applications to Motion Imitation. *Controls and Art*, Springer-Verlag, Jan. 2014.
25. M. Egerstedt, A. Rahmani, and S. Young. Coordinated Convoy Protection Among Teams of Unmanned Aerial Vehicles. *Handbook of Unmanned Aerial Vehicles*, Springer-Verlag, pp. 2049-2077, 2014.
26. M. Egerstedt, J.P. de la Croix, H. Kawashima, and P. Kingston. Interacting with Networks of Mobile Agents. *Large-Scale Networks in Engineering and Life Sciences*, P. Brenner, R. Findeisen, D. Flockerzi, U. Reichl, and K. Sundmacher (Eds.), Birkhauser, pp. 199-224, 2015.
27. Y. Diaz-Mercado, S.G. Lee, and M. Egerstedt. Human-Swarm Interactions via Coverage of Time-Varying Densities. *Trends in Control and Decision-Making for Human-Robot Collaboration Systems*, Y. Wang and F. Zhang (Eds.), Springer-Verlag, 2017.
28. M. Mesbahi and M. Egerstedt. Graphs for Modeling Networked Interactions. *Encyclopedia of Systems and Control*, Springer, 2020.

JOURNAL PUBLICATIONS

1. M. Egerstedt and C.F. Martin. A Control Theoretic Model of the Combined Planar Motion of the Human Head and Eye. *Journal of Applied Mathematics and Computation*, Vol. 90, pp. 61-95, 1998.
2. M. Egerstedt and C.F. Martin. A Control Theoretic Model of the Muscular Actions in Human Head-Eye Coordination. *Journal of Mathematical Systems, Estimation, and Control*, Vol. 8, No. 2, pp. 245-248, 1998.
3. M. Egerstedt and C.F. Martin. Trajectory Planning in the Infinity Norm for Linear Control Systems. *International Journal of Control*, Vol. 72, No. 13, pp. 1139-1146, Aug. 1999.
4. K.H. Johansson, M. Egerstedt, J. Lygeros, and S. Sastry. On the Regularization of Zeno Hybrid Automata. *Systems and Control Letters*, Vol. 38, pp. 141-150, 1999.
5. S. Sun, M. Egerstedt, and C.F. Martin. Control Theoretic Smoothing Splines. *IEEE Transactions on Automatic Control*, Vol. 45, No. 12, pp. 2271–2279, Dec. 2000.
6. Y. Zhou, M. Egerstedt, and C. Martin. Optimal Approximation of Functions. *Communications in Information and Systems*, Vol. 1, No. 1, pp. 101-112, Jan. 2001.
7. C.F. Martin, S. Sun, and M. Egerstedt. Optimal Control, Statistics and Path Planning. *Mathematical and Computer Modelling*, Vol. 33, No. 1-3, pp. 237-253, January-February 2001.
8. M. Egerstedt and C. Martin. Optimal Trajectory Planning and Smoothing Splines. *Automatica*, Vol. 37, No. 7, pp. 1057-1064, July 2001.
9. M. Egerstedt, X. Hu, and A. Stotsky. Control of Mobile Platforms Using a Virtual Vehicle Approach. *IEEE Transactions on Automatic Control,* Vol. 46, No. 11, pp. 1777-1782, Nov. 2001.
10. M. Egerstedt and X. Hu. Formation Constrained Multi-Agent Control. *IEEE Transactions on Robotics and Automation*, Vol. 17, No. 6, pp. 947-951, Dec. 2001.
11. M. Egerstedt and X. Hu. A Hybrid Control Approach to Action Coordination for Mobile Robots. *Automatica*, Vol. 38, No. 1, pp. 125-130, Jan. 2002.
12. M. Egerstedt. On the Specification Complexity of Linguistic Control Procedures. *International Journal of Hybrid Systems*, Vol. 2, No. 1-2, pp. 129-140, March & June, 2002.
13. M. Egerstedt and C.F. Martin. Conflict Resolution for Autonomous Vehicles: A Case Study in Hierarchical Control Design. *International Journal of Hybrid Systems*, Vol. 2, No. 3, pp. 221-234, Sept. 2002.
14. P. Ögren, M. Egerstedt, and X. Hu. A Control Lyapunov Function Approach to Multi-Agent Coordination. *IEEE Transactions on Robotics and Automation*, Vol. 18, No. 5, pp. 847-851, Oct. 2002.
15. M. Egerstedt and R.W. Brockett. Feedback Can Reduce the Specification Complexity of Motor Programs. *IEEE Transactions on Automatic Control*, Vol. 48, No. 2, pp. 213–223, Feb. 2003.

16. M. Egerstedt and C.F. Martin. Statistical Estimates for Generalized Splines. *Control, Optimisation and Calculus of Variations*, Vol. 9, pp. 553-562, Aug. 2003.
17. H. Kano, M. Egerstedt, H. Nakata, and C.F. Martin. B-Splines and Control Theory. *Applied Mathematics and Computation*, Vol. 145, No. 2-3, pp. 265-288, Dec. 2003.
18. F. Delmotte, M. Egerstedt, and A. Austin. Data-Driven Generation of Low-Complexity Control Programs. *International Journal of Hybrid Systems*, Vol. 4, No. 1&2, pp. 53-72, March & June 2004.
19. M. Egerstedt and C.F. Martin. A Note on the Connection Between Bezier Curves and Linear Optimal Control. *IEEE Transactions on Automatic Control*, Vol. 49, No. 10, pp. 1728–1731, Oct. 2004.
20. M. Babaali, M. Egerstedt, and E.W. Kamen. A Direct Algebraic Approach to Observer Design Under Switched Measurement Equations. *IEEE Transactions on Automatic Control*, Vol. 49, No. 11, pp. 2044–2049, Nov. 2004.
21. H. Fujioka, H. Kano, M. Egerstedt, and C.F. Martin. Smoothing Spline Curves and Surfaces for Sampled Data. *International Journal of Innovative Computing, Information and Control*, Vol. 1, No. 3, pp. 429-449, Sept. 2005.
22. D. Wooden, M. Egerstedt, and B.K. Ghosh. Quantized Principle Component Analysis with Applications to Low-Bandwidth Image Compression and Communication. *International Journal of Innovative Computing, Information and Control*, Vol. 1, No. 3, pp. 479-492, Sept. 2005.
23. A. Muhammad and M. Egerstedt. Connectivity Graphs as Models of Local Interactions. *Journal of Applied Mathematics and Computation*, Vol. 168, No. 1, pp. 243-269, Sept. 2005.
24. M. Boccadoro, Y. Wardi, M. Egerstedt, and E. Verriest. Optimal Control of Switching Surfaces in Hybrid Dynamical Systems. *Journal of Discrete Event Dynamic Systems*, Vol. 15, No. 4, pp. 433-448, Dec.2005.
25. M. Babaali and M. Egerstedt. Non-Pathological Sampling of Switched System. *IEEE Transactions on Automatic Control*, Vol. 50, No. 12, pp. 2102-2105, Dec. 2005.
26. M. Egerstedt, Y. Wardi, and H. Axelsson. Transition-Time Optimization for Switched Systems. *IEEE Transactions on Automatic Control*, Vol. 51, No. 1, pp. 110-115, Jan. 2006.
27. M. Ji, S. Azuma, and M. Egerstedt. Role-Assignment in Multi-Agent Coordination. *International Journal of Assistive Robotics and Mechatronics*, Vol. 7, No. 1, pp. 32-40, March 2006.
28. T. Mehta and M. Egerstedt. An Optimal Control Approach to Mode Generation in Hybrid Systems. *Nonlinear Analysis: Theory, Methods and Applications*, Vol. 65, No. 5, pp. 963-983, Sept. 2006.
29. M. Egerstedt, S. Azuma, and Y. Wardi. Optimal Timing Control of Switched Linear Systems Based on Partial Information. *Nonlinear Analysis: Theory, Methods and Applications*, Vol. 65, No. 9, pp. 1736-1750, Nov. 2006.
30. Y. Zhou, M. Egerstedt, and C.F. Martin. Hilbert Space Methods for Control Theoretic Splines: A Unified Treatment. *Communications in Information and Systems*, Vol. 6, No. 1, pp. 55-82, 2006.
31. J. Sun, T. Mehta, D. Wooden, M. Powers, J. Regh, T. Balch, and M. Egerstedt. Learning from Examples in Unstructured, Outdoor Environments. *Journal of Field Robotics*, Vol 23, No. 11/12, pp. 1019-1036, Nov/Dec. 2006.
32. C. Belta, A. Bicchi, M. Egerstedt, E. Frazzoli, E. Klavins, and G.J. Pappas. Symbolic Planning and Control of Robot Motion: State of the Art and Grand Challenges. *IEEE Robotics and Automation Magazine*, Vol. 14, No. 1, pp. 61-70, March 2007.
33. M. Ji and M. Egerstedt. Distributed Coordination Control of Multi-Agent Systems While Preserving Connectedness. *IEEE Transactions on Robotics*, Vol. 23, No. 4, pp. 693-703, Aug. 2007.
34. D. Wooden, M. Powers, M. Egerstedt, H. Christensen, and T. Balch. A Modular, Hybrid System Architecture for Autonomous, Urban Driving. *Journal of Aerospace Computing, Information, and Communication*, Vol. 4, No. 12, pp. 1047-1058, Dec. 2007.
35. H. Kano, M. Egerstedt, H. Fujioka, S. Takahashi, and C. Martin. Periodic Smoothing Splines. *Automatica*, Vol. 44, No. 1, pp. 185-192 , Jan. 2008.
36. L.G. Barajas, M. Egerstedt, E.W. Kamen, and A. Goldstein. Stencil Printing Process Monetoring and Control Using Statistical Neural Networks. *IEEE Transactions on Electronics Packaging Manufacturing*, Vol. 31, No. 1, pp. 9-18, Jan. 2008.
37. H. Axelsson, Y. Wardi, M. Egerstedt, and E. Verriest. A Gradient Descent Approach to Optimal Mode Scheduling in Hybrid Dynamical Systems. *Journal of Optimization Theory and Applications*, Vol. 136, No. 2, pp. 167-186, Feb. 2008.
38. F. Delmotte, T.R. Mehta, and M. Egerstedt. MODEbox A Software Tool for Obtaining Hybrid Control Strategies from Data. *IEEE Robotics and Automation Magazine*, Vol. 15, No. 1, pp. 87-95, March 2008.
39. H. Axelsson, M. Boccadoro, M. Egerstedt, P. Valigi, and Y. Wardi. Optimal Mode-Switching for Hybrid Systems with Varying Initial States. *Journal of Nonlinear Analysis: Hybrid Systems and Applications*, Vol. 2, No. 3, pp. 765-772, Aug. 2008.
40. F. Delmotte, E.I. Verriest, and M. Egerstedt. Optimal Impulsive Control of Delay Systems. *Control, Optimisation and Calculus of Variations*, Vol. 14, No. 4, pp. 767-779, 2008.
41. T. Mehta and M. Egerstedt. Multi-Modal Control Using Adaptive Motion Description Languages. *Automatica*, Vol. 44, No. 7, pp. 1912-1917, Jul. 2008.

42. M. Ji, G. Ferrari-Trecate, M. Egerstedt, and A. Buffa. Containment Control in Mobile Networks. *IEEE Transactions on Automatic Control*, Vol. 53, No. 8, pp. 1972-1975, Sept. 2008.
43. P. Martin and M. Egerstedt. MDL-Based Topological Maps for Robot Navigation. *Communications in Information and Systems*, Vol. 8, No. 2, pp. 171-184, 2008.
44. B. Smith, A. Howard, J.M. McNew, and M. Egerstedt. Multi-Robot Deployment and Coordination with Embedded Graph Grammars. *Autonomous Robots*, Vol. 26, No. 1, pp. 79-98, January 2009.
45. A. Rahmani, M. Ji, M. Mesbahi, and M. Egerstedt. Controllability of Multi-Agent Systems from a Graph-Theoretic Perspective. *SIAM Journal on Control and Optimization*, Vol. 48, No. 1, pp. 162-186, Feb. 2009.
46. B. Smith, M. Egerstedt, and A. Howard. Automatic Generation of Persistent Formations for Multi-Agent Networks Under Range Constraints. *ACM/Springer Mobile Networks and Applications Journal (MONET)*, Vol. 14, No. 3, pp. 322-335, June 2009.
47. X.C. Ding, M. Powers, M. Egerstedt, R. Young, and T. Balch. Pilot Decision Support for Controlling Multiple UAVs. *IEEE Robotics and Automation Magazine*, pp. 73-81, June 2009.
48. J. Kim, F. Zhang, and M. Egerstedt. Curve Tracking Control for Autonomous Vehicles with Rigidly Mounted Range Sensors. *Journal of Intelligent and Robotic Systems*, Vol. 56, No 1-2, pp. 177-198, Sept. 2009.
49. X.C. Ding, Y. Wardi, and M. Egerstedt. On-Line Optimization of Switched-Mode Dynamical Systems. *IEEE Transactions on Automatic Control*, Vol. 54, No. 9, pp. 2266-2271, 2009.
50. S. Martini, M. Egerstedt, and A. Bicchi. Controllability Analysis of Networked Systems Using Equitable Partitions. *International Journal of Systems, Control and Communications*, Vol. 2, No. 1/2/3, pp. 100-121, Jan. 2010.
51. T. Gustavi, D. Dimarogonas, M. Egerstedt, and X. Hu. Topology-Induced Connectivity Bounds in Leader-Follower Networks. *Automatica*, Vol. 46, No. 1, pp. 133-139, Jan. 2010.
52. X.C. Ding, A. Rahmani, and M. Egerstedt. Multi-UAV Convoy Protection: An Optimal Approach to Path Planning and Coordination. *IEEE Transactions on Robotics*, Vol. 26, No. 2, pp. 256-268, Apr. 2010.
53. P. Martin and M. Egerstedt. Optimal Timing Control of Interconnected, Switched Systems with Applications to Robotics Marionettes. *Journal of Discrete Event Dynamic Systems*, Vol. 20, No. 2, pp. 233-248, May 2010.
54. J. Kim, F. Zhang, and M. Egerstedt. A Provably Complete Exploration Strategy by Constructing Voronoi Diagrams. *Autonomous Robots*, Vol. 29, No. 3, pp. 367-380, 2010.
55. M. Campbell, M. Egerstedt, J.P. How, and R.M. Murray. Autonomous Driving in Urban Environments: Approaches, Lessons and Challenges. *Philosophical Transactions of the Royal Society A*, Vol. 368, pp. 4649-4672, 2010.
56. P. Martin, E. Johnson, T. Murphey, and M. Egerstedt. Constructing and Implementing Motion Programs for Robotic Marionettes. *IEEE Transactions on Automatic Control,* Vol. 56, No. 4, pp. 902-907, 2011.
57. G. Notarstefano, M. Egerstedt, and M. Haque. Containment in Leader-Follower Networks with Switching Communication Topologies. *Automatica,* Vol. 47, No. 5, pp. 1035-1040, 2011.
58. V. Azhmyakov, M. Egerstedt, L. Fridman, and A. Poznyak. Approximability of Nonlinear Affine Control Systems. *Nonlinear Analysis: Hybrid Systems*, Vol. 5, No. 2, pp. 275-288, May 2011.
59. M. Haque, A. Rahmani, and M. Egerstedt. Biologically Inspired Confinement of Multi-Robot Systems. *International Journal of Bio-Inspired Computation*, Vol. 3, No. 4, pp. 213-224, 2011.
60. P. Kingston and M. Egerstedt. Time and Output Warping of Control Systems: Comparing and Imitating Motions. *Automatica,* Vol. 47, No. 8, pp. 1580-1588, Aug. 2011.
61. M. Zavlanos, M. Egerstedt, and G. Pappas. Graph Theoretic Connectivity Control of Mobile Robot Networks. *Proceedings of the IEEE*, Vol. 99, No. 9, pp. 1525-1540, Sept. 2011.
62. A. LaViers, Y. Chen, C. Belta, and M. Egerstedt. A Formal Approach to the Automatic Generation of Ballet Phrases. *IEEE Robotics and Automation Magazine*, Vol. 18, No. 3, pp. 87-95, Sept. 2011.
63. B. Hanlon, N. Wang, M. Egerstedt, and C. Martin. Switched Linear Systems: Stability and the Convergence of Random Products. *Communications in Information and Systems*, Vol. 11, No. 4, pp. 327-342, 2011.
64. R. Chipalkatty and M. Egerstedt. Constrained Agreement Protocols for Tree Graph Topologies. *International Journal of Control*, Vol. 85, No. 5, pp. 457-474, May 2012.
65. P. Martin and M. Egerstedt. Hybrid Systems Tools for Compiling Controllers for Cyber-Physical Systems. *Journal of Discrete Event Dynamical Systems*, Vol. 22, No. 1, pp. 233-248, 2012.
66. M. Egerstedt, S. Martini, M. Cao, K. Camlibel, and A. Bicchi. Interacting with Networks: How Does Structure Relate to Controllability in Single-Leader Consensus Networks? *IEEE Control Systems Magazine*, Vol. 32, No. 4, pp. 66-73, Aug. 2012.
67. R. Chipalkatty, P. Twu, A. Rahmani, and M. Egerstedt. Merging and Spacing of Heterogeneous Aircraft in Support of NextGen. *AIAA Journal of Guidance, Control, and Dynamics*, Vol. 35, No. 5, pp. 1637-1646, 2012.
68. Y. Cao, W. Ren, and M. Egerstedt. Distributed Containment Control with Multiple Stationary or Dynamic Leaders in Fixed and Switching Directed Networks. *Automatica*, Vol. 48, pp. 1586-1597, 2012.
69. P. Twu, P. Martin, and M. Egerstedt. Graph Process Specifications for Hybrid Networked Systems. *Journal of Discrete Event Dynamic Systems,* Vo. 22, No. 4, pp. 541-577, Dec. 2012.

