

Florian Dörfler

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Academic Positions

Aug'19–current **ASSOCIATE PROFESSOR**, *Swiss Federal Institute of Technology (ETH) Zürich, Switzerland*
Department of Information Technology and Electrical Engineering

July'14–July'19 **ASSISTANT PROFESSOR**, *Swiss Federal Institute of Technology (ETH) Zürich, Switzerland*
Department of Information Technology and Electrical Engineering

Sep'13–July'14 **ASSISTANT PROFESSOR**, *University of California at Los Angeles (UCLA), United States*
Department of Electrical Engineering

Education

Sep'09–Sep'13 **PH.D.** in Mechanical Engineering, *University of California at Santa Barbara*
Advisor: Francesco Bullo
Ph.D. thesis: *Dynamics and Control in Power Grids and Complex Oscillator Networks*

Oct'03–Dec'08 **DIPLOMA** in Engineering Cybernetics, *University of Stuttgart*
Advisors: Frank Allgöwer (University of Stuttgart) and Bruce Francis (University of Toronto)
Diploma thesis: *Geometric Analysis of the Formation Problem for Autonomous Robots*
Student thesis: *Port-Hamiltonian Systems – Stability Analysis and Application in Process Control*

Research Interests

My general research interests are centered around distributed control and optimization in complex, cyber-physical, and networked systems with applications to smart power grids, robotic coordination, and social networks. Topics of recent interest include

1. stability and control in low-inertia power systems,
2. feedback control via online optimization
4. data-enabled predictive control, and
3. distributed and plug-and-play control and optimization.

Notable Awards

- 2020 EUCA European Control Award
(distinguished European researcher under the age of 40 in systems and control)
- 2020 IFAC Manfred Thoma medal
(distinguished researcher and/or engineer under the age of 40 in systems and control)
- 2020 Best Paper Award at IEEE PES General Meeting
(as co-author and advisor)
- 2019 Best Student Paper Award at European Control Conference
(as co-author and advisor)
- 2017 Basil Papadias Best Student Paper Award at IEEE PES PowerTech Conference
(as co-author and advisor)
- 2016 IEEE Circuits and Systems Guillemin-Cauer Best Paper Award
(awarded for best paper in IEEE Transactions on Circuits and Systems 2016)
- 2016 Top Five Finalist for Best Student Paper Award at American Control Conference
(as co-author and advisor)
- 2015 UC Santa Barbara Mechanical Engineering Department Best PhD Award
(in recognition of outstanding achievements during PhD studies)
- 2014 IFAC Automatica Best Paper Award
(awarded for best application paper 2012–2014)
- 2013 Top Five Finalist for Best Student Paper Award at European Control Conference
(as co-author and co-advisor)
- 2011 O. Hugo Schuck Best Paper Award awarded by American Automatic Control Council
(awarded for theoretical contributions at one of the two largest annual control conferences)
- 2010 Best Student Paper Award at American Control Conference
(awarded at one of the two largest annual control conferences)
- 2008 Diplom awarded with special distinction by the University of Stuttgart
(institutional award)

Best Thesis Awards of Students

- 2020 ETH Medal (best master thesis award) for Verena Häberle
- 2020 Willi-Studer Preis (departmental top of the year award) for Nicolas Lanzetti
- 2020 ETH Medal (best master thesis award) for Nicolas Lanzetti
- 2019 ABB Research Award (best master thesis award) for Liviu Aolaritei
- 2017 Willi-Studer Preis (departmental top of the year award) for Yannick Meier
- 2017 ETH Medal (best master thesis award) for Sebastian Curi
- 2017 ETH Medal (best master thesis award) for Yannick Meier

Scholarships

2011–2012

- Peter J. Frenkel Foundation Fellowship
(one of two campus-wide awards per academic year)
- 2009–2013 Regent’s Special International Fellowship
(the Regent’s scholarships are the most prestigious UC scholarship awards)
- 2008 Baden-Württemberg Stipendium Renewed
(national scholarship)
- 2007–2008 Baden-Württemberg Stipendium
(national scholarship)
- 2007–2008 Ontario Baden-Württemberg Program Fellow
(national scholarship)

