John Lygeros

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Automatic Control Laboratory
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CH-8092 Zurich, Switzerland
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Education

University of California, Berkeley
DOCTOR OF PHILOSOPHY
Electrical Engineering and Computer Sciences
May 18, 1996

Imperial College of Science, Technology and Medicine, London, U.K.
MASTERS OF SCIENCE
Control Systems
December 18, 1991

Imperial College of Science, Technology and Medicine, London, U.K.
BACHELORS OF ENGINEERING
Electrical & Electronic Engineering
August 1, 1990

Appointments

January 2010 - present: ETH Zurich, Switzerland
Professor of Computation and Control

January 2009 - present: ETH Zurich, Switzerland
Head, Automatic Control Laboratory

August 2020 - present: ETH Zurich, Switzerland
Director, NCCR Automation

July 2015 - February 2018: ETH Zurich, Switzerland
Head, Department of Information Technology and Electrical Engineering

July 2006 - December 2009: ETH Zurich, Switzerland
Associate Professor, Automatic Control Laboratory

March 2003 - July 2006: University of Patras, Greece
Assistant Professor, Department of Electrical and Computer Engineering

July 2000 - June 2003: University of Cambridge, U.K.

University Lecturer, Department of Engineering

October 2000 - June 2003: Churchill College, Cambridge, U.K.
Title A Fellow

January 2000 - June 2000: Military service, Hellenic Navy, Greece

October 1997 - December 1999: University of California, Berkeley, CA, U.S.A.
Postdoctoral Research Associate, Electrical Engineering and Computer Sciences

June 1998 - December 1999: SRI International, Menlo Park, CA, U.S.A.
Research Engineer (part time), Applied Physical Sciences Laboratory

May 1999 - June 1999: Universite de Bretagne Occidentale, Brest, France
Visiting Professor, Mathematics Department

November 1996 - October 1997: Massachusetts Institute of Technology, MA, U.S.A.
Postdoctoral Research Associate, Laboratory for Computer Science

June 1996 - October 1996: University of California, Berkeley, CA, U.S.A.
Visiting Postdoctoral Researcher, National Automated Highway System Consortium

January 1993 - May 1996: University of California, Berkeley, CA, U.S.A.
Graduate Student Researcher, Electrical Engineering and Computer Sciences

August 1992 - December 1992: University of California, Berkeley, CA, U.S.A.
Graduate Student Instructor, Electrical Engineering and Computer Sciences

June 1989 - August 1989: National Power, U.K.
Intern, Central Electricity Research Laboratories

June 1988 - July 1988: Hellenic Aspropyrgos Refinery, Greece
Intern

Honors and Awards

2023: Outstanding Service Award, International Federation of Automatic Control

2023: Advisor, International Federation of Automatic Control "for outstanding contributions in managing the finances of IFAC"

2022: IEEE Control Systems Society Swiss Chapter Young Author Best Journal Paper Award (J. Coulson, as advisor with F. Dörfler)

2022: Key Innovation in Teaching at ETH (KITE) Award Finalist (with P. Beuchat and J. Coulson)

2022: Plenary lecture, Mediterranean Control Congerence (MED)

2021: Plenary lecture, Indian Control Conference (ICC)

2020: Plenary lecture, Learning for Dynamics and Control Conference (L4DC)

2019: Young Author Prize, IFAC Symposium on Advances in Control Education (ACE) (P. Beuchat, as advisor)

2019: Best Student Paper Award, European Control Conference (J. Coulson, as advisor with F. Dörfler)

2019: Plenary lecture, European Control Conference (ECC)

2019: Miegunyah Distinguished Visiting Fellowship, University of Melbourne

2018: Keynote lecture, UKACC Conference on Control 2018

2018: American Automatic Control Council O. Hugo Schuck Best Paper Award (with M. Schmitt, C. Ramesh and P. Goulart)

2018: European Research Council Advanced Grant

2016: IEEE Control Systems Society George S. Axelby Outstanding Paper Award (with P. Mohajerin Esfahani and T. Sutter)

2016: Credit Suisse Award for Best Teaching, ETH Zurich

2015: Plenary lecture, Cyber-physical Systems Week 2015 (CPS Week)

2014: Golden Owl teaching award, ETH Zurich.

2013: Plenary lecture, Computational Methods in Systems Biology Conference (CMSB)

2013: Plenary lectures, BeNeLux Meeting on Systems and Control.

2012: Golden Owl teaching award, ETH Zurich.

2012: Semi-plenary lecture, IEEE Conference on Decision and Control (CDC).

2011: Fellow of the IEEE "for contributions to hybrid and stochastic systems and applications".

2011: Plenary lecture, Computational Management Science Conference (CMS)

2009: Golden Owl teaching award, ETH Zurich.

2008: Semi-plenary lecture, Chinese Control and Decision Conference (CCDC).

2004: Senior Member of the IEEE.

1997: Eliahu Jury Ph.D. Thesis Award, University of California, Berkeley

1991: California Microelectronics Fellowship, University of California, Berkeley

1991: M.Sc. Distinction, Imperial College of Science, Technology and Medicine

1990: Science and Engineering Research Council Studentship, London, U.K.

1990: B.Eng. First Class Honours, Imperial College of Science, Technology and Medicine.

1990: Governors Prize in Electrical Engineering, City and Guilds College, London, U.K.

Doctoral Theses Supervised to Completion

Samuel Balula, 2023, "Optimization-based trajectory planning for precision motion systems and autonomous robotic inspection" (INSPIRE AG, co-advised with A. Rupenyan)

Alexandros Tanzanakis, 2023, “Data-Driven Reinforcement Learning Control: Towards a Fully Automated, Personalized Artificial Pancreas”

Angeliki Kamoutsi, 2023, “A Lagrangian duality framework for provably efficient learning from demonstration”

Ahmed Aboudonia, 2023, “Adaptive Learning-based Model Predictive Control of Uncertain Interconnected Systems”.

Jeremy Coulson, 2022, “Data-enabled Predictive Control: Theory and practice” (co-advised with F. Dörfler). Thesis awarded the ETH Medal.

Felix Bünning, 2021, “Marrying Machine Learning and Model Predictive Control for efficient Building Energy Management” (Empa, Dübendorf, Switzerland, co-advised with P. Heer). Thesis awarded the ETH Medal.

Benjamin Flamm, 2020, “Economic Model Predictive Control of Energy Storage”

Michaela Bauer, 2019, “System Design and Power Flow of Stationary Energy Storage Systems” (BMW Group, Munich, Germany)

Paul Beuchat, 2019, “Approximate Dynamic Programming: theoretical guarantees and practical algorithms for a continuous space setting”

Felix Rey, 2018, “ADMM in Optimization and Control: Algorithm Specialization, Computational Distribution, and the Value of Structure”

Dario Paccagnan, 2018, “Distributed control and game design: From strategic agents to programmable machines”. Thesis awarded the ETH Medal.

Fabian Müller, 2018, “Characterisation and use of flexible energy units” (IBM Zurich Research Laboratory, Switzerland)

Marc Hohmann, 2018, “Polynomial Optimisation in Energy Systems” (Empa, Dübendorf, Switzerland, co-advised with P. Heer)

Georgios Darivianakis, 2018, “Data-driven decentralized decision making under uncertainty in energy systems”

Marius Schmitt, 2018, “Optimal control of traffic networks based on the theory of monotone systems”

Alexander Liniger, 2018, “Path Planning and Control for Autonomous Racing”

Damian Frick, 2018, “Numerical Methods for Decision-Making in Control from Hybrid Systems to Formal Specifications” (co-advised with M. Morari)

Basilio Gentile, 2018, “Equilibria in aggregative games”.