70. H. Jaleel, A. Rahmani, and M. Egerstedt. Probabilistic Life Time Maximization of Sensor Networks. *IEEE Transactions on Automatic Control*, Vol. 58, No. 2, pp. 534-539, Feb. 2013.
71. M. Haque, A. Rahmani, and M. Egerstedt. Multilevel Coalition Formation Strategy for Suppression of Enemy Air Defenses Missions. *Journal of Aerospace Computing, Information, and Communication*, Vo. 10, No. 6, pp. 287-296, June 2013.
72. R. Chipalkatty, G. Droge, and M. Egerstedt. Less Is More: Mixed Initiative Model Predictive Control with Human Inputs. *IEEE Transactions on Robotics*, Vo. 29, No. 3, pp. 695 - 703, June 2013.
73. P. Twu and M. Egerstedt. On the Role of Homogeneity When Controlling Single-Leader Networks. *Asian Journal of Control*, Vol. 15, No. 4, pp. 944-956, July 2013.
74. H. Kawashima and M. Egerstedt. Manipulability of Leader-Follower Networks Under a Rigid-Link Approximation. *Automatica*, Vol. 50, No. 3, pp. 695-796, March 2014.
75. M. Nazari, Z. Costello, J. Feizollahi, S. Grijalva, and M. Egerstedt. Distributed Frequency Control of Prosumer-Based Electric Energy Systems. *IEEE Transactions on Power Systems*, No. 99, pp. 1-9, March 2014.
76. M. Haque, A. Rahmani, M. Egerstedt, and A. Yezzi. Efficient Foraging Strategies in Multi-Agent Systems through Curve Evolutions. *IEEE Transactions on Automatic Control*, Vol. 59, No. 4, pp. 1036-1041, Apr. 2014.
77. G. Droge, H. Kawashima, and M. Egerstedt. Continuous-time Proportional-Integral Distributed Optimization for Networked Systems. *Journal of Decision and Control*, Vol. 1, No. 3, pp. 191-213, July 2014.
78. W. Abbas and M. Egerstedt. Characterizing Heterogeneity in Cooperative Networks From Resources Distribution View-point. *Communications in Information and Systems*, Vol. 14, No. 1, pp. 1-22, Nov. 2014.
79. R. O'Flaherty and M. Egerstedt. Low-Dimensional Learning for Complex Robots. *IEEE Transactions on Automation Science and Engineering*, Vol. 12, No. 1, pp. 19-28, Jan. 2015.
80. S. Lee, Y. Diaz-Mercado, and M. Egerstedt. Multi-Robot Control Using Time-Varying Density Functions. *IEEE Transactions on Robotics*, Vol. 31, No. 2, pp. 489-493, Apr. 2015.
81. T. Setter, A. Fouraker, M. Egerstedt, and H. Kawashima. Haptic Interactions with Multi-Robot Swarms Using Manipulability. *Journal of Human-Robot Interaction*, Vol. 4, No. 1, pp. 60-74, 2015.
82. Z. Costello and M. Egerstedt. From Global, Finite-Time, Linear Computations to Local, Edge-Based Interaction Rules. *IEEE Transactions on Automatic Control*, Vol. 60, No. 8, pp. 2237-2241, Aug. 2015.
83. J.P. de la Croix and M. Egerstedt. Analyzing Human-Swarm Interactions Using Control Lyapunov Functions and Optimal Control. *Networks and Heterogeneous Media*, Vol. 10, No. 3, pp. 609-630, Sept. 2015.
84. T. Ramachandran, M. Nazari, S. Grijalva, and M. Egerstedt. Overcoming Communication Delays in Distributed Frequency Regulation. *IEEE Transactions on Power Systems*, Vol. 99, pp. 1-9, Sept. 2015.
85. S. Chopra and M. Egerstedt. Spatio-Temporal Multi-Robot Routing. *Automatica*, Vol. 60, No. 10, pp. 173-181, Oct. 2015.
86. Y. Wardi, M. Egerstedt, and M. Hale. Optimal Control of Autonomous Switched-Mode Systems: Gradient-Descent Algorithms with Armijo Step Sizes. *Journal of Discrete Event Dynamic Systems*, Vol. 25, No. 4, pp. 571-599, Dec. 2015.
87. M. Egerstedt. From Algorithms to Architectures in Cyber-Physical Networks. *Journal of Cyber-Physical Systems*, Vol. 1, No. 2-4, pp. 67-75, 2015.
88. A.Y. Yazicioglu, M. Egerstedt, and J. Shamma. Formation of Robust Multi-Agent Networks Through Self-Organizing Random Regular Graphs. *IEEE Transactions on Network Science and Engineering*, Vol. 2, No. 4, pp. 139-151, Oct. 2015.
89. M. Egerstedt. Swarming Robots. *Snapshot of Modern Mathematics*. Oberwolfach Press, No. 1, 2016.
90. W. Abbas, M. Egerstedt, C. Liu, R. Thomas, and P. Whalen. Deploying Robots With Two Sensors in $K_{1,6}$-Free Graphs. *Journal of Graph Theory*, Vol. 82, No. 3, pp. 236-252, July 2016.
91. A.Y. Yazicioglu, W. Abbas, and M. Egerstedt. Graph Distances and Controllability of Networks. *IEEE Transactions on Automatic Control*, Vol. 61, No. 12, pp. 4125-4130, December 2016.
92. Y. Fan, G. Hu, and M. Egerstedt. Distributed Reactive Power Sharing Control for Microgrids with Event-Triggered Communication. *IEEE Transactions on Control Systems Technology*, Vol. 25, No. 1, pp. 118-128, Jan. 2017.
93. W. Li, S.N. Chow, M. Egerstedt, J. Lu, and H. Zhou. Method of Evolving Junctions: A New Approach to Optimal Path-Planning in 2D Environments with Moving Obstacles. *International Journal of Robotics Research*, Vol. 36, No. 4, pp. 403-413, May 2017.
94. L. Wang, A. Ames, and M. Egerstedt. Safety Barrier Certificates for Collisions-Free Multi-robot Systems. *IEEE Transactions on Robotics*, Vol. 33, No. 3, pp. 661-674, June 2017.
95. T. Setter and M. Egerstedt. Energy-Constrained Coordination of Multi-Robot Teams. *IEEE Transactions on Control Systems Technology*, Vol. 25, No. 4, pp. 1257-1263, July 2017.
96. S. Chopra, G. Notarstefano, M. Rice, and M. Egerstedt. A Distributed Version of the Hungarian Method for Multi-Robot Assignment. *IEEE Transactions on Robotics*, Vol. 33, No. 4, pp. 932-947, Aug. 2017.

97. A.Y. Yazicioglu, M. Egerstedt, and J. Shamma. Communication-Free Distributed Coverage for Networked Systems. *IEEE Transactions on Control of Network Systems*, Vol. 4, No. 3, pp. 499-510, Sept. 2017.
98. M. Hale, A. Nedich, and M. Egerstedt. Asynchronous Multi-Agent Primal-Dual Optimization. *IEEE Transactions on Automatic Control*, Vol. 62, No. 9, pp. 4421-4435, Sept. 2017.
99. P. Glotfelter, J. Cortes, and M. Egerstedt. Nonsmooth Barrier Functions with Applications to Multi-Robot Systems. *IEEE Control Systems Letters*, Vol. 1, No. 2, pp. 310-315, Oct. 2017.
100. J. Cortes and M. Egerstedt. Coordinated Control of Multi-Robot Systems: A Survey. *SICE Journal of Control, Measurement, and System Integration*, Vol. 10, No. 6, pp. 495-503, Nov. 2017.
101. Y. Diaz-Mercado and M. Egerstedt. Multi-Robot Mixing via Braid Groups. *IEEE Transactions on Robotics*, Vol. 33, No. 6, pp. 1375-1385, Dec. 2017.
102. U. Ali and M. Egerstedt. Hybrid Optimal Control under Mode Switching Constraints with Applications to Pesticide Scheduling. *ACM Transactions on Cyber-Physical Systems*, Vol. 2, No. 1, Feb. 2018.
103. K. Sakurama, E. Verriest, and M. Egerstedt. Scalable Stability and Time-scale Separation of Networked, Cascaded Systems. *IEEE Transactions on Control of Network Systems*, Vol. 5, No. 1, pp. 321–332, March 2018.
104. M. Santos, Y. Diaz-Mercado, and M. Egerstedt. Coverage Control for Multi-Robot Teams With Heterogeneous Sensing Capabilities. *IEEE Robotics and Automation Letters*, Vol. 3, No. 2, pp. 919–925, April 2018.
105. C. Sun, G. Hu, L. Xie, and M. Egerstedt. Robust Finite-Time Connectivity Preserving Coordination of Second-Order Multi-Agent Systems. *Automatica*, Vol. 89, pp. 21-27, March 2018.
106. G. Notomista, S. Ruf, and M. Egerstedt. Persistification of Robotic Tasks using Control Barrier Functions. *IEEE Robotics and Automation Letters*, Vol. 3, No. 2, pp. 758–763, April 2018.
107. M. Egerstedt, J. Pauli, S. Hutchinson, and G. Notomista. Robot Ecology: Constraint-Based Control Design for Long Duration Autonomy. *Annual Reviews in Control*, Vol. 46, pp. 1–7, 2018.
108. M. Hale and M. Egerstedt. Cloud-Enabled Differentially Private Multi-Agent Optimization with Constraints. *IEEE Transactions on Control of Network Systems*, Vol. 5, No. 4, pp. 1693–1706, Dec. 2018.
109. S. Mayya, P. Pierpaoli, G. Nair, and M. Egerstedt. Localization in Densely Packed Swarms using Inter-Robot Collisions as a Sensing Modality. *IEEE Transactions on Robotics*, Vol. 35, No. 1, pp. 21-34, Feb. 2019.
109. P. Glotfelter, I. Buckley, and M. Egerstedt. Hybrid Nonsmooth Barrier Functions with Applications to Provably Safe and Composable Collision Avoidance for Robotic Systems. *IEEE Robotics and Automation Letters*, Vol. 4, No. 2, pp. 1303-1310, Apr. 2019.
110. G. Notomista, Y. Emam, and M. Egerstedt. The SlothBot: A Novel Design for a Wire-Traversing Robot. *IEEE Robotics and Automation Letters*, Vol. 4, No. 2, pp. 1993-1998, Apr. 2019.
111. F. Celi, L. Wang, L. Pallottino, and M. Egerstedt. Deconfliction of Motion Paths with Traffic Inspired Rules. *IEEE Robotics and Automation Letters*, Vol. 4, No. 2, pp. 2227-2234, Apr. 2019.
112. M. Ohnishi, L. Wang, G. Notomista, and M. Egerstedt. Barrier-Certified Adaptive Reinforcement Learning with Applications to Brushbot Navigation. *IEEE Transactions on Robotics*, Vol. 35, No. 5, pp. 1186-1205, June 2019.
113. S. Mayya, S. Wilson, and M. Egerstedt. Closed-Loop Task Allocation in Robot Swarms Using Inter-Robot Encounters. *Swarm Intelligence*, Vol. 13, pp. 115-143, June 2019.
114. F. Farhad and M. Egerstedt. Optimal Stochastic Evasive Maneuvers Using the Schrodinger's Equation. *IEEE Control Systems Letters*, Vol. 3, No. 3, pp. 517-522, July 2019.
115. S. Wilson, P. Glotfelter, L. Wang, S. Mayya, G. Notomista, M. Mote, and M. Egerstedt. The Robotarium: Globally Impactful Opportunities, Challenges, and Lessons Learning in Remote-Access, Distributed Control of Multirobot Systems. *IEEE Control Systems Magazine*, Vol. 40, No. 1, pp. 26-44, Feb. 2020.
116. M. Nazari, L. Wang, S. Grijalva, and M. Egerstedt. Communication-Failure-Resilient Distributed Frequency Control in Smart Grids: Part I: Architecture and Distributed Algorithms. *IEEE Transactions on Power Systems*, Vol. 35, No. 2, pp. 1317-1326, March 2020.
117. T. Ibuki, S. Wilson, J. Yamauchi, M. Fujita, and M. Egerstedt. Optimization-Based Distributed Flocking Control for Multiple Rigid Bodies. *IEEE Robotics and Automation Letters*, Vol. 5, No. 2, pp. 1891-1898, April 2020.
118. M. Nazari, L. Wang, S. Grijalva, and M. Egerstedt. Communication-Failure-Resilient Distributed Frequency Control in Smart Grids: Part II: Algorithmic Implementation and System Simulations. *IEEE Transactions on Power Systems*, Vol. 35, No. 4, pp. 3192-3202, July 2020.
119. M. Mote, M. Egerstedt, E. Feron, A. Bylard, and M. Pavone. Collision-Inclusive Trajectory Optimization for Free-Flying Spacecraft. *Journal of Guidance, Control, and Dynamics*, Vol. 43, No. 7, pp. 1247-1258, July 2020.
120. R. Funada, X. Cai, G. Notomista, M. Atman, J. Yamauchi, M. Fujita, and M. Egerstedt. Coordination of Robot Teams Over Long Distances: From Georgia Tech to Tokyo Tech and Back. An 11,000km Multi-Robot Experiment. *IEEE Control Systems Magazine*, Vol. 40, No. 4, pp. 53-79, Aug. 2020.
121. T. Ibuki, S. Wilson, A. Ames, and M. Egerstedt. Distributed Collision-Free Motion Coordination on a Sphere: A Conic Control Barrier Function Approach. *IEEE Control Systems Letters*, Vol. 4, No. 4, pp. 976-981, Oct. 2020.
122. M. Santos, G. Notomista, S. Mayya, and M. Egerstedt. Interactive Multi-Robot Painting Through Colored Motion Trails. *Frontiers in Robotics and AI*. Accepted for publication. To appear 2020.

