

# Geir E. Dullerud

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## Education

- 1994 Ph.D., Information Engineering, Cambridge University, England
- 1990 Master of Science, Electrical Engineering, University of Toronto, Canada
- 1988 Bachelor of Science, Engineering Science, University of Toronto, Canada

## Academic Appointments

- 2016–present *W. Grafton and Lillian B. Wilkins Professor in Mechanical Engineering*, Mechanical Science and Engineering, University of Illinois, Urbana-Champaign, IL
- 2006–2016 *Professor, Mechanical Science Engineering (Associate, 2003–06; Assistant, 1998–2003)*, University of Illinois, Urbana-Champaign, IL
- 2000–present *Research Professor*, Coordinated Sciences Laboratory, University of Illinois, Urbana-Champaign, IL
- 1996–1998 *Assistant Professor*, Applied Mathematics, University of Waterloo, Canada
- 1994–1995 *Research Fellow and Lecturer (21 months)*, Control and Dynamical Systems, California Institute of Technology, Pasadena, CA

## Affiliate Appointments

- 2015–present *Affiliate Professor*, Computer Science, University of Illinois
- 2000–present *Affiliate Professor*, Electrical and Computer Engineering, University of Illinois

## Visiting Appointments

- 2013 *Visiting Professor (4 months)*, Electrical and Computer Engineering, KTH, Stockholm, Sweden
- 2005–2006 *Visiting Associate Professor (13 months)*, Aeronautics and Astronautics, Stanford University, Palo Alto, CA

## Awards and Recognitions

- 2016 *W. Grafton and Lillian B. Wilkins Professor in Mechanical Engineering*, University of Illinois
- 2011 *Fellow*, American Society of Mechanical Engineers (ASME)
- 2008 *Fellow*, Institute of Electrical and Electronics Engineers (IEEE)
- 2005 *Xerox Faculty Research Award*, College of Engineering, University of Illinois
- 2002–2008 *Willett Faculty Scholar*, College of Engineering, University of Illinois
- 1999 *CAREER Award*, National Science Foundation
- 1990–1993 *Peterhouse College Graduate Scholarship*, Cambridge University, England
- 1989–1990 *NSERC Graduate Scholarship*, University of Toronto
- 1984–1988 *J.W. Billes Open Admissions Scholarship*, University of Toronto

## Plenaries and Distinguished Lectures

- 2019 *Plenary*, International Workshop on Frontiers of Autonomous Systems (IWFASA), Chengdu, China
- 2018 *Plenary*, 4th IEEE Symposium on Complex Systems and Cybernetics, SCUT, China
- 2017 *Keynote*, DARS Workshop, Computer Aided Verification (CAV), Heidelberg, Germany
- 2016 *Plenary*, International Workshop on Operator Theory and Applications (IWOTA), St. Louis, MO
- 2014 *Keynote*, Function Theory and Modeling Uncertainty, Centre for Mathematical Sciences, Edinburgh, UK
- 2009 *Semi-Plenary*, IEEE Chinese Conference on Decision and Control, Guilin, China

## Professional Activities and Service

### Service Committees

- 2019 & 2020 *Chair*, Fellow Evaluation Committee, Control Systems Society, IEEE
- 2008–present *Member*, Technical Committee on Systems with Uncertainty, Control Systems Society, IEEE
- 2002–2004 *Chair*, Technical Committee on Robust Control, Control Systems Society, IEEE

*dates suppressed on following awards committees:*

*Vice Chair, Fellow Evaluation Committee, Control Systems Society, IEEE*  
*Member (2 years), Fellow Evaluation Committee, Control Systems Society, IEEE*  
*Member, Best Paper Award Committee, ACM/IEEE International Conference on Cyber-Physical Systems*  
*Member, Best Student Paper Prize Award Committee, IEEE Control and Decision Conference*  
*Member, Awards Committee, IEEE Chinese Control and Decision Conference*  
*Member, Ruberti Young Researcher Prize Selection Committee, Control Systems Society, IEEE*  
*(recused due to nominations from UIUC.)*

### **Journal Editorial Boards**

2020–present *Associate Editor, Journal of Optimization Theory and Applications (JOTA)*  
2015–present *Associate Editor, SIAM Journal of Control and Optimization (SICON)*  
2011–2013 *Associate Editor, IEEE Transactions on Automatic Control (TAC)*  
1998–2009 *Associate Editor, Systems & Control Letters*  
1999–2002 *Associate Editor, Automatica*

