

Jorge Cortés

Curriculum vitae

July 2022

Mechanical and Aerospace Engineering
Jacobs School of Engineering
University of California, San Diego
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Current Position

Professor (since Jul 2014; Associate Professor Jul 2009–Jun 2014; Assistant Professor Jul 2007–Jun 2009)
Department of Mechanical and Aerospace Engineering
University of California, San Diego, CA (Jul 2007–present)

Previous Positions

Assistant Professor, Department of Applied Mathematics and Statistics
University of California, Santa Cruz, CA (Oct 2004–Jun 2007)
Postdoctoral Research Associate, Coordinated Science Laboratory, College of Engineering
University of Illinois at Urbana-Champaign, Urbana, IL (Aug 2002–Sep 2004)
Postdoctoral Research Associate, Systems, Signals and Control Department
University of Twente, The Netherlands (Nov 2001–Jun 2002)

Education

Ph.D., Engineering Mathematics, Universidad Carlos III de Madrid, Spain Dec 2001
Licenciado, Mathematics, Universidad de Zaragoza, Spain Jun 1997

Research Interests

Systems and Control; Cooperative Control and Swarm Robotics; Distributed Network Science; Game Theory; Multi-Agent Coordination in Robotics, Power Systems, and Neuroscience; Geometric and Distributed Optimization; Nonsmooth Analysis; Geometric Mechanics and Control.

Citation Metrics (April 4, 2021)

[Publons](#): h-index 37, sum of cites 7260
[Google Scholar](#): h-index 57, sum of cites 17482

Research Awards and Honors

IFAC Fellow, Class of 2020-2023
SIAM Fellow, Class of 2020
IEEE Fellow, Class of 2014
IEEE Control Systems Society Distinguished Lecturer, 2010-2014
Outstanding Reviewer for IEEE Transactions on Automatic Control, 2009
Young Researcher Prize, awarded by the Spanish Society of Applied Mathematics to the “most promising applied mathematician under 33 born or working permanently in Spain,” 2006
NSF CAREER Award, Division of Electrical, Communications and Cyber Systems (Power, Controls and Adaptive Networks), 2006
Ramón y Cajal Program Awardee, Mathematics, ranked 1st, Spanish Ministry of Science and Technology, Madrid, Spain, 2003
Best Doctoral Dissertation Award, Engineering Mathematics Curriculum, Academic Year 2001-2002, Universidad Carlos III de Madrid, Spain, 2003

IEEE Control Systems magazine Outstanding Paper Award (w/ S. Kia, B. Van Scoy, R. Freeman, K. Lynch, S. Martínez), 2021

IEEE Transactions on Control of Network Systems Outstanding Paper Award (w/ E. Nozari, P. Tallapragada), 2019

AACC O. Hugo Schuck Best Paper Award in the Theory category (w/ C. Nowzari), 2012

SIAM Review SIGEST selection from the SIAM Journal on Control and Optimization (w/ F. Bullo), 2009

IEEE Control Systems magazine Outstanding Paper Award (w/ S. Martínez and F. Bullo), 2008

Best Student Paper Award Winner:

American Control Conference (M. Haseli -student), New Orleans, Louisiana, 2021

IEEE Conference Decision and Control (E. Nozari -student), Miami Beach, Florida, 2018

American Control Conference (E. Nozari -student), Milwaukee, Wisconsin, 2018

American Control Conference (A. Ganguli -student- and F. Bullo), Minneapolis, Minnesota, 2006

IEEE Conference Decision and Control (w/ S. Martínez -student- and F. Bullo), Las Vegas, Nevada, 2002

Best Student Paper Award Finalist:

American Control Conference (A. Cherukuri -student), Chicago, Illinois, 2015

American Control Conference (C. Nowzari -student), San Francisco, California, 2011

American Control Conference (w/ A. Ganguli -student- and F. Bullo), Portland, Oregon, 2005

Plenary and Other Invited Lectures

Plenary Speaker, VII Iberoamerican Meeting on Geometry, Mechanics and Control (Ibero GMC 2022), virtual, Mar 7-11, 2022

Plenary Speaker, Cyber-Physical Systems Symposium (CyPhySS-2021), Indian Institute of Sciences, Jul 22-23, 2021

Plenary Speaker, International Conference on Event-based Control, Communication, and Signal Processing (EBCCSP'21), virtual, Jun 23-25, 2021

Plenary Speaker, International Automatic Control Conference (CACSS'20), Hsinchu, Taiwan, Nov 4-7, 2020

Plenary Speaker, Congreso Nacional de Control Automático (CNCA'19), Puebla, Mexico, Oct 23-25, 2019

Plenary Speaker, 7th IFAC Workshop on Distributed Estimation and Control in Networked Systems (Nec-Sys18), Groningen, The Netherlands, Aug 27-28, 2018

Semi-Plenary Speaker, 10th IFAC Symposium on Nonlinear Control Systems (NOLCOS), Monterey, California, Aug 23-25, 2016

Plenary Speaker, 28th Benelux Meeting on Systems and Control, Spa, Belgium, Mar 2009

Invited Speaker

Virtual Workshop on Resilient Autonomous Energy Systems, National Renewable Energy Laboratory, Golden, Colorado, Sep 2021

Southern California Robotics Symposium, Caltech, Apr 2019

Workshop on Innovative Optimization and Control Methods for Highly Distributed Autonomous Systems, National Renewable Energy Laboratory, Golden, Colorado, Apr 2019

Symposium on Controlling Complex Networks, Indianapolis, Indiana, Jun 2017

Assured Autonomy Workshop, Florida Institute on National Security, University of Florida, Apr 2017

Contextual Robotics Forum, UC San Diego, Oct 2016

Emphasis Workshop: Control And Observability of Network Dynamics, Mathematical Biosciences Institute, Cleveland, Ohio, Apr 2016

Workshop on Frontiers in Distributed Optimization and Control of Sustainable Power Systems, National Renewable Energy Laboratory, Golden, Colorado, Jan 2016

IMA Thematic Year on Control and Its Applications, Workshop on Analysis and Control of Network Dynamics, Minneapolis, Minnesota, Oct 2015

IMA New Directions Short Course Topics in Control Theory, "Week 2: Distributed Optimization and Control", Minneapolis, Minnesota, Jun 2014

deLeonfest, a Workshop to Celebrate the 60th Birthday of Manuel de Leon and his Research Contributions, ICMAT, Madrid, Spain, Dec 2013

Workshop on the Distributed Control of Large Scale Systems, Pacific Northwest National Laboratory, Richland, Washington, Mar 2013

International Workshop on Recent Developments In Robotics and Control In Celebration of Mark W. Spong's 60th Birthday, UT Dallas, Nov 2012

2012 Southern California Symposium on Network Economics and Game Theory, University of Southern California, Nov 2012

Workshop on Multi-Agent Control Applications, Concordia University, Apr 2012

2011 Santa Barbara Control Workshop: Decision, Dynamics and Control in Multi-Agent Systems, UCSB, Jun 2011

CONNECT Frontiers in Science and Technology Speaker, San Diego, California, Feb 2010

Natural Algorithms Workshop, Center for Computational Intractability, Princeton University, Nov 2009

International Workshop on Global Analysis, Cankaya University, Ankara, Turkey, Apr 2004

34th Symposium on Mathematical Physics, Torun, Poland, Jun 2002

Invited Lectures at Universities

Australian National University (Sep 07), Boston University (Nov 07), ETH Zürich (Nov 14), Georgia Institute of Technology (Feb 14 and Feb 19), Ghent University (Belgium, Jun 01 and Aug 05), High Council of Scientific Research (Spain, Dec 06), International Center of Mathematical Meetings (Spain, Sep 06), Massachusetts Institute of Technology (Nov 10), Monterey Bay Aquarium Research Institute (May 05), Montreal Polytechnique (GERAD, Mar 17), Naval Postgraduate School (Nov 05), Queen's University (Canada, Mar 03 and Apr 19), Stanford University (Feb 07), Universidad Complutense de Madrid (Spain, Jul 03), Universidad Politécnica de Cataluña (Spain, Feb 01, Feb 02, Jan 03, Jan 04, and Dec 07), University of Arizona (Apr 12), University of California, Berkeley (MSRI, Mar 07 and Oct 13), University of California, Irvine (Feb 16), University of California, Los Angeles (May 07, Feb 12), University of California, Riverside (Nov 16), University of California, San Diego (Mar 07, Feb 14), University of California, Santa Barbara (Nov 05), University of California, Santa Cruz (Feb 04 and Oct 04), University of Florida (Nov 13), University of Georgia (Feb 03), University of Illinois at Urbana-Champaign (Dec 02, Oct 03, Apr 12, Mar 15), University of Maryland, College Park (Jun 09), University of Michigan, Ann Arbor (Dec 18), University of Minnesota (Apr 04), University of Oklahoma (Apr 17), University of Pennsylvania (Swarms Workshop, May 07 and Apr 11), University of Southern California (Feb 19), University of Texas at San Antonio (Apr 16), University of Twente (The Netherlands, Nov 01 and Apr 03), University of Wisconsin-Madison (Feb 04), Yale University (Jan 17).