Research Experience

- July’19–current **ASSOCIATE PROFESSOR**, *Swiss Federal Institute of Technology (ETH) Zürich*
at *Automatic Control Laboratory*
- Mar’20–current **VISITING PROFESSOR**, *KTH Stockholm*
at *Division of Decision and Control Systems*
- July’14–July’19 **ASSISTANT PROFESSOR**, *Swiss Federal Institute of Technology (ETH) Zürich*
at *Automatic Control Laboratory*
- Sep’13–July’14 **ASSISTANT PROFESSOR**, *University of California at Los Angeles*
at *Department of Electrical Engineering*
- Mar’13–July’14 **VISITING PROFESSOR**, *California Institute of Technology*
at *Rigorous Systems Research Group* hosted by Steven Low and Adam Wierman
- Apr’09–Sep’13 **Graduate Student Researcher** at *University of California at Santa Barbara*
at *Center for Control, Dynamical Systems, and Computation* advised by Francesco Bullo
- May’11–Jul’11 **Graduate Student Researcher** at *Los Alamos National Laboratories*
at *Center for Nonlinear Studies* advised by Michael Chertkov and Scott Backhaus
&
Jun’12–Aug’12
- Aug’08–Dec’08 **Corporate Research Intern** at *EADS Astrium, Friedrichshafen, Germany*
at *Attitude and Orbit Control Group* advised by Jochen M. Rieber and Trond D. Krøvel
- Aug’07–Aug’08 **Graduate Student Researcher** at *University of Toronto*
at *Systems Control Group* advised by Bruce Francis
- May’07–Jul’07 **Student Research Assistant** at *University of Stuttgart*
at *Institute for Systems Theory and Automatic Control* advised by Jørgen K. Johnsen and Frank Allgöwer

Educational Activities

LECTURING

- 2015–current *Control Systems I*
- 2015–current *ETH Control Seminar Series*
- 2019 *Signals and Systems II*
- 2015–2018 *Distributed Systems and Control*
- 2014 *Linear Systems: State-Space Approach (at UCLA)*
- 2014 *Distributed Systems and Control (at UCLA)*

GRADUATE SCHOOLS

- 2020 EECI Graduate School on “Control and Optimization of Autonomous Power Systems”, KTH Stockholm, Sweden.
- 2019 Autumn School DFG-Schwerpunktprogramm 1984 “Hybrid and multimodal energy systems”, Karlsruher Institut für Technologie (KIT), Karlsruhe, Germany.
- 2017 “Innovative controls for renewable source integration into smart energy systems” (INCITE) European Summer School, Barcelona, Spain
- 2016 DISC Winter Course on “Power Systems Control - from Circuits to Economics”, Groningen, Netherlands
- 2015 Grid Science Winter School & Conference, Santa Fe, United States
- 2015 MSE Winter School Holistic Modeling and Control of Energy Systems, Ohlstadt, Germany

DIDACTICS

- 2016 Speaker at ETH LET teaching event “Increasing Interactivity”

Advising

Doctoral Students

- June'20–current Verena Häberle
- Oct'19–current Nicolas Lanzetti
- Feb'19–current Miguel Picallo Cruz
- Jan'19–current Irina Subotic (co-advised with Dominic Groß)
- Oct'18–current Lukas Ortmann (co-advised with Saverio Bolognani)
- Mar'18–current Liviu Aolaritei
- Sep'17–current Jeremy Coulson (co-advised with John Lygeros)
- Aug'17–current Ali Tayyebi-Khameneh (externally supervised from Austrian Institute of Technology)
- Jan'16–current Nicolò Pagan
- Apr'15–current Adrian Hauswirth (co-advised with Gabriela Hug)

Postdoctoral Researchers

- Feb'16–current Michael Fisher (co-advised with Gabriela Hug)
- Jun'18–current Wenjun Mei

Senior Scientist

- Jan'16–current Saverio Bolognani

Alumni

- Aug'18–Jul'20 Robin Delabays (co-advised with Philippe Jacquod)
- Jan'15–Dec'19 Catalin Arghir
now Engineer at RUAG Space
- Jan'16–Dec'19 Dominic Groß
now at Assistant Professor at now professor at University of Wisconsin, Madison, United States
- Aug'16–Jan'18 Marcello Colombino
now at Assistant Professor at McGill University, Montreal, Canada