Tobias Sutter, 2017, “Convex programming in optimal control and information theory”. Thesis awarded the ETH Medal.

Xiaojing (George) Zhang, 2016, “Robust and Stochastic Control of Uncertain Systems: From Scenario Optimization to Adjustable Uncertainty Sets”.

Francesca Parise, 2016, “Inference and control for populations of systems: from aggregative games to systems biology”. Thesis awarded the ETH Medal.

Andreas B. Hempel, 2016, “Control of Piecewise Affine Systems Through Inverse Optimisation”.

Tobias Baltensperger, 2015, ”Market Power in Natural Gas Markets” (Department of Environmental Systems Science, ETH Zurich).

Nikolaos Kariotoglou, 2015, “Optimization-based approximations to stochastic reachability problems”.

Jacob Ruess, 2014, “Moment-based methods for the analysis and identification of stochastic models of biochemical reaction Networks”. Thesis awarded the ETH Medal.

Stephan M. Huck, 2014, “Markov Chain Monte Carlo Methods for Monitoring Applications”.

Peyman Mohajerin-Esfahani, 2014, “Stochastic Motion Planning for Diffusions and Fault Detection and Isolation for Large Scale Nonlinear Systems”.

Tomas Tuma, 2013, “The four pillars of nanopositioning for scanning probe microscopy” (IBM Zurich Research Laboratory, co-advised with A. Pantazi and A. Sebastian).

Sean J. Summers, 2013, “Verification and synthesis of optimal decision strategies for complex systems”.

Andreas Milias-Argeitis, 2013, “Computational methods for simulation, identification and model selection in systems biology”.

Konstantinos Margellos, 2012, “Constrained Optimal Control for Complex Systems - Analysis and Applications”. Thesis awarded the ETH Medal.

Georgios Chaloulos, 2011, “Optimization-Based Control for Conflict Resolution in Air Traffic Management”.

Konstantinos Koutroumpas, 2010, “Stochastic Hybrid Systems for DNA replication modeling”.

Ioannis Lymperopoulos, 2010, “Sequential Monte Carlo methods in air traffic management”.

Current Doctoral Students

Varsha Behrunani (Empa, Dübendorf, Switzerland, co-advised with P. Heer)

Marta Fochesato

Matilde Gargiani

Panagiotis Grontas

Xavier Guidetti (INSPIRE AG, co-advised with E. Balta and A. Rupenyan)

Aren Karapetyan

Milos Katanic (co-advised with G. Hug)

Andrea Martin (EPFL, co-advised with G. Ferrari-Trecate and F. Dörfler)

Andrea Martinelli

Francesco Micheli

Mahdi Nobar (FHNW, co-advised with J. Keller and A. Rupenyan)

Niklas Schmid

Riccardo Zuliani (co-advised with E. Balta and A. Rupenyan)

Former Postdoctoral Research Associates

Daniele Alpago (INSPIRE AG)

Goran Banjac

Manuela L. Bujorianu (while at University of Cambridge)

Alberto Busetto

Eugenio Cinquemani

Debashish Chatterjee

Ashish Cherukuri

Eva Cruck

Badis Djeridane

Annika Eichler (ETH Zurich Senior Scientist, co-advised with R.S. Smith)

Gao Yan (while at University of Cambridge)

Angelos Georghiou

Sergio Grammatico

Peter Hokayem (ETH Zurich Senior Scientist)

Ashish Hota

Mathias Hudoba de Badyn (co-advised with R.S. Smith)

Maryam Kamgarpour

Nikolaos Kariotoglou

Ioannis Kitsios (while at University of Patras)

Andrea Lecchini–Visintini (while at University of Cambridge)

Dominic Liao-McPherson

Mohammad H. Mamduhi (ETH Zurich Senior Scientist)

Riccardo Porreca

Chithrupa Ramesh

Federico Ramponi

Alisa Rupenuyan (ETH Zurich Senior Scientist and INSPIRE AG)

Soroosh Safieezadeh Abadeh (co-advised with F. Dörfler and D. Kuhn)

Tyler Summers (ETH Postdoctoral Fellow)

Maria Vrakopoulou (Marie Currie Fellow)

Joseph Warrington (ETH Zurich Senior Scientist)

Chenggui Yuan (while at University of Cambridge)

Jianzhe (Trevor) Zhen

Suli Zou

Current Postdoctoral Research Associates

Ahmed Aboudonia

Efe Balta (INSPIRE AG)

Frederik Banis

Carlo Cenedese

Lucia Falconi

Sarah H.Q. Li (co-advised with F. Dörfler)

Alberto Padoan (co-advised with F. Dörfler)

Raffaele Soloperto

Anastasios Tsiamis

Kevin Wallington

Jiaqi Yan (co-advised with A. Rupenyan)

Active Research Grants

Director and Principal Investigator, National Center of Competence in Research on *Dependable Ubiquitous Automation* (NCCR Automation), Swiss National Science Foundation, starting date August 31, 2020.

Principal Investigator, *Optimal Control at Large (OCAL)*, European Research Council, Advanced Grant 787845, starting date November 1, 2018.

Completed Research Grants

Principal Investigator, *Renewable Management and Real Time Control Platform (ReMaP)*, Bundesamt für Energie, October 1, 2018 to June 30, 2022

Principal Investigator, *SCCER Future Energy Efficient Buildings & Districts (FEEB&D)*, Swiss Competence Centre for Energy Research, June 1, 2014 to December 31, 2020.

Principal Investigator, *Embedded optimisation methods in control*, ABB, May 1, 2017 to May 1, 2020

Principal Investigator, *Autonomous Camera Crew*, KTI, 27472.1 PFIW-IW, January 1, 2018 to December 31, 2018

Principal Investigator, *Model-driven experimental design towards a model of TOR signaling (SignalX)*, SystemsX, 2013/156, April 1, 2014 to December 31, 2018.

Principal Investigator, *Stochastic Optimal Planning for Renewable Energy Sources Integration in Power Systems (SOPRIS)*, European Commission, People Marie Curie Actions, FP7, International Outgoing Fellowships for Career Development, FP7-People-626014, May 15, 2015 to May 14, 2018.

Principal Investigator, *Autonomous cameraman for event production*, KTI, 19181.1 PFIW-IW, January 1, 2017 to March 31, 2018.

Coordinator and Principal Investigator, *Demand Response for Ancillary Services: Thermal Storage Control (HeatReserves)*, Nano-Tera.ch, 20NA21_145915, April 1, 2013 to October 30, 2017.

Principal Investigator, *Integration of Sustainable Mutli-Energy Hub Systems (IMES)*, Swiss National Science Foundation, NFP 407040_154028, September 1, 2014 to August 31, 2017

Principal Investigator, *Scalable Proactive Event Driven Decision Making (SPEEDD)*, European Commission, Information Communication Technologies (ICT), FP7, Specific Targeted Research Project (STREP), FP7-ICT-619435, February 1, 2014 to January 31, 2017.

Principal Investigator, *System of Systems that Act Locally for Optimizing Globally (Local4Global)*, European Commission, Information Communication Technologies (ICT), FP7, Specific Targeted Research Project (STREP), FP7-ICT-611538, October 1, 2013 to January 31, 2017.