Research Grants

Current

PI in NSF CMMI 1826065, "Understanding Selective Recruitment in Neuronal Networks via Systems Theory", Duration: 10/1/18-9/30/22, Amount: \$373,339

PI in ONR N00014-18-1-2828, "RAIDER: Resilient Actionable Intelligence for Distributed Environment understanding and Reasoning", Duration: 8/15/18-11/14/23, Amount: \$2,027,638

co-PI in AFOSR FA9550-19-1-0235, "Analysis, Design, and Operation of Resilient Networks Against Localized, Strategic, and Dynamic Adversaries", Duration: 7/1/19-6/30/23, Amount: \$1,500,000

PI in ONR N00014-20-1-2730, "Multi-Agent Reinforcement Learning for Cooperative and Competitive Undersea Environments", Duration: 7/21/20-07/20/23, Amount: \$225,000

co-PI in NSF RI 2007141, "RI: Small: Representation Learning for Semantic Mapping and Safe Robot Navigation," Duration: 10/1/20-9/30/2023, Amount: \$448,515

co-PI in NSF ECCS 1947050, "Mid-scale RI-2: Grid-Connected Testing Infrastructure for Networked Control of Distributed Energy Resources," Duration: 11/1/20-10/31/25, Amount: \$39,467,441

PI in DURIP (AFOSR), "UCSD Aerodrome: Enabling Closed-Loop Learning on Resource-Constrained Robot Teams," Duration: 9/30/20-12/31/22, Amount: \$500,000

PI in NSF CMMI 2044900, "Collaborative Research: Closed-loop Optimization and Control of Physical Networks Subject to Dynamic Costs, Constraints, and Disturbances," Duration: 1/1/21-12/31/23, Amount: \$300,000

PI in NREL DE-AC36-08GO28308 subcontract for "Asynchronous Control and Estimation (ACE) for Highly-Distributed Energy Resources", Duration: 10/1/20-9/30/22, Amount: \$70,000

Expired

PI in NASA University Aligned Research Program Award TO.030.MM.D., "Distributed formation control strategies for science imaging and interferometry", Duration: 12/1/04-9/30/05, Amount: \$28,406, and Duration: 10/1/05-9/30/06, Amount: \$ 30,298

Co-PI in NSF CNS-0521675, "MRI: Development of an Autonomous Robotic Vehicle Instrument", Major Research Instrumentation initiative, Duration: 10/1/05-3/31/12, Amount: \$360,021

PI in NSF ECCS-0546871, "CAREER: Information-driven distributed coordination of mobile sensor networks in dynamic scenarios", Duration: 3/1/06-2/28/13, Amount: \$400,000

Co-PI in NSF CCF-0829891, "The control landscape of selective cell death", Emerging Models and Technologies initiative, Duration: 9/1/08-8/31/13, Amount: \$900,000

PI in NSF CMMI-0908508, "DynSyst.Special.Topics: Couplings, network dynamics, and stability of multi-agent systems", Duration: 7/15/09-6/30/13, Amount: \$280,000

PI in NSF CCF-0917166, "NetSE: Small: Collaborative Proposal: A Geometric Computational Approach to Efficiently Deploy and Manage Self-Organizing Wireless Communication Networks", Duration: 8/15/09-7/31/13, Amount: \$250,000

Co-PI in AFOSR FA9550-10-1-0499, "Games, Information, and Deception Exploitation for Adversarial Network Systems", Duration: 7/1/10-6/30/14, Amount: \$918,501

PI in NSF OCE-0941692, "CDI Type-II: Distributed Ocean Monitoring via Integrated Data Analysis of Coordinated Buoyancy Drogues", Duration: 1/1/10-12/31/15, Amount: \$1,359,000

PI in NSF CMMI-1300272, "Robust Distributed Online Convex Optimization", Duration: 4/15/13-3/31/17, Amount: \$280,000

PI in UCSD Contextual Robotics Seed Funding through Northrop Grumman Sponsorship, "Swarm Coordination in Disaster Response Operations", Duration: 6/1/15-5/31/17, Amount: \$140,000

PI in NSF ECCS-1307176, "Self-Triggered Coordination of Robotic Networks", Duration: 9/1/13-8/31/18, Amount: \$290,665

PI in NSF CNS-1329619, "CPS: Breakthrough: Robust Team-Triggered Coordination for Real-Time Control of Networked Cyber-Physical Systems", Duration: 10/1/13-9/30/18, Amount: \$463,607

PI in ONR N00014-16-1-2836, "Exploiting Cheap Computation for Optimal Cooperative Navigation and Lengthened Mission Duration", Duration: 9/1/16-10/31/19, Amount: \$225,000

co-PI in ARPA-e NODES DE-AR0000695, "Distributed Grid Control of Flexible Loads and DERs for Optimized Provision of Synthetic Regulating Reserves", Duration: 6/13/16-12/12/19, Amount: \$2,886,437

co-PI in DARPA N66001-18-2-4027, "Distributed Robust Data-Driven Control and Optimization", Duration: 3/15/18-12/15/19, Amount: \$661,326

Co-PI in NSF CNS-1446891, "CPS: Synergy: Triggered Control of Cyber Physical Systems with Communication Channels Constraints", Duration: 1/1/15-12/31/19, Amount: \$1,000,000

PI in NREL RHR-9-92278 subcontract for "Autonomous Energy Grids: A New Paradigm to Enhance Resiliency, Security and Reliability", Duration: 7/16/19-1/15/20, Amount: \$32,000

PI in AFOSR FA9550-15-1-0108, "Triggered Control for Distributed Optimization and Learning in Networked Multi-Agent Systems", Duration: 5/15/15-5/14/20, Amount: \$421,571

PI in ARO W911NF-18-1-0213, "Time-Varying Actuation and Interconnection in Network Systems for the Control of Epileptic Seizures", Duration: 6/25/18-6/24/21, Amount: \$440,000

co-PI in NSF ECCS 1917177, "Practical Stability of Networked Control Systems under Uncertainty", Duration: 7/1/19-6/30/22, Amount: \$530,469

Professional Service

Editorial Board

[Journal of Nonlinear Science](#), 2018-present

[Journal of Geometric Mechanics](#), 2011-present

[European Journal of Control](#), 2006-2009

[Systems and Control Letters](#), 2009-2012

[IEEE Transactions on Automatic Control](#), 2010-2012
[SIAM Journal on Control and Optimization](#), 2011-2016
[IEEE Control Systems magazine](#), 2012-2016
[IEEE Transactions on Network Science and Engineering](#), 2014-2017
[IEEE Access](#), 2015-2017

Guest Editor

[IEEE Robotics and Automation Magazine](#) Special Issue on “Computational Geometry in Path Planning,” volume 15, issue 2, Jun 2008
[SIAM Journal on Control and Optimization](#) Special Issue on “Control and Optimization in Cooperative Networks,” volume 48, number 1, Jan 2009
[IEEE Control Systems magazine](#) Special Issue on “Distributed Control and Estimation of Robotic Vehicle Networks,” volume 36, number 2, April 2016 and number 4, August 2016