Apr'16–Dec'16 Theodor Borsche
now at Boston Consulting Group, Oslo, Norway

July'14–July'19 Bala Kameshwar Poolla
now postdoc at UC Berkeley

Jan'15–Jan'16 Saverio Bolognani
now Senior Scientist at ETH Zürich

Advisor for Long-Term Visiting Scientists

2020 Matteo Tachi, Paolo Gherardo Carlet, Andrea Favato

2019 Linbin Huang, Paolo Gherardo Carlet, Andrea Favato

2018 Linbin Huang, Miguel Picallo Cruz

2017 Enric Sánchez Sánchez, Robin Delabays

2016 Xiaofan Wu, Wei Chen

2015 Spyros Chatzivasileiadis, Nima Monshizadeh, John W. Simpson-Porco, Marco Todescato, Diego Romeres

Graduate Student Mentor

Nov'13–current approximately 50 master & semester theses at ETH Zürich and UCLA

Research Awards

2020 European Commission H2020 #883985: *POwering SYstem flexibiliTY in the Future through RES – POSYTYF*

2019 KAUST Office of Sponsored Research, Award No. OSR-2019-CoE-NEOM-4178.11: *GRIDX: The Autonomous Digital Grid*

2019 SNF Assistant Professor Energy Grant #PYAPP2_160573/2: mobility funds

2019 SNF Scientific Exchanges IZSEZo_185442: *International Workshop on “Future Electric Power Systems”*

2019 Swiss Federal Office of Energy (SFOE) Research Program Pilot-, Demonstrations- und Leuchtturmprojekte: *Renewable Management and Real-Time Control Platform (ReMaP)* (SI/501810-01)

2018 SNF Scientific Exchanges IZSEZo_183110: *Workshop on “Vistas in Control”*

2018 Swiss Federal Office of Energy (SFOE) Research Program Grids SI/501708: *a UNified Control framework for Real-time power system operation* (note: led by Saverio Bolognani)

2018 Swiss Federal Office of Energy (SFOE) Research Program Grids SI/501707: *Grid-forming control of renewable generation and power electronics* (note: led by Dominic Groß)

2018 SATW Scientific Conference Funding F-2018-010: *International Workshop on “Vistas in Control”*

2017 ETH Zürich and ABB Schweiz AG Contract #12376: *Decentralized Control of Power Converters*

2016 European Commission H2020 #691800: *Massive InteGRATION of power Electronic devices – MIGRATE*

- 2016 SNF Scientific Conference Funding 20CO21_171241/1: *International Workshop on “Future Electric Power Systems”*
- 2015 ETH Seed Project SP-ESC 2015-07(4): *Novel control approaches for low-inertia power grids*
- 2015 SNF Assistant Professor Energy Grant #PYAPP2_160573: *Plug-and-Play Control & Optimization in Microgrids*
- 2014 NSF EPCN Medium #1406891: *Virtual Oscillator Control for Microgrids*
(returned and declined when moving from UCLA to ETH Zürich)
- 2011 NSF CPS Medium:#1219917: *The Cyber-Physical Challenges of Transient Stability and Security in Power Grids* (contributed as consultant)

Total amount of competitive personal third-party funding acquired thus far: 3,931537.42 CHF

Professional Service

ORGANIZER/CO-ORGANIZER

- 2019 Conference on *Future Electric Power Systems and the Energy Transition*, Champéry, Switzerland
- 2019 Publicity Chair *ACM e-Energy Conference*, Phoenix, AZ, United States, June, 2019
- 2018 Vistas in Control: ETH Control Workshop
- 2018–2019 EECI International Graduate School on Control, ETH Zürich
- 2017 Conference on *Future Electric Power Systems and the Energy Transition*, Champéry, Switzerland
- 2016 EECI International Graduate School on Control, ETH Zürich
- 2015 MSE Winter School Holistic Modelling and Control of Energy Systems, Ohlstadt, Germany.
- 2011 Santa Barbara Control Workshop 2011

EDITORIAL SERVICE (JOURNALS)

