

Fabio Pasqualetti

Curriculum Vitae

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Address: Department of Mechanical Engineering
University of California at Riverside
Bourns Hall A309, Riverside, CA, 92521
Phone: (+1) 951-827-2327
Email: fabiopas@engr.ucr.edu
Web: www.fabiopas.it

Current Positions

- July 2013 - Present **Assistant Professor**
Mechanical Engineering, University of California, Riverside
- July 2016 - Present **Cooperating Faculty (courtesy appointment)**
Electrical and Computer Engineering, University of California, Riverside

Previous Position

- Oct. 2012 - June 2013 **Postdoctoral Researcher**
Mechanical Engineering, University of California, Santa Barbara

Education

- Sep. 2012 **Ph.D.**
Mechanical Engineering, University of California, Santa Barbara
Advisor: Francesco Bullo
“Secure Control Systems”
- Oct. 2007 **Laurea Magistrale (M.Sc. equivalent)**
Automation Engineering, University of Pisa, Pisa, Italy
Advisor: Antonio Bicchi
“Distributed Intrusion Detection for Secure Consensus Computations”
- Aug. 2004 **Laurea (B.Sc. equivalent)**
Computer Engineering, University of Pisa, Pisa, Italy

Research Interests

My main research thrust is on *security, reliability, and trust management in cyber-physical systems*, with emphasis on distributed detection, identification, and estimation in large-scale systems. A second research direction is in network science, and particularly at the intersection between control theory and network neuroscience. A third interest is in *mobile robotics, patrolling, and persistent surveillance*, with emphasis on combinatorial optimization, complexity theory, and design of network algorithms.

Sponsored Projects (selected)

- “Integrated Perception and Planning in Resilient, Multi-Modal, Multi-Agent Networks”, ONR, co-PI, 10/01/18 - 09/30/22.
- “UC-Lab Center for Electricity Distribution Cybersecurity”, UC National Laboratories Fees Research Program, co-PI, 03/01/18 - 02/28/21.
- “Design and Operation of Secure Multi-Agent Networks”, ARO YIP, PI, 09/22/17 - 09/21/20.
- “Secure Algorithms for Cloud-Connected Autonomous Robots Interacting with Humans”, CITRIS, PI, 7/1/16 - 6/30/17.
- “Securing the Timing of Cyber-Physical Systems”, NSF, co-PI, 9/1/16 - 8/31/19.
- “A Mechanistic Model of Cognitive Control”, NSF, co-PI, 9/1/16 - 8/31/19.
- “Control-Theoretic Defense Strategies for Cyber-Physical Systems”, NSF, PI, 9/1/14 - 8/31/17.
- “Mapping and Control of Large-Scale Neural Dynamics”, NSF, co-PI, 9/1/14 - 8/31/17.
- “Secure Cyber-Physical Systems Through Security Algorithm and Embedded Platform Co-Design”, ONR, PI, 10/1/14 - 9/30/17.
- “A Hierarchical Approach to Dynamic Big Data Analysis in Power Infrastructure Security”, co-PI, NSF, 9/1/15 - 8/31/17.

Honors and Awards

Sep. 2017	ARO Young Investigator Program Award For the proposal "Design and Operation of Secure Multi-Agent Networks"
Dec. 2016	IEEE Transactions on Control of Network Systems Outstanding Paper Award For the paper "Controllability Metrics, Limitations and Algorithms for Complex Networks," IEEE Transactions on Control of Network Systems, 1(1), 40-52, 2014
July 2015	ACC Best Student Paper Award Finalist For the paper "Security in stochastic control systems: Fundamental limitations and performance bounds," American Control Conference, Chicago, IL, 195-200
May 2015	Outstanding Research Award Department of Mechanical Engineering, UCR, Riverside
June 2014	Regents Fellowship Department of Mechanical Engineering, UCR, Riverside
Mar. 2013	Best PhD Thesis Award Department of Mechanical Engineering, UCSB, Santa Barbara
June 2012	Excellence Fellowship Department of Mechanical Engineering, UCSB, Santa Barbara
Dec. 2009	General Chairs' Recognition Award for Interactive Papers Conference on Decision and Control, Shanghai, China

