Francesco Bullo

Department of Mechanical Engineering   &   Center for Control, Dynamical Systems and Computation
University of California at Santa Barbara
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Current Academic Employment

Distinguished Professor (since 2022; Assoc Prof 2004 - 2008, Prof 2008-2022), Department of Mechanical Engineering
Chair (Jul 2013 - June 2017), Department of Mechanical Engineering
Affiliate, Center for Control, Dynamical Systems and Computation
Affiliate, Department of Computer Science
Affiliate, Department of Electrical and Computer Engineering
    University of California at Santa Barbara   *Summer 2004 – present*

Previous Academic Employment

Research Assistant Professor, Coordinated Science Laboratory
Assistant Professor, Department of General Engineering
Affiliate, Department of Electrical and Computer Engineering & Department of Aerospace Engineering
    University of Illinois at Urbana-Champaign   *Fall 1998 – Summer 2004*

Education

Ph.D., Control and Dynamical Systems, California Institute of Technology, Aug 1998
Laurea (joint B.S./M.S. equivalent), Electrical and Computer Engineering, University of Padova, Italy, Jun 1994

Research Interests

Multi-agent systems and complex networks with application to robotic and multi-vehicle coordination, distributed computing and optimization, power networks, sensor/actuator networks, social networks and camera networks. Earlier work on vehicle routing, geometric control, and motion planning.

Research Awards and Honors

ASME Fellow, Class of 2022
Sackler Lecturer, May 2022, Institute of Advanced Studies, Tel Aviv University
SIAM Fellow, Class of 2019
  "For contributions to geometric control, distributed control, and network systems with application to robotic coordination, power grids, and social networks."
Distinguished Scientist Award, PIFI program, Chinese Academy of Sciences, 2018
IFAC Fellow, Class of 2017
  "For contributions to network systems and distributed control with application to robotic coordination and power grids."
Distinguished Lecturer, IEEE Control Systems Society, 2016-2018
Distinguished Member Award, IEEE Control Systems Society, 2015
IEEE Fellow, Class of 2010
  "For contributions to geometric and cooperative control with applications to mechanical and robotic systems"
Young Investigator Award, Office of Naval Research, 2003
Xerox Foundation Award for Faculty Research, UIUC College of Engineering, 2003
Earl C. Anthony Institute Fellowship, California Institute of Technology, Sep 1995 - Aug 1996
Laurea, Summa Cum Laude, University of Padova, Italy, 1994
Education Abroad Program Fellowship, University of California at San Diego, 1992-1993

Paper Recognitions

Outstanding Paper Award, IEEE Transactions on Control of Network Systems, 2016
Guillemin-Cauer Best Paper Award, IEEE Transactions on Circuits & Systems, 2016
IFAC Automatica Best Paper Award, 2014
SIAG/CST Best Paper Prize, SIAM Journal on Control and Optimization, 2013
O. Hugo Schuck Best Paper Award, American Automatic Control Council, 2011
Article selection for inclusion in SIGEST section of SIAM Review, Mar 2009
Outstanding Paper Award, IEEE Control Systems Magazine, 2008
Best Student Paper Award Winner (as advisor): CDC 2002, ACC 2006, ACC 2010
Best Student Paper Award Finalist (as advisor): ICRA 2002, ACC 2005, CDC 2005, CDC 2007, ECC 2013, ACC 2022
Paper recognized as 2017 Google Scholar Classic Papers in the area of Automation and Control Theory

Teaching and Mentoring Awards
Outstanding Graduate Mentor Award, UCSB Academic Senate, 2015
Instructional Improvement Award, UCSB Academics Program, 2010
Primo Professor, Kiosk UCSB Student Handbook, 2008-2010
Outstanding Faculty Member, Department of Mechanical Engineering, UCSB, 2008
Outstanding Advisor Award, UIUC College of Engineering, 2004
List of Teachers Ranked as Excellent by their Students, UIUC, Spring 2001
Gamma Epsilon Excellence in Teaching Award, General Engineering Department, UIUC, 2001

Selected Invited Lectures   (P=Plenary, SP=SemiPlenary, K=Keynote, D=Distinguished, I=Invited Lecture)
(P):   19th Red Raider Symposium on Differential Geometry and Integrable Systems, Lubbock, TX, Apr 2023
(P):   61th IEEE Conference in Decision and Control, Cancun, Mexico, Dec 2022
(K):   10th Int. Symposium on Computational Intelligence and Industrial Applications (ISCIIA), online, Sep 2022
(K):   9th SIAM Workshop on Network Science (NS22), online, Sep 2022
(K):   7th Asia-Pacific Conference on Intelligent Robot Systems (ACIRS), online, Jul 2022
(K):   7th Int. Workshop on Social Sensing (SocialSens 2022), Atlanta, Georgia, Jun 2022
(K):   2nd Int. Symposium on Automation, Mechanical and Design Engineering, Beijing, China, Dec 2020
(P):   20th Int. Conference on Control, Automation and Systems, Busan, Korea, Oct 2020
(K):   3rd Int. Symposium on Swarm Behavior and Bio-Inspired Robotics, Okinawa, Japan, Nov 2019
(D):   Colloquia Roberto Tempo on Automatica, CNR and Politecnico di Torino, Turin, Italy, Apr 2019
(P):   Society of Instrument and Control Engineers Annual Conference, Nara Kasugano, Japan, Sep 2018
(P):   37th Chinese Control Conference, Wuhan, China, Jul 2018
(D):   Kwan Chao-Chi Distinguished Lecture, Chinese Academy of Science, Jun 2018
(K):   30th Chinese Control and Decision Conference, Shenyang, China, Jun 2018
(P):   10th ASME Dynamic Systems and Control Conference, Tysons Corner, VA, USA, Oct 2017
(P):   14th SIAM Conference on Control & Its Applications, Pittsburgh, PA, USA, Jul 2017
(P):   3rd Indian Control Conference, IIT Guwahati, India, Jan 2017
(D):   28th Chinese Control and Decision Conference, Yinchuan, China, May 2016
(P):   54th IEEE Conference in Decision and Control, Osaka, Japan, Dec 2015
(K):   15th Anniversary Celebration, Department of Mechanical Engineering, UC Riverside, May 2015
(P):   16th Latin American Congress of Automatic Control, Cancún, México, Oct 2014
(I):   CDS@20, CDS 20th Anniversary Workshop, Caltech, USA, Aug 2014
(P):   11th Int. Symp. on Distributed Autonomous Robotic Systems (DARS), Baltimore, MD, USA, Nov 2012
(SP):   20th Int. Symp. on Mathematical Theory of Networks and Systems (MTNS), Melbourne, Australia, Jul 2012
(P):   5th Georgia Tech Decision & Control Student Symposium, Atlanta, GA, USA, Apr 2012
(P):   11th SIAM Conference on Control & Its Applications, Baltimore, MD, USA, Jul 2011
(D):   2nd IFAC W. on Distributed Estimation & Control in Networked Systems (NECSYS), Annecy, France, Sep 2010
(D):   Symposium on Recent Trends in Networked Systems and Cooperative Control, Stuttgart, Germany, Sep 2009
(P):   17th IEEE Int. Conference on Control Applications (CCA), Saint Petersburg, Russia, Jul 2009
(D):   5th Int. Conf. on Applied Mathematics and Computing, Plovdiv, Bulgaria, Aug 2008
(P):   9th Workshop on Hybrid Systems: Computation and Control (HSCC), Santa Barbara, CA, USA, Mar 2006
(P):   25th Benelux Meeting on Systems and Control, Heeze, The Netherlands, Mar 2006
(P):   Workshop on Networked Embedded Sensing and Control, South Bend, IN, USA, Oct 2005
(SP):   16th Int. Symp. on Mathematical Theory of Networks and Systems (MTNS), Leuven, Belgium, Jul 2004
(P):   2nd IFAC Workshop Lagrangian & Hamiltonian Methods for Control, Seville, Spain, Apr 2003