Section Editor

[Encyclopedia of Systems and Control](#), Section on “Control of Networked Systems”, J. Baillieul and T. Samad, editors-in-chief, Springer Verlag, New York, 2014

Conference Editorial Board

Associate Editor, Conference Editorial Board, IEEE Control Systems Society, 2005-2009
Associate Editor, Conference Editorial Board, IEEE Robotics and Automation Society, 2010-2012

Membership in Professional Societies

Fellow IEEE (Control Systems Society), 2014 (member '02, senior member '06)
Fellow SIAM (Activity Group on Control and Systems Theory), 2020 (member since 2003)
Member Spanish Society of Applied Mathematics, 2004-present
Member AAAS, 2018-2019
Member INFORMS, 2018-2019
Member AMS, 2005-2012
Member Royal Spanish Mathematical Society, 2000-2007

Elected or Appointed Positions in Professional Societies

Chair, IEEE Control Systems Society Technical Committee on Manufacturing Automation and Robotic Control, Jan 2009-Dec 2012
Secretary, SIAM Activity Group on Control and Systems Theory, 2012-2013 term
Member, Board of Governors, IEEE Control Systems Society, 2018-2020 term
Director of Operations, Executive Committee, IEEE Control Systems Society, 2019-2022 term

Conference and Workshop Organization

Organizer, Southern California Control Workshop, [16th edition](#) (University of California, San Diego, Nov 7, 2008), [23rd edition](#) (University of California, San Diego, Nov 30, 2012), [30th edition](#) (University of California, San Diego, Jun 3, 2016) [37th edition](#) (University of California, San Diego, Jan 24, 2020)
Workshop Chair, [CDC 2010](#), IEEE Conference on Decision and Control, Atlanta, Georgia, Dec 15-17, 2010
Organizing Committee, [SIAM CT11](#), SIAM Conference on Control and Its Applications, Baltimore, Maryland, Jul 25-27, 2011
Program Co-Chair, [NecSys2012](#), 3rd IFAC Workshop on Distributed Estimation and Control in Networked Systems, Santa Barbara, California, Sep 14-15, 2012
Special Sessions Chair, [ACC 2015](#), American Control Conference, Chicago, Illinois, Jul 1-3, 2015
Organizing Committee, [SCR 2016](#), Southern California Robotics Symposium, UC San Diego, Apr 22, 2016
National Organizing Committee, [NOLCOS 2016](#), IFAC Symposium on Nonlinear Control Systems, Monterey, California, Aug 23-25, 2016
Program Vice-Chair, [CDC16](#), IEEE Conference on Decision and Control, Las Vegas, Nevada, Dec 12-16, 2016

Program and Scientific Committees

ADHS – *IFAC Conference on Analysis and Design of Hybrid Systems*: [ADHS 2015](#) (Oct 14-16, 2015, Atlanta, Georgia)

ACC – *American Control Conference*: [ACC 2010](#) (Jun 30 - Jul 2, 2010, Baltimore, Maryland), [ACC 2018](#) (Jun 27 - Jun 29, 2018, Milwaukee, Wisconsin)

CCTA – *IEEE Conference on Control Technology and Applications*: [CCTA 2017](#) (Aug 27-30, 2017, Hawaii, Hawaii), [CCTA 2018](#) (Aug 21-24, 2018, Copenhagen, Denmark)

CDC – *IEEE Conference on Decision and Control*: [CDC 2009](#) (Dec 16-18, 2009, Shanghai, China), [CDC 2014](#) (Dec 15-17, 2014, Los Angeles, California)

DARS – *International Symposium on Distributed Autonomous Robotic Systems*: [DARS 2010](#) (Nov 1-3, 2010, Lausanne, Switzerland), [DARS 2016](#) (Nov 7-9, 2016, London, United Kingdom), [DARS 2018](#) (Oct 15-17, 2018, Boulder, Colorado)

DELEONFEST – *a Workshop to Celebrate the 60th Birthday of Manuel de Leon and his Research Contributions*, [DELEONFEST](#) (Dec 16-19, 2013, Madrid, Spain)

EBCCSP – *IEEE International Conference on Event-Based Control, Communication, and Signal Processing*: [EBCCSP 2015](#) (Jun 17-19, 2015, Krakow, Poland)

ECC – *European Control Conference*: [ECC 2013](#) (Jul 17-19, 2013, Zürich, Switzerland)

GTMCR – *Workshop on Geometric and Topological Methods in Control and Robotics*: [GTMCR2010](#) (Oct 4-6, 2010, La Cristalera, Madrid, Spain)

ICC – *Indian Control Conference*: [ICC 2016](#) (Jan 4 - Jan 6, 2016, Hyderabad, India)

MED – *Mediterranean Conference on Control and Automation*: [MED 2011](#) (Jun 20-23, 2011, Corfu, Greece), [MED 2012](#) (Jul 3-6, 2012, Barcelona, Spain), [MED 2013](#) (Jun 25-28, 2013, Crete, Greece), [MED 2015](#) (Jun 16-19, 2015, Torremolinos, Spain)

MSC – *IEEE Multi-Conference on Systems and Control*: [MSC 2016](#) (Sep 19-22, 2016, Buenos Aires, Argentina)

MTNS – *International Symposium on Mathematical Theory of Networks and Systems*: [MTNS 2014](#) (Jul 7-11, 2014, Groningen, the Netherlands), [MTNS 2016](#) (Jul 11-15, 2016, Minneapolis, Minnesota, USA)

NECSYS – *IFAC Workshop on Distributed Estimation and Control in Networked Systems*: [NecSys2009](#) (Sep 24-26 2009, Venice, Italy), [NecSys2010](#) (Sep 13-14, 2010, Annecy, France), [NecSys2013](#) (Sep 25-26, 2013, Koblenz, Germany), [NecSys2018](#) (Aug 27-28, 2018, Groningen, the Netherlands)

ROBOCOMM – *International Conference on Networked Robots*: [ROBOCOMM 07](#) (Sep 10-12, 2007, Athens, Greece), [ROBOCOMM 09](#) (Mar 31- Apr 2, 2008, Odense, Denmark)

RSS – *Robotics: Science and Systems*: [RSS08](#) (Jun 25-28, 2008, Zurich, Switzerland), [RSS17](#) (Jul 12-16, 2017, Boston, Massachusetts), [RSS18](#) (Jun 26-30, 2018, Pittsburgh, Pennsylvania)

SAC-IRMAS – *ACM Symposium On Applied Computing: Intelligent Robotics and Multi-Agent Systems technical track* [SAC18-IRMAS](#) (Apr 9-13, 2018, Pau, France)

WAFR – *Workshop on the Algorithmic Foundations of Robotics*: [WAFR 2012](#) (Jun 13-15, 2012, Cambridge, Massachusetts, USA)

Reviewer, ACM Transactions on Sensor Networks; Automatica; ASME Journal of Dynamic Systems, Measurement, and Control; Cyber-Physical Systems; Discrete and Continuous Dynamical Systems; Discrete Event Dynamic Systems: Theory and Applications; European Journal of Control; IEEE Transactions on Automatic Control; IEEE Transactions on Automation Science and Engineering; IEEE Transactions on Control Systems Technology; IEEE Transactions on Robotics; IEEE Transactions on Signal Processing; IET Control Theory and Applications; International Journal of Control; International Journal of Robotics Research; International Journal of Robust and Nonlinear Control; Journal of Geometric Mechanics; Journal of Geometry and Physics; Journal of Nonlinear Science; Journal of Physics A: Mathematical and General; Journal of the Royal Academy of Sciences of Madrid, Series A, Mathematics; Mathematics of Control, Signals, and Systems; Methods and Applications of Analysis; Neural Computing and Applications; Physics Letters A; Proceedings of the IEEE; Reports on Mathematical Physics; SIAM Journal on Applied Dynamical Systems; SIAM Journal on Control and Optimization; Symmetry, Integrability and Geometry: Methods and Applications

Reviewer, Springer-Verlag; Prentice Hall; John Wiley&Sons; World Scientific Publishing