123. G. Notomista and M. Egerstedt. Persistification of Robotic Tasks. *IEEE Transactions on Control Systems Technology.* Accepted for publication. To appear 2021.
124. A. Ames, G. Notomista, Y. Wardi, and M. Egerstedt. Integral Control Barrier Functions for Dynamically Defined Control Laws. *IEEE Control Systems Letters.* Accepted for publication. To appear 2021.
125. I. Buckley and M. Egerstedt. Infinitesimal Shape-Similarity for Characterization and Control of Bearing-Only Multi-Robot Formations. *IEEE Transactions on Robotics.* Accepted for publication. To appear 2021.
126. M. Santos and M. Egerstedt. From Motions to Emotions: Can the Fundamental Emotions be Expressed in a Robot Swarm? *International Journal of Social Robotics.* Accepted for publication. To appear 2021.
127. P. Pierpaoli, A. Li, M. Srinivasan, X. Cai, S. Coogan, and M. Egerstedt. A Sequential Composition Framework for Coordinating Multi-Robot Behaviors. *IEEE Transactions on Robotics.* Accepted for publication. To appear 2021.

CONFERENCE PROCEEDINGS

1. M. Egerstedt and C.F. Martin. Control of the Planar Rotation in Human Head-Eye Coordination. *Proceedings of the 5th IEEE Mediterranean Conference on Control and Systems*, 7 pages, Paphos, Cyprus, Jul. 1997.
2. M. Egerstedt, X. Hu, H. Rehbinder, and A. Stotsky. Path Planning and Robust Tracking for a Car Like Robot. *Proceedings of the 5th Symposium on Intelligent Robotic Systems*, pp. 237-243, Stockholm, Sweden, Jul. 1997.
3. M. Egerstedt, X. Hu, and A. Stotsky. Control of a Car-Like Robot Using A Dynamic Model. *Proceedings of the 1998 IEEE Conference on Robotics and Automation*, Vol. 4, pp. 3273-3278, Leuven, Belgium, May 1998.
4. M. Egerstedt and C.F. Martin. Trajectory Planning for Linear Control Systems with Generalized Splines. *Proceedings of the Mathematical Theory of Networks and Systems*, pp. 999-1002, Padova, Italy, Jul. 1998.
5. M. Egerstedt, X. Hu, and A. Stotsky. Control of a Car-Like Robot Using a Virtual Vehicle Approach. *Proceedings of the 37th IEEE Conference on Decision and Control*, pp. 1502-1507, Tampa, Florida, USA, Dec. 1998.
6. M. Egerstedt, X. Hu, and A. Stotsky. A Hybrid Control Approach to Action Coordination for Mobile Robots. *Proceedings of the IFAC'99:14th World Congress*, Vol. B, pp. 131-136, Beijing, China, Jul. 1999.
7. A. Stotsky, X. Hu, and M. Egerstedt. Sliding Mode Control of a Car-Like Mobile Robot Using Single-Track Dynamic Model. *Proceedings of the IFAC'99:14th World Congress*, Vol. B, pp. 119-124, Beijing, China, Jul. 1999.
8. S. Sun, M. Egerstedt, and C.F. Martin. Trajectory Planning with Smoothing Splines. *Proceedings of the IFAC'99:14th World Congress*, Vol. D, pp. 315-329, Beijing, China, Jul. 1999.
9. M. Egerstedt, J. Koo, F. Hoffmann, and S. Sastry. An Integrated Approach to Path Planning and Flight Controller Scheduling for Autonomous Helicopters. *Proceedings of the 7th Mediterranean Conference on Control and Automation*, pp. 1794-1803, Haifa, Israel, Aug. 1999.
10. L. Petersson, M. Egerstedt, and H.I. Christensen. A Hybrid Control Architecture for Mobile Manipulation. *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems*, pp. 1285-1291, Kyongju, Korea, Oct. 1999.
11. K.H. Johansson, J. Lygeros, S. Sastry, and M. Egerstedt. Simulation of Zeno Hybrid Automata. *Proceedings of the IEEE Conference on Decision and Control*, pp. 3538-3543, Phoenix, AZ, Dec. 1999.
12. J. Lygeros, K.H. Johansson, S. Sastry, and M. Egerstedt. On the Existence of Executions of Hybrid Automata. *Proceedings of the IEEE Conference on Decision and Control*, pp. 2249-2254, Phoenix, AZ, Dec. 1999.
13. M. Egerstedt, K.H. Johansson, J. Lygeros, and S. Sastry. Behavior Based Robotics Using Regularized Hybrid Automata. *Proceedings of the IEEE Conference on Decision and Control*, pp. 3400-3405, Phoenix, AZ, Dec. 1999.
14. P. Ögren, M. Egerstedt, and X. Hu. Reactive Mobile Manipulation Using Dynamic Trajectory Tracking. *Proceedings of the IEEE International Conference on Robotics and Automation*, pp. 3473-3478, San Francisco, CA, Apr. 2000.
15. M. Egerstedt and X. Hu. Coordinated Trajectory Following for Mobile Manipulation. *Proceedings of the IEEE International Conference on Robotics and Automation*, pp. 3479-3484, San Francisco, CA, Apr. 2000.
16. M. Egerstedt and C. Martin. Control Theoretic Monotone Smoothing Splines. *Proceedings of the Mathematical Theory of Networks and Systems*, 8 pages, Perpignan, France, June 2000.
17. P. Ögren, M. Egerstedt, L. Petersson, and X. Hu. Reactive Mobile Manipulation: Design and Implementation. *Proceedings of the IEEE Conference on Decision and Control*, pp. 3001-3006, Sydney, Australia, Dec. 2000.
18. M. Egerstedt, P. Ögren, O. Shakernia, and J. Lygeros. Toward Optimal Control of Switched Linear Systems. *Proceedings of the IEEE Conference on Decision and Control*, pp. 587-592, Sydney, Australia, Dec. 2000.
19. M. Egerstedt and X. Hu. Formation Constrained Multi-Agent Control. *Proceedings of the IEEE Conference on Robotics and Automation*, pp. 3961-3966, Seoul, Korea, May 2001.
20. M. Egerstedt. Linguistic Control of Mobile Robots. *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems*, pp. 877-882, Maui, Hawaii, Oct. 2001.
21. P. Ögren, M. Egerstedt, and X. Hu. A Control Lyapunov Function Approach to Multi-Agent Coordination. *Proceedings of the IEEE Conference on Decision and Control*, pp. 1150-1155, Orlando, FL, Dec. 2001.
22. M. Egerstedt and R.W. Brockett. Feedback Can Reduce the Specification Complexity of Motor Programs. *Proceedings of the IEEE Conference on Decision and Control*, pp. 1651-1656, Orlando, FL, Dec. 2001.

23. M. Egerstedt. Some Complexity Aspects of the Control of Mobile Robots. *American Control Conference*, pp. 710-715, Anchorage, Alaska, May 2002.
24. M. Egerstedt and V.D. Blondel. How Hard Is It to Control Switched Systems? *American Control Conference*, pp. 1869-1873, Anchorage, Alaska, May 2002.
25. L.G. Barajas, E.W. Kamen, A. Goldstein, and M. Egerstedt. A Closed-Loop Control Algorithm for Stencil Printing. *SMTA, Third Annual Advanced Technology Symposium*, pp. 51-58, Boston, MA, June 2002.
26. M. Egerstedt, M. Abubakr, and X. Hu. Formation Control Under Limited Sensory Range Constraints. *10th Mediterranean Conference on Control and Automation*, 7 pages, Lisbon, Portugal, July 2002.
27. H. Kano, M. Egerstedt, H. Nakata, and C.F. Martin. B-Splines and Control Theory. *IFAC'02:15th World Congress*, 6 pages, Barcelona, Spain, Jul. 2002.
28. M. Egerstedt and Y. Wardi. Multi-Process Control Using Queuing Theory. *IEEE Conference on Decision and Control*, pp. 1991-1996, Las Vegas, NV, Dec. 2002.
29. M. Egerstedt and D. Hristu-Varsakelis. Observability and Policy Optimization for Mobile Robots. *IEEE Conference on Decision and Control*, pp. 3596-3601, Las Vegas, NV, Dec. 2002.
30. E.I. Verriest and M. Egerstedt. Control with Delayed and Limited Information: A First Look. *IEEE Conference on Decision and Control*, pp. 1231-1236, Las Vegas, NV, Dec. 2002.
31. L.G. Barajas, M. Egerstedt, E.W. Kamen, and A. Goldstein. Process Control in a High-Noise Environment Using a Limited Number of Measurements. *American Control Conference*, pp. 597-602, Denver, CO, June 2003.
32. M. Babaali, M. Egerstedt, and E. Kamen. Observers for Linear Dynamical Systems with Randomly-Switching Measurement Equations. *American Control Conference*, pp. 1879-1884, Denver, CO, June 2003.
33. H. Axelsson, M. Abubakr, and M. Egerstedt. Autonomous Formation Switching for Multiple, Mobile Robots. *IFAC Conference on Analysis and Design of Hybrid Systems*, pp. 147-152, Sant-Malo, Brittany, France, June 2003.
34. M. Egerstedt, Y. Wardi, and H. Axelsson. Optimal Control of Switching Times in Hybrid Systems. *MMAR'2003*, 4 pages, Miedzyzdroje, Poland, Aug. 2003.
35. M. Egerstedt, Y. Wardi, and F. Delmotte. Optimal Control of Switching Times in Switched Dynamical Systems. *IEEE Conference on Decision and Control*, pp. 2138-2143, Maui, Hawaii, Dec. 2003.
36. M. Babaali and M. Egerstedt. Pathwise Observability and Controllability are Decidable. *IEEE Conference on Decision and Control*, pp. 5771-5776, Maui, Hawaii, Dec. 2003.
37. D. Hristu-Varsakelis, M. Egerstedt, and P.S. Krishnaprasad. On The Structural Complexity of the Motion Description Language MDLe. *IEEE Conference on Decision and Control*, pp. 3360-3365, Maui, Hawaii, Dec. 2003.
38. A. Muhammad and M. Egerstedt. Topology and Complexity of Formations. *Workshop on the Mathematics and Algorithms of Social Insects*, 9 pages, Atlanta, GA, Dec. 2003.
39. A. Muhammad and M. Egerstedt. On the Structural Complexity of Multi-Agent Robot Formations. *American Control Conference*, 6 pages, Boston, MA, June 2004.
40. M. Babaali and M. Egerstedt. Pathwise Observability Through Arithmetic Progressions and Non-Pathological Sampling. *American Control Conference*, 6 pages, Boston, MA, June 2004.
41. M. Boccadoro, M. Egerstedt, and Y. Wardi. Optimal Control of Switching Surfaces in Hybrid Dynamic Systems. *IFAC Workshop on Discrete Event Systems*, 6 pages, Reims, France, Sept. 2004.
42. E. Verriest, F. Delmotte, and M. Egerstedt. Optimal Impulsive Control for Point Delay Systems with Refractory Period. *IFAC Workshop on Time-Delay Systems*, 6 pages, Leuven, Belgium, Sept. 2004.
43. D. Wooden, M. Egerstedt, and B.K. Ghosh. Quantized Principal Component Analysis with Applications to Low-Bandwidth Image Compression and Communication. *ISCIE Symposium on Stochastic Systems Theory and Its Applications,* 6 pages, Saitama, Japan, Nov. 2004.
44. A. Muhammad and M. Egerstedt. Connectivity Graphs as Models of Local Interactions. *IEEE Conference on Decision and Control*, pp. 124–129, Atlantis, Bahamas, Dec. 2004.
45. M. Babaali and M. Egerstedt. On the Observability of Piecewise Linear Systems. *IEEE Conference on Decision and Control*, pp. 26–31, Atlantis, Bahamas, Dec. 2004.
46. Y. Wardi, M. Egerstedt, M. Boccadoro, and E. Verriest. Optimal Control of Switching Surfaces. *IEEE Conference on Decision and Control*, pp. 1854–1859, Atlantis, Bahamas, Dec. 2004.
47. F. Delmotte and M. Egerstedt. Reconstruction of Low-Complexity Control Programs from Data. *IEEE Conference on Decision and Control*, pp. 1460–1465, Atlantis, Bahamas, Dec. 2004.
48. M. Egerstedt, T. Balch, F. Dellaert, F. Delmotte, and Z. Khan. What Are the Ants Doing? Vision-Based Tracking and Reconstruction of Control Programs. *IEEE Conference on Robotics and Automation*, 6 pages, Barcelona, Spain, Apr. 2005.
49. E. Verriest, F. Delmotte, and M. Egerstedt. Control of Epidemics by Vaccination. *American Control Conference*, pp. 985-990, Portland, Oregon, June 2005.
50. M. Egerstedt and M. Babaali. On the Minimum-Length Mode Path Achieving Observability/Reachability in Switched Linear Systems. *American Control Conference*, pp. 1179-1180, Portland, Oregon, June 2005.