### **Conference Editorial Boards**

2018 *Program Committee, ACM/IEEE International Conference on Cyber-Physical Systems (ICCPS)*  
2017 *Program Committee, ACM/IEEE International Conference on Cyber-Physical Systems (ICCPS)*  
2016 *Program Committee, IEEE Conference on Decision and Control (CDC)*  
2016 *Program Committee, ACM/IEEE International Conference on Cyber-Physical Systems (ICCPS)*  
2013 *Program Committee, IEEE Conference on Decision and Control (CDC)*  
2011 *Program Committee, IEEE Conference on Decision and Control (CDC), with European Control Conference*  
2011 *Program Committee, Hybrid Systems: Control and Computation (HSCC)*  
2011 *Program Committee, IEEE Multi-Conference on Systems and Control*  
2010 *Program Committee, IEEE Chinese Control and Decision Conference (CCDC)*  
2010 *Program Committee, IEEE Conference on Decision and Control (CDC)*  
2009 *Program Committee, IEEE Chinese Control and Decision Conference (CCDC)*  
2008 *Program Committee, IEEE Conference on Decision and Control (CDC)*  
2007 *Program Committee, ConCom*  
2006 *Program Committee, IEEE Conference on Decision and Control (CDC)*  
2005 *Program Committee, European Control Conference (ECC)*  
2004 *Program Committee, SICE Annual Conference*

### **Conference and Workshop Organization**

2019 *General Chair, IFAC Workshop on Distributed Estimation & Control in Networked Systems (NECSYS)*  
2016 *Organizer, Science of Security for Cyber-Physical Systems Workshop, Cyber-Physical Systems Week*  
2015 *Vice-Chair for Invited Sessions, American Control Conference (ACC)*  
2012 *Session Organizer, Initiative for Mathematical Sciences and Engineering, University of Illinois*  
2004 & 2005 *General Co-Chair, Allerton Conference*  
2001 *Organizer, Networked Control I & II, IEEE Conference on Decision and Control (CDC)*

### **Proposal Review (dates suppressed)**

*Proposal Reviewer, Electrical and Communication Systems Division, National Science Foundation*  
*Proposal Review panel, Information Technology Research Initiative, National Science Foundation*  
*Proposal Review panel, Civil and Mechanical Systems Division, National Science Foundation*  
*Proposal Reviewer, Electrical and Communications Systems Division, National Science Foundation*  
*Proposal Review Panel, Electrical and Communications Systems Division, National Science Foundation*  
*Proposal Reviewer, Australian Research Council*  
*Proposal Reviewer, Dynamics and Control Program, Air Force Office of Scientific Research*  
*CAREER Award Proposal Review Panel, Electrical and Communications Systems Division, National Science Foundation*  
*Proposal Review Panel, Control Systems Program, Civil and Mechanical Systems Division, National Science Foundation*  
*Proposal Reviewer, Dynamics and Control Program, Air Force Office of Scientific Research*  
*Proposal Reviewer, Netherlands Organisation for Scientific Research*  
*Proposal Reviewer, Israel Science Foundation*  
*CAREER Award Review Panel, Control Systems Program, Civil and Mechanical Systems Division, National Science Foundation*  
*Proposal Review Panel, Cyberphysical Systems Program, National Science Foundation*  
*Proposal Review Panel, Cyberphysical Systems Program, National Science Foundation*  
*Proposal Reviewer, Dynamics and Control Program, Air Force Office of Scientific Research*  
*Research Topics Panel, Cooperative Autonomy and Autonomous Systems Workshop, DARPA*  
*Proposal Reviewer Young Investigator Program (YIP), Dynamics and Control Program, Air Force Office of Scientific Research*

*Proposal Reviewer Young Investigator Program(YIP), Dynamics and Control Program, Air Force Office of Scientific Research*  
*Proposal Reviewer, Junior and Senior Research Fellowships Program, Freiburg Institute for Advanced Studies*  
*CAREER Award Proposal Review Panel, Cyber-Physical Systems, National Science Foundation*  
*Reviewer, Young Investigator Program(YIP), Dynamics and Control Program, Air Force Office of Scientific Research*  
*Proposal Reviewer, Dynamics and Control Program, Air Force Office of Scientific Research*  
*CAREER Award Proposal Review Panel, Cyber-Physical Systems, National Science Foundation*  
*Proposal Reviewer, Israel Science Foundation*  
*Proposal Reviewer Young Investigator Program(YIP), Dynamics and Control Program, Air Force Office of Scientific Research*  
*Proposal Reviewer, European Research Council (ERC)*  
*Proposal Reviewer, Israel Science Foundation*