Reviewer, American Control Conference, IEEE Conference on Decision and Control, IEEE Conference on Robotics

and Automation, IEEE Multi-Conference on Systems and Control, IEEE/RSJ International Conference on Intelligent Robots and Systems, IFAC World Congress, IFAC Symposium on Nonlinear Control Systems, Hybrid Systems: Computation and Control, IEEE Conference on Automation Science and Engineering, IFAC Symposium on System Identification, Robotics: Science and Systems, International Workshop in Global Analysis

Reviewer, U.S. Civilian Research and Development Foundation (CRDF), Cooperative Grants Program, 2003

Reviewer, Spanish Ministry of Science and Technology grant proposals (2004, 2005)

Reviewer, Israel Science Foundation, 2007

Reviewer and panelist, National Science Foundation (Civil, Mechanical and Manufacturing Innovation, 2008, 2009, 2011 (2), 2012, 2014, 2017; Cyber-Physical Systems, 2009; Applied Mathematics, 2010, 2016; National Robotics Initiative, 2015; Robust Intelligence, 2018)

Reviewer, Air Force Office of Scientific Research (Dynamics and Control Program, 2009, 2010, 2012-2014, 2016, 2018 (2))

Reviewer, Army Research Office (Network Sciences Program, 2017)

Reviewer, Natural Sciences and Engineering Research Council of Canada, 2011

Reviewer, General Secretariat of Research and Technology, Greek Ministry of Education, 2013

Reviewer, European Research Council, Consolidator Grants, European Commission, 2016

Software Development

Mathematica packages PlanGeom.m and SpatialGeom.m, planar and spatial geometry computation

University Service

MAE Vice Chair, 2014-2016

MAE Diversity Officer, 2017-2018

MAE Penner Lecture Seminars Committee, member, 2018-2019

MAE Graduate Affairs Committee, member, 2008-2009, 2010-2011, 2013-2014, 2019-2020, Vice-Chair 2020-2021

MAE Undergraduate Affairs Committee, member, 2009-2010, 2012-2013, Chair 2014-2016

MAE ABET Committee, member, 2011-2012

MAE Robotics Faculty Search Committee, member, 2014-2015

JSOE Committee on Joint UCSD/SDSU Doctoral Degree Program, MAE faculty representative, 2010-2014

JSOE Strategic Planning, Graduate Program Workgroup, member, Winter 2013

Inclusion, Diversity, Excellence & Advancement Engineering Student Center Faculty Advisory Board, member, 2017-2018

JSOE Systems Engineering Faculty Search Committee, member, 2018-2019

JSOE Systems Engineering Faculty Envision Committee, member, 2018-present

Sixth College Commencement, MAE faculty representative, 2011

Sixth College Provost Search Committee, member, 2011-2012

Academic Senate's Committee on Campus and Community Environment, member, 2011-2014, 2019-2021

Chancellor's Campus and Community Planning Committee, member, 2011-2014, 2019-2021

Sixth College Provost Review Committee, member, 2017

Multi-Year Review Committee for Calit2/Qualcomm Institute, member, 2017-2018

UCSC AMS Search Committee, 2005-2006 (Applied Math), 2006-2007 (Statistics)

UCSC AMS Departmental Webmaster, 2004-2007

Postdoctoral Research Associates

Jaap Eising (2021-)

Tommaso Menara (2022-)

Bahman Gharesifard (2009-2012). Now Professor at Department of Electrical and Computer Engineering, University of California, Los Angeles

Solmaz S. Kia (2012-2014, co-advised with Prof. Sonia Martínez). Now Associate Professor at Department of Mechanical and Aerospace Engineering, University of California, Irvine

Michael Ouimet (2014-2015, co-advised with Prof. Sonia Martínez). Now Staff Software Engineer at Singular Genomics

Yingbo Zhao (2015-2016). Now Senior Algorithms Engineer at Cymer Corporation

Pavan Tallapragada (2014-2017). Now Assistant Professor at Department of Electrical Engineering, Indian Institute of Science

Kooktae Lee (2016-2017). Now Assistant Professor at Department of Mechanical Engineering, New Mexico Institute of Mining and Technology

Chin-Yao Chang (2016-2018, co-advised with Prof. Sonia Martínez). Now Research Engineer at National Renewable Energy Laboratory

Dariush Fooladivanda (2018-2019, co-advised with Prof. Sonia Martínez). Now Postdoc at UC Berkeley

Dimitris Boskos (2018-2020, co-advised with Prof. Sonia Martínez). Now Assistant Professor at Delft Center for Systems and Control, Delft University of Technology, The Netherlands

Miguel Vaquero (2017-2020). Now Assistant Professor at IE University, Madrid, Spain

Prasad Vilas Chanekar (2018-2021). Now Assistant Professor at Indraprastha Institute of Information Technology, New Delhi, India

Xuan Wang (2020-2021). Now Assistant Professor at George Mason University

Shenyu Liu (2020-2022, co-advised with Prof. Sonia Martínez). Now Assistant Professor at Beijing Institute of Technology

Graduate Students

Masih Haseli (UCSD MAE, Ph.D. student, 2017-)

Ahmed Allibhoy (UCSD MAE, Ph.D. student, 2018-)

Michael McCreesh (UCSD MAE, Ph.D. student, 2019-)

Pol Mestres (UCSD MAE, Ph.D. student, 2020-)

Zhenyi Yuan (UCSD MAE, Ph.D. student, 2020-)

Scott Addams (UCSD MAE, Ph.D. student, 2021-)

Mohammed Alyaseen (UCSD MAE, Ph.D. student, 2021-)

Anurag Ganguli (UIUC EE, Ph.D. 2007, co-advised with Francesco Bullo, UCSB). Now Senior Engineer at PlusAI

Michael Schuresko (UCSC CS, M.Sc. 2008 and UCSC AMS, Ph.D. 2009). Now at Senior Engineer at Standard Cognition

Rishi Graham (UCSC AMS, Ph.D. 2010). Now at Monterey Bay Aquarium Research Institute

Cameron Nowzari (UCSD MAE, Ph.D. 2013), 2013 Outstanding Graduate Student Award in MAE. Now Assistant Professor at the Electrical and Computer Engineering Department, George Mason University

Michael Ouimet (UCSD MAE, Ph.D. 2014). Now Staff Software Engineer at Singular Genomics

Dean Richert (UCSD MAE, Ph.D. 2014), 2014 Outstanding Graduate Student Award in MAE and inaugural recipient of “Robert E. Skelton Systems and Control Dissertation Award” (academic year 2013-2014). Now faculty lecturer at University of British Columbia

David Mateos-Núñez (UCSD MAE, Ph.D. 2015). Now postdoc at Fraunhofer FHR

Ashish Cherukuri (UCSD MAE, Ph.D. 2017). 2016 Outstanding Graduate Student Award in MAE, 2016 MAE Distinguished Fellowship Award, and recipient of “Robert E. Skelton Systems and Control Dissertation Award” (academic year 2016-2017). Now Assistant Professor at the Engineering and Technology Institute, University of Groningen

Yifu Zhang (UCSD MAE, Ph.D. 2019), 2019 Outstanding Graduate Student Award in MAE. Now Senior Software Quality Engineer at MathWorks

Erfan Nozari (UCSD MAE, Ph.D. 2019), 2018 MAE Distinguished Fellowship Award, and recipient of “Robert E. Skelton Systems and Control Dissertation Award” (academic year 2018-2019). Now Assistant Professor at Department of Mechanical Engineering, UC Riverside

Aaron Ma (UCSD MAE, Ph.D. 2020). Now Senior Engineer at ShieldAI

Priyank Srivastava (UCSD MAE, Ph.D. student, 2021). Now Postdoc at Department of Mechanical Engineering,

MIT

Pio Ong (UCSD MAE, Ph.D. student, 2021). Now Postdoc at Department of Computing and Mathematical Sciences, Caltech

Simon Niederlaender (University of Stuttgart, M.S. 2015). Now Ph.D. student at University of Stuttgart

Aaron Ma (UCSD MAE, M.S. 2016). Now Ph.D. student at UC San Diego

Victor Gandarillas (UCSD MAE, M.S. 2018). Now Ph.D. student at UC San Diego

Rosario Aragües (Universidad de Zaragoza, Spain, visiting Ph.D. student, Spring 08, 09)