URL Links
- Latest version of this CV: https://fbullo.github.io/fbullo-cv.pdf
- Orcid ID: http://orcid.org/0000-0002-4785-2118
- Google Scholar: https://scholar.google.com/citations?hl=en&user=stCtR0QAAAAJ
- ResearcherID: http://www.researcherid.com/rid/B-8146-2013
- Scopus: http://www.scopus.com/authid/detail.url?authorId=35557864500

Visiting and External Positions
- Visiting Scholar, Australian National University, Canberra, Australia, Aug 2007
- Visiting Professor, University of Cagliari, Italy, Jul 2010
- FIRST Scholar Visiting Professor, University of Colorado at Boulder, Jul 2012
- Member, Scientific Committee, Thematic semester on Network Dynamics and Resilence, Fall 2019, Dipartimento di Scienze Matematiche G. L. Lagrange, Politecnico di Torino, Italy
- Member, Doctoral School Board, Ph.D. Program in Modeling, Engineering Risk and Complexity, Scuola Superiore Meridionale, University of Naples Federico II, Italy, Jul 2021-present
- Member, Technical Advisory Board of Network Systems Learning, Control and Evolution Group, IIT Madras, Jun 2021 - May 2023

Lectures
(2023): Red Raider Symposium (Lubbock, Texas)
(2022): Masry Memorial Symposium at UC San Diego, NYU, IIT Madras, Workshop Synchronization in Natural and Engineering Systems (online), University of Iowa, Caltech, Tel Aviv University (Israel), SocialSens22 (Atlanta, Georgia), Asia-Pacific Conference on Intelligent Robot Systems, S.I.D.R.A. PhD Summer School (Italian Control Systems Society, Bertinoro, Italy), SIAM Network Science Workshop (online), Control Days Workshop (Università di Padova, Italy), Symposium on Computational Intelligence and Industrial Applications (online), IEEE CSS Control Days and ITTK (online), Universita' di Napoli, IEEE CDC (Cancun, Mexico)
(2021): Michigan State University, Tel-Aviv University (Israel), Universita' di Napoli, Louisiana State University, NIT Patna (India), Robotics and Computer Science World Forum (online), Beijing Institute of Technology, Modeling, Estimation, and Control Conference (invited tutorial session), Universita' di Napoli (SSM)
(2020): Stanford, UCSB Center for Center for Information Technology and Society, ICASS (Busan, Korea), UC Merced, Beijing Institute of Technology, Universita' di Napoli, CDC COVID-19 Focus Sessions, CDC Workshop on Social Economic Networks, Symposium on Automation, Mechanical and Design Engineering (Beijing, China)
(2019): DTRA, USC, Universita di Bologna (Italy), Politecnico di Torino (Colloquia Roberto Tempo on Automatica, Italy), University of Washington Seattle, Army Research Laboratory, Georgia Tech, Politecnico di Torino (Workshop on Infrastructure Networks), Politecnico di Torino (Workshop on Social, Economic and Financial Networks)
(2018): Chinese Control and Decision Conference (keynote, Shenyang), Northeastern University (China), Shenyang Institute of Automation (China), Kwan Chao-Chih Distinguished Lecture (AMSS, Beijing, China), Peking University, Beijing Institute of Technology, CAS Worskhop on Distributed Control and Multi-Agent Systems (Beijing, China), HauserFest (Workshop at ACC Milwaukee), Chinese Control Conference (plenary, Wuhan), Huazhong University of Science and Technology, Zheijiang University, SICE Conference (plenary, Nara, Japan), University of South Florida (Forum on Robotics & Control Engineering), UC Irvine
(2017): IIT Bombay, IIT Guwahati (plenary talk, Indian Control Conference), SIAM CT&A Conference (Pittsburgh, plenary talk), University of Texas at Dallas, ASME DSCC Conference, University of Southern California, UC San Diego, University of Toronto (Distinguished Lecture)
(2016): 1st SoCal Robotics Symposium (UCSD), Chinese Academy of Science (Distinguished Lecture, National Center for Mathematics and Interdisciplinary Sciences, Beijing, China), Chinese Control and Decision Conference (Yinchuan, China), UT Austin (Conference on Opinion Dynamics), MIT, Harvard, BasarFest at IEEE CDC (Las Vegas, USA)
(2015): Pacific Northwest National Lab, UC Riverside (keynote speaker, 15th Anniversary Celebration, ME Department), MorseFest at IEEE CDC (Osaka, Japan), IEEE CDC (Osaka, Japan)
(2014): University of New Mexico (Distinguished Lecture Series in Cyberphysical Systems), CDS 20th Anniversary Workshop (Caltech), Latin American Congress of Automatic Control (Cancún, México), SoCal Symp on Network Economics and Game Theory (Caltech)
(2013): Duke University, Northwestern University (Featured Speaker, Complex Systems Seminar Series), SIAM CT&A Conference (San Diego, CA), Allerton Conference, NSF Workshop on Future Power Systems (Washington DC), CDC Workshop on Synchronization and Control (Florence, Italy)
(2012): Lund Institute of Technology (Sweden), KTH Royal Institute of Technology (Sweden), UC San Diego, ICB Conference, Yale University, UTRC, Georgia Tech, Tsinghua University (Int Workshop on Emerging Frontiers in System and Control, Beijing, China), 32nd Annual CNLS Conference (Los Alamos National Lab), RMIT University (Melbourne), University of Melbourne (Australia), University of Colorado at Boulder, UC Riverside, NSF CPS PI Meeting, University of Texas Dallas, Johns Hopkins University, DARS Conference, Tutorial session at IEEE CDC in Maui

(2011):	Baltimore (SIAM CT 11), Systems Security Workshop at IEEE CDC in Orlando
(2010):	UC San Diego (ITA Workshop), University of New Mexico, Los Alamos National Laboratory, Massachusetts Institute of Technology, ARL Adelphi Laboratory Center, California Institute of Technology, University of Southern California, University of Illinois at Urbana-Champaign, Northwestern University, University of Illinois at Chicago, University of Cagliari (Italy), CNRS Supélec (France), UC Irvine
(2009):	UC San Diego (ITA Workshop), University of Liege (Belgium), ICB Conference, University of Washington, Carnegie Mellon University, Block Island Workshop on Swarming, University of Lecce (Italy), University of Stuttgart (Germany, NE{S|T}COC Symposium), ETH Zürich (Switzerland)
(2008):	UC San Diego (ITA Workshop), University of Siena (Italy), University of Pisa (Italy), UC Los Angeles, Yale University, City College of New York, University of Pennsylvania, Massachusetts Institute of Technology, Yale University (Frontiers in Distributed Communication, Sensing and Control Workshop), Johns Hopkins University
(2007):	University of Illinois, Georgia Tech (RSS Workshop on Robotic Sensor Networks), Australian National University (Canberra, ACT)
(2006):	UC Santa Cruz, UC Los Angeles (IPAM), Benelux Meeting on Systems and Control (Netherlands), HSCC (Santa Barbara), UC Los Angeles (Center for Systems, Dynamics and Control), Caltech, Boston University (NSF Workshop on Future Directions in Networked Sensing), Tokyo Institute of Technology (Japan)
(2005):	Universitad Autònoma de Barcelona (Spain), California Institute of Technology (Workshop on Control, Estimation, and Communication), UC Berkeley, University of Notre Dame (Workshop on Networked Embedded Sensing and Control), EPFL (Workshop on Networked Embedded Systems and Distributed Sensing)
(2004):	CNR Roma (Italy), Yale University, Boston University, Carnegie Mellon University, K. U. Leuven (Belgium), Ohio State University, Northwestern University
(2003):	University of Pisa (Italy), Kyoto University (Japan), UC Santa Barbara, Block Island Workshop on Swarming, Wright-Patterson AFB, Stanford University, Honeywell, Virginia Tech, Caltech
(2002):	Old Dominion University, University of Maryland at College-Park, University of Illinois at Chicago, Queen's University in Kingston (Canada), University of Twente (Netherlands)
(2001):	California Institute of Technology, University of Pennsylvania, Massachusetts Institute of Technology, UC Santa Barbara, University of Padova (Italy)
(2000):	Queen's University in Kingston (Canada), Arizona State University, Washington University in St. Louis, SISSA (Triest, Italy)
(1999):	Mathematisches Forschungsinsitut Oberwolfach (Germany), University of Michigan, UC Berkeley, Washington University in St. Louis, Princeton University
(1998):	UC Berkeley, UC San Diego