- 2020–current Editorial Board of Annual Reviews in Control
- 2018–current Associate Editor for Automatica
- 2016 Guest Editor for IEEE Transactions on Smart Grid special issue “Distributed Control and Efficient Optimization Methods for Smart Grid”

TECHNICAL PROGRAM COMMITTEES (CONFERENCES)

- 2019 Conference on Decision and Control (CDC)
- 2019 IFAC World Congress
- 2019 IEEE Global Conference on Signal and Information Processing (GlobalSIP)
- 2019 IEEE International Conference on Smart Grid Synchronized Measurements and Analytics (SGSMA)
- 2019 IFAC Workshop on Distributed Estimation and Control in Networked Systems (NecSys)
- 2018 Iranian Smart Grid Conference (SGC)

2018 IEEE Global Conference on Signal and Information Processing (GlobalSIP)
 2018 IEEE International Conference on Smart Grid Communications (SmartGridComm)
 2018 IFAC Workshop on Distributed Estimation and Control in Networked Systems (NecSys)
 2018 International School and Conference on Network Science (NetSci)
 2017 “Data Mining for Cyber-physical and Industrial Systems” Workshop at IEEE ICDM
 2017 IEEE International Conference on Smart Grid Communications (SmartGridComm)
 2017 Greenmetrics (Sigmetrics) Workshop
 2016 Workshop on Complex Networks
 2015 IEEE Workshop on Control and Modeling for Power Electronics (COMPEL)
 2014 IEEE International Conference on Smart Grid Communications (SmartGridComm)

TECHNICAL REVIEWER

Journals

Control systems: IEEE Transactions on Automatic Control ◦ IEEE Transactions on Control of Network Systems ◦ IEEE Transactions on Control Systems Technology ◦ Automatica ◦ SIAM Journal on Control and Optimization ◦ Systems and Control Letters ◦ European Journal of Control ◦ IEEE Transactions on Circuits and Systems Part II ◦ Journal of Process Control ◦ IEEE Control Systems Magazine ◦ IEEE Control Systems Letters ◦ ACM Transactions on Cyber-Physical Systems

Power systems & energy: IEEE Transactions on Power Systems ◦ IEEE Transactions on Energy Conversion ◦ IEEE Transactions on Power Delivery ◦ IEEE PES Letters ◦ International Transactions on Electrical Energy Systems ◦ International Journal of Electrical Power and Energy Systems ◦ Sustainable Energy, Grids and Networks ◦ Energies

Dynamical systems: Physica D ◦ SIAM Journal on Applied Dynamical Systems ◦ Chaos: An Interdisciplinary Journal of Nonlinear Science ◦ Nonlinearity ◦ Nonlinear Analysis: Hybrid Systems ◦ Communications in Mathematical Sciences ◦ Journal of Statistical Physics ◦ Journal of Mathematical Physics ◦ Applied Mathematical Modeling ◦ New Journal of Physics ◦ Journal of Statistical Physics

Computer science & discrete mathematics: IEEE Transactions on Network Science and Engineering ◦ SIAM Journal on Applied Mathematics ◦ Discrete Applied Mathematics ◦ Journal of Complexity

Miscellaneous journals: Proceedings of the National Academy of Sciences ◦ Nature Physics ◦ Nature Communications ◦ Nature Scientific Reports ◦ Physical Review Letters ◦ Proceedings of the IEEE ◦ PLOS ONE ◦ Neurocomputing ◦ Robotics and Autonomous Systems ◦ IEEE Transactions on Industrial Informatics

Conferences

American Control Conference ◦ IEEE Conference on Decision and Control ◦ European Control Conference ◦ Multi-conference on Systems and Control ◦ IFAC World Congress ◦ IFAC Workshop on Distributed Estimation and Control in Networked Systems ◦ IFAC Conference on Modeling, Identification and Control of Nonlinear Systems ◦ IFAC Conference on Analysis and Control of Chaotic Systems ◦ IFAC Symposium on Nonlinear Control Systems ◦ IFAC Conference on Analysis and Control of Chaotic Systems ◦ Mediterranean Conference on Control and Automation ◦ International Symposium on Mathematical Theory of Networks and Systems ◦ Power Systems Computation Conference ◦ Indian Control Conference ◦ Africon ◦ IEEE Global Conference on Signal and Information Processing