## Invited Lectures

2022	UC San Diego (forthcoming); POSTECH, Korea (forthcoming)
2020	Semiautonomous, UC Berkeley; Forum on Robotics & Control Engineering (FoRCE); Carnegie Mellon University (Formal Methods in Mathematics)
2019	University of Minnesota; University of Texas, Austin
2018	University of Southern California; National University of Taiwan
2017	University of California, Los Angeles; Tsinghua University; Guangdong University of Technology; University of Louvain; Georgia Institute of Technology; University of Southern California; Carnegie Mellon University;
2015	University of Texas, Dallas; International Centre for the Mathematical Sciences, Edinburgh
2014	Jet Propulsion Laboratory; University of Illinois
2013	Cambridge University; IMDEA Institute of Technology, Madrid; KTH, Stockholm
2012	Boston University; University of California, Santa Barbara
2011	Virginia Institute of Technology
2010	Delft Institute of Technology; University of Stuttgart; University of Florida
2009	NTNU, Trondheim; ETH, Zurich; Notre Dame University; Illinois Institute of Technology
2008	University of California, San Diego; University of Maryland; University of Minnesota; University of California, Santa Cruz
2007	Lund University
2006	California Institute of Technology; Massachusetts Institute of Technology; Xerox PARC; University of Pennsylvania; KTH, Stockholm; University of California, Los Angeles; Cal Poly, San Luis Obispo; University of California, Santa Barbara
2005	Stanford University; University of California, Berkeley; ETH, Zurich; University of Michigan
2004	University of Toronto
2002	Massachusetts Institute of Technology; Wright-Patterson AFB; Honeywell Research, Minneapolis; University of Minnesota; Eglin AFB
2001	Cornell University
2000	Lund University; NTNU, Trondheim
1999	University of Pittsburgh; Iowa State University; Carnegie Mellon University
1998	Pennsylvania State University, University of Pittsburgh, University of Illinois
1997	University of Waterloo
1996	Queens University; McMaster University
1995	California Institute of Technology
1994	Imperial College; University of Alberta
1993	Stanford University; Johns Hopkins University; University of Bremen; Iowa State University
1991	University of California, Santa Barbara

## Academic Service

### University Level

2012–2015	<i>Faculty Senate</i> , University of Illinois
2012–2015	<i>Co-Director</i> , Initiative for Mathematical Sciences and Engineering (IMSE), University of Illinois

### College Level

2019–2020	<i>Chair</i> , Head Search Committee, Industrial and Enterprise Systems Engineering, University of Illinois
2019–2020	<i>Chair</i> , Endowed Appointments Committee, University of Illinois
2018–present	<i>Director</i> , Center for Autonomy, University of Illinois
2018	<i>Member</i> , Executive Associate Dean Search Committee, University of Illinois
2018–2019	<i>Member</i> , College Grievance Committee, University of Illinois
2018–present	<i>Member</i> , GEBI Faculty Recruitment Committee, University of Illinois
2017–2019	<i>Member</i> , Endowed Appointments Committee, University of Illinois

2016–2019	<i>Member</i> , College Executive Committee, University of Illinois
2016	<i>Chair</i> , Ad Hoc Committee on Tenure Appeal Case, University of Illinois
2014	<i>Member</i> , Coordinated Science Laboratory (CSL) Director Search Committee, University of Illinois
2011	<i>Chair</i> , Course Review Subcommittee for ECE521, University of Illinois
2007–2010	<i>Member</i> , College Executive Committee, University of Illinois
2010	<i>Member</i> , Subcommittee on Systems Engineering Program, University of Illinois
2009	<i>Chair</i> , Subcommittee on Other Standing Committees, University of Illinois
2009	<i>Member</i> , Ad-hoc College Budget Committee, University of Illinois
2007	<i>Master of Ceremonies</i> , Order of the Engineer, University of Illinois
2006	<i>Member</i> , Executive Subcommittee on Research Policy, University of Illinois
2004–2005	<i>Member</i> , Head Search Committee, Mechanical and Industrial Engineering, University of Illinois