Advising

Current Graduate Students

(i) Francesco Seccamonte, Ph.D. student, Mechanical Engineering, UCSB
    Mentoring: Chair of Doctoral Committee, Sep 19 - present

(ii) Alexander Davydov, Ph.D. student, Mechanical Engineering, UCSB
    Mentoring: Chair of Doctoral Committee, Sep 20 - present
    Award: UCSB Chancellor's Fellowship
    Award: NSF Graduate Research Fellowship

(iii) Veronica Cettorino, Ph.D. student, Scuola Superiore Meridionale, Napoli, Italy
    Mentoring: Co-Chair of Doctoral Committee with Prof. Giovanni Russo, Jun 21 - present
    Award: Doctoral fellowship, Modeling and Engineering Risk and Complexity, SSM

(iv) Gilberto Díaz-García, Ph.D. student, ECE
    Mentoring: Co-Chair of Doctoral Committee with Prof. Jason Marden, Sep 21 - present

(v) Sean Jaffe (Ph.D. student, CS UCSB)
    Mentoring: Co-Chair of Doctoral Committee with Prof. Ambuj Singh, Aug 22 - present

(vi) Anand Gokhale (Ph.D. student, ME UCSB)
    Mentoring: Chair of Doctoral Committee, Sep 22 - present

(vii) Yohan John (Ph.D. student, ME UCSB)
    Mentoring: Chair of Doctoral Committee, Sep 22 - present

(viii) Abed Mussafar (Ph.D. student, ME UCSB)
    Mentoring: Chair of Doctoral Committee, Jan 23 - present

Former PhD Students and Placement after Graduation (as last available)

(i) Gregory J. Toussaint, Ph.D., Electrical and Computer Engineering, UIUC
    Mentoring: Co-Advisor with Prof. Tamer Başar, Aug 98 - Jun 00
    Initial Placement: Assistant Professor, Electrical and Computer Engineering Department, US Air Force Academy, Colorado

(ii) W. Todd Cerven, Ph.D., Aeronautical and Astronautical Engineering, UIUC
    Mentoring: Co-Advisor and Co-Chair of Doctoral Committee with Prof. Victoria Coverstone, Aug 98 - Jun 03
    Initial Placement: Member of Technical Staff, Aerospace Corporation, Chantille, Virginia
    Current Placement: Senior Member of Technical Staff, Aerospace Corporation, Chantille, Virginia
    Award: NSF Graduate Fellowship 1997-2001
    Award: AIAA Guidance, Navigation and Control Graduate Award 2001
    Award: Aerospace Illinois Space Consortium Fellowship 2003

(iii) Giuseppe Notarstefano, Ph.D., Electrical and Computer Engineering, University of Padova, Italy
    Mentoring: Co-Advisor with Prof. Ruggero Frezza, Jan 04 - Apr 07
    Current Placement: Professor, Universita' di Bologna
    Award: 2014 Starting Grant by the European Research Committee

(iv) Anurag Ganguli, Ph.D., Electrical and Computer Engineering, UIUC
    Mentoring: Advisor and Chair of Doctoral Committee, Aug 02 - Apr 07
    Initial Placement: Senior Research and Development Engineer, UtopiaCompression Corporation, Los Angeles, California
    Current Placement: PlusAI, California
    Award: Best Student Paper Award Finalist, 2005 American Control Conference
    Award: Best Student Paper Award Winner, 2006 American Control Conference
    Award: Carver Research Fellow, University of Illinois at Urbana Champaign

(v) Ketan Savla, Ph.D., Electrical and Computer Engineering, UCSB
    Mentoring: Advisor and Chair of Doctoral Committee, Aug 03 - Aug 07
    Initial Placement: Postdoctoral Scientist, MIT
    Current Placement: Associate Professor & John and Dorothy Shea Early Career Chair in Civil Engineering, University of Southern California
    Award: Best Student Paper Award Finalist, 2005 IEEE Conf. on Decision and Control
    Award: 2009 Best PhD Thesis Award, Center for Control, Dynamical Systems and Computation, UCSB
    Award: 2017 Eckman Award, American Automatic Control Council

(vi) Sara Susca, Ph.D., Electrical and Computer Engineering UCSB
    Mentoring: Advisor and Chair of Doctoral Committee, Sep 04 - Dec 07
    Initial Placement: Senior Research Engineer, Honeywell Research Labs, Minneapolis, Minnesota
    Current Placement: Project Manager, Jet Propulsion Laboratory, California

(vii) Nikolaj Nordkvist, Ph.D., Mathematics, Technical University of Denmark
    Mentoring: Co-Advisor with Prof. Paul Hjort, Sep 05 - Jan 08
    Initial Placement: Postdoctoral Scientist, University of Hawaii at Manoa, Hawaii
    Current Placement: Research Scientist, Numerica Corporation, Fort Collins, Colorado

(viii) Stephen L. Smith, Ph.D., Mechanical Engineering, UCSB
    Mentoring: Advisor and Chair of Doctoral Committee, Sep 05 - Sep 09
    Initial Placement: Postdoctoral Scientist, MIT
    Current Placement: Professor and Canada Research Chair, Electrical and Computer Engineering, University of Waterloo, Canada
    Award: NSERC Graduate Scholarship
    Award: Best Student Paper Award Finalist, 2007 IEEE Conf. on Decision and Control

(ix) Shaunak D. Bopardikar, Ph.D., Mechanical Engineering, UCSB
    Mentoring: Co-Advisor and Co-Chair of Doctoral Committee with Prof. Joao Hespanha, Sep 05 - Mar 10
    Initial Placement: Postdoctoral Scientist, UCSB
    Initial Placement: Senior Research Scientist, United Technology Research Center, Berkeley, California
    Current Placement: Assistant Professor, Electrical and Computer Engineering, Michigan State University

(x) Karl J. Obermeyer, Ph.D., Mechanical Engineering, UCSB
    Mentoring: Advisor and Chair of Doctoral Committee, Sep 05 - Jun 10
    Initial Placement: Controls Engineer, Air Force Research Lab, Wright-Patterson AFB, Ohio
    Initial Placement: Research Scientist, Numerica Corporation, Loveland, Colorado
    Current Placement: Tracking Research Lead, Standard Cognition
    Award: DARPA SMART Fellowship 2006-2010

(xi) Sandra H. Dandach, Ph.D., Mechanical Engineering, UCSB
    Mentoring: Advisor and Chair of Doctoral Committee, Aug 07 - Jun 11
    Initial Placement: Senior Research Scientist, United Technology Research Center, Hartfort, Connecticut
    Current Placement: Research Scientist, Apple, Cupertino, California

(xii) Joey W. Durham, Ph.D., Mechanical Engineering, UCSB
    Mentoring: Advisor and Chair of Doctoral Committee, Sep 07 - Jun 11
    Initial Placement: Research Scientist, Kiva Systems, Boston, Massachusetts
    Current Placement: Manager of Research and Advanced Development, Amazon Robotics
    Award: UCSB LEAPS Teaching Fellowship