Principal Investigator, *Behavioural and technical optimisation for building energy efficiency and flexibility*, ETH Zurich Foundation Seed Project number 2015-07(6), January 1 to December 31, 2016.

Principal Investigator, *Dynamic Management of Physically Coupled Systems of Systems (DYMASOS)*, European Commission, Information Communication Technologies (ICT), FP7, Specific Targeted Research Project (STREP), FP7-ICT-611281, October 1, 2013 to September 30, 2016..

Principal Investigator, *Approximate Dynamic Programming for Stochastic Hybrid Systems: Linear Programming and Multi-Objective Optimization*, ETH Zurich, grant number ETH 15 12-2, February 1, 2013 to January 31, 2016.

Coordinator and Principal Investigator, *Development of New Ph.D. Courses and Increase of Research Potential in the Field of Automation of Processes in Air Transport and Traffic Systems*, Swiss National Science Foundation, Institutional Partnerships (SCOPES), IZ74Z0-137352, October 1, 2011 to March 31, 2015.

Principal Investigator, *Feedback control of camera networks for tracking and surveillance*, Swiss National Science Foundation, grant number 200021-137876, January 1, 2012 to December 31, 2014.

Principal Investigator, *KIOS Research Center for Intelligent Systems and Networks*, Research Promotion Foundation of Cyprus, September 1, 2010 to December 31, 2014.

Principal Investigator, *Highly-complex and networked control systems (HYCON2)*, European Commission, Information Communication Technologies (ICT), FP7, Network of Excellence (NoE), FP7-ICT-257462, September 1, 2010 to November 30, 2014.

Principal Investigator, *Hierarchical Control for Renewable Wind Energy Generation*, Staatssekretariat fur Bildung und Forschung (SBF), April 1, 2011 to March 31, 2014.

Coordinator and Principal Investigator, *Modeling, verification and control of complex systems: From foundations to power network applications (MoVeS)*, European Commission, Information Communication Technologies (ICT), FP7, Specific Targeted Research Project (STREP), FP7-ICT-257005, October 1, 2010 to September 30, 2013.

Principal Investigator, *Towards an understanding of nutrient signaling and metabolic operation (YeastX)*, SystemsX, August 1, 2008 to July 31, 2013.

Principal Investigator, *Intelligent Monitoring, Control, and Security of Critical Infrastructure systems (IntelliCIS)*, European Science Foundation COST Action, grant number IC-0806, May 11, 2009 to May 10, 2013.

Principal Investigator, *Real time computation and optimization for networked camera surveillance*, Nano-Tera/SSSTC Pilot Grant, October 1, 2011 to September 30, 2012.

Principal Investigator, *Stochastic MPC*, ETH Zurich, grant number ETH 12 09-2, August 1, 2009 to July 31, 2012.

Principal Investigator, *Stochastic Model Predictive Control*, Swiss National Science Foundation, grant number 200021-122072, December 1, 2008 to January 31, 2012.

Principal Investigator, *Feedback design for wireless networked systems (FeedNetBack)*, European Commission, Information Communication Technologies (ICT), FP7, Specific Targeted Research Project (STREP), FP7-ICT-223866, September 15, 2008 to January 15, 2012.

Principal Investigator, *Vital Infrastructure, Networks, Information and Control Systems Management (VIKING)*, European Commission, Information Communication Technologies (ICT) and Security (SEC), FP7, Specific Targeted Research Project (STREP), FP7-ICT-SEC-225643, November 1, 2008 to November 30, 2011.

Principal Investigator, *Analysis and Control of Hybrid Systems*, Sino-Swiss Science and Technology Cooperation Program (SSSCT), Travel Grant EG 50-032010, September 1 to October 31, 2011.

Principal Investigator, *Safety, Complexity and Responsibility based design and validation of highly automated Air Traffic Management (iFly)*, European Commission, Energy and Transport (TREN), FP6, Specific Targeted Research Project (STREP), FP6-TREN-03710, May 22, 2007 to August 22, 2011.

Principal Investigator, *Contract-based Air Transportation System (CATS)*, European Commission, Energy and Transport (TREN), FP7, Specific Targeted Research Project (STREP), FP7-TREN-036889, November 1, 2007 to November 30, 2010.

Principal Investigator, *En-route air traffic soft management ultimate system (ERASMUS)*, European Commission, Energy and Transport (TREN), FP6, Specific Targeted Research Project (STREP), FP6-TREN-518276, May 5, 2006 to February 23, 2009.

Coordinator and Principal Investigator, *Hybrid systems for biochemical network modeling and analysis (HYGEIA)*, European Commission, New and Emerging Science and Technology (NEST), FP6, Specific Targeted Research Project (STREP), FP6-NEST-4995, January 1, 2005 to December 31, 2007.

Principal Investigator, *Taming heterogeneity and complexity of networked embedded systems, (HYCON)*, European Commission, Information Society Technologies (IST), FP6, Network of Excellence, FP6-IST-511368, September 15, 2004 to September 14, 2008.

Principal Investigator, *Reconfigurable, ubiquitous networked embedded systems, (RUNES)*, European Commission, Information Society Technologies (IST), FP6, Integrated Project, FP6-IST-004536, September 1, 2004 to July 31, 2007.

Principal Investigator, *Towards a next generation ATM system: Model based conflict detection and resolution*, Eurocontrol Experimental Centre, grant C20051E/BM/03, July 1, 2003 to June 30, 2006.

Coordinator and Principal Investigator, *Controller design for safety critical embedded systems, (COLUMBUS)*, European Commission, Information Society Technologies (IST), FP5, research contract, FP5-IST-2001-38314, July 1, 2002 to June 30, 2004.

Principal Investigator, *Stochastic hybrid systems in air traffic management*, The British Council and the Netherlands Organization for Scientific Research. U.K.-Netherlands Partnership Program in Science, grant PPS718, April 11, 2002.

Principal Investigator, *Probabilistic collision avoidance for air traffic control*, Engineering and Physical Sciences Research Council, U.K. Visiting Fellowship GR/R62663/01, March 27, 2002.

Principal Investigator, *Simulation and design of hybrid control systems*, Engineering and Physical Sciences Research Council, U.K. CASE Studentship, October 1, 2001 to September 30, 2004.

Principal Investigator, *Distributed control and stochastic analysis of hybrid systems, supporting safety critical real-time systems design (HYBRIDGE)*, European Commission, Information Society Technologies (IST), FP5, research contract, FP5-IST-2001-32460, January 1, 2002 to March 31, 2005.

Principal Investigator, *Toward a viability theory for hybrid systems*, Engineering and Physical Sciences Research Council, U.K., research grant GR/R51575/01, March 1, 2002 to June 30, 2003.

Professional Activities and Service

Fellow of the IEEE. Member of the IET and the Technical Chamber of Greece.

VP Finances and Member of Council, International Federation of Automatic Control (IFAC), 2013 to 2023.

Board Member of the IFAC Foundation, 2013 to 2023

Member of the Advisory Editorial Board of the *IEEE Open Journal of Control Systems*, 2021 to date.

Member of the IEEE Control Systems Society Board of Governors, 2012 to 2015.

Member of the Steering Committee of the *International Conference on Hybrid Systems: Computation and Control*, 2015 to 2019.

IEEE Control Systems Society Fellow Nomination Chair, 2014 and 2015.

Member of the Scientific Steering Committee of the Newton Institute, Cambridge U.K., 2012 to 2015.

Member of the ETH Zurich Research Commission, 2012 to 2014.

Associate editor of the *IEEE Transactions on Automatic Control*, 2006 to 2009.