### **Department Level**

2019–2020	<i>Chair</i> , Subcommittee on AI and Autonomous Systems, ECE Faculty Search, University of Illinois
2019–2020	<i>Member</i> , Promotions and Tenure Committee, MechSE, University of Illinois
2019–2020	<i>Member</i> , Off-road Vehicles, ABE Faculty Search Committee, University of Illinois
2017	<i>Chair</i> , CSL Studio Grand Opening Committee, Coordinated Science Laboratory, University of Illinois
2016–present	<i>Diversity Officer</i> , MechSE, University of Illinois
2016	<i>Chair</i> , Ad-Hoc Committee on Specialized Faculty, MechSE, University of Illinois
2015	<i>Chair</i> , Service Awards Committee, Coordinated Science Laboratory, University of Illinois
2014–present	<i>Member</i> , Faculty Recruiting Committee, MechSE, University of Illinois
2013–present	<i>Member</i> , Policy and Planning Committee, Coordinated Science Laboratory, University of Illinois
2013–present	<i>Member</i> , Graduate Programs Committee, MechSE, University of Illinois
2013–2019	<i>Member</i> , Policy and Planning Committee, Coordinated Science Laboratory, University of Illinois
2012–2014	<i>Chair</i> , CSL Build-Out Committee, Coordinated Science Laboratory, University of Illinois
2011–present	<i>Director</i> , Decision and Control Lab (22 faculty), Coordinated Science Laboratory, University of Illinois
2011–2012	<i>Member</i> , Undergraduate Programs Committee, MechSE, University of Illinois
2011	<i>Member</i> , Research Coordinator Search Committee, Coordinated Science Laboratory, University of Illinois
2010-2011	<i>Member</i> , Promotions and Tenure Committee, MechSE, University of Illinois
2008-2010	<i>Chair</i> , Promotions and Tenure Committee, MechSE, University of Illinois
2008-2009	<i>Member</i> , Ad Hoc Committee on Course Offerings, MechSE, University of Illinois
2008-2009	<i>Convenor(Chair)</i> , Policy and Planning Committee, Coordinated Science Laboratory, University of Illinois
2007-2008	<i>Member</i> , Ad Hoc Strategic Planning Committee, MechSE, University of Illinois
2007–2008	<i>Member</i> , Faculty Recruiting Committee, Aerospace Engineering, University of Illinois
2007-2008	<i>Member</i> , Promotions and Tenure Committee, MechSE, University of Illinois
2007	<i>Chair</i> , Ad Hoc Capricious Grading Committee, MechSE, University of Illinois
2006–2009	<i>Member</i> , Advisory Committee, MechSE, University of Illinois
2004–2005	<i>Member</i> , Faculty Recruiting Committee, Aerospace Engineering, University of Illinois
2004	<i>Member</i> , Staff Awards Committee, Coordinated Science Laboratory, University of Illinois
2002–2009	<i>Member</i> , Faculty Recruiting Committee, MechSE, University of Illinois
2001–2003	<i>Member</i> , Graduate Programs Committee, MechSE, University of Illinois
2001–2002	<i>Chair</i> , Advisory Committee, MechSE, University of Illinois
1999-2004	<i>Member</i> , Seminar Committee, MechSE, University of Illinois

### **Student Advisees**

#### **PhD Theses**

2023 anticipated	<i>Negin Musavi</i> , Topic: Security in Machine Learning for Control, MechSE, University of Illinois
2023 anticipated	<i>Kuan-Yu Tseng</i> , Topic: Machine Learning and Autonomous Agents, MechSE University of Illinois
2022 anticipated	<i>Hussein Darir</i> , Topic: Anonymity in Cyber-Physical Systems, MechSE, University of Illinois
2022 anticipated	<i>Darioush Esfahani</i> , Topic: Machine Learning for Robustness, MechSE, University of Illinois
2021	<i>Joao Jansch-Porto</i> , "Learning and Decentralized Control in Linear Switched Systems", MechSE, University of Illinois (placement: autonomy group, Qualcomm)
2018	<i>Yu Wang</i> , "Verification of Temporal Logic Specification of Stochastic Hybrid Systems", MechSE, University of Illinois (placement: assistant professor, MAE, U. Florida)
2018	<i>Peter Maginnis</i> (co-advised), "Variance-reduced simulation of lattice Markov chains", MechSE, University of Illinois (placement: associate, Chicago Trading Company)
2018	<i>Raymond Essick</i> , "Receding-Horizon Switched Linear System Design: A Semidefinite Programming Approach with Distributed Computation", MechSE, University of Illinois (placement: teaching professor, Georgetown University)
2015	<i>Seungho Lee</i> , "Model Predictive Control Approach to Multiplayer Min-Max Differential Games", MechSE, University of Illinois, (placement: Nvidia, CA)