(xiii) Fabio Pasqualetti, Ph.D., Mechanical Engineering, UCSB
    Mentoring: Advisor and Chair of Doctoral Committee, Jan 08 - Sep 12
    Initial Placement: Postdoctoral Scientist, UCSB
    Current Placement: Professor, Mechanical Engineering, UC Riverside
    Award: 2012 Excellence Fellowship, Mechanical Engineering, UCSB
    Award: 2012 Best PhD Thesis Award, Mechanical Engineering, UCSB
    Award: Outstanding Paper Award, IEEE Transactions on Control of Network Systems, 2016

(xiv) Vaibhav Srivastava, Ph.D., Mechanical Engineering, UCSB
    Mentoring: Advisor and Chair of Doctoral Committee, Sep 07 - Dec 12
    Initial Placement: Postdoctoral Scientist and Associate Research Scholar, Princeton University
    Current Placement: Assistant Professor, Electrical and Computer Engineering, Michigan State University

(xv) Anahita Mirtabatabaei, Ph.D., Mechanical Engineering, UCSB
    Mentoring: Advisor and Chair of Doctoral Committee, Sep 07 - Jun 13
    Initial Placement: Research Engineer, Bosch Research and Technology Center, Palo Alto, California
    Current Placement: Senior Machine Learning Engineer, Glassdoor

(xvi) Florian Dörfler, Ph.D., Mechanical Engineering, UCSB
    Mentoring: Advisor and Chair of Doctoral Committee, Sep 09 - Sep 13
    Award: Regents Special International Fellowship, UCSB, 2009
    Award: Best Student Paper Award Winner, 2010 American Control Conference
    Award: O. Hugo Schuck Best Paper Award, American Automatic Control Council, 2011
    Award: Frenkel Foundation Fellowship, UCSB, 2011
    Award: Best Student Paper Award Finalist, 2013 European Control Conference
    Award: IFAC Automatica Best Paper Award, 2014
    Award: 2015 Best PhD Thesis Award, Mechanical Engineering, UCSB
    Award: Guillemin-Cauer Best Paper Award, IEEE Transactions on Circuits & Systems, 2016
    Initial Placement: Assistant Professor, UC Los Angeles
    Current Placement: Associate Professor, Automatic Control Laboratory, ETH Zurich

(xvii) Rushabh Patel, Ph.D., Mechanical Engineering, UCSB
    Mentoring: Advisor and Chair of Doctoral Committee, Sep 10 - Apr 15
    Award: Northrop Grumman Fellowship, Northrop Grumman Aerospace Systems, 2010
    Award: Barpal Fellowship, 2011 and 2012
    Award: New Venture Competition 1st Place – Market Pull, UCSB, 2015
    Initial Placement: Senior Engineer, Research and Development Center, Northrop Grumman Aerospace
                              Systems, Redondo Beach, CA
    Current Placement: Control Systems Senior Specialist, Virgin Hyperloop

(xviii) John W. Simpson-Porco, Ph.D., Mechanical Engineering, UCSB
    Mentoring: Advisor and Chair of Doctoral Committee, Sep 10 - Sep 15
    Award: CCDC Outstanding Scholar Fellowship
    Award: NSERC Post-Graduate Scholarship
    Award: Frenkel Foundation Fellowship, UCSB, 2014
    Award: IFAC Automatica Best Paper Award, 2014
    Award: 2015 Best PhD Thesis Award, Center for Control, Dynamical Systems and Computation,
                              UCSB
    Initial Placement: Visiting Scientist, ETH
    Current Placement: Assistant Professor, Electrical and Computer Engineering, University of Toronto

(ix) Pushkarini Agharkar, Ph.D., Mechanical Engineering, UCSB
    Mentoring: Advisor and Chair of Doctoral Committee, Sep 11 - Dec 15
    Initial Placement: Data Scientist, airisDATA, Princeton, NJ
    Current Placement: Software Engineer, Google, Toronto

(xx) Jeffrey R. Peters, Ph.D., Mechanical Engineering, UCSB
    Mentoring: Advisor and Chair of Doctoral Committee, Sep 11 - Jun 17
    Award: CCDC Outstanding Scholar Fellowship
    Award: Winner, 2016 Mechanical Engineering Grad Slam
    Initial Placement: Senior Research Engineer and Robotics AI Expert, United Technology Research Center,
                              East Hartford, Connecticut
    Current Placement: Technical Account Manager, Yardi Systems Inc

(xxi) Wenjun Mei, Ph.D., Mechanical Engineering, UCSB
    Mentoring: Advisor and Chair of Doctoral Committee, Sep 11 - Mar 18
    Initial Placement: PostDoctoral Scientist, ETH, Zurich
    Current Placement: Assistant Professor, Department of Mechanics and Engineering Science, Peking Uni-
                              versity, China

(xxii) Mishel George, Ph.D., Mechanical Engineering, UCSB
Mentoring: CoAdvisor and CoChair of Doctoral Committee with Prof. Campàs, Sep 12 - Jun 18
Award: Winner, 2014 Mechanical Engineering Grad Slam
Initial Placement: Autonomy Software Engineer, Doordash, San Francisco, California

(xxiii) Shadi Mohagheghi, Ph.D., Electrical and Computer Engineering, UCSB
Mentoring: Chair of Doctoral Committee, Sep 15 - Apr 20
Award: NSF IGERT Fellowship
Initial Placement: Navigation and Geo-Positioning Engineer, Aerospace Corporation, LA

(xxiv) Xiaoming Duan, Ph.D., Mechanical Engineering, UCSB
Mentoring: Chair of Doctoral Committee, Sep 16 - Dec 20
Initial Placement: Postdoc, Department of Aerospace Engineering and Engineering Mechanics, UT Austin
Current Placement: Assistant Professor, Shanghai Jiao Tong

(xxv) Elizabeth Y. Huang, Ph.D., Mechanical Engineering, UCSB
Mentoring: Chair of Doctoral Committee, Sep 16 - Dec 20
Initial Placement: Research Engineer, Systems Technology Inc, Hawthorne, CA

(xxvi) Pedro Cisneros-Velarde, Ph.D., Electrical and Computer Engineering, UCSB
Mentoring: Chair of Doctoral Committee, Sep 16 - Jun 21
Award: NSF IGERT Fellowship
Initial Placement: postdoc, University of Illinois at Urbana-Champaign

(xxvii) Kevin D. Smith, Ph.D., Electrical and Computer Engineering, UCSB
Mentoring: Chair of Doctoral Committee, Sep 17 - Mar 23
Award: NSF IGERT Fellowship
Initial Placement: Senior Algorithms Engineer, Utilidata, Providence, RI

Former PostDoc Advisees and Employment after Graduation

(i) Jorge Cortés (Ph.D., Math, Universidad Carlos III, Spain, Sep 2001). Visiting PhD Student ('01) and PostDoc, CSL UIUC, Sep02-Sep04, Professor, Mechanical and Aerospace Engineering, University of California at San Diego

(ii) Sonia Martínez (Ph.D., Math, Universidad Carlos III, Spain, Feb 2002). Visiting PhD Student ('01) and PostDoc, UCSB, Dec03-Dec05, Associate Professor, Mechanical and Aerospace Engineering, University of California at San Diego

(iii) Kurt Plarre (PostDoc, CCDC and ICB, May06-Jul08), Data Analyst, ALMA Observatory (Chile)

(iv) Gábor Orosz (PostDoc, CCDC, Sep08-Aug10), Associate Professor, Mechanical Engineering, University of Michigan

(v) Ruggero Carli (PostDoc, CCDC, Feb08-Aug10), Associate Professor, Department of Information Engineering, Universitá di Padova (Italy)