Guest Editor (with M. Fränzle, A. Girard, and S. Sankaranarayanan) for *Nonlinear Analysis: Hybrid Systems*, special issue on "Hybrid Systems: Computation and Control", 2017. Guest editor (with M. Prandini) for the *European Journal of Control*, special issue on "Stochastic Hybrid Systems", December 2010. Guest editor (with A. Lecchini Visintini) for the *International Journal of Adaptive Control and Signal Processing*, special issue on "Air Traffic Management: Challenges and opportunities for advanced control", October 2010.

Member of Organising Committee and Program Committee, 3^{rd} Annual Learning for Dynamics and Control Conference (L4DC 2021)

Program Co-Chair (with M. Fränzle), *International Conference on Hybrid Systems: Computation and Control 2014* (HSCC 2014).

International Program Committee Chair, *European Control Conference 2013* (ECC13).

Technical Program Committee Co-Chair (with B. Sinopoli), *IFAC Workshop on Estimation and Control of Networked Systems 2010* (NecSys2010).

Member of the IEEE Control Systems Society Conference Editorial Board, 1997 to 1999.

Workshops Chair, *European Control Conference 2018* (ECC18). Chair of the "Test of Time Award" committee, *International Conference on Hybrid Systems: Computation and Control 2018*. Member of the Program Committee of the 5^{th} *International Conference on Hybrid Systems* (HS97), the International Workshop *Hybrid Systems: Computation and Control* (HSCC), 1999-2005, 2008, 2010, and 2015 the *American Control Conference* (ACC) 2005 and 2007, the *International Conference on Research in Air Transportation* (ICRAT) 2004-2010, the IEEE international conference on *Research Innovation and Vision for the Future* (RIVF) 2006 and

2007, the *Conference on Computer Aided Verification* (CAV) 2007, the *Control over Communication Channels* workshop (ConCom) 2007, the *International Conference on Robot Communication and Coordination* (RoboComm) 2007, the *US/EUROPE Air Traffic Management Research and Development Seminar* (ATM R&D) 2009, EUROCONTROL's *Innovation Workshop* (INO) 2010, and the *IEEE Mediterranean Conference on Control and Automation* (MED) 2011. Member of the International Program Committee of the 2^{nd} IFAC conference on the *Analysis and Design of Hybrid Systems* (ADHS) 2006, the IFAC *Symposium on Automatic Control in Aerospace* (SACA) 2007, and the *International Symposium on Mathematical Theory of Networks and Systems* (MTNS) 2010.

Co-organizer (with G.J. Pappas and S.S. Sastry) of the workshop "Hybrid Systems: Modeling, analysis, control", IEEE Conference on Decision and Control, December 6, 1999, Phoenix, Arizona, U.S.A.. Organizer of the workshop "Stochastic hybrid systems: Theory and application to air traffic management", University of Cambridge, September 5, 2003, Cambridge, U.K.. Co-organizer (with K. Kyriakopoulos and M.D. di Benedetto) of the workshop "Hybrid systems: A formal paradigm for safety critical embedded systems", University of Patras, September 22-24, 2004, Rio, Patras, Greece. Co-organizer (with A. van der Schaft) of the workshop "Stochastic hybrid systems: Theory and applications" IEEE Conference on Decision and Control, December 13, 2004, Paradise Island, The Bahamas. Co-organizer (with G. Ferrari-Trecate) of the workshop "Hybrid Systems Biology", IEEE Conference on Decision and Control, December 12, 2006, San Diego, CA, U.S.A. and of the Ph.D. School by the same name, July 20, 2007, Siena, Italy. Co-organizer (with A. Abate and S. Sastry) of the workshop "Stochastic Hybrid Systems: Theory and Applications", IEEE Conference on Decision and Control, December 8, 2008, Cancun, Mexico. Co-organizer (with M. Khammash and J. Stelling) of the workshop "Stochastic Systems Biology", Centro Stefano Franscini, Mote Verita, Switzerland, July 19-23, 2011. Co-organizer (with I. Hiskens and M. Vrakopoulou) of the workshop "Scenario-based optimization for stochastic optimal power flow problems", IEEE Conference on Decision and Control, December 10, 2017, Melbourne, Australia.

Reviewer for (among others) Molecular Systems Biology, SIAM Journal of Control and Optimization, International Journal of Control, Automatica, Systems Control Letters, IEEE Transactions on Automatic Control, IEEE Transactions on Robotics, Proceedings of the IEEE, IEEE Transactions on Control Systems Technology, IEEE Transaction on Vehicular Technology, IEEE Transactions on Fuzzy Systems, Journal of Control Theory and Advanced Technology, Society of Automotive Engineering Journal, Transportation Research C, IEEE Transactions on Aerospace and Electronic Systems IEEE/ACM Transactions on Computational Biology and Bioinformatics, ACM Transactions on Software Engineering and Methodology,IEEE Conference on Decision and Control (CDC), ASME American Control Conference (ACC), EUCA European Control Conference (ECC) and the IFAC World Congress.

Reviewer for AMS Mathematical Reviews 2005 to 2009.

Member of the international evaluation panel *Heraclitus II*, Secretariat General for Research and Technology (GGET), Greece, 2010. Member of the evaluation panel *Scientific Co-operation between Eastern Europe and Switzerland* (SCOPES, Swiss National Science Foundation, Switzerland), 2009. Member of the *Engineering Responsive Mode Panel*, Engineering and Physical Sciences Research Council (EPSRC, U.K.), 2001.

Evaluator of proposals for (among others) the Engineering and Physical Sciences Research Council (EPSRC), the Netherlands Organization for Scientific Research (NWO), the Aus-

tralian Research Council (ARC), the Greek Secretariat General for Research and Technology (GGET), the Swiss National Science Foundation (SNF), the Sino-Swiss Science and Technology Cooperation (SSSTC) Program and the European Research Council (ERC).

Language Skills

Mother Language: Greek

Second Language: English

Other Languages: German, French

List of Publications

John Lygeros

1 Thesis

1.1. J. Lygeros, *Hierarchical Hybrid Control of Large Scale Systems.* Ph.D. thesis, Department of Electrical Engineering, University of California, Berkeley, 1996.

1.2. J. Lygeros, "Nonlinear feedback control of an absorption/stripping pilot plant," Master's thesis, Imperial College of Science Technology and Medicine, University of London, 1991.

2 Patents

2.1. T. Tuma, J. Lygeros, A. Pantazi, and A. Sebastian, "Evaluating and optimizing a trajectory function," Patent Application Number GB1201593.9 2012.

2.2. T. Wood, M. Kamgarpour, S. Summers, and J. Lygeros, "Support to emergency evacuation," Patent Application Number EP 13005725.0 2013.

2.3. P. Mohajerin Esfahani, M. Vrakopoulou, J. Lygeros, and G. Andersson, "Intrusion detection in electric power networks," EP 2690511 (January 29, 2014), WO 2014/015970 (January 30, 2014).

2.4. G. Fourlas and J. Lygeros, "Method for the detection of the deviation of civil aircraft from their flight plan," OBI 1006243, January 23, 2009. International classification: G08G 5/00.

3 Magazine Articles and Editorials

3.1. E. Cahard, F. Dörfler, J. Lygeros, and L. Seward, "Institutes in control: NCCR Automation in Switzerland," *IEEE Control Systems Magazine*, vol. 43, no. 5, pp. 186–190, 2023.