Books Springer ◦ Birkhäuser ◦ CRC Press, Taylor & Francis Group ◦ Elsevier ◦ Institution of Engineering & Technology ◦ NowPublishers

REVIEW PANELS AND FUNDING COMMITTEES

2020 ERC Consolidator Grant Remote Referee
2019 National Research, Development and Innovation Office of Hungary
2017 Deutsche Bundesstiftung Umwelt (Promotionsstipendienprogramm)
2017 Chilean National Science and Technology Commission, FONDECYT
2017 German Research Foundation (DFG), Priority Program “Hybrid and multimodal energy systems: System theoretical methods for the transformation and operation of complex networks”
2017 Swiss National Science Foundation (SNSF) Ambizione Energy
2016 Swiss National Science Foundation (SNSF)
2016 Dutch-Indian Data Driven Science, Netherlands Organisation for Scientific Research (NWO)
2015 Energy System Integration - Planning, Operations and Societal Embedding, Netherlands Organisation for Scientific Research (NWO)
2015 Cyber Physical systems with Model Driven Architectures and resilience (CyPhyMedusa), French National Research Agency (ANR) and CHIST-ERA ERA-NET
2015 European PhD Award on Control for Complex and Heterogeneous Systems
2014 Scientific Independence of Young Researchers (SIR) 2014, Italian Ministry for Education University and Research (MIUR)

TECHNICAL COMMITTEES

2020–current *IFAC Technical Committee 1.5 Networked Systems*
2016–current *Global Network of Synchrophasor Solutions Steering Committee/Consortium*

WORKSHOPS AND TUTORIALS

2020 Workshop on *Data-based Methods for Interconnected Systems: Theory and Algorithms* at IFAC World Congress, Berlin, Germany, July 2020.
2020 Workshop on *Emerging challenges in stability, control, and optimization of power systems* at European Control Conference, St. Petersburg, Russia, May 2020.
2019 Tutorial on *Distributed control and optimization for autonomous power grids* at European Control Conference, Naples, Italy, June 2019.
2017 *Melbourne Workshop on Future Power Systems* Melbourne, Australia, December 2017.
2016 Workshop on *Smart Grid Control* at American Control Conference, Boston, MA, USA, July 2016.
2016 Workshop on *Distributed and Stochastic Optimization: Theory and Applications* at European Control Conference, Aalborg, Denmark, June 2016.
2016 Workshop on *Optimization and Control for Tomorrow's Power Systems* at European Control Conference, Aalborg, Denmark, June 2016.
2014

Workshop on *Open Problems in Multi-Agent Systems* at American Control Conference, Portland, OR, USA, June 2014.

2012 Tutorial on *Synchronization in Coupled Oscillators: Theory and Applications* at IEEE Conference on Decision and Control, Maui, HI, USA, December 2012.

2011 Workshop on *Control Systems Security: Challenges and Directions* at IEEE Conference on Decision and Control and European Control Conference, Orlando, FL, USA, December 2011.

INVITED SESSION ORGANIZATION

2019 Panel Session on *Thinking Outside the "Black Box" - Analytical Foundations of Power System Research* at IEEE PES General Meeting, Atlanta, GA.

2017 Two Invited Sessions on *Control of Low-Inertia Power Systems* at IEEE Conference on Decision and Control, Melbourne, Australia

2017 Invited Session on *Advances on Optimal Power Flow—Robust and Stochastic Approaches* at IEEE Conference on Decision and Control, Melbourne, Australia

2016 Invited Session on *Distributed Control & Optimization in Next-Generation Power Networks* at European Control Conference, Aalborg, Denmark

2015 Invited Session on *Distributed Control & Optimization in Next-Generation Power Networks* at American Control Conference, Chicago, IL

2015 Invited Session on *Emerging strategies for stability analysis of electrical power grids* at SIAM Conference on Dynamical Systems, Snowbird, UT.

2014 Invited Session on *Control and Dynamics in Power Networks* at International Symposium on Mathematical Theory of Networks and Systems, Groningen, the Netherlands.