51. H. Axelsson, M. Egerstedt, and Y. Wardi. Reactive Robot Navigation Using Optimal Timing Control. *American Control Conference*, pp. 4929-4934, Portland, Oregon, June 2005.
52. M. Ji and M. Egerstedt. Connectedness Preserving Distributed Coordination Control Over Dynamic Graphs. *American Control Conference*, pp. 93-98, Portland, Oregon, June 2005.
53. H. Axelsson, M. Egerstedt, G. Vachtsevanos, and Y. Wardi. Algorithms for Switching-Time Optimization in Hybrid Systems. *Mediterranean Conference on Control and Automation*, 7 pages, Limassol, Cyprus, June 2005.
54. H. Kano, H. Fujioka, M. Egerstedt, and C.F. Martin. Optimal Smoothing Spline Curves and Contour Synthesis. *IFAC World Congress*, 6 pages, Prague, The Czech Republic, July 2005.
55. H. Axelsson, Y. Wardi, and M. Egerstedt. Transition-Time Optimization for Switched Systems. *IFAC World Congress*, 6 pages, Prague, The Czech Republic, July 2005.
56. F. Delmotte, M. Egerstedt, and C.F. Martin. Optimal Sample Time Selections for Interpolation and Smoothing. *IFAC World Congress*, 6 pages, Prague, The Czech Republic, July 2005.
57. M. Boccadoro, M. Egerstedt, and Y. Wardi. Obstacle Avoidance for Mobile Robots Using Switching Surface Optimization. *IFAC World Congress*, 6 pages, Prague, The Czech Republic, July 2005.
58. A. Muhammad and M. Egerstedt. Positivstellensatz Certificates for Non-Feasibility of Connectivity Graphs in Multi-Agent Coordination. *IFAC World Congress*, 6 pages, Prague, The Czech Republic, July 2005.
59. M. Babaali and M. Egerstedt. Asymptotic Observers for Discrete-Time Switched Linear Systems. *IFAC World Congress*, 6 pages, Prague, The Czech Republic, July 2005.
60. A. Muhammad, M. Ji, and M. Egerstedt. Applications of Connectivity Graphs Processes in Networked Sensing and Control. *Workshop on Networked Embedded Sensing and Control*, 16 pages, Notre Dame, IN, Oct. 2005.
61. T. Mehta, F. Delmotte, and M. Egerstedt. Motion Alphabet Augmentation Based on Past Experiences. *IEEE Conference on Decision and Control*, pp. 108–113, Seville, Spain, Dec. 2005.
62. F. Delmotte, M. Egerstedt, and E. Verriest. Hybrid Function Approximation: A Variational Approach. *IEEE Conference on Decision and Control*, pp. 374–379, Seville, Spain, Dec. 2005.
63. Y. Zhou, M. Egerstedt, and C.F. Martin. Control Theoretic Splines with Deterministic and Random Data. *IEEE Conference on Decision and Control*, pp. 362–367, Seville, Spain, Dec. 2005.
64. H. Axelsson, Y. Wardi, M. Egerstedt, and E. Verriest. A Provable Convergent Algorithm for Transition-Time Optimization in Switched Systems. *IEEE Conference on Decision and Control*, pp. 1397–1402, Seville, Spain, Dec. 2005.
65. D. Wooden and M. Egerstedt. Oriented Visibility Graphs: Low-Complexity Planning in Real-Time Environments. *IEEE Conference on Robotics and Automation*, 6 pages, Orlando, FL, May 2006.
66. T. Mehta and M. Egerstedt. Optimal Membership Functions for Multi-Modal Control. *American Control Conference*, pp. 2658-2663, Minneapolis, MN, June 2006.
67. M. Ji, A. Muhammad, and M. Egerstedt. Leader-Based Multi-Agent Coordination: Controllability and Optimal Control. *American Control Conference*, pp. 1358-1363, Minneapolis, MN, June 2006.
68. H. Axelsson, M. Egerstedt, and Y. Wardi. Trade-Offs Between Precision and Computation Horizon in Real-Time Optimal Control of Switched Systems. *American Control Conference*, pp. 1941-1956, Minneapolis, MN, June 2006.
69. A. Muhammad and M. Egerstedt. Network Configuration Control Via Connectivity Graph Processes. *American Control Conference*, pp. 1370-1375, Minneapolis, MN, June 2006.
70. M. Boccadoro, M. Egerstedt, P. Valigi, and Y. Wardi. Beyond the Construction of Optimal Switching Surfaces for Autonomous Hybrid Systems. *IFAC Conference on Analysis and Design of Hybrid Systems*, pp. 101-105, Alghero, Sardinia, Italy, June 2006.
71. H. Axelsson, M. Boccadoro, Y. Wardi, and M. Egerstedt. Optimal Mode-Switching for Hybrid Systems with Unknown Initial State. *IFAC Conference on Analysis and Design of Hybrid Systems*, pp. 95-100, Alghero, Sardinia, Italy, June 2006.
72. M, Ji, M. Egerstedt, G. Ferrari-Trecate, and A. Buffa. Hierarchical Containment Control in Heterogeneous Mobile Networks. *Mathematical Theory of Networks and Systems*, pp. 2227-2231, Kyoto, Japan, July 2006.
73. H. Axelsson, Y. Wardi, and M. Egerstedt. Convergence of Gradient-Descent Algorithms for Mode-Scheduling Problems in Hybrid Systems. *Mathematical Theory of Networks and Systems*, pp. 625-627, Kyoto, Japan, July 2006.
74. A. Muhammad and M. Egerstedt. Control Using Higher Order Laplacians in Network Topologies. *Mathematical Theory of Networks and Systems*, pp. 1024-1038, Kyoto, Japan, July 2006.
75. S. Björkenstam, M. Ji, M. Egerstedt, and C. Martin. Leader-Based, Multi-Agent Coordination Through Hybrid Optimal Control. *Allerton Conference on Communication, Control, and Computing*, 4 pages, Monticello, IL, USA, Sept. 2006.
76. D. Wooden and M. Egerstedt. Edge-Weight Reassignment for Colored Graphs. *IEEE Conference on Decision and Control*, San Diego, CA, Dec. 2006.
77. M. Ji and M. Egerstedt. Distributed Formation Control While Preserving Connectedness. *IEEE Conference on Decision and Control*, San Diego, CA, Dec. 2006.

78. D. Dimarogonas, M. Egerstedt, and K.J. Kyriakopoulos. A Leader-based Containment Control Strategy for Multiple Unicycles. *IEEE Conference on Decision and Control*, San Diego, CA, Dec. 2006.
79. H. Axelsson, M. Egerstedt, and Y. Wardi. Optimal Switching Surfaces in Behavior-Based Robotics. *IEEE Conference on Decision and Control*, San Diego, CA, Dec. 2006.
80. A. Howard, B. Smith, and M. Egerstedt. Realization of the Sensor Web Concept for Earth Science Using Mobile Robotic Platforms. *IEEE Aerospace Conference*, Big Sky, MT, March 2007.
81. J. Piovesan, C. Abdallah, M. Egerstedt, H. Tanner, and Y. Wardi. Statistical Learning for Optimal Control of Hybrid Systems. *American Control Conference*, New York, NY, July 2007.
82. M. Ji and M. Egerstedt. A Graph-Theoretic Characterization of Controllability for Multi-Agent Systems. *American Control Conference*, New York, NY, July 2007.
83. T. Mehta, D. Yeung, E. Verriest, and M. Egerstedt. Optimal Control of a Multi-Dimensional, Hybrid Ice-Skater Model. *American Control Conference*, New York, NY, July 2007.
84. D. Wooden, M. Egerstedt, M. Powers, D. MacKenzie, and T. Balch. Control-Driven Mapping and Planning. *IEEE/RSJ International Conference on Intelligent Robots and Systems*, San Diego, CA, Nov. 2007.
85. T. Murphey and M. Egerstedt. Choreography for Marionettes: Imitation, Planning, and Control. In *IEEE Int. Conf. on Intelligent and Robotic Systems*, Workshop on Art and Robotics, San Diego, CA, Nov. 2007.
86. B. Smith, M. Egerstedt, and A. Howard. Automatic Generation of Persistent Formations for Multi-Agent Networks Under Range Constraints. *ROBOCOMM*, Athens, Greece, Oct. 2007.
87. A. Schollig, P.E. Caines, M. Egerstedt, and R. Malhame. A Hybrid Bellman Equation for Systems with Regional Dynamics. *IEEE Conference on Decision and Control*, New Orleans, LA, Dec. 2007.
88. S. LaValle and M. Egerstedt. On Time: Clocks, Chronometers, and Open-Loop Control. *IEEE Conference on Decision and Control*, New Orleans, LA, Dec. 2007.
89. M. Ji and M. Egerstedt. Observability and Estimation in Distributed Sensor Networks. *IEEE Conference on Decision and Control*, New Orleans, LA, Dec. 2007.
90. T. Mehta and M. Egerstedt. A Variational Approach to Constructivist Learning for Mobile Robot Navigation. *IEEE Conference on Decision and Control*, New Orleans, LA, Dec. 2007.
91. Y. Wardi, X.C. Ding, M. Egerstedt, and S. Azuma. On-Line Optimization of Switched-Mode Systems: Algorithms and Convergence Properties. *IEEE Conference on Decision and Control*, New Orleans, LA, Dec. 2007.
92. B. Smith, M. Egerstedt, and A. Howard. Automatic Deployment and Formation Control of Decentralized Multi-Agent Networks. *IEEE International Conference on Robotics and Automation*, Passadena, CA, May 2008.
93. P. Martin and M. Egerstedt. Optimal Timing Control of Interconnected, Switched Systems with Applications to Robotic Marionettes. *Workshop on Discrete Event System*, Gothenburg, Sweden, May 2008.
94. M. Egerstedt and P. Jensfelt. A Control Theoretic Formulation of the Generalized SLAM Problem in Robotics. *American Control Conference*, Seattle, WA, June 2008.
95. D. Ding, Y. Wardi, D. Taylor, and M. Egerstedt. Optimization of Switched-Mode Systems with Switching Costs. *American Control Conference*, Seattle, WA, June 2008.
96. M. Franceschelli, A. Giua, and M. Egerstedt. Motion Probes for Fault Detection and Recovery in Networked Control Systems. *American Control Conference*, Seattle, WA, June 2008.
97. M.A. Haque, M. Egerstedt, and C. Martin. First-Order, Networked Control Models of Swarming Silkworm Moths. *American Control Conference*, Seattle, WA, June 2008.
98. P. Kingston, M. Egerstedt, and E. Verriest. Health Monitoring of Networked Systems. *Mathematical Theory of Networks and Systems*, Blacksburg, VA, July 2008.
99. D. Ding, Y. Wardi, and M. Egerstedt. Adaptive Optimal Timing Control of Hybrid Systems. *Mathematical Theory of Networks and Systems*, Blacksburg, VA, July 2008.
100. M. Haque and M. Egerstedt. Decentralized Formation Selection Mechanisms Inspired by Foraging Bottlenose Dolphins. *Mathematical Theory of Networks and Systems*, Blacksburg, VA, July 2008.
101. S. Martini, M. Egerstedt, and A. Bicchi. Controllability Decompositions of Networked Systems Through Quotient Graphs. *IEEE Conference on Decision and Control*, Cancun, Mexico, Dec. 2008.
102. J. Kim, F. Zhang, and M. Egerstedt. Curve Tracking for Autonomous Vehicles with Rigidly Mounted Range Sensors. *IEEE Conference on Decision and Control*, Cancun, Mexico, Dec. 2008.
103. D. Dimarogonas, T. Gustavi, M. Egerstedt, and X. Hu. On the Number of Leaders Needed to Ensure Network Connectivity. *IEEE Conference on Decision and Control*, Cancun, Mexico, Dec. 2008.
104. P. Martin, J.P. de la Croix, and M. Egerstedt. MDLn: A Motion Description Language for Networked Systems. *IEEE Conference on Decision and Control*, Cancun, Mexico, Dec. 2008.
105. B. Smith, J. Wang, and M. Egerstedt. Persistent Formation Control for Multi-Robot Networks. *IEEE Conference on Decision and Control*, Cancun, Mexico, Dec. 2008.
106. X.C. Ding, A. Rahmani, and M. Egerstedt. Optimal Multi-UAV Convoy Protection.*International Conference on Robot Communication and Coordination*, Odense, Denmark, Apr. 2009.

107. R. Chipalkatty and M. Egerstedt. Multi-Pendulum Synchronization Using Constrained Agreement Protocols. *International Conference on Robot Communication and Coordination*, Odense, Denmark, Apr. 2009.
108. B. Smith, J. Wang, M. Egerstedt, and A. Howard. Automatic Formation Deployment of Decentralized Heterogeneous Multiple-Robot Networks with Limited Sensing Capabilities. *IEEE International Conference on Robotics and Automation*, pp. 730–735, Kobe, Japan, May 2009.
109. G.L. Mariottini, S. Martini, and M. Egerstedt. A Switching Active Sensing Strategy to Maintain Observability for Vision-Based Formation Control. *IEEE International Conference on Robotics and Automation.*, pp. 2637–2642, Kobe, Japan, May 2009.
110. P. Kingston and M. Egerstedt. Comparing Apples and Oranges Through Partial Orders: An Empirical Approach. *American Control Conference.* St. Louis, MO, USA, June 2009.
111. M. Franceschelli, M. Egerstedt, A. Giua, and C. Mahulea. Constrained Invariant Motions for Networked Multi-Agent Systems. *American Control Conference.* St. Louis, MO, USA, June 2009.
112. X.C. Ding, M. Powers, M. Egerstedt, and R. Young. An Optimal Timing Approach to Controlling Multiple UAVs. *American Control Conference.* St. Louis, MO, USA, June 2009.
113. M. Haque and M. Egerstedt. Coalition Formation in Multi-Agent Systems Based on Bottlenose Dolphin Alliances. *American Control Conference.* St. Louis, MO, USA, June 2009.
114. V. Azhmyakov, R.G. Guerra, and M. Egerstedt. Hybrid LQ-Optimization Using Dynamic Programming. *American Control Conference.* St. Louis, MO, USA, June 2009.
115. T. Gustavi, D.V. Dimarogonas, M. Egerstedt, and X. Hu. On the Number of Leaders Needed to Ensure Network Connectivity in Arbitrary Dimensions. *Mediterranean Conference on Control and Automation*, Thessaloniki, Greece, June 2009.
116. V. Azhmyakov, M. Egerstedt, L. Friedman, and A. Poznyak. Continuity Properties of Nonlinear Affine Control Systems: Applications to hybrid and Sliding Mode Dynamics. *IFAC Conference on Analysis and Design of Hybrid Systems*, Zaragoza, Spain, Sept. 2009.
117. X.C. Ding, A. Schild, M. Egerstedt, and J. Lunze. Real-Time Optimal Feedback Control of Switched Autonomous Systems. *IFAC Conference on Analysis and Design of Hybrid Systems*, Zaragoza, Spain, Sept. 2009.
118. M. Haque, A. Rahmani, and M. Egerstedt. A Hybrid, Multi-Agent Model of Foraging Bottlenose Dolphins. *IFAC Conference on Analysis and Design of Hybrid Systems*, Zaragoza, Spain, Sept. 2009.
119. J. Kim. F. Zhang, and M. Egerstedt Simultaneous Cooperative Exploration and Networking based on Voronoi Diagrams. *IFAC Workshop on Networked Systems*, Golden, Colorado, Oct. 2009.
120. A. Schild, X.C. Ding, M. Egerstedt, and J. Lunze. Design of Optimal Switching Surfaces for Switched Autonomous Systems. *IEEE Conference on Decision and Control & Chinese Control Conference*, Shanghai, Dec. 2009.
121. X.C. Ding, Y. Wardi, and M. Egerstedt. On-Line Adaptive Optimal Timing Control of Switched Systems. *IEEE Conference on Decision and Control & Chinese Control Conference*, Shanghai, Dec. 2009.
122. J. Kim, F. Zhang, and M. Egerstedt. An Exploration Strategy Based on the Constructing Voronoi Diagrams. *IEEE Conference on Decision and Control & Chinese Control Conference*, Shanghai, Dec. 2009.
123. N. Wang, M. Egerstedt, and C.F. Martin. Stability of Switched Linear Systems and the Convergence of Random Products. *IEEE Conference on Decision and Control & Chinese Control Conference, Shanghai, Dec. 2009.*
124. G. Notarstefano, M. Egerstedt, and M. Haque. Rendezvous with Multiple, Intermittent Leaders. *IEEE Conference on Decision and Control & Chinese Control Conference*, Shanghai, Dec. 2009.
125. A. Rahmani, M. Haque, and M. Egerstedt. Biologically Inspired Coalition Formation of Multi-Agent Systems. *International Conference on Autonomous Agents and Multiagent Systems*, Toronto, Canada, May 2010.
126. A. Rahmani, X.C. Ding, and M. Egerstedt. Optimal Motion Primitives for Multi-UAV Convoy Protection. *IEEE International Conference on Robotics and Automation*, Anchorage, Alaska, May 2010.
127. R. Chipalkatty and M. Egerstedt. Humain-in-the-Loop: Terminal Constraint Receding Horizon Control. *IEEE International Conference on Robotics and Automation*, Anchorage, Alaska, May 2010.
128. J. Kim, F. Zhang, and M. Egerstedt. Battery Level Estimation of Mobile Agents Under Communication Constraints. *IEEE International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing (SUTC)*, June 2010.
129. P. Martin and M. Egerstedt. Expanding Motion Programs Under Input Constraints. *American Control Conference*, Baltimore, MD, July 2010.
130. P. Twu and M. Egerstedt. Optimal Decentralization of Multi-Agent Motions. *American Control Conference*, Baltimore, MD, July 2010.
131. P. Kingston and M. Egerstedt. Imitating Motions: Time and Output Warping. *American Control Conference*, Baltimore, MD, July 2010.
132. V. Azhmyakov, R. Galvan-Guerra, and M. Egerstedt. On LQ-Based Optimization Techniques for Impulsive Hybrid Control Systems. *American Control Conference*, Baltimore, MD, July 2010.