3.2. M. H. Mamduhi, E. C. Balta, A. Rupenyan, and J. Lygeros, "Information-operation technology integration in industrial cyberphysical systems," *Computer*, vol. 55, no. 11, pp. 115–118, 2022.

3.3. A. Jadbabaie, J. Lygeros, G. Pappas, P. Parrilo, B. Recht, C. Tomlin, and M. Zeilinger, "The third annual conference on learning for dynamics and control," in *Proceedings of Machine Learning Research, Learning for Dynamics and Control (L4DC)*, vol. 144, 2021.

3.4. M. M. Fränzle, A. Girard, J. Lygeros, and S. Sankaranarayanan, "Special issue on Hybrid Systems: Computation and Control," *Nonlinear Analysis: Hybrid Systems*, vol. 23, February 2017.

3.5. M. Prandini and J. Lygeros, "Special Issue on Stochastic Hybrid Systems: A Powerful Framework for Complex, Large Scale Applications," *European Journal of Control*, vol. 16, December 2010.

3.6. A. Lecchini Visintini and J. Lygeros, "Special Issue on Air Traffic Management: Challenges and Opportunities for Advanced Control," *International Journal of Adaptive Control and Signal Processing*, vol. 24, October 2010.

3.7. C. Cassandras and J. Lygeros (Eds.), *Stochastic Hybrid Systems.* No. 24 in Control Engineering, Boca Raton: CRC Press, 2006.

3.8. H. Blom and J. Lygeros (Eds.), *Stochastic Hybrid Systems: Theory and Safety Critical Applications.* No. 337 in Lecture Notes in Control and Information Sciences, Berlin: Springer-Verlag, 2006.

4 Articles in Peer Reviewed Journals

4.1. L. Huang, J. Lygeros, and F. Dörfler, "Robust and kernelized data-enabled predictive control for nonlinear systems," *IEEE Transactions on Control Systems Technology*, 2024. (To appear).

4.2. S. Balula, D. Liao-McPherson, A. Rupenyan, and J. Lygeros, "Data-driven reference trajectory optimization for precision motion systems," *Control Engineering Practice*, vol. 144, p. 105834, 2024.

4.3. M. Gargiani, A. Martinelli, M. Martinez, and J. Lygeros, "Parallel and flexible dynamic programming via the mini-batch Bellman operator," *IEEE Transactions on Automatic Control*, vol. 69, pp. 455–462, January 2024.

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5.44. C. Tomlin, G. Pappas, J. Kosecka, J. Lygeros, and S. Sastry, "Advanced air traffic automation: A case study in distributed, decentralized control," in *Control Problems in Robotics and Automation* (B. Siciliano and K. Valavanis, eds.), no. 230 in Lecture Notes in Control and Information Sciences, pp. 261–295, Springer Verlag, 1998.

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5.47. C. Tomlin, G. J. Pappas, J. Lygeros, D. N. Godbole, and S. Sastry, "Hybrid control models of next generarion air traffic management," in *Hybrid Systems IV* (A. N. P. Antsaklis, W. Kohn and S. Sastry, eds.), no. 1273 in LNCS, pp. 378–404, Springer Verlag, 1997.

5.48. J. Lygeros, D. N. Godbole, and S. Sastry, "A game theoretic approach to hybrid system design," in *Hybrid Systems III* (R. Alur, T. A. Henzinger, and E. D. Sontag, eds.), no. 1066 in LNCS, pp. 1–12, Springer Verlag, 1996.

5.49. J. A. Haddon, D. N. Godbole, A. Deshpande, and J. Lygeros, "Verification of hybrid systems: Monotonicity in the AHS control systems," in *Hybrid Systems III* (R. Alur, T. A. Henzinger, and E. D. Sontag, eds.), no. 1066 in LNCS, pp. 161–172, Springer Verlag, 1996.

5.50. J. Lygeros, D. N. Godbole, and S. Sastry, "Hybrid controller design for multi-agent systems," in *Control Using Logic Based Switching* (A. S. Morse, ed.), no. 222 in Lecture Notes in Control and Information Sciences, pp. 59–78, Springer Verlag, 1996.

5.51. D. N. Godbole, J. Lygeros, and S. Sastry, "Hierarchical hybrid control: an IVHS case study," in *Hybrid Systems II* (P. Antsaklis, W. Kohn, A. Nerode, and S. Sastry, eds.), no. 999 in LNCS, pp. 166–190, Springer Verlag, 1995.

6 Peer Reviewed Conference Publications

6.1. K. Zhang, K. Zhang, L. Huang, G. Belgioioso, J. Lygeros, and F. Dörfler, "Data-enabled predictive control for dynamic traffic routing," in *Transportation Research Board (TRB) Annual Meeting*, Washington, D.C., U.S.A., January 7–11, 2024.

6.2. A. Padoan, F. Dörfler, and J. Lygeros, "Data-driven representations of convex and conical behaviors," in *IEEE Conference on Decision and Control (CDC)*, Singapore, December 13-15, 2023.

6.3. I. Aolaritei, M. Fochesato, J. Lygeros, and F. Dörfler, "Wassestein tube MPC with exact uncertainty propagation," in *IEEE Conference on Decision and Control (CDC)*, Singapore, December 13-15, 2023.

6.4. A. Karapetyan, E. Balta, A. Iannelli, and J. Lygeros, "On the finite-time behavior of suboptimal linear model predictive control," in *IEEE Conference on Decision and Control (CDC)*, Singapore, December 13-15, 2023.

6.5. P.D.Grontas, C. Cenedese, M. Fochesato, G. Belgioioso, J. Lygeros, and F. Dörfler, "Designing optimal personalized incentive for traffic routing using BIG Hype algorithm," in *IEEE Conference on Decision and Control (CDC)*, Singapore, December 13-15, 2023.

6.6. K. Zhang and J. Lygeros, "Routing and charging game in ride-hailing service with electric vehicles," in *IEEE Conference on Decision and Control (CDC)*, Singapore, December 13-15, 2023.

6.7. M. Katanic, J. Lygeros, and G. Hug, "Bad-data-resilient dynamic state estimation for power systems with partially known models," in *IEEE PES Innovative Smart Grid Technologies - Asia (ISGT Asia)*, Auckland, New Zealand, November 21-24, 2023.

6.8. V. Behrunani, F. Ricca, M. Zagorowska, M. Hudoba de Badyn, P. Heer, and J. Lygeros, "Degradation-aware data-enabled predictive control of energy hubs," in *CISBAT*, Lausanne, Switzerland, September 13-15, 2023.

6.9. V. Behrunani, P. Heer, and J. Lygeros, "Experimental validation of distributed control of energy hub networks," in *CISBAT*, Lausanne, Switzerland, September 13-15, 2023.

6.10. S. Balula, E. Balta, S. Liao-McPherson, A. Rupenyan, and J. Lygeros, "Sequential quadratic programming-based iterative learning control for nonlinear systems," in *IEEE Conference on Control Technology and Applications (CCTA)*, Bridgetown, Barbados, August 16-18, 2023.

6.11. E. Elokda, C. Cenedese, K. Zhang, A. Censi, J. Lygeros, E. Frazzoli, and F. Dörfler, "Carma: Fair and efficient bottleneck congestion management with non-tradable credits," in *Transportation Science and Logistics (TSL)*, Chicago, IL, U.S.A., July 23–26, 2023. (Extended Abstract.).

6.12. S. Balula, D. Liao-McPherson, S. Stevšić, A. Rupenyan, and J. Lygeros, "Drone-based volume estimation in indoor environments," in *IFAC World Congress*, Yokohama, Japan, July 10-14, 2023.