- 2014 *Anshuman Mishra*, "Team Decision Theory of Switched Static and Dynamic Systems", (received Outstanding Mechanical Engineering PhD in MechSE Award, 2014), MechSE, University of Illinois, (placement: Apple, CA)
- 2009 *Vladimer Vladimerou* (co-advised), "Specifications for Decidable Hybrid Automata and Games", ECE, University of Illinois, (placement: Toyota Research, MI)
- 2008 *Chun Zhang*, "Centralized and Decentralized Control with Limited Information", ECE, University of Illinois, (placement: Cisco, CA)
- 2007 *Lei Ying* (co-advised), "Communication in Large Wireless Networks", ECE, University of Illinois, (placement: tenured full professor, University of Michigan)
- 2007 *Zhe Di*, "Control with Structural Constraints: Theory and Implementation", MechSE, University of Illinois, (placement: vice-president, Citibank, NY)
- 2005 *Mazen Farhood*, "A Semidefinite Programming Approach for Control of Systems Along Trajectories", MechSE, University of Illinois, (placement: tenured, Virginia Tech, VA)
- 2005 *Andrew Stubbs*, "Estimation and Control of Autonomous Vehicles over Networks ", MechSE, University of Illinois, (placement: Amazon Robotics, WA)

### **Master's Theses**

- 2021 *Derek King*, "GridsSLAM on the Raptor Autonomous Vehicle", ECE, University of Illinois (placement: Co-founder, Fetch Robotics)
- 2021 *Nicholas Wright*, "Practical Investigations in Robot Localization using Ultra-Wideband Sensors", MechSE, University of Illinois (placement: Sandia NL)
- 2019 *Hussein Darir*, "Privacy-Preserving Network Congestion Control", MechSE, University of Illinois, (placement: PhD student)
- 2018 *Judith Hooymans*, "Control of Linear Switched Systems Using State Feedback with Saturation Constraints", ECE, University of Illinois, (placement: officer in US Coast Guard)
- 2016 *Joao Jansch-Porto*, "Decentralized Control of Linear Switched Systems with Receding Horizon ", MechSE, University of Illinois, (placement: PhD student)
- 2015 *Bicheng Zhang*, "Real-time Aerial Vehicle Detection and Tracking with Depth-Aided Vision Sensing", MechSE, University of Illinois, (placement: Bloomberg, NY)
- 2015 *Di Fan*, "Control of Quad-Rotor UAVs Using Switched-System Synthesis Methods", ECE, University of Illinois, (placement: Microsoft, WA)
- 2014 *Wenjia Zhou*, "A Lightweight DSP Framework for OMAP3530 Driven Embedded Devices", ECE, University of Illinois, (placement: Nvidia, CA)
- 2014 *Yu Wang*, "Stability of Linear Autonomous Systems under Regular Switching Sequences", MechSE, University of Illinois, (placement: PhD student)
- 2013 *Y.J. Yoon*, "Hovercraft Path Planning using Dubins Path", MechSE, University of Illinois, (placement: AMEL Technologies, HI)
- 2012 *Sun Yue*, "Modeling, Identification and Control of a Quad-Rotor Drone using Low-Resolution Sensing", MechSE, University of Illinois, (placement: New Holland, MI)
- 2012 *Richard Otap*, "Development of a Robotic Testbed Infrastructure with Dynamic Service Discovery", ECE, University of Illinois, (placement: Intel, CA)
- 2011 *Peter Maginnis*, "Variance Reduction for Poisson and Markov Jump Processes", MechSE, University of Illinois, (placement: PhD student)
- 2011 *Raymond Essick*, "A Convex Solution to Receding Horizon Control of Switched Linear Systems", MechSE, University of Illinois, (placement: PhD student)
- 2010 *Tyler Lehman* (co-advised), "L1 Adaptive Control Augmentation for the X-48B Aircraft", MechSE, University of Illinois, (placement: Boeing, PA)
- 2009 *Kan Chen*, "Computational Methods for Automata-switched systems ", Aerospace, University of Illinois, (placement: General Electric, Shanghai)
- 2009 *Bradley Baillaio*, "Multirobot Tethering for Localization and Control ", ECE, University of Illinois, (placement: General Dynamics, MD)
- 2006 *Troy Becicka*, "Onboard Vision System for Real-time Motion Estimation of Autonomous Vehicles", ECE, University of Illinois, (placement: Caterpillar, IL)
- 2005 *Michael Frutiger*, "Semidefinite Programming in Control of Nonlinear Finite Element Beam Models", ECE, University of Illinois, (placement: Garmin Navigation, KS)
- 2005 *Adam Fulford*, "Networked Vision System for Autonomous Vehicle Control", MechSE, University of Illinois, (placement: Draper Laboratories, MA)
- 2005 *Wesley Thompson*, "Design, Modelling, and Control of a Highly Flexible Rotating Beam", MechSE, University of Illinois, (placement: MPC Aerospace, IL)
- 2004 *Chun Zhang*, "Sampled-Data Control of Interconnected Systems",