(vi) Fabio Pasqualetti (Oct 2012 – Jun 2013), Assistant Professor, Mechanical Engineering, UC Riverside

(vii) Peng Jia (Ph.D., Electrical and Computer Engineering, McGill University, 2010; Postdoc and Assistant Project Scientist, Feb 2012 – Aug 2016), Data Analyst, Discover Financial Services, Arizona

(viii) Dario Paccagnan, (Ph.D., ETH Zürich, Automatic Control Laboratory; Postdoc, Feb 2019 – Aug 2020), Assistant Professor, Computer Science, Imperial College London

(ix) Saber Jafarpour, (Ph.D., Applied Mathematics, Queen's University; Postdoc Jul 2016 - Jul 2021), Postdoc, GeorgiaTech

(x) Robin Delabays, (Ph.D., Mathematics, University of Geneva and University of Applied Sciences of Western Switzerland, 2018; Postdoc, Oct 2 - Aug 22), Assistant Professor, Energy Environment, HES-SO in Sion, Switzerland

Former M.S. Students and First Employment after Graduation

(i) Peter K. Sochacki (M.S., ECE UIUC, Jan 2000), Anderson Engineering

(ii) Arvind Hosagrahara, (M.S., GE UIUC, Jun 2001), MathWorks

(iii) Ross Gadient (M.S., GE UIUC, Jun 2001), Boeing

(iv) Timur Karatas (M.S., GE UIUC, Jun 2001)

(v) Craig Robinson (M.S., GE UIUC, Dec 2003), PhD student at UIUC

(vi) Mark Disch (M.S., ECE UIUC, Jun 2004), GE Energy

(vii) Sulema Aranda (M.S., ECE UIUC, Aug 2004), Lockheed Martin

(viii) Chunkai Gao (M.S., ME UCSB, Sep 2007), PhD student at UCSB

(ix) Nathan Owen (M.S., ME UCSB, Jun 2009), Boeing Space & Intelligence Systems

(x) Giulia Piovan (M.S., ME UCSB, Jun 2010), PhD student at UCSB

(xi) Lee Nguyen (M.S., ME UCSB, Jun 2010)

(xii) Markus Spindler (M.S., University of Stuttgart, Sep 2011), Alstom

(xiii) Diego Romeres (M.S., Universita di Padova, Dec 2012), PhD student at Universita di Padova

(xiv) Hedi Bouattour (M.S., University of Stuttgart, May 2013), Siemens

(xv) Basilio Gentile (M.S., Universita di Padova, Oct 2013), PhD student at ETH Zurich

(xvi) Benjamin Del Rosario (M.S., ME UCSB, December 2014), Vehicle Guidance Navigation and Control Engineer, Northrop Grumman Corporation

(xvii) Deepti Kannapan, (M.S., ME UCSB, June 2015), Member of Technical Staff, Aerospace Corporation, El Segundo, California

(xviii) Axel Haaker, (M.S., ME UCSB, Dec 2016), Assembler I, Medtronic Brain Therapies - Neurosurgery, Goleta

(xix) Franklin Zheng, (M.S., ME UCSB, Jun 2017), Field Support Engineer, Astronics

(xx) Celeste Bean, (MS candidate, ECE UCSB, June 2018), Electrical Engineer II, Benchmark Electronics, Tempe AZ

(xxi) Sean Wang, (MS candidate, ME UCSB, June 2018), PhD student at CMU

Professional Service

Elected President-Elect/President/President-Past, IEEE CSS, Jan 2017 - Dec 2019
Vice-President for Technical Activities, IEEE Control Systems Society, Jan 2011 – Dec 2012
Vice-President for Publications, IEEE Control Systems Society, Jan 2013 – Dec 2014
Long-Range Planning Committee, IEEE Control Systems Society, Jan 2011 – Dec 2014
Program Chair, 2016 IEEE Conference in Decision and Control, 2013-2016
Elected Member, Board of Governors, IEEE Control Systems Society, 2007-2009, 2011-2013, 2016-18
Chair, TC on Manufacturing Automation and Robotic Control, IEEE Control System Society, Jul 2004 - Dec 2008

Elected Chair, SIAM Activity Group on Control and Systems Theory (SIAG CST), Jan 2020 - Dec 2021
Chair, SIAG CST, Executive Committee

Director, American Automatic Control Council, Jan-Dec 2018 and Jan 2020 - Dec 24

Member, IEEE, 1994-present (Member since 1994, Senior Member since 2003, Fellow since 2010)
Member, SIAM, 2000-present (Lifetime since 2010, Fellow since 2019)
Member, ASME, 2009-present (Fellow since 2022)
Member, AAAS, 2014-present

Member, Panel on Mechanical Science and Engineering at the Army Research Laboratory, organized by the National Academies of Sciences, Engineering, and Medicine, June 2016

Editorships:
   Editorial Board, Mathematics of Control, Signals, and Systems, Jan 2011 - Dec 2013
   Editorial Board, IEEE Transactions on Automatic Control, Jan 2005 - Dec 2008
   Editorial Board, SIAM Journal of Control and Optimization, Jan 2005 - Dec 2010
   Editorial Board, ESAIM: Control, Optimization, and the Calculus of Variations, Jan 2003 - Dec 2006
   Conference Editorial Board, IEEE Control System Society, Sep 1999 - May 2005
   Special issue of SIAM J. Control and Optim., "Control and Optimization in Cooperative Networks," Jan 2009
   Special issue of IEEE T. Autom Cntrl, "Security & Privacy of Distributed Algorithms and Network Systems", 2019

Conference Chair or Co-Chair
   CCDC Workshop on Vistas in Control. UC Santa Barbara, May 2013
   IFAC Workshop on Distributed Estimation and Control in Networked Systems, Santa Barbara, Sep 2012
   Santa Barbara Workshop: Decision, Dynamics and Control in Multi-Agent Systems, UC Santa Barbara, Jun 2011
   IFAC on Workshop Lagrangian & Hamiltonian Methods in Nonlinear Control, Nagoya, Jul 2006

Workshop Organizer or Organizing Committee:
   CDS 20th Anniversary Workshop, Caltech, Pasadena, CA, USA, Aug 2014
   SIAM Conference on Control & Its Applications, San Diego, CA, USA, Jul 2013
   UCSB CCDC Workshop on Vistas in Control, May 2013
   Invited Tutorial Session on "Coupled Oscillators," IEEE Control and Decision Conference, Dec 2012
   UCSB CCDC Workshop on Vistas in Control, Nov 2011
   Workshop on "Dynamic Vehicle Routing," Robotics Science and Systems, Jun 2011
   Workshop on "Dynamic Vehicle Routing," American Control Conference, Jun 2010
   Invited MiniTutorial at SIAM Conference on Applications of Dynamical Systems, May 2009
   Workshop on "Distributed Control of Robotic Networks," IEEE Control and Decision Conference, Dec 2008
   Workshop on "Cooperative MultiAgent Systems," Centro De Giorgi, Pisa, Dec 2007
   MiniSymposium at SIAM Conference on Applications of Dynamical Systems, May 2005
   Workshop on "Geometric Control of Mechanical Systems," IEEE Control and Decision Conference, Dec 2004
   ONR Workshop on Autonomous and Intelligent Systems, UIUC, May 2003
   Workshop on Nonlinear Control of Mechanical Systems, UIUC, Oct 2002
   MiniSymposium at SIAM Conference on Control and Its Applications, Jul 2001
   IFAC Workshop on Lagrangian and Hamiltonian Methods, Princeton, Mar 2000
   Midwest Mechanical Motion Meeting, Fall 1999, 2000, 2001, 2002
   Workshop on Mechanics, Dynamics and Control, Caltech, Dec 1997

Program Committees:

2001, 2003 and 2007 IEEE American Control Conference
2004, 2005, 2007, 2008, 2010 and 2012 IEEE Control and Decision Conference
2003 IEEE/RSJ International Conf. on Intelligent Robots & Systems
2006, 2014 Mediterranean Conference on Control Applications
2006 IEEE International Conference on Robotics and Automation
2006 Robotics: Science and Systems Conference
2006 IFAC Workshop on Multivehicle Systems
2009 Conference on Robot Communication and Coordination

Detailed list of IEEE CSS Activities 2017:

- President-Elect and Member of the Executive Committee
- Chair, Long Range Planning Committee
- Alternate Director, American Automatic Control Council
- Elected Member, Board of Governors
- Member, Outreach Task Force

Detailed list of IEEE CSS Activities 2018:

- President and Chair of the Executive Committee
- Member, Long Range Planning Committee
- Member, Nominating Committee
- IEEE Director, American Automatic Control Council
- Elected Member, Board of Governors

Detailed list of IEEE CSS Activities 2019:

- Past President
- Member, Long Range Planning Committee
- Chair, Nominating Committee

University Service

Mechanical Engineering Department
  ViceChair, Jul 2006 - Jun 2010
  Graduate Advisor and Chair of the ME Graduate Committee, Jul 2006 - Jun 2010
  Member, ME Graduate Committee, Sep 2005 - Jun 2006 & Sep 2010 - Jun 2012
  Member, ME Space Committee, Jul 2004 - Jun 2008, (Chair) Jul 2008- Jun 2009, & Jul 2009 - Jun 2010
  Member, Promotions/Merit Committee, Jul 2010– Jun 2011
  Member, Faculty Search Committee, Jul 2012 - Jun 2013

UCSB Mechanical Engineering Department Chair, Jul 2013 - Jun 2017
  Chair, MECE13 Search Cmte, Jul 2013 - Jun 2015 (no resulting hire)
  Member, MECE11 Search Cmte, Jul 2013 - Jun 2014 (hire: Prof. P. Luzzatto-Fegiz, Fluids)
  Member, MECE14 Search Cmte, Jul 2013 - Jun 2014 (hire: Lecturer T. Susko, Design)
  Member, MECE15 Search Cmte, Jul 2014 - Jun 2015 (hire: Prof. S. Daly & I. Beyerlein, Mechanics of Materials)
  Member, MECE16 Search Cmte, Jul 2015 - Jun 2016 (hire: Profs. E. Hawkes, Soft Robotics)
  Member, MECE17a Search Cmte, Jul 2016 - Jun 2017 (hire: Prof. B. Liao, Nanoscale Thermal Sciences)
  Member, MECE17 Search Cmte, Jul 2016 - Dec 2017 (hire: Profs. A. Sauret & E. Dressaire, Fluids)[†]
  Member, MECE13 Search Cmte, Jul 2015 - Feb 2018 (hire: Prof. B. Pruitt, MechanoBiology and NanoScience)[†]
                              ([†] : recruitments completed during successor's term)
  Member, Merit and Promotion Committe, Jul 2013 - Jun 2017
  Member, ABET Accreditation Renewal Committe, Jul 2014 - Jun 2015
  Chair, 50th Anniversary Celebration Organizing Committee, Jul 2014 - Jun 2015
  Member, PRP Preparation Committe, Jul 2014 - Jun 2017
  Member, Professional Degree Program Committe, Jul 2014 - Jun 2015

Between July 2013 and June 2017, Professor Bullo served as Chair of the Mechanical Engineering Department at UC Santa Barbara. Under his guidance, the department hired nine new faculty members including four faculty from underrepresented groups. Regarding educational programs, the department started a new 5-year combined BS/MS program and a new multidisciplinary capstone projects curriculum. The department received a full 6-year ABET re-accreditation as well as outstanding evaluations from a 2017 PRP review. Regarding facilities management, the department invested in broad range of renovations, including all undergraduate laboratories, classroom and conference rooms, all common areas, the main office, the former ME cleanroom facility, and two large student office laboratories. Regarding governance and finances, the department developed a broad range of new and revised policies, including bylaws, workload policy, teaching evaluations, and space use. Finally, regarding communication and development, the department embarked on a comprehensive marketing effort with redesigned website, logos, departmental posters, document templates, and fliers. The department organized a high-visibility 50th anniversary celebration in 2014, improved the visibility of the yearly design fair, and started a Distinguished Alumni Award.

College of Engineering
  Member, Faculty Executive Committee, Sep 2006 - Aug 2008 & Sep 2010 - Aug 2012
  Member, Graduate Outreach and Advancement Committee, Jan 2007 - Jun 2010

Academic Senate and University-wide Committees
  Member, GMA Committee, Winter 2016
  Member, Academic Senate Faculty Legislature, 2016-17, 2017-18
  Member, Marine Science Institute Advisory Committee, 2016-2019
  Member/ViceChair/Chair, Program Review Panel, 2018/19, 2019/20, and 2020/21

Center for Control, Dynamical Systems and Computation
  Associate Director, Jul '11 - Jun '13
  Organizer, Seminar Series, Spring '06
  Organizer, Workshop on Vistas in Control, Nov '11 & May '13

University Service at UIUC, 1998-2004
  GE Teaching Committee, Fall 2000
  GE Graduate Committee, Feb 1999 - Jun 2004
  CSL Decision and Control Seminar Series, Co-organizer, Feb 1999 - Jun 2004

Publications

Manuscripts are listed in reverse chronological order. All manuscripts and related presentations are available electronically at https://fbullo.github.io/papers.

Citation records are available at: http://scholar.google.com/citations?hl=en&user=jfehy-UAAAAJ.

Books

- F. Bullo and A. D. Lewis. *Geometric Control of Mechanical Systems*. Springer, 2004. ISBN 0-387-22195-6. DOI: 10.1007/978-1-4899-7276-7. URL https://fbullo.github.io/gcms

- F. Bullo, J. Cortés, and S. Martínez. *Distributed Control of Robotic Networks*. Princeton University Press, 2009b. ISBN 978-0-691-14195-4. URL https://fbullo.github.io/dcrn (37.1K downloads during period 1jun08-15aug21)

- F. Bullo. *Lectures on Network Systems*. Kindle Direct Publishing, 1.6 edition, Jan. 2022. ISBN 978-1986425643. URL https://fbullo.github.io/lns (8K downloads during period 1jun16-1mar22)

- F. Bullo and S. L. Smith. *Lectures on Robotic Planning and Kinematics*. Unpublished Manuscript (under contract with SIAM), 2022. URL https://fbullo.github.io/lrpk

- F. Bullo. *Contraction Theory for Dynamical Systems*. Kindle Direct Publishing, 1.1 edition, 2023. ISBN 979-8836646806. URL https://fbullo.github.io/ctds

Edited Books and Proceedings

- F. Bullo and K. Fujimoto, editors. *Lagrangian and Hamiltonian Methods for Nonlinear Control 2006*, volume 366 of *Lecture Notes in Control and Information Sciences*, 2007. Springer. ISBN 978-3-540-73889-3. DOI: 10.1007/978-3-540-73890-9. (Proceedings of the 3rd IFAC Workshop, Nagoya, Japan, July 2006)

- F. Bullo, J. Cortés, J. P. Hespanha, and P. Tabuada, editors. *Proceedings of the 3rd IFAC Workshop on Distributed Estimation and Control in Networked Systems*, 2012b. IFAC. ISBN 978-3-902823-22-9. (Santa Barbara, California, USA, September 2012)