133. F. Egebrand, C.F. Martin, and M. Egerstedt. Smoothing Splines on the Torus. *Mathematical Theory of Networks and Systems*, Budapest, Hungary, July 2010.
134. P. Martin and M. Egerstedt. On the Specification and Execution of Motion Programs for Networked Systems. *Mathematical Theory of Networks and Systems*, Budapest, Hungary, July 2010.
135. A. LaViers, A. Rahmani, and M. Egerstedt. Dynamic Spectral Clustering. *Mathematical Theory of Networks and Systems*, Budapest, Hungary, July 2010.
136. M. Haque, M. Egerstedt, and C.F. Martin. Sustainable Group Sizes for Multi-Agent Search-and-Patrol Teams. *Mathematical Theory of Networks and Systems*, Budapest, Hungary, July 2010.
137. P. Martin, R. Galvan-Guerra, M. Egerstedt, and V. Azhmyakov. Power-Aware Sensor Coverage: An Optimal Control Approach. *Mathematical Theory of Networks and Systems*, Budapest, Hungary, July 2010.
138. P. Twu, P. Martin, and M. Egerstedt. Graph Process Specifications for Hybrid Networked Systems. *International Workshop on Discrete Event Systems (WODES)*, Berlin, Germany, Aug. 2010.
139. P. Kingston and M. Egerstedt. Index-Free Multiagent Systems: An Eulerian Approach. *2nd IFAC Workshop on Distributed Estimation and Control in Networked Systems (NecSys)*, Annecy, France, Sept. 2010.
140. P. Twu, R. Chipalkatty, A. Rahmani, and M. Egerstedt. Air Traffic Maximization for the Terminal Phase of Flight Under FAA's NextGen Framework. *29th Digital Avionics Systems Conference*, Salt Lake City, UT, Oct. 2010.
141. P. Martin, J.P. de la Croix, and M. Egerstedt. Pancakes: A Software Framework for Distributed Robot and Sensor Network Applications. *10th International Symposium on Distributed Autonomous Systems*, Nov. 2010.
142. P. Twu, M. Egerstedt, and S. Martini. Controllability of Homogeneous Single-Leader Networks. *IEEE Conference on Decision and Control*, Atlanta, GA, Dec. 2010.
143. R. Chipalkatty, P. Twu, A. Rahmani, and M. Egerstedt. Distributed Scheduling for Air Traffic Throughput Maximization During the Terminal Phase of Flight. *IEEE Conference on Decision and Control*, Atlanta, GA, Dec. 2010.
144. Y. Wardi, P. Twu, and M. Egerstedt. On-line Optimal Timing Control of Switched Systems. *IEEE Conference on Decision and Control*, Atlanta, GA, Dec. 2010.
145. M. Haque, A. Rahmani, and M. Egerstedt. Geometric Foraging Strategies in Multi-Agent Systems Based on Biological Models. *IEEE Conference on Decision and Control*, Atlanta, GA, Dec. 2010.
146. M. Franceschelli, S. Martini, M. Egerstedt, A. Bicchi, and A. Giua. Observability and Controllability Verification in Multi-Agent Systems through Decentralized Laplacian Spectrum Estimation. *IEEE Conference on Decision and Control*, Atlanta, GA, Dec. 2010.
147. A. LaViers, Y. Chen, C. Belta, and M. Egerstedt. A Formal Approach to the Automatic Generation of Ballet Motions. *ACM/IEEE Second International Conference on Cyber-Physical Systems*, Chicago, IL, Apr. 2011.
148. S. Martini, A. Fagiolini, G. Zichittella, M. Egerstedt, and A. Bicchi. Decentralized Classification in Societies of Autonomous and Heterogenous Robots. *IEEE International Conference on Robotics and Automation*, Shanghai, China, May 2011.
149. T. Kunz, P. Kingston, M. Stilman, and M. Egerstedt. Dynamic Chess: Strategic Planning for Robot Motion. *IEEE International Conference on Robotics and Automation*, Shanghai, China, May 2011.
150. H. Jaleel, A. Rahmani, and M. Egerstedt. Duty Cycle Scheduling in Dynamic Sensor Networks for Controlling Event Detection Probabilities. *American Control Conference*, San Francisco, CA, June 2011.
151. M. Haque, A. Rahmani, M. Egerstedt, and A. Yezzi. Biologically Motivated Shape Optimization of Foraging Fronts. *American Control Conference*, San Francisco, CA, June 2011.
152. G. Droge and M. Egerstedt. Adaptive Time Horizon Optimization in Model Predictive Control. *American Control Conference*, San Francisco, CA, June 2011.
153. P. Kingston and M. Egerstedt. Motion Preference Learning. *American Control Conference*, San Francisco, CA, June 2011.
154. R. Galvan Guerra, V. Azhmyakov, and M. Egerstedt. Optimization of Multiagent Systems with Increasing State Dimensions: Hybrid LQ Approach. *American Control Conference*, San Francisco, CA, June 2011.
155. W. Abbas and M. Egerstedt. Hierarchical Assembly of Leader-Asymmetric, Single-Leader Networks. *American Control Conference*, San Francisco, CA, June 2011.
156. A. LaViers and M. Egerstedt. A Formal Model for Human Motion. *American Control Conference*, San Francisco, CA, June 2011.
157. G. Chowdhary, M. Egerstedt, and E. Johnson. Network Discovery: An Estimation Based Approach. *American Control Conference*, San Francisco, CA, June 2011.
158. P. Twu, R. Chipalkatty, J.P. de la Croix, A. Rahmani, and M. Egerstedt. A Hardware Testbed for Multi-UAV Collaborative Ground Convoy Protection in Dynamic Environments. *AIAA Guidance, Navigation, and Control Conference*, Portland, OR, Aug. 2011.
159. R. Chipalkatty, M. Egerstedt, W. Book, and H. Daepp. Human-in-the-Loop: MPC for Shared Control of a Quadruped Rescue Robot. *IEEE/RSJ International Conference on Intelligent Robots and Systems*, San Francisco, CA, Sept. 2011.

160. G. Droge and M. Egerstedt. Adaptive Look-Ahead for Robotic Navigation in Unknown Environments. *IEEE/RSJ International Conference on Intelligent Robots and Systems*, San Francisco, CA, Sept. 2011.
161. H. Jaleel and M. Egerstedt. Power-Aware Rendezvous with Shrinking Footprints. *IEEE/RSJ International Conference on Intelligent Robots and Systems*, San Francisco, CA, Sept. 2011.
162. M. Haque, A. Rahmani, M. Egerstedt, and A. Yezzi. Optimization of Foraging Multi-Agent System Front: A Flux-Based Curve Evolution Model. *IEEE International Conference on Robotics and Biomimetics*, Phuket, Thailand, Dec. 2011.
163. J. Kim, S. Maxon, M. Egerstedt, and F. Zhang. Intruder Capturing Game on a Topological Map Assisted by Information Networks. *IEEE Conference on Decision and Control*, Orlando, FL, Dec. 2011.
164. H. Kawashima and M. Egerstedt. Approximate Manipulability of Leader-Follower Networks. *IEEE Conference on Decision and Control*, Orlando, FL, Dec. 2011.
165. P. Kingston and M. Egerstedt. Distributed-Infrastructure Multi-Robot Routing using a Helmholtz-Hodge Decomposition. *IEEE Conference on Decision and Control*, Orlando, FL, Dec. 2011.
166. W. Abbas and M. Egerstedt. Distribution of Agents in Heterogeneous Multi Agent Systems. *IEEE Conference on Decision and Control*, Orlando, FL, Dec. 2011.
167. S. Coogan, M. Arcak, and M. Egerstedt. Scaling the Size of a Multiagent Formation via Distributed Feedback. *IEEE Conference on Decision and Control*, Orlando, FL, Dec. 2011.
168. H. Jaleel, S.D. Bopardikar, and M. Egerstedt. Towards Power-Aware Rendezvous. *IEEE Conference on Decision and Control*, Orlando, FL, Dec. 2011.
169. G. Droge and M. Egerstedt. Optimal Decentralized Gait Transitions for Snake Robots. *IEEE International Conference on Robotics and Automation*, Saint Paul, Minnesota, May 2012.
170. S. Chopra and M. Egerstedt. Multi-Robot Routing for Servicing Spatio-Temporal Requests: A Musically Inspired Problem. *IFAC Conference on Analysis and Design of Hybrid Systems*, Eindhoven, Netherlands, June 2012.
171. D. Pickem and M. Egerstedt. Self-Reconfiguration Using Graph Grammars for Modular Robotics. *IFAC Conference on Analysis and Design of Hybrid Systems*, Eindhoven, Netherlands, June 2012.
172. H. Kawashima, Y. Wardi, D. Taylor, and M. Egerstedt. Switching Control in DC-DC Converter Circuits: Optimizing Tracking-Energy Tradeoffs. *IFAC Conference on Analysis and Design of Hybrid Systems*, Eindhoven, Netherlands, June 2012.
173. A. LaViers and M. Egerstedt. Style Based Robotic Motion. *American Control Conference*, Montreal, Canada, June 2012.
174. H. Kawashima and M. Egerstedt. Leader Selection via the Manipulability of Leader-Follower Networks. *American Control Conference*, Montreal, Canada, June 2012.
175. W. Abbas and M. Egerstedt. Securing Multiagent Systems Against a Sequence of Intruder Attacks. *American Control Conference*, Montreal, Canada, June 2012.
176. H. Kawashima, Y. Wardi, D. Taylor, and M. Egerstedt. Optimal Switching Control of a Step-Down DC-DC Converter. *American Control Conference*, Montreal, Canada, June 2012.
177. T. Yucelen and M. Egerstedt. Control of Multiagent Systems under Persistent Disturbances. *American Control Conference*, Montreal, Canada, June 2012.
178. Y. Wardi and M. Egerstedt. Algorithm for Optimal Mode Scheduling in Switched Systems. *American Control Conference*, Montreal, Canada, June 2012.
179. T. Ramachandran, Z. Costello, P. Kingston, M. Egerstedt, and S. Grijalva. Distributed Power Allocation in Prosumer Networks. *IFAC Workshop on Estimation and Control of Networked Systems*, Santa Barbara, CA, Sept. 2012.
180. W. Abbas and M. Egerstedt. Robust Graph Topologies for Networked Systems. *IFAC Workshop on Estimation and Control of Networked Systems*, Santa Barbara, CA, Sept. 2012.
181. S. Chopra and M. Egerstedt. Multi-Robot Routing under Connectivity Constraints. *IFAC Workshop on Estimation and Control of Networked Systems*, Santa Barbara, CA, Sept. 2012.
182. A. Albin, M. Egerstedt, and G. Weinberg. Musical Abstractions in Distributed Multi-Robot Systems. *IEEE/RSJ International Conference on Intelligent Robots and Systems*, Algarve, Portugal, Oct. 2012.
183. G. Droge, P. Kingston, and M. Egerstedt. Behavior-Based Switch-Time MPC for Mobile Robots. *IEEE/RSJ International Conference on Intelligent Robots and Systems*, Algarve, Portugal, Oct. 2012.
184. J.P. de la Croix and M. Egerstedt. Controllability Characterizations of Leader-Based Swarm Interactions. *AAAI Symposium on Human Control of Bio-Inspired Swarms*, Arlington, DC, Nov. 2012.
185. W. Abbas and M. Egerstedt. Distribution of Agents with Multiple Capabilities in Heterogeneous Multiagent Networks: A Graph Theoretic View. *IEEE Conference on Decision and Control*, Maui, Hawaii, Dec. 2012.
186. Y. Yazicioglu, W. Abbas, and M. Egerstedt. A Tight Lower Bound on the Controllability of Networks with Multiple Leaders. *IEEE Conference on Decision and Control*, Maui, Hawaii, Dec. 2012.
187. Y. Wardi, M. Egerstedt, and P. Twu. A Controlled-Precision Algorithm for Mode-Switching Optimization. *IEEE Conference on Decision and Control*, Maui, Hawaii, Dec. 2012.