2004	MechSE, University of Illinois, (placement: PhD student) <i>Vladimer Vladimerou</i> , “Embedded Computer System for Networked Autonomous Vehicles”, ECE, University of Illinois, (placement: PhD student)
2004	<i>Jeffrey Strick</i> , “Development of Autonomous Power Management System for Hovercraft Testbed”, MechSE, University of Illinois, (placement: General Electric, MA)
2004	<i>Joel Rubel</i> , “Design and Control of Hovercrafts over a Network”, MechSE, University of Illinois, (placement: Rolls Royce, IN)
2003	<i>McAllister Daniel</i> , “Location and Orientation of Crafts Acquired through Edge Detection”, MechSE, University of Illinois, (placement: Goodyear, MI)
2003	<i>Lei Ying</i> , “Global Network Stability with Heterogeneous Time-Delays”, MechSE, University of Illinois, (placement: PhD student)
2003	<i>Benjamin Yoo</i> , “Real-Time Control of Dynamic Systems with Communication Networks”, MechSE, University of Illinois, (placement: Caterpillar, IL)
2001	<i>Corey Geise</i> , “Discrete-time LTV H2 Control in the LMI Framework and Computational Considerations”, MechSE, University of Illinois, (placement: Raytheon, AZ)
2001	<i>Mazen Farhood</i> , “Control of Nonstationary LPV Systems”, MechSE, University of Illinois, (placement: PhD student)
1999	<i>Carol Pirie</i> , “Controller Synthesis for Uncertain Time-Varying Discrete-Time Systems”, Applied Mathematics, University of Waterloo, (placement: Ford Motor Company, MI)
1997	<i>Sean Bourdon</i> , “Analysis of Linear Quasi-Time-Invariant Uncertainty in Sampled-Data Systems”, Applied Mathematics, University of Waterloo, (placement: Canadian Defense Agency, Canada )

#### **Post-Doctoral Fellows and Visitors**

2022–2023	<i>Jian Pan</i>
2016	<i>Matthew Philippe</i>
2013–2014	<i>Jin Zhu</i>
2010–2012	<i>Qing Xu</i>
2003–2005	<i>Ji-Woong Lee</i>

#### **Undergraduate Researchers**

2019–2020	<i>Amelia Gosse, Lyle Regenwetter, Tanitpong Lawphongpanich, Hebron Taylor</i>
2018	<i>Amelia Gosse, Amir Tajbakhsh</i>
2017	<i>Sriram Raghu, Amir Tajbakhsh</i>
2015–2016	<i>Sanjit Dutta, Brett Glasner, Morgan Aavang</i>
2014–2015	<i>Sanjit Dutta, Rohan Khanna, Weijia Luo</i>
2013	<i>Bicheng Zhang, Weijia Luo, Brandon Gigous, Jingyi Ma</i>
2012	<i>Bicheng Zhang, Wenjia Zhou, Weijia Luo, Dao Lu</i>
2011	<i>Yu Wang, Sun Yue, Steven Granda</i>
2010	<i>Fawwaz Qayyum</i>
2009	<i>Richard Otap</i>
2008	<i>Daniel McKenna</i>
2006	<i>Pramod Patel</i>
2004	<i>Derek King, Ian Yap, Troy Becicka</i>
2000	<i>Andrew Vaughn, Sean Harnish</i>

#### **External PhD Committee Member**

2018	<i>Mehmet Can Ozparpucu</i> , Mechanical Engineering, ETH, Zurich
2017	<i>Matthew Philippe</i> , Applied Mathematics, University of Louvain
2016	<i>Sean Weerakkody</i> , ECE, Carnegie Mellon University
2010	<i>Paolo Massioni</i> , ECE, Delft University of Technology
2007	<i>Ather Gatami</i> (PhD opponent), Automatic Control, Lund University
2006	<i>Matthew Peet</i> , Aerospace, Stanford University

#### **PhD Committee Member**

1999–2020	<i>Served as an examiner on an additional 46 PhD committees at University of Illinois</i>
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## Teaching