Advising

Current Graduate Students

Rajasekhar Anguluri	Ph.D. student, Mechanical Engineering, UCR Mentoring: Advisor and Chair of Doctoral Committee, Sep 14 - present
Gianluca Bianchin	Ph.D. student, Mechanical Engineering, UCR Mentoring: Advisor and Chair of Doctoral Committee, Sep 15 - present
Akila Ganlath	Ph.D. student, Mechanical Engineering, UCR Mentoring: Advisor and Chair of Doctoral Committee, Sep 16 - present
Tommaso Menara	Ph.D. student, Mechanical Engineering, UCR Mentoring: Advisor and Chair of Doctoral Committee, Sep 16 - present
Abed Al Makdah	Ph.D. student, Electrical and Computer Engineering, UCR Mentoring: Advisor and Chair of Doctoral Committee, Jun 18 - present

Former Graduate Students

Yin-Chen Liu	M.S. student, Mechanical Engineering, UCR Mentoring: Advisor and Chair of Doctoral Committee, Sep 15 - present
John Tran	M.S., Mechanical Engineering, UCR Mentoring: Advisor and Chair of M.S. Committee, Sep 13 - Jun 14
Mikalie Lai	M.S., Bioengineering, UCR Mentoring: Advisor and Chair of M.S. Committee, Sep 13 - Dec 15

Current Postdocs

Vaibhav Katewa, Giacomo Baggio

Former Postdocs

Shiyu Zhao; Sofia Karamintziou

Teaching Activities

Instructor

ME223(V)	<i>Secure and Reliable Control Systems</i> (S16, S17), UCR
ME145	<i>Robotic Planning and Kinematics</i> (W15, W16, W17, F17), UCR
ME018	<i>Introduction to Engineering Computation</i> (F14), UCR
ME170A	<i>Experimental Techniques</i> (S14, S15), UCR
ME133	<i>Introduction to Mechatronics</i> (W14, F15, F16, W18), UCR

Professional Service and Affiliations

Invited sessions, workshops, and tutorials organized

Jul 2018	Analysis, Design, and Control of Neural Systems Conference: SIAM Annual Meeting, Portland, OR
Jun 2018	Analysis, Design, and Control of Systems in Neuroscience Conference: IEEE American Control Conference, Milwaukee, WI
May 2017	Analysis and Control of Neural Systems Conference: IEEE American Control Conference, Seattle, WA
Dec 2016	IEEE Conference on Decision and Control Las Vegas, NV, Role: Local arrangement chair
Jun 2015	IFAC Symposium on Large Scale Complex Systems: Theory and Applications Riverside, CA, Role: Vice-chair of symposium
Jun 2015	Research Avenues in Network Neuroscience and Controls Conference: IEEE American Control Conference, Chicago, IL
Dec 2012	Security and Privacy in Cyber-Physical Systems Conference: IEEE Conference on Decision and Control, Maui, HI
Dec 2011	Workshop on Control Systems Security: Challenges and Directions Conference: IEEE Conference on Decision and Control, Orlando, FL
Jun 2011	The 2011 Santa Barbara Control Workshop: Decision, Dynamics and Control in Multi-Agent Systems Santa Barbara, CA

Editorial board and program committee

Aug 2018	Guest Editor IEEE Transactions on Automatic Control
Aug 2018	IEEE International Conference on Automation Science and Engineering
June 2018	IEEE American Control Conference
Aug 2018	IFAC Distributed Estimation and Control in Networked Systems
Dec 2017	IEEE Conference on Decision and Control
Aug 2017	IEEE International Conference on Automation Science and Engineering
Aug 2017	IEEE Consumer Communications & Networking Conference
July 2017	Cyber-Physical Security Education Workshop

Affiliations

2006 - present	Institute for Electrical and Electronics Engineers (IEEE)
2006 - present	IEEE Control Systems Society (IEEE CSS)
2016 - present	Society for Industrial and Applied Mathematics (SIAM)
2016 - present	SIAG on Control & Systems Theory