Special Issues

- F. Bullo, J. Cortés, and B. Piccoli. Special issue on control and optimization in cooperative networks. *SIAM Journal on Control and Optimization*, 48(1):vii–vii, 2009c. DOI: 10.1137/SJCODC000048000001000vii000001
- Z. Chen, F. Pasqualetti, J. He, P. Cheng, H. L. Trentelman, and F. Bullo. Guest editorial: Special issue on security and privacy of distributed algorithms and network systems. *IEEE Transactions on Automatic Control*, 65(9): 3725–3727, 2020b. DOI: 10.1109/TAC.2020.3004329
- C. Beck, F. Bullo, G. Como, K. Drakopoulos, D. H. Nguyen, C. Nowzari, V. M. Preciado, and S. Sundaram. Special issue on mathematical modeling, analysis, and control of epidemics. *SIAM Journal on Control and Optimization*, 60(2):Si–Sii, 2022. DOI: 10.1137/22N975470

Journal Articles

[183] R. Delabays and F. Bullo. Semicontraction and synchronization of Kuramoto-Sakaguchi oscillator networks. *IEEE Control Systems Letters*, Mar. 2023. DOI: 10.1109/LCSYS.2023.3275169. To appear

[182] Y. Tian, L. Wang, and F. Bullo. How social influence affects the wisdom of crowds in influence networks. *SIAM Journal on Control and Optimization*, 2023. URL https://arxiv.org/abs/2204.13610. To appear

[181] W. Liu, J. Sun, G. Wang, F. Bullo, and J. Chen. Data-driven self-triggered control via trajectory prediction. *IEEE Transactions on Automatic Control*, 2023b. DOI: 10.1109/TAC.2023.3244116. Early Access

[180] A. V. Proskurnikov, A. Davydov, and F. Bullo. The Yakubovich S-Lemma revisited: Stability and contractivity in non-Euclidean norms. *SIAM Journal on Control and Optimization*, 2023. DOI: 10.48550/arXiv.2207.14579. To appear

[179] S. Jafarpour, A. Davydov, and F. Bullo. Non-Euclidean contraction theory for monotone and positive systems. *IEEE Transactions on Automatic Control*, 2023. DOI: 10.1109/TAC.2022.3224094. To appear

[178] C. Ravazzi, F. Bullo, and F. Dabbene. Unveiling oligarchy in influence networks from partial information. *IEEE Transactions on Control of Network Systems*, 2022. DOI: 10.1109/TCNS.2022.3225299. To appear

[177] W. Liu, J. Sun, G. Wang, F. Bullo, and J. Chen. Data-driven resilient model predictive control under denial-of-service. *IEEE Transactions on Automatic Control*, 2023a. DOI: 10.1109/TAC.2022.3209399. To appear

[176] K. D. Smith and F. Bullo. Convex optimization of the basic reproduction number. *IEEE Transactions on Automatic Control*, 2022. DOI: 10.1109/TAC.2022.3212012. To appear

[175] P. Cisneros-Velarde and F. Bullo. Distributed Wasserstein barycenters via displacement interpolation. *IEEE Transactions on Control of Network Systems*, 2023. DOI: 10.1109/TCNS.2022.3210341. To appear

[174] M. Coraggio, S. Jafarpour, F. Bullo, and M. di Bernardo. Minimax flow over acyclic networks: Distributed algorithms and microgrid application. *IEEE Transactions on Control of Network Systems*, 2022. DOI: 10.1109/TCNS.2022.3212638

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[171] R. Yan, X. Duan, Z. Shi, Y. Zhong, and F. Bullo. Matching-based capture strategies for 3D heterogeneous multiplayer reach-avoid differential games. *Automatica*, 140:110207, 2022a. DOI: 10.1016/j.automatica.2022.110207

[170] P. Cisneros-Velarde, S. Jafarpour, and F. Bullo. Contraction theory for dynamical systems on Hilbert spaces. *IEEE Transactions on Automatic Control*, 67(12):6710–6715, 2022b. DOI: 10.1109/TAC.2021.3133270

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[165] P. Cisneros-Velarde, S. Jafarpour, and F. Bullo. Distributed and time-varying primal-dual dynamics via contraction analysis. *IEEE Transactions on Automatic Control*, 67(7):3560–3566, 2022a. DOI: 10.1109/TAC.2021.3103865

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[151] P. Cisneros-Velarde, K. S. Chan, and F. Bullo. Polarization and fluctuations in signed social networks. *IEEE Transactions on Automatic Control*, 66(8):3789–3793, 2021. DOI: 10.1109/TAC.2020.3024967

[150] P. Cisneros-Velarde, N. E. Friedkin, A. V. Proskurnikov, and F. Bullo. Structural balance via gradient flows over signed graphs. *IEEE Transactions on Automatic Control*, 66(7):3169–3183, 2020. DOI: 10.1109/TAC.2020.3018435

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[4] P. Cisneros-Velarde and F. Bullo. A contraction theory approach to optimization algorithms from acceleration flows. In *International Conference on Artificial Intelligence and Statistics*, May 2022b. DOI: 10.48550/arXiv.2105.08832 (acceptance rate 29%)

[3] S. Jafarpour, M. Abate, A. Davydov, F. Bullo, and S. Coogan. Robustness certificates for implicit neural networks: A mixed monotone contractive approach. In *Learning for Dynamics and Control Conference*, June 2022a. DOI: 10.48550/arXiv.2112.05310 (acceptance rate as oral presentation 9%)

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[12] G. Diaz-García, F. Bullo, and J. R. Marden. Distributed Markov Chain-based strategies for multi-agent robotic surveillance. *IEEE Control Systems Letters*, Mar. 2023a. Submitted

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Opinion Editorials

- F. Bullo. The visible values of volunteering in the hidden technology world (President's Message). *IEEE Control Systems*, 38(1):9–10, 2018d. DOI: 10.1109/MCS.2017.2766302
- F. Bullo. On the developing world of copyrights (President's Message). *IEEE Control Systems*, 38(2):9–10, 2018a. DOI: 10.1109/MCS.2017.2786439
- F. Bullo. On the tools of our trade (President's Message). *IEEE Control Systems*, 38(3):9–11, 2018e. DOI: 10.1109/MCS.2018.2810482
- F. Bullo. Nurturing diversity and reducing implicit evaluation bias (President's Message). *IEEE Control Systems*, 38(4):8–13, 2018b. DOI: 10.1109/MCS.2018.2830018
- F. Bullo. Getting it write: Tips for effective communication (President's Message). *IEEE Control Systems*, 38(5):8–9, 2018f. DOI: 10.1109/MCS.2018.2851001
- F. Bullo. A year in review (President's Message). *IEEE Control Systems*, 38(6):10–14, 2018c. DOI: 10.1109/MCS.2018.2866644

Research Funding

Completed Projects

(G1) University of Illinois Research Board, *Stability and Locomotion in Robotic Mechanisms and Autonomous Vehicles*, F. Bullo, $25K, 1/99 – 01/00.

(G2) Army Research Office, DAAD 190110716, *Trajectories for Locomotion Systems: A Geometric and Computational Approach via Series Expansions*, F. Bullo, $210K, 9/01–8/04.

(G3) National Science Foundation, Robotics and Human Augmentation Program, IIS-0118146, *Algorithmic and Differential-Geometric Trajectory Design.* F. Bullo (PI, $155K) and S. M. Lavalle (Co-PI), total amount $300K, 9/01–8/04.

(G4) National Science Foundation, Dynamic Systems and Control Program, CMS-0100162, *Perturbation Methods for Nonlinear Control of Lagrangian Systems,* F. Bullo, $163K, 9/01–8/04.

(G5) National Science Foundation, Control, Networks, and Computational Intelligence Program, ECS-0122412, *Layered Architectures for Complex Networked Systems,* M. W. Spong (PI), F. Bullo (Co-PI, $67K), total amount $270K, 9/01–8/04.

(G6) University of Illinois Initiative in Trustworthy Networked Systems, *AeroTruNet: A Trustworthy Networked Aerospace System*, E. Frazzoli (PI), F. Bullo (Co-PI), $40K, 10/02–10/03.