188. H. Kawashima, G. Zhu, J. Hu, and M. Egerstedt. Responsiveness and Manipulability of Formations of Multi-Robot Networks. *IEEE Conference on Decision and Control*, Maui, Hawaii, Dec. 2012.
189. P. Twu and M. Egerstedt. Multi-Robot Search and Rescue: An Open-Ended Educational Bridge Between Theory and Practice. *Workshop on Cyber-Physical Systems Education*, CPSWEEK, Philadelphia, PA, April 2013.
190. R. O'Flaherty, P. Viera, M. Grey, P. Oh, A. Bobick, M. Egerstedt, and M. Stilman. Humanoid Robot Teleoperation for Tasks with Power Tools. *IEEE International Conference on Technologies for Practical Robot Applications*, Boston, MA, April 2013.
191. M. Grey, N. Dantam, D. Lofaro, A. Bobick, M. Egerstedt, P. Oh, and M. Stilman. Multi-Process Control Software for Humanoid Robots. *IEEE International Conference on Technologies for Practical Robot Applications*, Boston, MA, April 2013.
192. H. Jaleel and M. Egerstedt. Sleep Scheduling of Wireless Sensor Networks Using Hard-core Point Processes. *American Control Conference*, Washington DC, June 2013.
193. Z. Xu, M. Egerstedt, G. Droge, and K. Schilling. Balanced Deployment of Multiple Robots Using a Modified Kuramoto Model. *American Control Conference*, Washington DC, June 2013.
194. Y. Yazicioglu and M. Egerstedt. Leader Selection and Network Assembly for Controllability of Leader-Follower Networks. *American Control Conference*, Washington DC, June 2013.
195. G. Droge and M. Egerstedt. Distributed Parameterized Model Predictive Control of Networked Multi-Agent Systems. *American Control Conference*, Washington DC, June 2013.
196. R. O'Flaherty and M. Egerstedt. Learning to Locomote: Action Sequences and Switching Boundaries. *IEEE International Conference on Automation Science and Engineering*, Madison, WI, Aug. 2013.
197. Y. Yazicioglu, M. Egerstedt, and J. Shamma. A Game Theoretic Approach to Distributed Coverage of Graphs by Heterogeneous Mobile Agents. *IFAC Workshop on Distributed Estimation and Control in Networked Systems*, Koblenz, Germany, Sept. 2013.
198. S. Lee and M. Egerstedt. Controlled Coverage Using Time-Varying Density Functions. *IFAC Workshop on Distributed Estimation and Control in Networked Systems*, Koblenz, Germany, Sept. 2013.
199. T. Ramachandran and M. Egerstedt. Pair-Wise Agreement Using Set-Valued Sensors. *IFAC Workshop on Distributed Estimation and Control in Networked Systems*, Koblenz, Germany, Sept. 2013.
200. Y. Diaz-Mercado, S. Lee, M. Egerstedt, and S.Y. Young. Optimal Trajectory Generation for Next Generation Flight Management Systems. *Digital Avionics Systems Conference*, Syracuse, NY, Oct. 2013.
201. J.P. de la Croix and M. Egerstedt. A Separation Signal for Heterogeneous Networks. *Allerton Conference on Communication, Control, and Computing*, Urbana, IL, Oct. 2013.
202. M. Diana, J.P. de la Croix, and M. Egerstedt. Deformable-Medium Affordances for Interacting with Multi-Robot Systems. *IEEE/RSJ International Conference on Intelligent Robots and Systems*, Tokyo, Japan, Nov. 2013.
203. Y. Yazicioglu, M. Egerstedt, and J. Shamma. Decentralized Degree Regularization for Multi-Agent Networks. *IEEE Conference on Decision and Control*, Florence, Italy, Dec. 2013.
204. Y. Diaz-Mercado and M. Egerstedt. Multi-Robot Mixing Using Braids. *IEEE Conference on Decision and Control*, Florence, Italy, Dec. 2013.
205. W. Abbas, H. Jaleel, and M. Egerstedt. Energy-Efficient Data Collection in Heterogeneous Wireless Sensor and Actor Networks. *IEEE Conference on Decision and Control*, Florence, Italy, Dec. 2013.
206. H. Jaleel and M. Egerstedt. Adaptive and Robust Power-aware Scheduling of Wireless Sensor Networks. *IEEE Conference on Decision and Control*, Florence, Italy, Dec. 2013.
207. A. LaViers and M. Egerstedt. Style-based Abstractions for Human Motion Classification. *International Conference on Cyber-Physical Systems*, CPSWEEK, Berlin, Germany, April 2014.
208. J. Lu, Y. Diaz-Mercado, M. Egerstedt, H. Zhou, and S.N. Chow. Shortest Paths Through 3-Dimensional Cluttered Environments. *IEEE International Conference on Robotics and Automation*, Hong Kong, China, June 2014.
209. P. Twu, Y. Mostofi, and M. Egerstedt. A Measure of Heterogeneity in Multi-Agent Systems. *American Control Conference*, Portland, OR, June 2014.
210. H. Jaleel, Y. Wardi, and M. Egerstedt. Minimizing Mobility and Communication Energy in Robotic Networks: An Optimal Control Approach. *American Control Conference*, Portland, OR, June 2014.
211. G. Droge and M. Egerstedt. Proportional Integral Distributed Optimization for Dynamic Network Topologies. *American Control Conference*, Portland, OR, June 2014.
212. T. Sadikhov, W. Haddad, and M. Egerstedt. Set-Valued Protocols for Almost Consensus of Multiagent Systems with Uncertain Interagent Communication. *American Control Conference*, Portland, OR, June 2014.
213. S. Chopra and M. Egerstedt. Heterogeneous Multi-Robot Routing. *American Control Conference*, Portland, OR, June 2014.
214. J.P. de la Croix and M. Egerstedt. Flipping the Controls Classroom Around a MOOC. *American Control Conference*, Portland, OR, June 2014.

215. R. O'Flaherty and M. Egerstedt. Learnability for Dynamical Systems. *Mathematical Theory of Networks and Systems*, Groningen, Netherlands, July 2014.
216. J.P. de la Croix and M. Egerstedt. Group-Size Selection for a Parameterized Class of Predator-Prey Models. *Mathematical Theory of Networks and Systems*, Groningen, Netherlands, July 2014.
217. T. Setter and M. Egerstedt. Minimum Time Power-Aware Rendezvous for Multi-Agent Networks. *IEEE Multi-Conference on Systems and Control*, Antibes, France, Oct. 2014.
218. Y. Diaz-Mercado and M. Egerstedt. Multi-Robot Mixing of Nonholonomic Mobile Robots. *IEEE Multi-Conference on Systems and Control*, Antibes, France, Oct. 2014.
219. Z. Costello and M. Egerstedt. The Degree of Nonholonomy in Distributed Computation. *IEEE Conference on Decision and Control*, Los Angeles, CA, Dec. 2014.
220. Y. Yazicioglu, M. Egerstedt, and J. Shamma. Decentralized Formation of Random Regular Graphs for Robust Multi-Agent Networks. *IEEE Conference on Decision and Control*, Los Angeles, CA, Dec. 2014.
221. U. Ali and M. Egerstedt. Optimal Control of Switched Dynamical Systems under Dwell Time Constraints. *IEEE Conference on Decision and Control*, Los Angeles, CA, Dec. 2014.
222. M. Hale and M. Egerstedt. Cloud-Based Optimization: A Quasi-Decentralized Approach to Multi-Agent Coordination. *IEEE Conference on Decision and Control*, Los Angeles, CA, Dec. 2014.
223. M. Egerstedt. From Algorithms to Architectures in Cyber-Physical Networks. *Oberwolfach Workshop Control Theory: A Mathematical Perspective on Cyber-Physical Systems*, Oberwolfach, Germany, Feb. 2015.
224. D. Pickem and M. Egerstedt. The GRITSBot in Its Natural Habitat - a Multi-Robot Testbed. *IEEE Conference on Robotics and Automation*, Seattle, WA, May 2015.
225. Y. Diaz-Mercado, S. Lee, and M. Egerstedt. Distributed Dynamic Density Coverage for Human-Swarm Interactions. *American Control Conference*, Chicago, IL, July 2015.
226. T. Setter, H. Kawashima, and M. Egerstedt. Team-Level Manipulability Properties for Human-Swarm Interactions. *American Control Conference*, Chicago, IL, July 2015.
227. K. Sakurama, E. Verriest, and M. Egerstedt. Effects of Insufficient Time-Scale Separation in Cascaded, Networked Systems. *American Control Conference*, Chicago, IL, July 2015.
228. J.P. de la Croix and M. Egerstedt. A Control Lyapunov Function Approach to Human-Swarm Interactions. *American Control Conference*, Chicago, IL, July 2015.
229. M. Hale and M. Egerstedt. Differentially Private Cloud-Based Multi-Agent Optimization with Constraints. *American Control Conference*, Chicago, IL, July 2015.
230. P. Pierpaoli, M. Egerstedt, and A. Rahmani. Altering UAV Flight Paths By Threatening Collision. *Digital Avionics and Systems Conference*, Prague, Czech Republic, Sept. 2015.
231. R. O'Flaherty and M. Egerstedt. Optimal Exploration in Unknown Environments. *IEEE/RSJ International Conference on Intelligent Robots and Systems*, Hamburg, Germany, Sept. 2015.
232. U. Borrmann, L. Wang, A. Ames, and M. Egerstedt. Control Barrier Certificates for Safe Swarm Behavior. *IFAC Conference on Analysis and Design of Hybrid Systems*, Atlanta, GA, Oct. 2015.
233. R. Arkin and M. Egerstedt. Temporal Heterogeneity and the Value of Slowness in Robotic Systems. *IEEE Conference on Robotics and Biomimetics*, Zhuhai, China, Dec. 2015.
234. Z. Costello, J. Ruths, and M. Egerstedt. On the Construction of Local Interaction Rules that Perform Global Linear Computations. *IEEE Conference on Decision and Control*, Osaka, Japan, Dec. 2015.
235. M. Hale, A. Nedich, and M. Egerstedt. Cloud-Based Centralized/Decentralized Multi-Agent Optimization with Communication Delays. *IEEE Conference on Decision and Control*, Osaka, Japan, Dec. 2015.
236. Y. Diaz-Mercado, A. Jones, C. Belta, and M. Egerstedt. Correct-by-Construction Control Synthesis for Multi-Robot Mixing. *IEEE Conference on Decision and Control*, Osaka, Japan, Dec. 2015.
237. T. Ramachandran, M. Nazari, and M. Egerstedt. Controllability of Prosumer-Based Networks in the Presence of Communication Failures. *IEEE Conference on Decision and Control*, Osaka, Japan, Dec. 2015.
238. D. Pickem, M. Egerstedt, and J. Shamma. A Game-theoretic Formulation of the Homogeneous Self-Reconfiguration Problem. *IEEE Conference on Decision and Control*, Osaka, Japan, Dec. 2015.
239. M. Bolus, A. Willats, C. Whitmire, Z. Costello, M. Egerstedt, C. Rozell, and G. Stanley. Closed Loop Optogenetic Control of Neural Circuits: Tracking Dynamic Trajectories of Neural Activity. *Computational and Systems Neuroscience*, Salt Lake City, Utah, Feb. 2016.
240. A. Jones, U. Ali, and M. Egerstedt. Optimal Pesticide Scheduling in Precision Agriculture. *International Conference on Cyber-Physical Systems*, Vienna, Austria, April 2016.
241. M. Guo, M. Egerstedt, and D.V. Dimarogonas. Hybrid Control of Multi-robot Systems Using Embedded Graph Grammars. *IEEE International Conference on Robotics and Automation*, Stockholm, Sweden, May 2016.
242. L. Wang, A. Ames, and M. Egerstedt. Safety Barrier Certificates for Heterogeneous Multi-Robot Systems. *American Control Conference*, Boston, MA, July 2016.

243. T. Setter, A. Gasparri, and M. Egerstedt. Trust-Based Interactions in Teams of Mobile Agents. *American Control Conference*, Boston, MA, July 2016.
244. Y. Wang, M. Hale, M. Egerstedt, and G. Dullerud. Differentially Private Objective Functions in Distributed Cloud-based Optimization. *IEEE Conference on Decision and Control*, Las Vegas, NV, Dec. 2016.
245. L. Wang, M.Egerstedt, and A. Ames. Multi-objective Compositions for Collision-Free Connectivity Maintenance in Teams of Mobile Robots. *IEEE Conference on Decision and Control*, Las Vegas, NV, Dec. 2016.
246. Y. Wardi, M. Egerstedt, and M.U. Qureshi. Hamiltonian-based Algorithm for Relaxed Optimal Control. *IEEE Conference on Decision and Control*, Las Vegas, NV, Dec. 2016.
247. S. Mayya and M. Egerstedt. Safe Open-Loop Strategies for Handling Intermittent Communications in Multi-Robot Systems. *IEEE International Conference on Robotics and Automation*, Singapore, May 2017.
248. D. Pickem, P. Glotfelter, L. Wang, M. Mote, A. Ames, E. Feron, and M. Egerstedt. The Robotarium: A Remotely Accessible Swarm Robotics Research Testbed. *IEEE International Conference on Robotics and Automation*, Singapore, May 2017.
249. L. Wang, A. Ames, and M. Egerstedt. Safe Certificate-Based Maneuvers for Teams of Quadrotors Using Differential Flatness. *IEEE International Conference on Robotics and Automation*, Singapore, May 2017.
250. T. Setter, A. Gasparri, and M. Egerstedt. Multi-Agent Networks: From Self-Centered to Team-Oriented. *American Control Conference*, Seattle, WA, May 2017.
251. C. Sun, G. Hu, L. Xie, and M. Egerstedt. Robust Finite-Time Connectivity Preserving Consensus Tracking and Formation Control for Multi-Agent Systems. *American Control Conference*, Seattle, WA, May 2017.
252. M. Hale and M. Egerstedt. Convergence Rate Estimates for Consensus over Random Graphs. *American Control Conference*, Seattle, WA, May 2017.
253. S. Mayya, P. Pierpaoli, G. Nair, and M. Egerstedt. Collisions as Information Sources in Densely Packed Multi-Robot Systems Under Mean-Field Approximations. *Robotics: Science and Systems*, Boston, MA, July 2017.
254. X. Xu, T. Waters, D. Pickem, P. Glotfelter, M. Egerstedt, P. Tabuada, J.W. Grizzle, and A.D. Ames. Realizing Simultaneous Lane Keeping and Adaptive Speed Regulation on Accessible Mobile Robot Testbeds. *IEEE Conference on Control Technology and Applications*, Kohala Coast, Hawaii, Aug. 2017.
255. I. Buckley and M. Egerstedt. Infinitesimally Shape-Similar Motions Using Relative Angle Measurements. *International Conference on Intelligent Robots and Systems*, Vancouver, Canada, Sept. 2017.
256. S. Ruf, K. Paarporn, P.E. Pare, and M. Egerstedt. Exploring Opinion-Dependent Product Spread. *IEEE Conference on Decision and Control*, Melbourne, Australia, Dec. 2017.
257. Y. Wardi, C. Seatzu, M. Egerstedt, and I. Buckley. Performance Regulation and Tracking via Lookahead Simulation: Preliminary Results and Validation. *IEEE Conference on Decision and Control*, Melbourne, Australia, Dec. 2017.
258. P. Glotfelter and M. Egerstedt. A Parametric MPC Approach to Balancing the Cost of Abstraction for Differential-Drive Mobile Robots. *IEEE International Conference on Robotics and Automation*, Brisbane, Australia, May 2018.
259. L. Wang, E. Theodorou, and M. Egerstedt. Safe Learning of Quadrotor Dynamics Using Barrier Certificates. *IEEE International Conference on Robotics and Automation*, Brisbane, Australia, May 2018.
260. S. Ruf, M. Egerstedt, and J. Shamma. Herdable Systems Over Signed, Directed Graphs. *American Control Conference*, Milwaukee, WI, June 2018.
261. L. Wang, D. Han, and M. Egerstedt. Permissive Barrier Certificates for Safe Stabilization Using Sum-of-squares. *American Control Conference*, Milwaukee, WI, June 2018.
262. Y. Wardi, C. Seatzu, and M. Egerstedt. Tracking Control Via Variable-Gain Integrator and Lookahead Simulation: Application to Leader-Follower Multiagent Networks. *IFAC Conference on Analysis and Design of Hybrid Systems*, Oxford, UK, July 2018.
263. P. Pierpaoli, D.J. Sauter, and M. Egerstedt. Fault Tolerant Control for Networked Mobile Robots. *IEEE Conference on Control Technology and Applications*, Copenhagen, Denmark, Aug. 2018.
264. E. Squires, P. Pierpaoli, and Egerstedt. Constructive Barrier Certificates with Applications to Fixed-Wing Aircraft Collision Avoidance. *IEEE Conference on Control Technology and Applications*, Copenhagen, Denmark, Aug. 2018.
265. P. Glotfelter, J. Cortes, and M. Egerstedt. Boolean Composability of Constraints and Control Synthesis for Multi-Robot Systems Via Nonsmooth Control Barrier Functions. *IEEE Conference on Control Technology and Applications*, Copenhagen, Denmark, Aug. 2018.
266. M. Santos and M. Egerstedt. Coverage Control for Multi-Robot Teams with Heterogeneous Sensing Capabilities Using Limited Communications. *IEEE/RSJ International Conference on Intelligent Robots and Systems*, Madrid, Spain, Oct. 2018.
267. I. Buckley and M. Egerstedt. Self-Assembly of a Class of Infinitesimally Shape-Similar Frameworks. *IEEE/RSJ International Conference on Intelligent Robots and Systems*, Madrid, Spain, Oct. 2018.
268. A. Li, L. Wang, P. Pierpaoli, and M. Egerstedt. Formally Correct Composition of Coordinated Behaviors Using Control Barrier Certificates. *IEEE/RSJ International Conference on Intelligent Robots and Systems*, Madrid, Spain, Oct. 2018.