6.13. N. Schmid and J. Lygeros, "Probabilistic reachability and invariance computation of stochastic systems using linear programming," in *IFAC World Congress*, Yokohama, Japan, July 10-14, 2023.

6.14. Y. Li, A. Karapetyan, J. Lygeros, K. Johansson, and J. Martensson, "Performance bounds of model predictive control for unconstrained and constrained linear quadratic problems and beyond," in *IFAC World Congress*, Yokohama, Japan, July 10-14, 2023.

6.15. M. Fochesato, T. Laaksonlaita, P. Heer, and J. Lygeros, "Modeling and real-time control of a hydrogen refueling station with uncertain demand," in *IFAC World Congress*, Yokohama, Japan, July 10-14, 2023.

6.16. V. Behrunani, G. Belgioioso, A. Irvine, P. Heer, F. Dörfler, and J. Lygeros, "Designing fairness in autonomous peer-to-peer energy trading," in *IFAC World Congress*, Yokohama, Japan, July 10-14, 2023.

6.17. M. Gargiani, D. Liao-McPherson, A. Zanelli, and J. Lygeros, "Inexact GMRES policy iteration for large-scale Markov decision processes," in *IFAC World Congress*, Yokohama, Japan, July 10-14, 2023.

6.18. F. Micheli, V. Behrunani, J. Mehr, P. Heer, and J. Lygeros, "Stochastic MPC for energy hubs using data driven demand forecasting," in *IFAC World Congress*, Yokohama, Japan, July 10-14, 2023.

6.19. M. Zagorowska, E. Balta, V. Behrunani, A. Rupenyan, and J. Lygeros, "Efficient sample selection for safe learning," in *IFAC World Congress*, Yokohama, Japan, July 10-14, 2023.

6.20. C. Cenedese, M. Cucuzzella, A. Cotta Ramusino, D. Spalenza, J. Lygeros, and A. Ferrara, "Optimal service station design for traffic mitigation via genetic algorithm and neural network," in *IFAC World Congress*, Yokohama, Japan, July 10-14, 2023.

6.21. X. Guidetti, M. Kühne, Y. Nagel, E. Balta, A. Rupenyan, and J. Lygeros, "Data-driven process optimization of fused filament fabrication based on *in situ* measurements," in *IFAC World Congress*, Yokohama, Japan, July 10-14, 2023.

6.22. A. Martin, L. Furieri, F. Dörfler, J. Lygeros, and G. Ferrari-Trecate, "Follow the clairvoyant: An imitation learning approach to optimal control," in *IFAC World Congress*, Yokohama, Japan, July 10-14, 2023.

6.23. A. Karapetyan, A. Tsiamis, E. B. abd A. Iannelli, and J. Lygeros, "Implications of regret on stability of linear dynamical systems," in *IFAC World Congress*, Yokohama, Japan, July 10-14, 2023.

6.24. G. Belgioioso, D. Liao-McPherson, M. Hudoba de Badyn, N. Pelzmann, J. Lygeros, and F. Dörfler, "Stability and robustness of distributed suboptimal model predictive control," in *IFAC World Congress*, Yokohama, Japan, July 10-14, 2023.

6.25. C. Cenedese, M. Lucchini, M. Cucuzzella, A. Ferrara, and J. Lygeros, "On the effect of capacity drops in highways with service stations," in *Mediterranean Conference on Control Automation (Med)*, Limassol, Cyprus, June 26-29, 2023.

6.26. E. Elokda, C. Cenedese, K. Zhang, A. Censi, J. Lygeros, and E. Frazzoli, "Karma priority lanes for fair and efficient bottleneck congestion management," in *Mediterranean Conference on Control Automation (Med)*, Limassol, Cyprus, June 26-29, 2023.

6.27. M. Fochesato, F. Fabiani, and J. Lygeros, "Generalized uncertain nash games: Reformulation and robust equilibrium seeking," in *European Control Conference (ECC)*, Bucharest, Romania, June 13-16, 2023.

6.28. J. Coulson, H. van Waarde, J. Lygeros, and F. Dörfler, "A quantitative notion of persistency of excitation and the robust fundamental lemma," in *American Control Conference (ACC)*, San Diego, CA, USA from May 31-June 2, 2023.

6.29. X. Guidetti, A. Rupenyan, L. Fassl, M. Nabavi, and J. Lygeros, "Advanced manufacturing configuration by sample-efficient batch Bayesian optimization," in *International Conference on Robotics and Automation (ICRA)*, London, U.K., May 29-June 2, 2023.

6.30. E. Elokda, C. Cenedese, K. Zhang, J. Lygeros, and F. Dörfler, "CARMA: Fair and efficient bottleneck congestion management with karma," in *Transportation Research Board (TRB) Annual Meeting*, Washington, D.C., U.S.A., January 8–12, 2023.

6.31. A. Karapetyan, A. Iannelli, and J. Lygeros, "On the regret of $\mathcal{H}_\infty$ control," in *IEEE Conference on Decision and Control (CDC)*, Cancun, Mexico, December 6-9, 2022.

6.32. M. Fochesato and J. Lygeros, "Data-driven distributionally robust bounds for stochastic model predictive control," in *IEEE Conference on Decision and Control (CDC)*, Cancun, Mexico, December 6-9, 2022.

6.33. M. Fochesato, C. Cenedese, and J. Lygeros, "A Stackelberg game for incentive-based demand response in energy markets," in *IEEE Conference on Decision and Control (CDC)*, Cancun, Mexico, December 6-9, 2022.

6.34. B. Gravell, M. Gargiani, J. Lygeros, and T.H. Summers, "Policy iteration for multiplicative noise output feedback control," in *IEEE Conference on Decision and Control (CDC)*, Cancun, Mexico, December 6-9, 2022.

6.35. C. Cenedese, M. Cucuzzella, A. Ferrara, and J. Lygeros, "A novel control-oriented cell transition model including service stations on highways," in *IEEE Conference on Decision and Control (CDC)*, Cancun, Mexico, December 6-9, 2022.

6.36. E. Balta, A. Iannelli, R.S. Smith, and J. Lygeros, "Regret analysis of online gradient descent-based iterative learning control with model mismatch," in *IEEE Conference on Decision and Control (CDC)*, Cancun, Mexico, December 6-9, 2022.

6.37. F. Micheli, T.H. Summers, and J. Lygeros, "Data-driven distributionally robust MPC for systems with uncertain dynamics," in *IEEE Conference on Decision and Control (CDC)*, Cancun, Mexico, December 6-9, 2022.

6.38. A. Padoan, J. Coulson, H.J. van Waarde, J. Lygeros, and F. Dörfler, "Behavioral uncertainty quantification for data-driven control," in *IEEE Conference on Decision and Control (CDC)*, Cancun, Mexico, December 6-9, 2022.

6.39. D. Liao-McPherson, E.C. Balta, A. Rupenyan, and J. Lygeros, "On robustness in optimization-based constrained iterative learning control," in *IEEE Conference on Decision and Control (CDC)*, Cancun, Mexico, December 6-9, 2022.

6.40. M. Gargiani, A. Zanelli, D. Liao-McPherson, T.H. Summers, and J. Lygeros, "Dynamic programming through the lens of semismooth newton-type methods," in *IEEE Conference on Decision and Control (CDC)*, Cancun, Mexico, December 6-9, 2022.