Edgardo Chunga (Pontificia Universidad Católica del Perú, Perú, visiting Ph.D. student, Spring 09)

Rokus Ottervanger (University of Technology Eindhoven, the Netherlands, visiting M.S. student, Spring 14)

Tjerk Stegink (University of Groningen, the Netherlands, visiting Ph.D. student, Spring 17)

Ernesto Aranda (Universidad Nacional de Educación a Distancia, Spain, visiting Ph.D. student, Spring 17)

Pedro Miguel Otao Pereira (KTH, Sweden, visiting Ph.D. student, Spring 18)

Undergraduate Students

Brazil Scientific Mobility Program

Bruno Maciel, Instituto Federal Fluminense, Summer 15

California Alliance for Minority Participation Summer Research Program

Gerardo González, UC San Diego, Summer 15

ENLACE Summer Research Program

Tomas Torres, UC Davis, Summer 17

Ramon Durán, Universidad Autónoma de Baja California, Summer 17

Ricardo Ruvalcaba, Universidad Nacional Autónoma de Mexico, Summer 18

Independent Study for Undergraduates

Katherine Liu, UC San Diego, Winter, Spring 14, Fall 14-Spring 15

Daniel Heideman, UC San Diego, Winter 14-Winter 15

Matthew Qen, UC San Diego, Fall 14-Spring 15

Mike Liu, UC San Diego, Spring 15-Spring 16

Gerardo González, UC San Diego, Fall 15-Spring 16

Jose L. Ramirez, UC San Diego, Summer 15-Winter 16

Julio Martinez, UC San Diego Summer 15-Spring 16

Zhiye Zhang, UC San Diego, Fall 15

Shiyuan Huang, UC San Diego, Winter 15-Summer 16

Aamir Rasheed, UC San Diego, Spring 16

Andrew Chen, UC San Diego, Summer 16-Fall 17

Alexander Khoury, UC San Diego, Fall 16-Spring 17, Fall 17

Mingze An, UC San Diego, Winter 16-Spring 17, Fall 17

Alec Chac, UC San Diego, Summer 17-Fall 17

Stuart Sardo, UC San Diego, Fall 17-Spring 18

Zhe Wei, UC San Diego, Fall 17

Lingzhi Zheng, UC San Diego, Winter 18

Wells Huang, UC San Diego, Summer 18-Spring 19

Diego Miranda-Gutierrez, UC San Diego, Fall 18- Winter 19

International Summer Research Program

Cheng Hu (Thomas) Lin, National Taiwan University, Summer 19

NEW Scholars

Diego Miranda-Gutierrez, UC San Diego, Summer 18

Regents Scholar Initiative Program

Adam Durbin, UC San Diego, Fall 12
Agustin Manríquez, UC San Diego, Fall 17
Ignatius Widjaja, UC San Diego, Fall 18

Senior Capstone Design Project

Cuncheng Zhu, UC San Diego, MAE, Winter 19 - Spring 19
Giovanni Martinez, UC San Diego, MAE, Winter 19 - Spring 19
Ruoyu Sun, UC San Diego, MAE, Winter 19 - Spring 19
Wei Hung, UC San Diego, MAE, Winter 19 - Spring 19

Senior Undergraduate Thesis

Katie Laventall, UCSC, Math, 2006-2007
Robert Planas, UPC, Spain, Dual degree on Math and Aerospace Engineering, Winter 19 - Spring 19
Pol Mestres, UPC, Spain, Dual degree on Math and Engineering Physics, Fall 19 - Winter 20

Summer Training Academy for Research in the Sciences Program

Ethan Allen, Morgan State University, Summer 12
Bryan Yang, UC San Diego, Summer 16
Ashim Neupane, Howard University, Summer 16 and Summer 17
Donipolo Guimere, Howard University, Summer 18
Tareq Labeeb, Cypress College, Summer 18
Mya Bolds, Xavier University of Louisiana, Summer 19

UCSD-Zhejiang University Summer Research Program

Peizhen Gu, Zhejiang University, Summer 14

UCSD Undergraduate Research Scholarship Program

Gerardo González, UC San Diego, Summer 16

Teaching Activities

Undergraduate Courses

- MAE40:** Linear circuits (UCSD, Winter 09, Fall 09, 11, 13-14, 20, Winter 16-21). Steady-state and dynamic behavior of linear circuits, Kirchoff's laws, and design applications in engineering (4 credits)
- MAE143a:** Signals and Systems (UCSD, Winter 11). Dynamical modeling, Laplace, Fourier and z-transforms, transfer functions, frequency response, and sampling and discrete signals (4 credits)
- AMS27/L:** Mathematical Methods for Engineers (UCSC, Winter 05, Fall 05-06). Linear algebra, differential equations and Laplace transform (5+2 credits)
- MATH11B:** Calculus with Applications (UCSC, Spring 06). Integrals of functions, polynomial approximations, and Taylor series (5 credits)

Graduate Courses

- MAE207:** Game Theory for Engineers (UCSD, Spring 15). Fundamentals of game theory on modeling, analysis, and algorithms, strategic interactions and adversarial scenarios, with examples from economics, communication theory, and social networks. (4 credits). Developed ab initio.

- MAE247:** Cooperative Control of Multi-Agent Systems (UCSD, Spring 13). Cooperative control strategies for multi-agent systems, evolution models, proximity graphs, invariance principles, and coordination algorithms for rendezvous, deployment, flocking, formation, and consensus (4 credits)
- MAE281A:** Nonlinear Systems (UCSD, Spring 13). Nonlinear systems, Lyapunov stability, LaSalle's invariance theorem, perturbed systems with vanishing and nonvanishing perturbations, input-to-state stability, and averaging (4 credits)
- MAE281B:** Nonlinear Control (UCSD, Spring 08-12, Spring 14-21). Nonlinear control systems dealing with feedback stabilization and linearization, input-output stability, and passivity (4 credits)
- MAE286:** Hybrid Systems (UCSD, Fall 08, 10, Winter 14, Fall 18). Modeling, analysis, and design of hybrid dynamical systems, with emphasis on stability and applications (4 credits). Developed ab initio.
- MAE289A:** Mathematical Analysis for Applications (UCSD, Fall 15). Topics of mathematical analysis for real/vector-valued functions of one and/or several variables. (4 credits).
- AMS214:** Applied Dynamical Systems (UCSC, Spring 07). Dynamical systems and qualitative differential equations, stability, and applications (5 credits). Developed ab initio.
- AMS231:** Introduction to Nonlinear Control (UCSC, Spring 05, Winter 06). Nonlinear systems and control (5 credits). Developed ab initio.
- AMS236:** Motion Coordination of Robotic Networks (UCSC, Fall 06). Cooperative control, distributed algorithms and robotic networks (5 credits). Developed ab initio.

High School Courses

- COSMOS:** Robot Automation: Intelligence through Feedback Control (UCSC, Summer 05, Summer 06). Course on feedback control and robotics in the California State School for Mathematics and Science (COSMOS) program for high school students. Developed ab initio.

Courses at Summer/Winter Schools

- Invited Advanced Topics Speaker, Summer School on Modeling and Control of Mechanical Systems, Dutch Institute for Systems and Control (DISC), Netherlands, Jul 2002
- Invited Lecturer, Summer School on Geometric Mechanics and Control, International Center of Mathematical Meetings, Spain, Jun 2007
- Invited Lecturer, Cooperative multi-agent systems: distributed computation, estimation and control, Centro di Ricerca Matematica Ennio De Giorgi, Pisa, Italy, Dec 2007
- Invited Speaker, Winter School on Olfactory Localization, UCSD Institute of Nonlinear Science, Jan 2009
- Invited Speaker, Georgia Tech Summer School on Cyber-Physical Systems, Atlanta, Georgia, Jun 2010
- Invited Speaker, JAE Summer School on Mathematics, Madrid, Spain, Jul 2010
- Invited Speaker, Summer School on a Systems and Control Perspective in Human-Robot-Environment Interaction, Dutch Institute for Systems and Control (DISC), Netherlands, Jun 2016

Publications

Manuscripts listed in inverse chronological order, all available at <http://terrano.ucsd.edu/jorge>.