269. M. Srinivasan, S. Coogan, and M. Egerstedt Provably Correct Control of Multi-Agent Systems With Finite Time Control Barrier Certificates And Temporal Logic. *IEEE Conference on Decision and Control*, Miami, FL, Dec. 2018.
270. I. Buckley and M. Egerstedt. A Decentralized Heterogeneous Control Strategy for a Class of Infinitesimally Shape-Similar Formations. *IEEE International Conference on Robotics and Automation*, Montreal, Canada, May 2019.
271. R. Funada, M. Santos, J. Yamauchi, T. Hatanaka, M. Fujita, and M. Egerstedt. Visual Coverage Control for Teams of Quadcopters via Control Barrier Functions. *IEEE International Conference on Robotics and Automation*, Montreal, Canada, May 2019.
272. G. Notomista, M. Santos, S. Hutchinson, and M. Egerstedt. Sensor Coverage Control Using Robots Constrained to Curves. *IEEE International Conference on Robotics and Automation*, Montreal, Canada, May 2019.
273. S. Mayya, P. Pierpaoli, and M. Egerstedt. Voluntary Retreat for Decentralized Interference Reduction in Robot Swarms. *IEEE International Conference on Robotics and Automation*, Montreal, Canada, May 2019.
274. G. Notomista, S. Mayya, S. Hutchinson, and M. Egerstedt. An Optimal Task Allocation Strategy for Heterogeneous Multi-Robot Systems. *European Control Conference*, Napoli, Italy, June 2019.
275. S. Shivam, I. Buckley, Y. Wardi, C. Seatzu, and M. Egerstedt. Tracking Control by the Newton-Raphson Flow: Applications to Autonomous Vehicles. *European Control Conference*, Napoli, Italy, June 2019.
276. A. Ames, S. Coogan, M. Egerstedt, G. Notomista, K. Sreenath, and P. Tabuada. Control Barrier Functions: Theory and Applications. *European Control Conference*, Napoli, Italy, June 2019.
277. G. Notomista and Egerstedt. Constraint-Driven Coordinated Control of Multi-Robot Systems. *American Control Conference*, Philadelphia, PA, July 2019.
278. A. Li and M. Egerstedt. On the Trade-Off Between Communication and Execution Overhead for Control of Multi-Agent Systems. *American Control Conference*, Philadelphia, PA, July 2019.
279. R. Konda, E. Squires, P. Pierpaoli, M. Egerstedt, and S. Coogan. Provably-Safe Autonomous Navigation of Traffic Circles. *IEEE Conference on Control Technology and Applications*, Hong Kong, China, Aug. 2019.
280. M. Santos, S. Mayya, G. Notomista, and M. Egerstedt. Decentralized Minimum-Energy Coverage Control for Time-Varying Density Functions. *International Symposium on Multi-Robot and Multi-Agent Systems*, New Brunswick, NJ, Aug. 2019.
281. G. Notomista, X. Cai, J. Yamauchi, and M. Egerstedt. Passivity-Based Decentralized Control of Multi-Robot Systems with Delays Using Control Barrier Functions. *International Symposium on Multi-Robot and Multi-Agent Systems*, New Brunswick, NJ, Aug. 2019.
282. A. Li, M. Mukadam, M. Egerstedt, and B. Boots. Multi-Objective Policy Generation for Multi-Robot Systems Using Riemannian Motion Policies. *International Symposium on Robotics Research*, Hanoi, Vietnam, Oct. 2019.
283. C. Banks, S. Coogan, M. Egerstedt, and K. Slovak. Specification-Based Maneuvering of Quadcopters Through Hoops. *IEEE/RSJ International Conference on Intelligent Robots and Systems*, Macao, China, Nov. 2019.
284. S. Mayya, G. Notomista, D. Shell, S. Hutchinson, and M. Egerstedt. Non-Uniform Robot Densities in Vibration Driven Swarms Using Phase Separation Theory. *IEEE/RSJ International Conference on Intelligent Robots and Systems*, Macao, China, Nov. 2019.
285. G. Notomista, S. Mayya, A. Mazumdar, S. Hutchinson, and M. Egerstedt. A Study of a Class of Vibration-Driven Robots: Modeling, Analysis, Control and Design of the Brushbot. *IEEE/RSJ International Conference on Intelligent Robots and Systems*, Macao, China, Nov. 2019.
286. A. Li, C.A. Cheng, B. Boots, and M. Egerstedt. Stable, Concurrent Controller Composition for Multi-Objective Robotic Tasks. *IEEE Conference on Decision and Control*, Nice, France, Dec. 2019.
287. V. Azhmyakov, M. Egerstedt, and E.I. Verriest. On the Optimal Control of Volterra Intergo-Differential Equations. *IEEE Conference on Decision and Control*, Nice, France, Dec. 2019.
288. Y. Emam, P. Glotfelter, and M. Egerstedt. Robust Barrier Functions for a Fully Autonomous, Remotely Accessible Swarm-Robotics Testbed. *IEEE Conference on Decision and Control*, Nice, France, Dec. 2019.
289. C. Banks, S. Wilson, S. Coogan, and M. Egerstedt. Multi-Agent Task Allocation Using Cross-Entropy Temporal Logic Optimization. *IEEE International Conference on Robotics and Automation*, Paris, France, May 2020.
290. A. Benevento, M. Santos, G. Notarstefano, K. Paynabar, M. Bloch, and M. Egerstedt. Multi-Robot Coordination for Estimation and Coverage of Unknown Spatial Fields. *IEEE International Conference on Robotics and Automation*, Paris, France, May 2020.
291. Y. Emam, S. Mayya, G. Notomista, A. Bohannon, and M. Egerstedt. Adaptive Task Allocation for Heterogeneous Multi-Robot Teams with Evolving and Unknown Robot Capabilities. *IEEE International Conference on Robotics and Automation*, Paris, France, May 2020.
292. R. Funada, M. Santos, T. Gencho, J. Yamauchi, M. Fujita, and M. Egerstedt. Visual Coverage Maintenance for Quadcopters Using Nonsmooth Barrier Functions. *IEEE International Conference on Robotics and Automation*, Paris, France, May 2020.
293. G. Notomista, M. Wang, M. Schwager, and M. Egerstedt. Enhancing Game-Theoretic Autonomous Car Racing Using Control Barrier Functions. *IEEE International Conference on Robotics and Automation*, Paris, France, May 2020.
294. I. Buckley and M. Egerstedt. Controller Synthesis for Infinitesimally Shape-Similar Formations.*IEEE International Conference on Robotics and Automation*, Paris, France, May 2020.

295. T. Miyano, J. Romberg, and M. Egerstedt. Primal–Dual Gradient Dynamics for Cooperative Unknown Payload Manipulation Without Communication. *American Control Conference*, Denver, CO, July 2020.
296. S. Shivam, Y. Wardi, M. Egerstedt, A. Kanellopoulos, and K. Vamvoudakis. Intersection-Traffic Control of Autonomous Vehicles Using Newton-Raphson Flows and Barrier Functions. *International Federation on Automatic Control World Congress*, Berlin, Germany, July 2020.
297. G. Notomista and M. Egerstedt. Communication Constrained Distributed Spatial Field Estimation Using Mobile Sensor Networks. *International Federation on Automatic Control World Congress*, Berlin, Germany, July 2020.
298. Y. Emam, S. Wilson, M. Hakenberg, U. Muenz, and M. Egerstedt. A Receding Horizon Scheduling Approach for Search and Rescue Scenarios. *International Federation on Automatic Control World Congress*, Berlin, Germany, July 2020.
299. T. Miyano, J. Romberg, and M. Egerstedt. Distributed Force/Position Optimization Dynamics for Cooperative Unknown Payload Manipulation. *IEEE Conference on Decision and Control*, Jeju Island, South Korea, Dec. 2020.

OTHER PUBLICATIONS

1. M. Egerstedt. Robot Force Control, by Bruno Siciliano and Luigi Villani. Book-review in *Automatica*, Vol. 39, No. 4, pp. 757-758, April 2003.
2. M. Egerstedt. Complex Networks: Degrees of Control. *Nature*, Vol. 473, pp. 158-159, May 2011.
3. M. Egerstedt. Controls for the Masses. *IEEE Control Systems Magazine*, Vol. 33, No. 4, pp. 40-44, Aug. 2013.

SPECIAL ISSUES

1. M. Egerstedt, E. Frazzoli, and G. Pappas (Guest Editors). Symbolic Methods for Complex Control Systems. Special Issue in the *IEEE Transactions on Automatic Control*, Vol. 51, No. 6, June 2006.
2. C. Kitts and M. Egerstedt (Guest Editors). Design, Control, and Applications of Real-World Multi-Robot Systems. Special Issue in the *IEEE Robotics and Automation Magazine,* Vol 15, No. 1, March 2008.
3. F. De Pellegrini, M. Egerstedt, L. Schenato, J. Redi, and A. Winfield (Guest Editors). MONET ROBOCOMM 2007. Special Issue in *ACM/Springer Mobile Networks and Applications,* Vol. 14, No. 3, 2009.
4. Y. Wardi and M. Egerstedt (Guest Editors). Hybrid Systems. Special Issue in *Journal of Discrete Event Dynamical Systems*, Vol. 22, No. 1, March 2012.
5. A. Giua and M. Egerstedt (Guest Editors). Hybrid Control Systems. Special Issue in *Journal of Nonlinear Analysis: Hybrid Systems*, Vol. 7, No. 1, Feb. 2013.
6. Y. Wardi, M. Egerstedt, P. Tabuada, and B. Lennartson (Guest Editors). Analysis and Design of Hybrid Systems. Special Issue in *Journal of Nonlinear Analysis: Hybrid Systems*, 2016.
7. A. Prorok, B. Sadler, M. Egerstedt, and V. Kumar (Guest Editors). Foundations of Resilience for Networked Robotic Systems. Special Issue in *Autonomous Robots*.

THESES

1. M. Egerstedt. *Implicit kunskap och offentlig matematisk mening. (Implicit Knowledge and Public Mathematical Meaning.)* B.A. Thesis, Department of Philosophy, Stockholm University, Apr. 1996. Advisor: Peter Pagin.
2. M. Egerstedt. *A Model of the Combined Planar Motion of the Human Head and Eye.* M. Sc. Thesis No. E177, Division of Optimization and Systems Theory, Royal Institute of Technology, Aug. 1996. Advisors: Anders Lindquist and Clyde F. Martin.
3. M. Egerstedt. *Motion Planning and Control of Mobile Robots.* PhD-Thesis, Division of Optimization and Systems Theory, Department of Mathematics, Royal Insitute of Technology, TRITA-MAT-00-OS-01, ISSN 1401-2294, ISRN KTH/OPTSYST/DA 00/01-SE, April 2000. Advisors: Anders Lindquist and Xiaoming Hu.

PATENTS

1. L.G. Barajas, M. Egerstedt, E.W. Kamen, and A. Goldstein. Systems and Methods for Data-Driven Control of Manufacturing Processes, United States Patent Number 7,171,897, Feb. 6, 2007. M. Nazarin, Z. Costello, M. Egerstedt, and S. Grijalva. Distributed Frequency Regulation Network. Provisional Patent, 61/928,214, Jan 14, 2014.
2. S. Lee, S. Chopra M. Egerstedt and Y. Diaz-Mercado. Control of Swarming Robots. United States Patent Number 10,537,996, Jan. 21, 2020.

SOFTWARE

1. **MODEbox:** F. Delmotte, T.R. Mehta, and M. Egerstedt. A Software Tool for Obtaining Hybrid Control Strategies from Data, Mar. 2008. (Available at http://gritslab.ece.gatech.edu/MODEbox.html.)
2. **Sim.I.Am:** J.P. de la Croix and M. Egerstedt. A educational robotic simulation package, Dec. 2012. (Available at gritslab.gatech.edu/projects/robot-simulator.)
3. **Robotarium:** D. Pickem, P. Glotfelter, Siddharth Mayya, and M. Egerstedt. A remotely accessible swarm robotics lab, Jan. 2016. (Available at www.robotarium.org.)