- **Graduate:** Convex Optimization; Estimation and Stochastic Control; Nonlinear Systems; Convex Methods in Control; Linear Systems
- **Undergraduate:** Signal Processing; Analysis of Dynamical Systems; Feedback Control Theory; Calculus I; Calculus II; Dynamics
- **Recognition:** On the [Teachers Ranked as Excellent List](#) at University of Illinois in Fall 2001, Fall 2004, Spring 2008, Fall 2010, Fall 2012, Spring 2014, Fall 2015, Spring 2016, Fall 2019

## Publications

### Under Review

- (UR1) Aaron Havens, Darioush Keivan, Peter Seiler, Geir Dullerud and Bin Hu, “Revisiting PGD Attack for Stability Analysis of Large-Scale Nonlinear Systems and Perception-Based Control”, submitted to Learning for Dynamics and Control (L4DC), 2021.
- (UR2) Y. Wei, J. Zhu, X. Jiang, Y. Kang, and G.E. Dullerud, “Low Resource-Reallocation Defense Strategy for Repeated Security Games with No Prior Knowledge and Limited Observability”, submitted to IEEE Transactions on Cognitive and Developmental Systems, 2021.
- (UR3) J. Jansch-Porto, B. Yu, G.E. Dullerud, “Global Convergence of Policy Gradient Methods for Markovian Jump Linear Quadratic Optimal Control, submitted IEEE Transactions on Automatic Control, 2021.
- (UR4) Wang, Y., H. Sibai, S. Mitra, and G.E. Dullerud, “Differentially Private Sequential Learning”, in preparation.

### Books

- (B1) G.E. Dullerud and F. Paganini, *A Course in Robust Control Theory: A Convex Approach*, Texts in Applied Mathematics, Springer, 2000.
- (B2) G.E. Dullerud, *Control of Uncertain Sampled-data Systems*, Systems & Control Series, Birkhauser, 1996.

### Book Chapters

- (Ch1) D.P. Borgers, V.S. Dolk, G.E. Dullerud, A.R. Teel, and W.P.M.H. Heemels, “Time-Regularized and Periodic Event-Triggered Control for Linear Systems”, Control subject to Computational and Communication Constraints: Current Challenges, Lecture Notes in Control and Information Sciences, Springer-Verlag, 2018.
- (Ch2) J.-W. Lee and G.E. Dullerud, “Stabilization of Switched LPV Control Systems,” Control of LPV Systems with Applications, Lecture Notes in Control and Information Sciences, Springer-Verlag, 2012.
- (Ch3) C. Zhang, and G.E. Dullerud, “Decentralized Control with Communication Bandwidth Constraints,” Distributed Decision Making and Control, Lecture Notes in Control and Information Sciences, Springer-Verlag, 2011.
- (Ch4) V. Vladimerou, P. Prabhakar, M. Viswanathan, and G.E. Dullerud, “STORMED Hybrid Systems,” Automata, Languages and Programming, Lecture Notes in Computer Science, Volume 5126, Springer, 2009.
- (Ch5) L. Ying, R. Srikant, and G. E. Dullerud, “Distributed Function Computation in Wireless Sensor Networks”, Future Directions in Systems Research for Networked Sensing, V. Saligrama, eds., Springer, 2007.
- (Ch6) M. Farhood, and G.E. Dullerud, “Model Reduction of Strongly Stable NLPV Systems”, Control of Uncertain Systems: Modelling, Approximation, and Design, Lecture Notes in Control and Information Sciences, Springer Publishing Co., 2006.
- (Ch7) V. Vladimerou, and G. E. Dullerud, “Wireless Control with Bluetooth”, Handbook of Networked and Embedded Control Systems, Control Engineering Series, Birkhauser, 2005.
- (Ch8) R. Smith, and G. E. Dullerud, “Modeling and Validation of Nonlinear Feedback Systems”, Robustness in Identification and Control, A. Garulli, A. Tesi, A. Vicino, eds., Springer Publishing Co., 1999.

### Journal Publications

- (J1) Wang, Y., N. Roohi, M. West, M. Viswanathan, and G. Dullerud, “Verifying Stochastic Hybrid Systems via Mori-Zwanzig Model Reduction”, to appear ACM Transactions on Embedded Computing Systems, 2022.
- (J2) J. Jansch-Porto, and G.E. Dullerud, “Decentralized Control of Switched-Systems with Receding Horizon Modal Information and Path-Dependent Performance Specifications: Theory and an Application”, accepted to IEEE Transactions on Control Systems Technology, 2021.
- (J3) J. Zhu, K. Xia, Q. Ling, W. Chen, G.E. Dullerud, “Stabilization and optimization of discrete-time Markovian jump linear systems via mode feedback control”, to appear in IEEE Transactions on Automatic Control, 2022.
- (J4) N. Strijbosch, G.E. Dullerud, A. Teel, M. Heemels, “L2-gain Analysis of Periodic, Event-Triggered Control and Self-Triggered Control using Lifting”, accepted to IEEE Transactions on Automatic Control, 2020.