CHAIR/CO-CHAIR

Conf. Sessions IEEE Conference on Decision and Control ◦ European Control Conference ◦ American Control Conference ◦ Southern California Nonlinear Control Workshop ◦ International Symposium on Mathematical Theory of Networks and Systems ◦ IFAC World Congress

Professional Affiliations

2009–current Member, Institute for Electrical and Electronics Engineers (IEEE)
IEEE Societies: Control Systems Society (CSS) ◦ Power and Energy Society (PES)

2009–current Member, Society for Industrial and Applied Mathematics (SIAM)

2009–current Member, International Federation of Automatic Control (IFAC)

Talks, Seminars, and Presentations

PLENARIES AND INVITED TALKS

May'20 KTH Digital Future Series, Stockholm

May'20 Peking University Control Seminar, China

May'20 Control & Systems Theory Seminar, Technion, Israel

Apr'20 NetCon Seminar, KTH Stockholm

Jan'20 Symposium: Resilience and Performance of Networked Systems, Zürich, CH
 Oct'19 International Conference on Control, Instrumentation, and Automation (ICCIA), Sanandaj, Kurdistan, Iran
 Sep'19 Resilient Control of Infrastructure Networks, Torino, Italy
 Jun'19 Mediterranean Conference on Control and Automation, Akko, Israel
 Jun'19 Learning & Adaptive Systems Lab Seminar, ETH Zürich
 May'19 Robotic Systems Lab Seminar, ETH Zürich
 May'19 Looking forward to 2050, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK
 Apr'19 Innovative Optimization and Control Methods for Highly Distributed Autonomous Systems Workshop, Golden, Colorado
 Apr'19 ECEE Control, Optimization, and Learning day, CU Boulder
 Jan'19 Workshop on Learning and Control in Network Systems, KTH, Stockholm, Sweden
 Jan'19 Isaac Newton Institute for Mathematical Sciences, Cambridge, UK
 Nov'18 Energy-Open Workshop, Eindhoven, The Netherlands
 Oct'18 International Workshop on Advanced Cooperative Systems, Zagreb, Croatia
 Aug'18 IFAC Workshop on Distributed Estimation and Control in Networked Systems (NECSYS), Groningen, The Netherlands
 May'18 Institute for Automation and Applied Informatics, Karlsruhe Institute of Technology, Germany
 Mar'18 Simons Institute, UC Berkeley, United States
 Mar'18 CCDC Seminar, UC Santa Barbara, United States
 Jan'18 Le laboratoire GIPSA-lab, Grenoble, France
 Jan'18 Workshop on "Power Systems: Semi-Algebraic Techniques for Optimal Power Flow and Stability Assessment", Versailles, France
 Jun'17 AIT Seminar, Vienna, Austria
 Jun'17 CoNDyNet Workshop "Dynamics in Power Systems – From Science to Industry", Potsdam
 May'17 Institute for Theoretical Studies "Collective dynamics, control and imaging", ETH Zürich
 Mar'17 Ruhr Universität Bochum, Control Seminar, Bochum, Germany
 Mar'17 Optimization and Inference for Physical Flows on Networks, BIRS, Alberta
 Feb'17 Future Electric Power Systems and the Energy Transition, Champéry, Switzerland
 Dec'16 Energy Seminar, UC Berkeley
 Oct'16 Computer Science Departmental Talk, Swiss Federal Institute of Technology (ETH) Zürich
 Jul'16 National Renewable Energy Laboratory, Golden, CO
 Jun'16 Keynote at Greenmetrics (Sigmetrics) Conference, Nice
 May'16 Automatic Control Seminar, KTH Royal Institute of Technology, Sweden
 May'16 Institute for Mathematics and its Applications, University of Minnesota
 Apr'16 Séminaire d'Automatique du Plateau de Saclay, Laboratoire de Signaux et Systèmes du Supélec
 Nov'15 Laboratoire d'Automatique Seminar, École Polytechnique Fédérale de Lausanne (EPFL)
 Oct'15 KAUST Workshop on Human-Machine Networks and Intelligent Infrastructure, KAUST
 Jun'15 Advanced Methods for Energy Systems, Skolkovo Institute for Science and Technology, Moscow
 Apr'15 Control Systems Seminar, Technical University Berlin