Technical Reviewer

NSF	2014 (2), 2015 (1), 2016 (1), 2017 (2)
ARO	2017 (2)
Arpa-E	2015 (1)
BSF	2015 (1)
ERC	2015 (1)
NWO	2014 (1)
Journals	Automatica ◦ IEEE Transactions on Automatic Control ◦ IEEE Transactions on Control of Network Systems ◦ IEEE Transactions on Robotics ◦ IEEE Transactions on Systems, Man, and Cybernetics, Part B ◦ International Journal of Robotics Research ◦ Transactions on Control Systems Technology ◦ Nature Communications ◦ Sensors ◦ Systems & Control Letters ◦ Nonlinearity ◦ IEEE Transactions on Industrial Informatics ◦ IEEE Computer ◦ IET Control Theory & Applications ◦ SIAM Journal on Control and Optimization ◦ IEEE Transactions on Network Science and Engineering ◦ Physical Review E ◦ Physical Review Letters ◦ Control Systems Letters ◦ IEEE Transactions on Smart Grid
Conferences	IEEE American Control Conference ◦ IEEE Conference on Decision and Control ◦ IEEE International Conference on Robotics and Automation ◦ IFAC Workshop on Distributed Estimation and Control in Networked Systems ◦ IFAC World Congress ◦ IEEE International Conference on Automation Science and Engineering ◦ IEEE Consumer Communications & Networking Conference

Selected Invited Talks

Apr. 2018	“Analysis and Design of Secure Cyber-Physical Systems“, Department of Electrical Engineering, University of Southern California, Los Angeles
Feb. 2018	“Synchronization Patterns in Networks of Kuramoto Oscillators“, Department of Mechanical and Aerospace Engineering, University of California at San Diego
Oct. 2017	“Synchronization Patterns in Networks of Kuramoto Oscillators“, Center for Systems and Control, University of Southern California, Los Angeles
Oct. 2017	“A Control-Theoretic and Data-Driven Approach to Securing Cyber-Physical Systems and Networks“, CROSS Symposium, Univ. of California, Santa Cruz
Aug. 2017	“Synchronization Patterns in Networks of Kuramoto Oscillators“, International Conference for Technology and AnaLysis of Seizures, Minneapolis
July 2017	“A Systems and Control Perspective on Privacy, Safety, and Security in large-scale Cyber-Physical Systems“, DISC Summer School, The Netherlands
June 2017	“Synchronization Patterns in Networks of Kuramoto Oscillators“, Brain Dynamics and Neurocontrol Engineering, Washington Univ. in St. Louis, St. Louis
Apr. 2015	“Controllability Metrics, Limitations and Algorithms for Complex Networks“, Dept. of Electrical and Computer Engineering, Univ. of California, San Diego
Feb. 2015	“Controllability Metrics, Limitations and Algorithms for Complex Networks“, Dept. of Mechanical and Aerospace Engineering, University of California, Irvine
Feb. 2015	“Controllability Metrics, Limitations and Algorithms for Complex Networks“, Department of Mechanical Engineering, University of California, Santa Barbara
Oct. 2014	“Controllability Metrics, Limitations and Algorithms for Complex Networks“, Symposium on Control of Network Systems, Boston
Sep. 2014	“A Control-Theoretic Approach to Network Science“, Department of Electrical Engineering, University of Notre Dame, Notre Dame
Apr. 2013	“Cyber-Physical Security, Robotic Surveillance, and Network Controllability“, Department of Computer Science, University of California, Riverside