Journal Papers

- (J-168) G. Bianchin, M. Vaquero, J. Cortés, and E. Dall'Anese. k -dimensional agreement in multiagent systems. *IEEE Transactions on Automatic Control*, 2022. Submitted
- (J-167) M. Bianchi, S. Grammatico, and J. Cortés. Data-driven stabilization of switched and constrained linear systems. *IEEE Transactions on Automatic Control*, 2022. Submitted
- (J-166) M. Haseli and J. Cortés. Temporal forward-backward consistency, not residual error, measures the prediction accuracy of extended dynamic mode decomposition. *IEEE Control Systems Letters*, 2022
- (J-165) M. McCreesh and J. Cortés. Selective inhibition and recruitment in linear-threshold thalamocortical networks. *IEEE Transactions on Control of Network Systems*, 2022. Submitted
- (J-164) A. Allibhoy and J. Cortés. Control barrier function-based design of gradient flows for constrained nonlinear programming. *IEEE Transactions on Automatic Control*, 2022. Submitted

- (J-163) Y. Jiang, W. Cui, B. Zhang, and J. Cortés. Stable reinforcement learning for optimal frequency control: A distributed averaging-based integral approach. *IEEE Open Journal of Control Systems*, 2022. To appear
- (J-162) A. Allibhoy, F. Celi, F. Pasqualetti, and J. Cortés. Optimal network interventions to control the spreading of oscillations. *IEEE Open Journal of Control Systems*, 2022. To appear
- (J-161) S. Liu, S. Martínez, and J. Cortés. Stabilization of linear cyber-physical systems against attacks via switching defense. *IEEE Transactions on Automatic Control*, 2022. Submitted
- (J-160) P. Mestres and J. Cortés. Optimization-based safe stabilizing feedback with guaranteed region of attraction. *IEEE Control Systems Letters*, 7:367–372, 2023
- (J-159) Z. Yuan, C. Zhao, and J. Cortés. Reinforcement learning for distributed transient frequency control with stability and safety guarantees. *Systems & Control Letters*, 2022. Submitted
- (J-158) P. Srivastava, P. Hidalgo-Gonzalez, and J. Cortés. Learning invariant stabilizing controllers for frequency regulation under variable inertia. *IEEE Control Systems Letters*, 6:3056–3061, 2022
- (J-157) K. Long, V. Dhiman, M. Leok, J. Cortés, and N. Atanasov. Safe control synthesis with uncertain dynamics and constraints. *IEEE Robotics and Automation Letters*, 7(3):7295–7302, 2022
- (J-156) M. McCreesh, E. Nozari, and J. Cortés. Goal-driven selective attention in thalamocortical networks: A control-theoretic perspective. *Annual Reviews in Control*, 2022. Submitted
- (J-155) Z. Yuan and J. Cortés. Data-driven optimal control of bilinear systems. *IEEE Control Systems Letters*, 6:2479–2484, 2022
- (J-154) P. Ong, B. Capelli, L. Sabattini, and J. Cortés. Nonsmooth control barrier function design of continuous constraints for network connectivity maintenance. *Automatica*, 2022. Submitted
- (J-153) P. Srivastava, G. Cavraro, and J. Cortés. Agent-supervisor coordination for decentralized event-triggered optimization. *IEEE Control Systems Letters*, 6:1970–1975, 2022
- (J-152) P. Ong and J. Cortés. Performance-barrier-based event-triggered control with applications to network systems. *IEEE Transactions on Automatic Control*, 2021. Submitted
- (J-151) G. Bianchin, M. Vaquero, J. Cortés, and E. Dall’Anese. Online stochastic optimization of unknown linear dynamical systems: data-driven controller synthesis and analysis. *IEEE Transactions on Automatic Control*, 2021. Submitted
- (J-150) M. Haseli and J. Cortés. Generalizing dynamic mode decomposition: balancing accuracy and expressiveness in Koopman approximations. *Automatica*, 2021. Submitted
- (J-149) P. V. Chanekar and J. Cortés. Encoding impact of network modification on controllability via edge centrality matrix. *IEEE Transactions on Control of Network Systems*, 2022. To appear
- (J-148) S. Liu, S. Martínez, and J. Cortés. Iterative algorithms for assessing network resilience against structured perturbations. *IEEE Transactions on Control of Network Systems*, 2022. To appear
- (J-147) P. Srivastava and J. Cortés. Solving linear equations with separable problem data over directed networks. *IEEE Control Systems Letters*, 6:596–601, 2022
- (J-146) S. Liu, S. Martínez, and J. Cortés. Average dwell-time minimization of switched systems via sequential convex programming. *IEEE Control Systems Letters*, 6:1076–1081, 2022
- (J-145) E. Nozari, R. Planas, and J. Cortés. Structural characterization of oscillations in brain networks with rate dynamics. *Automatica*, 2021. To appear
- (J-144) D. Boskos, J. Cortés, and S. Martínez. High-confidence data-driven ambiguity sets for time-varying linear systems. *IEEE Transactions on Automatic Control*, 2021. Submitted
- (J-143) G. Bianchin, J. Cortés, J. I. Poveda, and E. Dall’Anese. Time-varying optimization of LTI systems via projected primal-dual gradient flows. *IEEE Transactions on Control of Network Systems*, 9(1):474–486, 2022
- (J-142) P. Srivastava, C.-Y. Chang, and J. Cortés. Enabling DER participation in frequency regulation markets. *IEEE Transactions on Control Systems Technology*, 2022. To appear
- (J-141) K. Long, C. Qian, J. Cortés, and N. Atanasov. Learning barrier functions with memory for robust safe navigation. *IEEE Robotics and Automation Letters*, 6(3):4931–4938, 2021
- (J-140) M. Vaquero, P. Mestres, and J. Cortés. Resource-aware discretization of accelerated optimization flows: the heavy-ball dynamics case. *IEEE Transactions on Automatic Control*, 68(4), 2023. To appear