Feb'15 Systems and Control Seminar, Université Catholique de Louvain

Jan'15 Swiss Federal Laboratories for Materials Science and Technology (EMPA)

Jan'15 Grid Science Winter School & Conference, Santa Fe, NM

Nov'14 Department of Engineering, University of Cambridge

Nov'14 Oxford Control Group, University of Oxford

Nov'14 Swissgrid Seminar, Laufenburg

Nov'14 Department of Information Engineering, University of Padova

Oct'14 Dagstuhl Seminar Modeling, Verification, & Control of Complex Systems for Energy Networks

Oct'14 ABB Corporate Research Center Seminar, Baden

Oct'14 Introductory Lecture, Swiss Federal Institute of Technology (ETH) Zürich

Oct'14 Dynamics and Control in Networks Workshop, Lund University

Sep'14 MnDRIVE Seminar Series, University of Minnesota

Jun'14 Rand Corporation Speaker Series, Los Angeles, CA

Jun'14 CPS Seminar, Department of Electrical Engineering, UC Los Angeles

May'14 Department of Electrical and Computer Engineering, UC San Diego

May'14 Department of Civil and Environmental Science, Stanford University

Mar'14 RASEI/ECEE Seminar, University of Colorado Boulder

Mar'14 National Renewable Energy Laboratory, Golden, CO

Feb'14 Rigorous Systems Research Group Seminar, California Institute of Technology

Nov'13 Ming Hsieh Department of Electrical Engineering, University of Southern California

Jul'13 Center for Nonlinear Studies, Los Alamos National Laboratories

Jun'13 Hybrid Control Systems Workshop, Technical University Munich

Jun'13 Symposium on Complex Systems Control, Swiss Federal Institute of Technology (ETH) Zürich

Mar'13 Department of Electrical Engineering, UC Los Angeles

Mar'13 School of Electrical and Computer Engineering, Georgia Institute of Technology

Feb'13 Center for Nonlinear Studies, Los Alamos National Laboratories

Oct'12 Automatic Control Laboratory, Swiss Federal Institute of Technology (ETH) Zürich

Jul'12 Institute for Systems Theory and Automatic Control, University of Stuttgart

Jul'12 Siemens Colloquium, Siemens AG, Munich

Jun'12 Center for Nonlinear Studies, Los Alamos National Laboratories

May'12 Optimization and Control for Smart Grids, Santa Fe, NM

Apr'12 Department of Mathematics, UI Urbana-Champaign

Mar'12 Center for Nonlinear Studies, Los Alamos National Laboratories

Feb'12 Department of Electrical Engineering, UC Los Angeles

Oct'11 Institute for Energy Efficiency, UC Santa Barbara

Jun'11 Center for Nonlinear Studies, Los Alamos National Laboratories

Sep'10 Systems Control Group, University of Toronto

Aug'10 Institute of Automatic Control Engineering, Technical University Munich

Jun'10 Center for Control, Dynamical Systems and Computation, UC Santa Barbara

May'10 Control and Dynamical Systems, California Institute of Technology
Sep'08 Institute for Systems Theory and Automatic Control, University of Stuttgart
Aug'08 Systems Control Group, University of Toronto

CONTRIBUTED TALKS AT CONFERENCES, COLLOQUIA, ETC.

Dec'19 IEEE Conference on Decision and Control, Nice, France
Oct'18 Allerton Conference, UI Urbana-Champaign, IL
Sep'15 Allerton Conference, UI Urbana-Champaign, IL
Dec'17 IEEE Conference on Decision and Control, Melbourne, Australia
Jul'17 IFAC World Congress, Toulouse, France
Dec'16 IEEE Conference on Decision and Control, Las Vegas, United States
Jul'16 American Control Conference, Boston, MA
Dec'15 IEEE Conference on Decision and Control, Osaka, Japan
Sep'15 Allerton Conference, UI Urbana-Champaign, IL
Jun'15 NetSci 2015, Zaragoza, Spain
May'15 Social Norms and Institutions, Monte Verità, CH
Sep'14 Allerton Conference, UI Urbana-Champaign, IL
Jul'14 Int. Symposium on Mathematical Theory of Networks and Systems, Groningen, Netherlands
Jun'14 European Control Conference, Strasbourg, France
Feb'14 Information Theory and Applications Workshop, San Diego, CA
Dec'13 IEEE Conference on Decision and Control, Florence, Italy
Jul'13 IEEE Power & Energy Society General Meeting
Jul'13 SIAM Conference on Control and its Applications
Dec'12 IEEE Conference on Decision and Control, Maui, HI
Dec'11 IEEE Conference on Decision and Control, Orlando, FL
Sep'11 Allerton Conference, UI Urbana-Champaign, IL
Jun'11 American Control Conference, San Francisco, CA
Oct'10 IEEE SmartGridComm Conference, Gaithersburg, MD
Sep'10 IFAC NecSys Workshop, Annecy, France
Jun'10 American Control Conference, Baltimore, MD
Aug'09 European Control Conference, Budapest, Hungary
Jun'08 American Control Conference, Seattle, WA