(G7) Office of Naval Research, Mathematical, Computer, and Information Sciences Division, FY03 Young Investigator Program, N00014-03-1-0512, *Distributed and Adaptive Coordination Algorithms for Mobile Sensing Networks*, F. Bullo, $300K, 6/03–5/06.

(G8) Defense Advanced Research Projects Agency and Air Force Office of Scientific Research, MURI Program, F49620-02-1-0325, *Cooperative Networked Control of Dynamical Peer-to-Peer Vehicle Systems*, Consortium of UIUC (lead), Stanford, MIT, G.E. Dullerud (PI), F. Bullo (Co-PI, $300K), total amount $5M, 5/02–8/07.

(G9) National Science Foundation, Dynamic Systems and Control Program, CMS-0442041 (former CMS-0301423) *Collaborative Research: Kinematic Reductions for Underactuated Mechanical Systems,* F. Bullo, $160K, 9/03 – 8/07.

(G10) National Science Foundation, Robotics and Human Augmentation Program, IIS-0525543 (former IIS-0330008) *SENSORS: Cooperative Robotics and Geometric Optimization for Mobile Sensors*, F. Bullo, $300K, 9/03 – 8/08.

(G11) National Science Foundation, Dynamic Systems and Control Program, CMS-0626457 *Distributed Illumination Problems for Visually-guided Agents*, F. Bullo, $240K, 9/06 – 8/09.

(G12) Office of Naval Research, DURIP Program, N00014-08-1-0791, *DURIP: Large-Scale Multimodal Wireless Sensor Network*, B. S. Manjunath (PI), F. Bullo (Co-PI), total amount $655K, 5/08–4/09.

(G13) Army Research Office, Institute for Collaborative Biotechnology, W911NF-09-D-0001, *Bio-inspired Stochastic Search and Decision Making for Robotic Networks*, F. Bullo, total amount $350K, 6/07–12/09.

(G14) Office of Naval Research, Mathematical, Computer, and Information Sciences Division, N00014-07-1-0721, *Algorithmic Coordination in Robotic Networks*, F. Bullo, $304K, 1/07–6/10.

(G15) National Science Foundation, Division of Computer and Network Systems, CNS-0834446, *Collaborative Research: CSR-EHCS(EHS), TM: Distributed Sensing on Camera Sensor Networks via Robust Dynamic Consensus on Manifolds*, F. Bullo, $163K, 9/08–8/11.

(G16) Army Research Office, MURI Program, W911NF-05-1-0219, *Scalable Swarms of Autonomous Robots and Mobile Sensors*, Consortium of UPenn (lead), UC Santa Barbara, MIT, Yale, UC Berkely, V. Kumar (PI), F. Bullo (Co-PI, $725K), total amount $5M, 5/05–7/12.

(G17) Air Force Office of Scientific Research, MURI Program, FA9550-07-1-0528 *Behavioral Dynamics in the Cooperative Control of Mixed Human/Robotics Teams*, Consortium of BU (lead), Princeton, University of Washington, UCSB, J. Baillieul (PI), F. Bullo (Co-PI, $742K), total amount $7.3M, 5/07–6/11.

(G18) National Science Foundation, Robotics and Human Augmentation Program, IIS-0904501 *RI: Medium: Collaborative Research: Minimalist Mapping and Monitoring*, S. Suri (PI) and F. Bullo (Co-PI, $432K), total amount $1.28M, 8/09–7/13.

(G19) Army Research Office, Institute for Collaborative Biotechnology, W911NF-09-D-0001, *Bio-inspired Information Propagation and Opinion Dynamics in Social Networks* and *Opinion Dynamics in Social Networks*, F. Bullo, $492K, 12/09–11/13.

(G20) Army Research Office, W911NF-11-1-0092, *Dynamic Routing and Coordination in Multi-Agent Networks*, F. Bullo, $500K, 3/11–2/15.

(G21) Army Research Office, Institute for Collaborative Biotechnology, W911NF-09-D-0001, *Opinions and Influence Dynamics in Socio-Cognitive Networks*, F. Bullo, $225K, 12/13–6/15.

(G22) National Science Foundation, CyberPhysical Program, CPS-1035917 *CPS: Medium: Collaborative Research: Dynamic Routing and Robotic Coordination for Oceanographic Adaptive Sampling*, F. Bullo (PI, $360K) and S. Suri (Co-PI), total amount $1.05M, 10/10–9/15.

(G23) National Science Foundation, CyberPhysical Program, CPS-1135819 *CPS: Medium: Collaborative Research: The CyberPhysical Challenges of Transient Stability and Security in Power Grids*, F. Bullo (PI, $375K), total amount $1.12M, 9/11–9/15.

(G24) Army Research Office, W911NF-15-1-0274, *Dynamic Processes over Dynamic Social Networks*, F. Bullo, (PI, $50K), 7/15–3/16.

(G25) Army Research Office, Institute for Collaborative Biotechnology, W911NF-09-D-0001, *Supervisory Controller for Optimal Role Allocation for Cueing of Human Operators (SCORCH)*, F. Bullo, (Co-PI, $250K), total amount $2.1M, 4/14–6/18.

(G26) Army Research Office, W911NF-15-1-0577 *Validating Team Performance Models and Enlarging the Scale of Human Subject Experiments*, A. K. Singh (PI), F. Bullo (Co-PI, $166K), total amount $500K, 3/18-9/18.

(G27) Department of Energy, SunShot National Laboratory Multiyear Partnership (SuNLaMP), XAT-6-62531-01, *Stabilizing the Power System in 2035 and Beyond,* Consortium of National Renewable Energy Laboratory (lead), UCSB and University of Minnesota. Brian Johnson (PI), F. Bullo (Co-PI, $342K), total amount $3.8M, 2/16–3/19.

(G28) Air Force Office of Scientific Research, FA9550-15-1-0138, *Stochastic Surveillance and Distributed Coordination*, F. Bullo, (PI, $450K), 6/15–5/20.

(G29) Army Research Office, MURI Program, W911NF-15-1-0577, *QUANTA: Quantitative Network-based Models of Adaptive Team Behavior*, Consortium of UCSB (lead), MIT, Northwestern, USC. A. K. Singh (PI), F. Bullo (Co-PI, $1,033K), total amount $6.25M, 8/15–4/21.

(G30) Defense Threat Reduction Agency, HDTRA1-19-1-0017, *Inferring Network Structure and Flows Using Partial Observations*, UCSB and ARL, A. K. Singh (PI), F. Bullo (Co-PI, $466K), total amount $1.4M, 5/14/19-6/2/22.

Current Projects

(G31) Air Force Office of Scientific Research, FA9550-21-1-0203, *Resource Allocation in Complex Adversarial Environments*, UCSB, J. Marden (PI) and F. Bullo (Co-PI, $375K), total amount $750K, 5/1/21-4/30/25.

(G32) Air Force Office of Scientific Research, FA9550-22-1-0059, *Contraction Theory for Network Systems: Stability, Control and Learning*, UCSB, F. Bullo (PI), total amount $394K, 12/15/21-12/14/24.

(G33) U.S. Army Engineer Research and Development Center (ERDC), W912HZ-22-2-0010, *Inference of Missing Edges and Flows in Infrastructure Networks*, UCSB, A. K. Singh (PI), F. Bullo (Co-PI, $225K), total amount $450K, 4/1/22-3/31/25.

(G34) Army Research Office, W911NF-22-1-0233, *Cognitive Models and Strategies for High-Performance Human-AI Teams*, F. Bullo (PI), $900K, 9/1/22–8/31/25

(G35) Office of Naval Research, MURI Program, N00014-22-1-2813, *HUDDLE: Human Autonomy Teaming in Uncertain and Dynamic Environments*, F. Bullo (Co-PI, $699K), 9/1/22–8/31/25