- (J-139) F. Celi, A. Allibhoy, F. Pasqualetti, and J. Cortés. Linear-threshold dynamics for the study of epileptic events. *IEEE Control Systems Letters*, 5(4):1405–1410, 2021
- (J-138) T. Anderson, M. Muralidharan, P. Srivastava, H. Valizadeh Haghi, J. Cortés, J. Kleissl, S. Martínez, and B. Washom. Frequency regulation with heterogeneous energy resources: A realization using distributed control. *IEEE Transactions on Smart Grid*, 12(5):4126–4136, 2021
- (J-137) M. Haseli and J. Cortés. Parallel learning of Koopman eigenfunctions and invariant subspaces for accurate long-term prediction. *IEEE Transactions on Control of Network Systems*, 8(4):1833–1845, 2021
- (J-136) A. Ma, M. Ouimet, and J. Cortés. Temporal sampling annealing schemes for receding horizon multi-agent planning. *Robotics and Autonomous Systems*, 143:103823, 2021
- (J-135) P. V. Chanekar, E. Nozari, and J. Cortés. Energy-transfer edge centrality and its role in enhancing network controllability. *IEEE Transactions on Network Science and Engineering*, 8(1):331–346, 2021
- (J-134) A. Allibhoy and J. Cortés. Data-based receding horizon control of linear network systems. *IEEE Control Systems Letters*, 5(4):1207–1212, 2021
- (J-133) A. J. Taylor, P. Ong, J. Cortés, and A. Ames. Safety-critical event triggered control via input-to-state safe barrier functions. *IEEE Control Systems Letters*, 5(3):749–754, 2021
- (J-132) P. Srivastava and J. Cortés. Nesterov acceleration for equality-constrained convex optimization via continuously differentiable penalty functions. *IEEE Control Systems Letters*, 5(2):415–420, 2021
- (J-131) F. Boso, D. Boskos, J. Cortés, S. Martínez, and D. M. Tartakovsky. Dynamics of data-driven ambiguity sets for hyperbolic conservation laws with uncertain inputs. *SIAM Journal on Scientific Computing*, 43(3):A2102–A2129, 2021
- (J-130) M. Haseli and J. Cortés. Learning Koopman eigenfunctions and invariant subspaces from data: Symmetric Subspace Decomposition. *IEEE Transactions on Automatic Control*, 67(7):3442–3457, 2022
- (J-129) P. Srivastava and J. Cortés. Network optimization via smooth exact penalty functions enabled by distributed gradient computation. *IEEE Transactions on Control of Network Systems*, 8(3):1430–1441, 2021
- (J-128) A. Ma and J. Cortés. Distributed multi-agent deployment for full visibility of 1.5D and 2.5D polyhedral terrains. *Journal of Intelligent and Robotic Systems*, 100(3-4):1111–1127, 2020
- (J-127) Y. Wardi, C. Seatzu, J. Cortés, M. Egerstedt, S. Shivam, and I. Buckley. Tracking control by the Newton-Raphson method with output prediction and controller speedup. *International Journal on Robust and Non-linear Control*, 2022. Submitted
- (J-126) A. Ma, M. Ouimet, and J. Cortés. Exploiting bias for cooperative planning in multi-agent tree search. *IEEE Robotics and Automation Letters*, 5(2):1819–1826, 2020
- (J-125) D. Boskos, J. Cortés, and S. Martinez. Data-driven ambiguity sets with probabilistic guarantees for dynamic processes. *IEEE Transactions on Automatic Control*, 66(7):2991–3006, 2021
- (J-124) P. Ong and J. Cortés. Opportunistic robot control for interactive multiobjective optimization under human performance limitations. *Automatica*, 123:109263, 2021
- (J-123) Y. Zhang and J. Cortés. Distributed bilayered control for transient frequency safety and system stability in power grids. *IEEE Transactions on Control of Network Systems*, 7(3):1476–1488, 2020
- (J-122) P. Glotfelter, J. Cortés, and M. Egerstedt. Nonsmooth approach to controller synthesis for Boolean specifications. *IEEE Transactions on Automatic Control*, 66(11):5160–5174, 2021
- (J-121) M. Barbero Liñan, J. Cortés, D. Martín de Diego, S. Martinez, and M. C. Muñoz Lecanda. Global controllability tests for geometric hybrid control systems. *Nonlinear Analysis: Hybrid Systems*, 38:100935, 2020
- (J-120) P. Pereira, J. Cortés, and D. V. Dimarogonas. Aerial slung-load position tracking under unknown wind forces. *IEEE Transactions on Automatic Control*, 66(9):3952–3968, 2021
- (J-119) C.-Y. Chang, M. Colombino, J. Cortés, and E. Dall’Anese. Saddle-flow dynamics for distributed feedback-based optimization. *IEEE Control Systems Letters*, 3(4):948–953, 2019
- (J-118) Y. Zhang and J. Cortés. Model predictive control for transient frequency regulation of power networks. *Automatica*, 123:109335, 2021

- (J-117) E. Nozari and J. Cortés. Hierarchical selective recruitment in linear-threshold brain networks. Part II: Inter-layer dynamics and top-down recruitment. *IEEE Transactions on Automatic Control*, 66(3):965–980, 2021
- (J-116) E. Nozari and J. Cortés. Hierarchical selective recruitment in linear-threshold brain networks. Part I: Intra-layer dynamics and selective inhibition. *IEEE Transactions on Automatic Control*, 66(3):949–964, 2021
- (J-115) M. J. Khojasteh, M. Hedayatpour, J. Cortés, and M. Franceschetti. Exploiting timing information in event-triggered stabilization of linear systems with disturbances. *IEEE Transactions on Control of Network Systems*, 8(1):15–27, 2021
- (J-114) Y. Zhang and J. Cortés. Distributed transient frequency control for power networks with stability and performance guarantees. *Automatica*, 105:274–285, 2019
- (J-113) A. Ma, M. Ouimet, and J. Cortés. Hierarchical reinforcement learning via dynamic subspace search for multi-agent planning. *Autonomous Robots*, 44(3-4):485–503, 2020
- (J-112) T. Stegink, A. Cherukuri, C. De Persis, A. J. van der Schaft, and J. Cortés. Hybrid interconnection of iterative bidding and power network dynamics for frequency regulation and optimal dispatch. *IEEE Transactions on Control of Network Systems*, 6(2):572–585, 2019
- (J-111) S. S. Kia, B. Van Scoy, J. Cortés, R. A. Freeman, K. M. Lynch, and S. Martinez. Tutorial on dynamic average consensus: The problem, its applications, and the algorithms. *IEEE Control Systems*, 39(3):40–72, 2019
- (J-110) C.-Y. Chang, S. Martinez, and J. Cortés. Virtual-voltage partition-based approach to mixed-integer optimal power flow problems. *IEEE Transactions on Control Systems Technology*, 29:1246–1256, 2021
- (J-109) A. Cherukuri, T. Stegink, C. De Persis, A. J. van der Schaft, and J. Cortés. Frequency-driven market mechanisms for optimal dispatch in power networks. *Automatica*, 133:109861, 2021
- (J-108) Y. Zhang and J. Cortés. Characterizing tolerable disturbances for transient-state safety in power networks. *IEEE Transactions on Network Science and Engineering*, 6:210–224, 2019
- (J-107) A. Cherukuri and J. Cortés. Cooperative data-driven distributionally robust optimization. *IEEE Transactions on Automatic Control*, 65(10):4400–4407, 2020
- (J-106) Y. Wu, S. E. Li, J. Cortés, and K. Poolla. Distributed sliding mode control for nonlinear heterogeneous platoon systems with positive definite topologies. *IEEE Transactions on Control Systems Technology*, 28(4):1272–1283, 2020
- (J-105) C. Nowzari, E. Garcia, and J. Cortés. Event-triggered control and communication of networked systems for multi-agent consensus. *Automatica*, 105:1–27, 2019
- (J-104) C.-Y. Chang, J. Cortés, and S. Martinez. Scheduled-asynchronous distributed algorithm for optimal power flow. *IEEE Transactions on Control of Network Systems*, 6(1):261–275, 2019
- (J-103) J. Cortés and M. Egerstedt. Coordinated control of multi-robot systems: A survey. *SICE Journal of Control, Measurement, and System Integration*, 10(6):495–503, 2017
- (J-102) P. J. S. Franks, J. C. Garwood, M. Ouimet, J. Cortés, R. Musgrave, and A. J. Lucas. Stokes drift of plankton in linear internal waves: Cross-shore transport of neutrally buoyant and depth-keeping organisms. *Limnology and Oceanography*, 65(6):1286–1296, 2020
- (J-101) M. J. Khojasteh, P. Tallapragada, J. Cortés, and M. Franceschetti. The value of timing information in event-triggered control. *IEEE Transactions on Automatic Control*, 65(3):925–940, 2020
- (J-100) E. Nozari, P. Tallapragada, and J. Cortés. Event-triggered stabilization of nonlinear systems with time-varying sensing and actuation delay. *Automatica*, 113:108754, 2020
- (J-99) P. Glotfelter, J. Cortés, and M. Egerstedt. Nonsmooth barrier functions with applications to multi-robot systems. *IEEE Control Systems Letters*, 1(2):310–315, 2017
- (J-98) A. Cherukuri and J. Cortés. Iterative bidding in electricity markets: rationality and robustness. *IEEE Transactions on Network Science and Engineering*, 7(3):1265–1281, 2020
- (J-97) P. Tallapragada and J. Cortés. Hierarchical-distributed optimized coordination of intersection traffic. *IEEE Transactions on Intelligent Transportation Systems*, 21(5):2100–2113, 2020
- (J-96) P. Tallapragada and J. Cortés. Distributed control of vehicle strings under finite-time and safety specifications. *IEEE Transactions on Control of Network Systems*, 5(3):1399–1411, 2018