SPONSORED RESEARCH

GRANTS AND CONTRACTS

1. Title of Project: *Communications in Embedded Control Systems*
   Single PI: Magnus Egerstedt
   Organization: **National Science Foundation**
   Contract Period: 08/16/02-08/16/05
   Amount: $180,000
2. Title of Project: *Hybrid, Closed-Loop Control of SMT Processes*
   Single PI: Magnus Egerstedt
   Organization: **Manufacturing Research Center, Georgia Institute of Technology**
   Contract Period: 05/01/02-04/30/04
   Amount: $36,378
3. Title of Project: *A Real-Time Controller for the Stencil Printing Process*
   Single PI: Magnus Egerstedt
   Organization: **Siemens**
   Contract Period: 05/01/02-04/30/03
   Amount: $15,155
4. Title of Project: *CAREER: Linguistic Control of Mobile Robots*
   Single PI: Magnus Egerstedt
   Organization: **National Science Foundation**
   Contract Period: 02/01/03-01/31/08
   Amount: $398,000
5. Title of Project: *Focused Research Program in Robotics*
   PI: Imme Ebert-Uphoff (Georgia Tech)
   Co-PIs: Tucker Balch (Georgia Tech), Frank Dellaert (Georgia Tech), Magnus Egerstedt
   Organization: **Focused Research Program, Georgia Institute of Technology**
   Contract Period: 08/18/03-08/17/04
   Amount: $30,000 (total), $7,500 (Magnus Egerstedt)
6. Title of Project: *Renewal: Focused Research Program in Robotics*
   PI: Tucker Balch (Georgia Tech)
   Co-PIs: Frank Dellaert (Georgia Tech), Magnus Egerstedt
   Organization: **Focused Research Program, Georgia Institute of Technology**
   Contract Period: 08/15/04-08/14/05
   Amount: $30,000 (total), $10,000 (Magnus Egerstedt)
7. Title of Project: *Learning Perception, Controllers and Visual Feature Graphs for Ground Robots*
   PI: Tucker Balch (Georgia Tech)
   Co-PIs: Frank Dellaert (Georgia Tech), Magnus Egerstedt, Jim Reigh (Georgia Tech)
   Organization: **DARPA**
   Contract Period: 11/01/04-12/31/07
   Amount: $2,000,000 (total), $300,00 (Magnus Egerstedt)
8. Title of Project: *CSR-EHS: Optimal, Multi-Modal Control of Complex Systems*
   PI: Magnus Egerstedt
   Co-PI: Yorai Wardi (Georgia Tech)
   Organization: **National Science Foundation**
   Contract Period: 08/15/05-08/14/08
   Amount: $250,000 (total), $125,000 (Magnus Egerstedt)
9. Title of Project: *Decentralized Algorithms for Locally Interacting Mobile Robots*
   Single PI: Magnus Egerstedt
   Organization: **U.S. Army Research Office**
   Contract Period: 09/01/05-08/31/08
   Amount: $254,890

10. Title of Project: *What are the X's Doing?*
    PI: Magnus Egerstedt
    Co-PI: Tucker Balch (Georgia Tech)
    Organization: **Robotics and Intelligent Machines at Georgia Tech**
    Contract Period: 08/01/06-05/31/07
    Amount: $25,000 (total), $15,000 (Magnus Egerstedt)
11. Title of Project: *Reconfigurable Sensor Networks for Fault-Tolerant In-Situ Sampling*
    PI: Ayanna Howard (Georgia Tech)
    Co-PIs: Magnus Egerstedt, Derrick Lampkin (Penn State)
    Organization: **NASA**
    Contract Period: 09/01/06-08/31/09
    Amount: $770,000 (total), $200,000 (Magnus Egerstedt)
12. Title of Project: *Pilot Decision Support for Controlling Multiple Unmanned Aerial Vehicles*
    PI: Magnus Egerstedt
    Co-PI: Tucker Balch (Georgia Tech)
    Organization: **Rockwell Collins, Inc.**
    Contract Period: 11/01/07-09/30/13
    Amount: $625,000 (total), $540,000 (Magnus Egerstedt)
13. Title of Project: *Puppet Choreography and Automated Marionettes*
    PI: Todd Murphey (Northwestern)
    Co-PI: Magnus Egerstedt
    Organization: **National Science Foundation**
    Contract Period: 06/01/08-05/31/11
    Amount: $800,000 (total), $400,000 (Magnus Egerstedt)
14. Title of Project: *HUNT: Heterogeneous Unmanned Networked Teams*
    PI: George Pappas (UPenn)
    Co-PIs: Ali Jadbabaie (UPenn), Dan Koditschek (UPenn), Vijay Kumar (Upenn), Stephen Pratt (ASU), Karl Hedrick (UC Berkeley), Shankar Sastry (UC Berkeley), Claire Tomlin (UC Berkeley), Ron Arkin (Georgia Tech), Magnus Egerstedt, Tucker Balch (Georgia Tech)
    Organization: **ONR (MURI)**
    Contract Period: 03/01/08-02/28/14
    Amount: $3,000,000 (total), $600,000 (Magnus Egerstedt)
15. Title of Project: *Abstraction-Based Motion Programs for Complex Mechanical Systems*
    PI: Todd Murphey (Northwestern)
    Co-PI: Magnus Egerstedt
    Organization: **National Science Foundation**
    Contract Period: 08/01/08-07/31/11
    Amount: $400,000 (total), $200,000 (Magnus Egerstedt)
16. Title of Project: *ZORRO: The Robotic Fencing System*
    PI: Mike Stilman (Georgia Tech)
    Co-PI: Magnus Egerstedt
    Organization: **Robotics and Intelligent Machines at Georgia Tech**
    Contract Period: 08/01/09-05/31/10
    Amount: $25,000 (total), $10,000 (Magnus Egerstedt)
17. Title of Project: *Motion Grammar Laboratory*
    PI: Mike Stilman (Georgia Tech)
    Co-PIs: Irfan Essa (Georgia Tech), Jun Ueda (Georgia Tech), Magnus Egerstedt, Henrik Christensen (Georgia Tech)
    Organization: **National Science Foundation**
    Contract Period: 01/01/11-12/31/13
    Amount: $400,000 (total), $80,000 (Magnus Egerstedt)
18. Title of Project: *Mid-Level Planning and Control for Articulated Locomoting Systems*
    PI: Howie Choset (CMU)
    Co-PI: Magnus Egerstedt
    Organization: **DARPA**
    Contract Period: 01/01/11-12/31/12
    Amount: $567,000 (total), $136,000 (Magnus Egerstedt)

19. Title of Project: *Human-Swarm Interactions for Multi-Robot Teams*
    PI: Magnus Egerstedt
    Co-PI: Andrea Thomaz (Georgia Tech)
    Organization: **Robotics and Intelligent Machines at Georgia Tech**
    Contract Period: 12/01/11-08/31/12
    Amount: $25,000 (total), $15,000 (Magnus Egerstedt)
20. Title of Project: *Distributed Cyber-Physical Architectures for Green Electricity Networks*
    PI: Santiago Grijalva (Georgia Tech)
    Co-PIs: Magnus Egerstedt, Marylin Wolf (Georgia Tech)
    Organization: **ARPA-E**
    Contract Period: 01/01/12-12/31/14
    Amount: $2,200,000 (total), $360,000 (Magnus Egerstedt)
21. Title of Project: *Minimal Representation and Reasoning for Networked Autonomous Agents*
    PI: Petros Voulgaris (UIUC)
    Co-PIs: Magnus Egerstedt, Sung-Joon Chung (UIUC), Seth Hutchinson (UIUC), Steve LaValle (UIUC)
    Organization: **AFOSR**
    Contract Period: 05/01/12-04/30/15
    Amount: $780,000 (total), $180,000 (Magnus Egerstedt)
22. Title of Project: *Unified Algorithmic Framework for the DARPA Robotics Challenge*
    PI: Paul Oh (Drexler)
    Co-PIs: Christopher Rasmussen (Delaware), Herbert Tanner (Delaware), Ioannis Poulakakis (Delaware), Yuan Zheng (Ohio State), David Orin (Ohio State), Mike Stilman (Georgia Tech), Aaron Bobick (Georgia Tech), Magnus Egerstedt, Matt Zucker (Swathmore), Kris Hauser (Indiana University)
    Organization: **DARPA, DRC**
    Contract Period: 10/14/12-13/07/13
    Amount: $1,800,000 (total), $110,000 (Magnus Egerstedt)
23. Title of Project: *CPS: Hybrid Control Tools for Power Management in Cyber-Physical Systems*
    PI: Magnus Egerstedt
    Co-PIs: Yorai Wardi (Georgia Tech), Sudha Yalamanchili (Georgia Tech), Patrick Martin (York College)
    Organization: **National Science Foundation**
    Contract Period: 09/15/12-09/14/16
    Amount: $1,000,000 (total), $350,000 (Magnus Egerstedt)
24. Title of Project: *An Educational Bridge Between Theory and Practice in Robotics*
    Singe PI: Magnus Egerstedt
    Organization: **MathWorks**
    Contract Period: 04/10/12 - 04/10/13
    Amount: $40,000
25. Title of Project: *Motion Coordination Using Deception and Human Interactions*
    PI: Magnus Egerstedt
    Co-PI: Panagiotis Tsiotras (Georgia Tech)
    Organization: **AFOSR**
    Contract Period: 12/01/12 - 11/30/15
    Amount: $600,000 (total), $300,000 (Magnus Egerstedt)
26. Title of Project: *Mutually Stabilized Correction in Physical Demonstration*
    PI: Todd Muprhey (Northwestern)
    Co-PIs: Magnus Egerstedt, Brenna Argall (Northwestern)
    Organization: **National Science Foundation**
    Contract Period: 10/01/13 - 09/30/16
    Amount: $1,200,000 (total), $299,000 (Magnus Egerstedt)
27. Title of Project: *Social, Swarming, Educational Robots*
    Singe PI: Magnus Egerstedt
    Organization: **National Science Foundation (I-Corps)**
    Contract Period: 05/01/14 - 11/01/14
    Amount: $50,000

28. Title of Project: *RoboTools: A Multi-Robot Scripting Language*
    Singe PI: Magnus Egerstedt
    Organization: **Georgia Research Alliance**
    Contract Period: 02/01/15 - 08/01/15
    Amount: $25,000
29. Title of Project: *Cyber-Physical Security in Remote-Access Autonomous Systems*
    Single PI: Magnus Egerstedt
    Organization: **Institute for Robotics and Intelligent Machines at Georgia Tech**
    Contract Period: 01/01/15-06/30/15
    Amount: $10,000
30. Title of Project: *Robot Ecologies: Biologically Inspired Heterogeneous Teams*
    PI: Magnus Egerstedt
    Co-PIs: Ron Arkin (Georgia Tech), Vijay Kumar (UPenn)
    Organization: **ONR**
    Contract Period: 04/01/15 - 03/28/18
    Amount: $1,800,000 (total), $650,000 (Magnus Egerstedt)
31. Title of Project: *The Robotarium: A Remote-Access Testbed for Robotics Research*
    PI: Magnus Egerstedt
    Co-PIs: Eric Feron (Georgia Tech), Raheem Beyah (Georgia Tech), Steve McLaughlin (Georgia Tech), Blair MacIntyre (Georgia Tech)
    Organization: **National Science Foundation**
    Contract Period: 09/01/15 - 08/31/19
    Amount: $1,050,000 (total), $650,000 (Magnus Egerstedt)
32. Title of Project: *Secure, Open-Access Multi-Robot Systems*
    PI: Magnus Egerstedt
    Co-PIs: Eric Feron (Georgia Tech), Raheem Beyah (Georgia Tech), Aaron Ames (Georgia Tech)
    Organization: **National Science Foundation**
    Contract Period: 10/01/15 - 09/30/18
    Amount: $1,000,000 (total), $300,000 (Magnus Egerstedt)
33. Title of Project: *Diversity and Inclusion Councils, Fellows, and Ambassadors*
    PI: Beril Toktay (Georgia Tech)
    Co-PIs: Pearl Alexander (Georgia Tech), Magnus Egerstedt (Georgia Tech), Renata Le Dantec (Georgia Tech), Beki Grinter (Georgia Tech), Pinar Keskinocak (Georgia Tech), Steve McLaughlin (Georgia Tech)
    Organization: **Georgia Institute of Technology Strategic Plan Advisory Group**
    Contract Period: 07/01/16-06/30/19
    Amount: $94,000, $10,000 (Magnus Egerstedt)
34. Title of Project: *Broadband Underwater Communication for Heterogeneous Underwater Networks*
    PI: Mick West (Georgia Tech)
    Co-PIs: Magnus Egerstedt (Georgia Tech), Krishna Naishadham (Georgia Tech)
    Organization: **ONR**
    Contract Period: 08/01/16-12/31/17
    Amount: $100,000, $20,000 (Magnus Egerstedt)
35. Title of Project: *DURIP: An Open, Remotely Accessible Testbed for Heterogeneous, Autonomous Teams*
    Single PI: Magnus Egerstedt
    Organization: **ONR**
    Contract Period: 06/01/17-05/31/19
    Amount: $436,000
36. Title of Project: *Composition of Coordinated Behaviors for Autonomous Vehicle Teams*
    PI: Magnus Egerstedt
    Co-PI: Sam Coogan (Georgia Tech)
    Organization: **DARPA**
    Contract Period: 07/01/17-06/30/18
    Amount: $250,000, $140,000 (Magnus Egerstedt)
37. Title of Project: *Autonomy as a Service*
    Single PI: Magnus Egerstedt
    Organization: **National Science Foundation**
    Contract Period: 08/01/17-07/31/21
    Amount: $330,000

38. Title of Project: *Coordinated Control for Agile Aerial Vehicles*
    PI: Magnus Egerstedt
    Co-PI: Eric Feron (Georgia Tech)
    Organization: **General Atomics**
    Contract Period: 01/01/18-12/31/19
    Amount: $100,000, $50,000 (Magnus Egerstedt)
39. Title of Project: *ARCHES: Autonomous Resilient Cognitive Heterogeneous Swarms*
    PI: Magnus Egerstedt
    Co-PIs: Panagiotis Tsiotras (Georgia Tech), Sonia Chernova (Georgia Tech), Justin Romberg (Georgia Tech)
    Organization: **Army Research Lab**
    Contract Period: 10/01/17-09/30/22
    Amount: $5,119,800, $1,750,000 (Magnus Egerstedt)
40. Title of Project: *Mixed Autonomous and Non-Autonomous Vehicles in High-Complexity Traffic*
    Single PI: Magnus Egerstedt
    Organization: **Ford Motor Company**
    Contract Period: 01/01/18-12/31/19
    Amount: $196,000
41. Title of Project: *Heterogeneous Coverage Control for Unmanned Underwater Vehicles*
    Single PI: Magnus Egerstedt
    Organization: **General Dynamics**
    Contract Period: 01/01/19-12/31/19
    Amount: $75,000
42. Title of Project: *Control Synthesis and Task Allocation for Autonomous Air-Ground Teams*
    Single PI: Magnus Egerstedt
    Organization: **Siemens**
    Contract Period: 06/01/19-12/31/19
    Amount: $50,000
43. Title of Project: *Mathematical Foundations for Realizing Cooperative Multi-Agents*
    PI: Magnus Egerstedt
    Co-PI: Justin Romberg (Georgia Tech)
    Organization: **Toyota**
    Contract Period: 01/05/19-09/30/22
    Amount: $125,400, $75,000 (Magnus Egerstedt)