- (J5) J. Zhu, X. Wu, C. Li, and G.E. Dullerud, "State and mode feedback control strategy for discrete-time Markovian jump linear systems with time-varying controllable mode transition probability matrix", accepted to International Journal of Robust and Nonlinear Control, 2020.
- (J6) D. Lee, G.E. Dullerud, and J. Hu, "Graph Lyapunov Functions for Switching Stabilization and Distributed Computation", accepted to Automatica, 2020.
- (J7) J. Zhu, C. Li, and G.E. Dullerud, "Asynchronous H-infinity control for 2-D hidden Markovian jump systems with partly known mode observation conditional probabilities", accepted to International Journal of Robust and Nonlinear Control, 2020.
- (J8) Y. Wang, N. Roohi, M. West, M. Viswanathan, and G.E. Dullerud, "Statistical verification of PCTL using antithetic and stratified samples", Journal of Formal Methods in System Design, 54:145-163, 2019.
- (J9) P.A. Maginnis, M. West, and G.E. Dullerud, "Exact, variance-reduced simulation of lattice continuous-time Markov chains with applications in reaction networks", Bulletin of Mathematical Biology, 81:3159-3184. (special issue in memory of D. Gillespie)
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### **Refereed Conference Articles**

- (C1) D. Esfahani, A. Havens, P. Seiler, G.E. Dullerud, and B. Hu, ”A Model-free Adversarial Reinforcement Learning Approach for  $\mu$ -Synthesis”, accepted to American Control Conference (ACC), 2022.
- (C2) K.-Y. Tseng, J.S. Shamma, G.E. Dullerud, ”Low-fidelity Gradient Updates for High-fidelity Reprogrammable Iterative Learning Control”, accepted to American Control Conference (ACC), 2022.
- (C3) K.-Y. Tseng, J.S. Shamma, G.E. Dullerud, ”GRILC: Gradient-based Reprogrammable Iterative Learning Control for Autonomous Systems”, accepted to NeurIPS 2021 Workshop on Deployable Decision Making in Embodied Systems(EXTENDED ABSTRACT ONLY), 2021.
- (C4) H. Darir, H. Sibai, N. Borisov, G. Dullerud and S. Mitra, ”MLEFlow: Learning from History to Improve Load Balancing in Tor with Guarantees”, accepted to Privacy Enhancing Technologies Symposium (PETS), 2022.
- (C5) N. Musavi, D. Sun, S. Mitra, G.E. Dullerud, and S. Shakkottai, ”Verification and Parameter Synthesis for Stochastic Systems using Optimistic Optimization”, to appear at IEEE Conference on Control Technology and Applications(CCTA), 2021.
- (C6) N. Musavi, D. Sun, S. Mitra, G.E. Dullerud, and S. Shakkottai, ”Optimistic Optimization for Statistical Model Checking with Regret Bound”, *Symbolic-Numeric methods for Reasoning about CPS and IoT (SNR)*, 2020.
- (C7) Y. Wang, N. Roohi, M. West, M. Viswanathan and G.E. Dullerud, “Verifying PCTL Specifications on Markov Decision Processes via Reinforcement Learning”, to appear *Proceedings of IEEE Conference on Decision and Control (CDC)*, 2020.
- (C8) N. Roohi, Y. Wang, M. West, G.E. Dullerud, and M. Viswanathan, “STMC: Statistical Model Checker with Stratified and Antithetic Sampling”, to appear *Proceedings of Computer Aided Verification (CAV)*, 2020.
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- (C13) H. Darir, H. Sibai, N. Borisov, G.E. Dullerud and S. Mitra, “TightRope: Towards Optimal Load-balancing of Paths in Anonymous Networks”, *Proceedings of Workshop on Privacy in Electronic Society (WPES)*, 2018.
- (C14) Y. Wang, N. Roohi, M. West, M. Viswanathan, and G.E. Dullerud, “Statistical Verification of PCTL Using Stratified Samples,” *Proceedings of Analysis and Design of Hybrid Systems (ADHS)*, 2018.
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- (C28) M. Naghnaeian, P.G. Voulgaris, and G.E. Dullerud, "A Unified Framework for l-p Analysis and Synthesis of Linear Switched Systems," Proceedings of American Control Conference(ACC), 2016.
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