- (J-95) E. Nozari, Y. Zhao, and J. Cortés. Network identification with latent nodes via auto-regressive models. *IEEE Transactions on Control of Network Systems*, 5(2):722–736, 2018
- (J-94) E. Nozari, F. Pasqualetti, and J. Cortés. Heterogeneity of central nodes explains the benefits of time-varying control scheduling in complex dynamical networks. *Journal of Complex Networks*, 7(5):659–701, 2019
- (J-93) P. Tallapragada, M. Franceschetti, and J. Cortés. Event-triggered second-moment stabilization of linear systems under packet drops. *IEEE Transactions on Automatic Control*, 63(8):2374–2388, 2018
- (J-92) A. Cherukuri, E. Mallada, S. H. Low, and J. Cortés. The role of convexity in saddle-point dynamics: Lyapunov function and robustness. *IEEE Transactions on Automatic Control*, 63(8):2449–2464, 2018
- (J-91) J. Cortés and S. K. Niederländer. Distributed coordination for nonsmooth convex optimization via saddle-point dynamics. *Journal of Nonlinear Science*, 29(4):1247–1272, 2019
- (J-90) A. Cherukuri and J. Cortés. Distributed coordination of DERs with storage for dynamic economic dispatch. *IEEE Transactions on Automatic Control*, 63(3):835–842, 2018
- (J-89) E. Nozari, P. Tallapragada, and J. Cortés. Differentially private average consensus: obstructions, trade-offs, and optimal algorithm design. *Automatica*, 81:221–231, 2017
- (J-88) E. Nozari, P. Tallapragada, and J. Cortés. Differentially private distributed convex optimization via functional perturbation. *IEEE Transactions on Control of Network Systems*, 5(1):395–408, 2018
- (J-87) D. Mateos-Núñez and J. Cortés. Distributed saddle-point subgradient algorithms with Laplacian averaging. *IEEE Transactions on Automatic Control*, 62(6):2720–2735, 2017
- (J-86) P. Tallapragada, M. Franceschetti, and J. Cortés. Event-triggered control under time-varying rate and channel blackouts. *IFAC Journal of Systems and Control*, 9:100064, 2019
- (J-85) Y. Zhao and J. Cortés. Gramian-based reachability metrics for bilinear networks. *IEEE Transactions on Control of Network Systems*, 4(3):620–631, 2017
- (J-84) A. Cherukuri, B. Gharesifard, and J. Cortés. Saddle-point dynamics: conditions for asymptotic stability of saddle points. *SIAM Journal on Control and Optimization*, 55(1):486–511, 2017
- (J-83) A. Cherukuri, E. Mallada, and J. Cortés. Asymptotic convergence of constrained primal-dual dynamics. *Systems & Control Letters*, 87:10–15, 2016
- (J-82) A. Cherukuri and J. Cortés. Initialization-free distributed coordination for economic dispatch under varying loads and generator commitment. *Automatica*, 74:183–193, 2016
- (J-81) C. Nowzari and J. Cortés. Distributed event-triggered coordination for average consensus on weight-balanced digraphs. *Automatica*, 68:237–244, 2016
- (J-80) D. Mateos-Núñez and J. Cortés. Noise-to-state exponentially stable distributed convex optimization on weight-balanced digraphs. *SIAM Journal on Control and Optimization*, 54(1):266–290, 2016
- (J-79) M. Ouimet and J. Cortés. Robust coordinated rendezvous of depth-actuated drifters in ocean internal waves. *Automatica*, 69:265–274, 2016
- (J-78) D. Richert and J. Cortés. Distributed bargaining in dyadic-exchange networks. *IEEE Transactions on Control of Network Systems*, 3(3):310–321, 2016
- (J-77) P. Tallapragada and J. Cortés. Event-triggered stabilization of linear systems under bounded bit rates. *IEEE Transactions on Automatic Control*, 61(6):1575–1589, 2016
- (J-76) D. Mateos-Núñez and J. Cortés. Distributed online convex optimization over jointly connected digraphs. *IEEE Transactions on Network Science and Engineering*, 1(1):23–37, 2014
- (J-75) D. Richert and J. Cortés. Distributed linear programming with event-triggered communication. *SIAM Journal on Control and Optimization*, 54(3):1769–1797, 2016
- (J-74) S. S. Kia, J. Cortés, and S. Martinez. Distributed event-triggered communication for dynamic average consensus in networked systems. *Automatica*, 59:112–119, 2015
- (J-73) S. S. Kia, J. Cortés, and S. Martinez. Distributed convex optimization via continuous-time coordination algorithms with discrete-time communication. *Automatica*, 55:254–264, 2015
- (J-72) A. Cherukuri and J. Cortés. Distributed generator coordination for initialization and anytime optimization in economic dispatch. *IEEE Transactions on Control of Network Systems*, 2(3):226–237, 2015

- (J-71) D. Richert and J. Cortés. Robust distributed linear programming. *IEEE Transactions on Automatic Control*, 60(10):2567–2582, 2015
- (J-70) S. S. Kia, J. Cortés, and S. Martinez. Dynamic average consensus under limited control authority and privacy requirements. *International Journal on Robust and Nonlinear Control*, 25(13):1941–1966, 2015
- (J-69) D. Mateos-Núñez and J. Cortés. p th moment noise-to-state stability of stochastic differential equations with persistent noise. *SIAM Journal on Control and Optimization*, 52(4):2399–2421, 2014
- (J-68) M. Ouimet and J. Cortés. Collective estimation of ocean nonlinear internal waves using robotic underwater drifters. *IEEE Access*, 1:418–427, 2013
- (J-67) C. Nowzari and J. Cortés. Team-triggered coordination for real-time control of networked cyberphysical systems. *IEEE Transactions on Automatic Control*, 61(1):34–47, 2016
- (J-66) M. Ouimet and J. Cortés. Hedonic coalition formation for optimal deployment. *Automatica*, 49(11):3234–3245, 2013
- (J-65) M. Ouimet and J. Cortés. Robust, distributed estimation of internal wave parameters via inter-drogue measurements. *IEEE Transactions on Control Systems Technology*, 22(3):980–994, 2014
- (J-64) B. Ghahesifard and J. Cortés. Stealthy deception in hypergames under informational asymmetry. *IEEE Transactions on Systems, Man & Cybernetics: Systems*, 44(6):785–795, 2014
- (J-63) D. Richert and J. Cortés. Optimal leader allocation in UAV formation pairs ensuring cooperation. *Automatica*, 49(11):3189–3198, 2013
- (J-62) C. Nowzari and J. Cortés. Self-triggered optimal servicing in dynamic environments with acyclic structure. *IEEE Transactions on Automatic Control*, 58(5):1236–1249, 2013
- (J-61) B. Ghahesifard and J. Cortés. Distributed convergence to Nash equilibria in two-network zero-sum games. *Automatica*, 49(6):1683–1692, 2013
- (J-60) H. Fang, R. A. de Callafon, and J. Cortés. Simultaneous input and state estimation for nonlinear systems with applications to flow field estimation. *Automatica*, 49(9):2805–2812, 2013
- (J-59) B. Ghahesifard and J. Cortés. Distributed continuous-time convex optimization on weight-balanced digraphs. *IEEE Transactions on Automatic Control*, 59(3):781–786, 2014
- (J-58) C. Nowzari and J. Cortés. Self-triggered coordination of robotic networks for optimal deployment. *Automatica*, 48(6):1077–1087, 2012
- (J-57) J. Feala, J. Cortés, P. M. Duxbury, A. D. McCulloch, C. Piermarocchi, and G. Paternostro. Statistical properties and robustness of biological controller-target networks. *PLoS ONE*, 7(1):e29374, 2012
- (J-56) R. Aragüés, J. Cortés, and C. Sagüés. Distributed consensus on robot networks for dynamically merging feature-based maps. *IEEE Transactions on Robotics*, 28(4):840–854, 2012
- (J-55) B. Ghahesifard and J. Cortés. Evolution of players’ misperceptions in hypergames under perfect observations. *IEEE Transactions on Automatic Control*, 57(7):1641–1656, 2012
- (J-54) J. Cortés. Deployment of an unreliable robotic sensor network for spatial estimation. *Systems & Control Letters*, 61(1):41–49, 2012
- (J-53) R. Aragüés, J. Cortés, and C. Sagüés. Distributed consensus algorithms for merging visual maps with limited communication. *Robotics and Autonomous Systems*, 59(3-4):163–180, 2011
- (J-52) R. Graham and J. Cortés. Adaptive information collection by robotic sensor networks for spatial estimation. *IEEE Transactions on Automatic Control*, 57(6):1404–1419, 2012
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