6.41. A. Aboudonia, A. Martinelli, N. Hoischen, and J. Lygeros, "Reconfigurable plug-and-play distributed model predictive control for reference tracking," in *IEEE Conference on Decision and Control (CDC)*, Cancun, Mexico, December 6-9, 2022.

6.42. E.C. Balta, M.H. Mamduhi, J. Lygeros, and A. Rupenyan, "Controller-aware dynamic network management for industry 4.0," in *Annual Conference of the Industrial Electronics Society (IECON)*, Brussels, Belgium, October 17-20 2022.

6.43. M. Katanic, J. Lygeros, and G. Hug, "Moving-horizon state estimation for power networks and synchronous generators," in *North American Power Symposium (NAPS)*, Salt Lake City, Utah, U.S.A., October 9-11, 2022.

6.44. M. Gargiani, A. Zanelli, A. Martinelli, T. Summers, and J. Lygeros, "PAGE-PG: A simple and loopless variance-reduced policy gradient method with probabilistic gradient estimation," in *International Conference on Machine Learning (ICML)*, Baltimore, MD, U.S.A., July 17-23, 2022.

6.45. D. Liao-McPherson, E. C. Balta, R. Wüest, A. Rupenyan, and J. Lygeros, "In-layer thermal control of a multi-layer selective laser melting process," in *European Control Conference (ECC)*, London, U.K., July 13-15, 2022.

6.46. C. Cenedese, P. Stokkink, N. Geroliminis, and J. Lygeros, "Incentive-based electric vehicle charging for managing bottleneck congestion," in *European Control Conference (ECC)*, London, U.K., July 13-15, 2022.

6.47. A. Aboudonia, G. Banjac, A. Eichler, and J. Lygeros, "Online computation of terminal ingredients in distributed model predictive control for reference tracking," in *European Control Conference (ECC)*, London, U.K., July 13-15, 2022.

6.48. R. Zuliani, E. C. Balta, A. Rupenyan, and J. Lygeros, "Batch model predictive control for selective laser melting," in *European Control Conference (ECC)*, London, U.K., July 13-15, 2022.

6.49. F. Micheli and J. Lygeros, "Scenario-based stochastic MPC for systems with uncertain dynamics," in *European Control Conference (ECC)*, London, U.K., July 13-15, 2022.

6.50. C. Cenedese, M. Cucuzzella, A. Ferrara, and J. Lygeros, "On the effect of service stations on highway traffic: a modified cell transition model," in *European Control Conference (ECC)*, London, U.K., July 13-15, 2022. (Extended Abstract).

6.51. A. Martin, L. Furieri, F. Dörfler, J. Lygeros, and G. Ferrari-Trecate, "Safe control with minimal regret," in *Proceedings of Machine Learning Research, Learning for Dynamics and Control (L4DC)*, Stanford, CA, U.S.A., June 23-24, 2022.

6.52. P. Stokkink, C. Cenedese, N. Geroliminis, and J. Lygeros, "Managing bottleneck congestion through electric vehicle pricing and lane segmentation," in *Symposium of the European Association for Research in Transportation (hEART)*, Leuven, Belgium, June 1-3, 2022.

6.53. M. Nabavi, X. Guidetti, E. Fallahi, J. Lygeros, and A. Rupenyan, "Spraying parameters selection based on predicted equipment status: A study on measured voltage," in *International Thermal Spay Conference and Exposition (ITSC)*, Vienna, Austria, May 4-6, 2022.

6.54. A. Parsi, A. Aboudonia, A. Iannelli, J. Lygeros, and R.S. Smith, "A distributed framework for adaptive model predictive control," in *IEEE Conference on Decision and Control (CDC)*, Austin, Texas, USA, December 13-15, 2021.

6.55. M. Hudoba de Badyn, E. Miehling, D. Janak, B. Acikmese, M. Mesbahi, T. Basar, J. Lygeros, and R.S. Smith, "Discrete-time linear-quadratic regulation via optimal transport," in *IEEE Conference on Decision and Control (CDC)*, Austin, Texas, USA, December 13-15, 2021.

6.56. A. Martinelli, M. Gargiani, and J. Lygeros, "Data-driven optimal control via linear programming with artificial constraints," in *IEEE Conference on Decision and Control (CDC)*, Austin, Texas, USA, December 13-15, 2021.

6.57. A. Rupenyan, M. Khosravi, and J. Lygeros, "Performance-based trajectory optimization for path following control using bayesian optimization," in *IEEE Conference on Decision and Control (CDC)*, Austin, Texas, USA, December 13-15, 2021.

6.58. E.C. Balta, K. Barton, D.M. Tilbury, A. Rupenyan, and J. Lygeros, "Learning-based repetitive precision motion control with mismatch compensation," in *IEEE Conference on Decision and Control (CDC)*, Austin, Texas, USA, December 13-15, 2021.

6.59. G. Belgioioso, D. Liao-McPherson, M. Hudoba de Badyn, S. Bolognani, J. Lygeros, and F. Dörfler, "Sampled-data online feedback equilibrium seeking: Stability and tracking," in *IEEE Conference on Decision and Control (CDC)*, Austin, Texas, USA, December 13-15, 2021.

6.60. D. Gkouletsos, A. Iannelli, M. Hudoba de Badyn, and J. Lygeros, "Decentralized trajectory optimization for multi-agent ergodic exploration," in *International Conference on Intelligent Robots and Systems (IROS)*, Prague, Czech Republic, September 27 - October 1, 2021.

6.61. M. Fochesato, P. Heer, and J. Lygeros, "Multi-objective optimization of a power-to-hydrogen system for mobility via two-stage stochastic programming," in *CISBAT*, Lausanne, Switzerland, September 8-10, 2021.

6.62. B. Huber, F. Bünning, A. Decoussemaeker, P. Heer, A. Aboudonia, and J. Lygeros, "Benchmarking of data predictive control in a real-life apartment during heating season," in *CISBAT*, Lausanne, Switzerland, September 8-10, 2021.

6.63. F. Bünning, C. Pfister, A. Aboudonia, and J. Lygeros, "Comparing machine learning based methods to standard regression methods for mpc on a virtual testbed," in *Building Simulation*, Bruges, Belgium, September 1-3, 2021.

6.64. X. Guidetti, A. Rupenyan, and J. Lygeros, "Sample-efficient plasma spray process configuration with constrained bayesian optimization," in *IEEE International Conference on Automation Science and Engineering (CASE)*, Lyon, France, August 23-27, 2021.

6.65. A. Kamoutsi, G. Banjac, and J. Lygeros, "Efficient performance bounds for primal-dual reinforcement learning from demonstrations," in *International Conference on Machine Learning (ICML)*, July 18-24, 2021.

6.66. L. Huang, J. Zhen, J. Lygeros, and F. Dörfler, "Quadratic regularization of data-enabled predictive control: Theory and application to power converter experiments," in *IFAC Symposium on System Identification (SysId)*, July 13-16, 2021.

6.67. F. Bünning, A. Schalbetter, A. Aboudonia, M. Hudoba de Badyn, P. Heer, and J. Lygeros, "Input convex neural networks for building MPC," in *Proceedings of Machine Learning Research, Learning for Dynamics and Control (L4DC)*, vol. 144, Zurich, Switzerland, June 7-8, 2021.

6.68. E. Chisari, A. Liniger, A. Rupenyan, L. Van Gool, and J. Lygeros, "Learning from simulation, racing in reality," in *International Conference on Robotics and Automation (ICRA)*, Xi'an, China, May 30-June 5, 2021.