Journal Publications

- [J1] F. Liu, S. Cui, W. Mei, F. Dörfler, and M. Buss. Interplay between homophily-based appraisal dynamics and influence-based opinion dynamics: Modeling and analysis. *IEEE Control Systems Letters*, 5(1):181–186, January 2021.
- [J2] V. Häberle, A. Hauswirth, L. Ortmann, S. Bolognani, and F. Dörfler. Non-convex feedback optimization with input and output constraints. *IEEE Control Systems Letters*, 5(1):343–348, 2021.

- [J3] D. Alpag0, F. Dörfler, and J. Lygeros. An extended Kalman filter for data-enabled predictive control. *IEEE Control Systems Letters*, 4(4):994–999, October 2020.
- [J4] A. Tayyebi, A. Anta, and F. Dörfler. Hybrid angle control and almost global stability of grid-forming power converters. *IEEE Transactions on Automatic Control*, August 2020. Submitted. Available at <https://arxiv.org/abs/2008.07661>.
- [J5] A. Hauswirth, F. Dörfler, and A. Teel. On the differentiability of projected trajectories and the robust convergence of non-convex anti-windup gradient flows. *IEEE Control Systems Letters*, 4(3):620–625, July 2020. In press. DOI 10.1109/LCSYS.2020.2988515.
- [J6] B. K. Poolla, S. Bolognani, N. Li, and F. Dörfler. A market mechanism for virtual inertia. *IEEE Transactions on Control of Network Systems*, 11(4):1949–3053, July 2020.
- [J7] A. Tayyebi, D. Groß, A. Anta, F. Kupzog, and F. Dörfler. Frequency stability of synchronous machines and grid-forming power converters. *IEEE Transactions on Power Systems*, 8(2):1004–1018, June 2020.
- [J8] J. W. Simpson-Porco, B. K. Poolla, N. Monshizadeh, and F. Dörfler. Input-Output Performance of Linear-Quadratic Saddle-Point Algorithms with Application to Distributed Resource Allocation Problems. *IEEE Transactions on Automatic Control*, 65(5):2032–2045, May 2020.
- [J9] C. Arghir and F. Dörfler. The electronic realization of synchronous machines: model matching, angle tracking and energy shaping techniques. *IEEE Transactions on Power Electronics*, 35(4):4398–4410, April 2020.
- [J10] E. Sanchez, D. Groß, E. Pietro, F. Dörfler, and O. Gomis. Optimal Multivariable MMC Energy-Based Control for DC Voltage Regulation in HVDC Applications. *IEEE Transactions on Power Delivery*, 35(2):999–1009, April 2020.
- [J11] J. Coulson, J. Lygeros, and F. Dörfler. Distributionally robust chance constrained data-enabled predictive control. 2020. Submitted. Available at <https://arxiv.org/abs/2006.01702>.
- [J12] A. Hauswirth, F. Dörfler, and A. Teel. Anti-windup approximations of oblique projected dynamics for feedback-based optimization. *SIAM Journal on Control and Optimization*, 2020. Submitted. Available at <https://arxiv.org/abs/2003.00478>.
- [J13] I. Subotic, A. Hauswirth, and F. Dörfler. Quantitative sensitivity bounds for nonlinear programming and time-varying optimization. 2020. Submitted. Available at <https://arxiv.org/abs/2006.10693>.
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Patents

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