6.69. C. König, M. Turchetta, J. Lygeros, A. Rupenyan, and A. Krause, "Safe and efficient model-free adaptive control via bayesian optimization," in *International Conference on Robotics and Automation (ICRA)*, Xi'an, China, May 30-June 5, 2021.

6.70. A. Aboudonia, A. Martinelli, and J. Lygeros, "Passivity-based decentralized control for discrete-time large-scale systems," in *American Control Conference (ACC)*, New Orleans, Louisiana, U.S.A., May 24-28, 2021.

6.71. D. Alpago, F. Dörfler, and J. Lygeros, "An extended Kalman filter for data-enabled predictive control," in *IEEE Conference on Decision and Control (CDC)*, Jeju Island, Republic of Korea, December 14-18, 2020.

6.72. A. Tanzanakis and J. Lygeros, "Constrained optimal tracking control of unknown systems: A multi-step linear programming approach," in *IEEE Conference on Decision and Control (CDC)*, Jeju Island, Republic of Korea, December 14-18, 2020.

6.73. J. Vazquez, M. Bruehlmeier, A. Liniger, A. Rupenyan, and J. Lygeros, "Optimization-based hierarchical motion planning for autonomous racing," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Las Vegas, NV, U.S.A., 25-29 October, 2020.

6.74. S. Menta, J. Warrington, J. Lygeros, and M. Morari, "Learning solutions to hybrid control problems using benders cuts," in *Proceedings of Machine Learning Research, Learning for Dynamics and Control (L4DC)*, vol. 120, Berkeley, CA, June 10-11, 2020.

6.75. A. Martinelli and J. Lygeros, "Control of networked systems by clustering: The degree of freedom concept," in *IFAC World Congress*, Berlin, Germany, July 12-17, 2020.

6.76. P. Beuchat, J. Coulson, and J. Lygeros, "Hands-on quadcopter education at all levels," in *IFAC World Congress*, Berlin, Germany, July 12-17, 2020.

6.77. F. Bünning, J. Warrington, P. Heer, R.S. Smith, and J. Lygeros, "Frequency regulation with heat pumps using robust MPC with affine policies," in *IFAC World Congress*, Berlin, Germany, July 12-17, 2020.

6.78. A. Aboudonia, A. Eichler, and J. Lygeros, "Distributed model predictive control with asymmetric adaptive terminal sets for the regulation of large-scale systems," in *IFAC World Congress*, Berlin, Germany, July 12-17, 2020.

6.79. A. Tanzanakis and J. Lygeros, "Data-driven control of unknown systems: A linear programming approach," in *IFAC World Congress*, Berlin, Germany, July 12-17, 2020.

6.80. M. Khosravi, V. Behrunani, R.S. Smith, A. Rupenyan, and J. Lygeros, "Cascade control: data-driven tuning in the loop with bayesian optimization," in *IFAC World Congress*, Berlin, Germany, July 12-17, 2020.

6.81. Y. Chen, S. Zou, and J. Lygeros, "Game theoretic stochastic energy coordination under a distributed zeroth-order algorithm," in *IFAC World Congress*, Berlin, Germany, July 12-17, 2020.

6.82. S. Balula, A. Rupenyan, J. Lygeros, and A. Liniger, "Reference design for closed loop system optimization," in *European Control Conference (ECC)*, Saint Petersburg, Russia, May 12-15, 2020.

6.83. G. Banjac and J. Lygeros, "A data-driven policy iteration scheme based on linear programming," in *IEEE Conference on Decision and Control (CDC)*, Nice, France, December 11-13, 2019.

6.84. A. Liniger, L. Varano, A. Rupenyan, and J. Lygeros, "Real-time predictive control for precision machining," in *IEEE Conference on Decision and Control (CDC)*, Nice, France, December 11-13, 2019.

6.85. M.Binder, G. Darivianakis, A. Eichler, and J. Lygeros, "Approximate explicit model predictive controller using gaussian processes," in *IEEE Conference on Decision and Control (CDC)*, Nice, France, December 11-13, 2019.

6.86. J. Coulson, J. Lygeros, and F. Dörfler, "Regularized and distributionally robust data-enabled predictive control," in *IEEE Conference on Decision and Control (CDC)*, Nice, France, December 11-13, 2019.

6.87. L. Huang, J. Coulson, J. Lygeros, and F. Dörfler, "Data-enabled predictive control for grid-connected power converters," in *IEEE Conference on Decision and Control (CDC)*, Nice, France, December 11-13, 2019.

6.88. S. Zou, Z. Chen, and J. Lygeros, "Price control for heterogeneous thermostatically controlled loads in communication and computation delay environments," in *IEEE Conference on Decision and Control (CDC)*, Nice, France, December 11-13, 2019.

6.89. B. Flamm, A. Eichler, R.S. Smith, and J. Lygeros, "Price arbitrage using variable-efficiency energy storage," in *CISBAT*, Lausanne, Switzerland, September 4-6, 2019.

6.90. F. Bünning, P. Heer, R.S. Smith, and J. Lygeros, "Sensitivity analysis of data-driven building energy demand forecasts," in *CISBAT*, Lausanne, Switzerland, September 4-6, 2019.

6.91. F. Bünning, A. Bollinger, R.S. Smith, and J. Lygeros, "Empirical validation of a data-driven heating demand simulation with error correction methods," in *Building Simulation*, Rome, Italy, September 2-4, 2019.

6.92. M. Schütte, A. Hota, A. Eichler, and J. Lygeros, "Dynamic mechanism design for human-in-the-loop control of building energy consumption," in *American Control Conference (ACC)*, Philadelphia, PA, USA, July 10-12, 2019.

6.93. A. Hota, A. Cherukuri, and J. Lygeros, "Data-driven chance constrained optimization under wasserstein ambiguity sets," in *American Control Conference (ACC)*, Philadelphia, PA, USA, July 10-12, 2019.

6.94. G. Banjac, F. Rey, P. Goulart, and J. Lygeros, "Decentralized resource allocation via dual consensus ADMM," in *American Control Conference (ACC)*, Philadelphia, PA, USA, July 10-12, 2019.

6.95. P. Beuchat, Y. Stürz, and J. Lygeros, "A teaching system for hands-on quadcopter control," in *IFAC Symposium on Advances in Control Education (ACE)*, Philadelphia, PA, USA, July 7-9, 2019.

6.96. J. Coulson, J. Lygeros, and F. Dörfler, "Data-enabled predictive control: In the shallows of the DeePC," in *European Control Conference (ECC)*, Napoli, Italy, June 25-28, 2019.

6.97. S. Zou, J. Warrington, and J. Lygeros, "Game-theoretic robust energy coordination for a neighbourhood of smart homes," in *European Control Conference (ECC)*, Napoli, Italy, June 25-28, 2019.

6.98. A. Romero, P. Beuchat, Y. Stürz, R.S. Smith, and J. Lygeros, "Nonlinear control of quadcopters via approximate dynamic programming," in *European Control Conference (ECC)*, Napoli, Italy, June 25-28, 2019.

6.99. G. Darivianakis, S. Fattahi, J. Lygeros, and J. Lavaei, "High-performance cooperative distributed model predictive control for linear systems," in *American Control Conference (ACC)*, Milwaukee, WI, USA, June 27-29, 2018.

6.100. B. Flamm, A. Eichler, J. Warrington, and J. Lygeros, "Dual dynamic programming for nonlinear control problems over long horizons," in *European Control Conference (ECC)*, Limassol, Cyprus, June 12-15, 2018.

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