Publications

Journal Articles Under Review

1. R. Anguluri, V. Katewa, and F. Pasqualetti. Centralized Versus Decentralized Detection of Attacks in Stochastic Interconnected Systems. *IEEE Transactions on Automatic Control*, 2018, Submitted.
2. G. Bianchin and F. Pasqualetti. Gramian-Based Optimization for the Analysis and Control of Traffic Networks. *Transportation Research Part B: Methodological*, 2018, Submitted.
3. V. Katewa and F. Pasqualetti. Minimum-gain Pole Placement with Sparse Static Feedback. *IEEE Transactions on Automatic Control*, 2018, Submitted.
4. V. Katewa and F. Pasqualetti. On the real stability radius of sparse systems. *Automatica*, 2018, Submitted.
5. Y-C. Liu, G. Bianchin, and F. Pasqualetti. Secure Trajectory Planning Against Undetectable Spoofing Attacks. *Automatica*, 2018, Submitted.
6. T. Menara, G. Baggio, D. S. Bassett, and F. Pasqualetti. Stability Conditions for Cluster Synchronization in Networks of Kuramoto Oscillators. *IEEE Transactions on Control of Network Systems*, 2018, Submitted.
7. J. D. Medaglia, S. Gu, F. Pasqualetti, R. L. Ashare, C. Lerman, J. Kable, and D. S. Bassett. Cognitive Control in the Controllable Connectome. *Journal of Neuroscience*, 2017, Submitted.
8. E. Nozari, F. Pasqualetti, and J. Cortés. Heterogeneity Explains the Benefits of Time-Varying Control in Complex Dynamical Networks. *Journal of Complex Networks*, 2017, Submitted.

Journal Articles

1. E. J. Cornblath, E. Tang, G. L. Baum, T. M. Moore, A. Abedimpe, D. R. Roalf, R. C. Gur, R. E. Gur, F. Pasqualetti, T. D. Satterthwaite, and D. S. Bassett. Sex differences in network controllability as a predictor of executive function in youth. *Cerebral Cortex*, 2018.
2. S. Gu, M. Cieslak, B. Baird, S. F. Muldoon, S. T. Grafton, F. Pasqualetti, and D. S. Bassett. The Energy Landscape of Neurophysiological Activity Implicit in Brain Network Structure. *Scientific Reports*, **8**(2507), 2018.
3. T. Menara, D. S. Bassett, and F. Pasqualetti. Structural Controllability of Symmetric Networks. *IEEE Transactions on Automatic Control*, 2018, To appear.
4. E. Wu-Yan, R. F. Betzel, E. Tang, S. Gu, F. Pasqualetti, and D. S. Bassett. Benchmarking measures of network controllability on canonical graph models. *Journal of Nonlinear Science*:1–39, 2018.
5. S. Zhao and F. Pasqualetti. Networks with Diagonal Controllability Gramians: Analysis, Graphical Conditions, and Design Algorithms. *Automatica*, 2018, To appear.
6. S. Amini, F. Pasqualetti, M. Abbaszadeh, and H. Mohsenian-Rad. Hierarchical Location Identification of Destabilizing Faults and Attacks in Power Systems: A Frequency-Domain Approach. *IEEE Transactions on Smart Grid*, 2017, To appear.
7. C-Z. Bai, V. Gupta, and F. Pasqualetti. On Kalman Filtering with Compromised Sensors: Attack Stealthiness and Performance Bounds. *IEEE Transactions on Automatic Control*, **62**(12):6641–6648, 2017.
8. C-Z. Bai, F. Pasqualetti, and V. Gupta. Data-injection attacks in stochastic control systems: Detectability and performance tradeoffs. *Automatica*, **82**:251–260, 2017.
9. G. Bianchin, P. Frasca, A. Gasparri, and F. Pasqualetti. The Observability Radius of Networks. *IEEE Transactions on Automatic Control*, **62**(6):3006–3013, 2017.
10. S. Gu, R. F. Betzel, M. G. Mattar, M. Cieslak, P. R. Delio, S. T. Grafton, F. Pasqualetti, and D. S. Bassett. Optimal trajectories of brain state transitions. *NeuroImage*, **148**:305–317, 2017.
11. V. Katewa, F. Pasqualetti, and V. Gupta. On Privacy vs Cooperation in Multi-agent Systems. *International Journal of Control*:1–15, 2017.

12. J. Kim, J. M. Soffer, A. E. Kahn, J. M. Vettel, F. Pasqualetti, and D. S. Bassett. Role of graph architecture in controlling dynamical networks with applications to neural systems. *Nature Physics*, 2017.
13. J. D. Medaglia, F. Pasqualetti, R. H. Hamilton, S. L. Thompson-Schill, and D. S. Bassett. Brain and cognitive reserve: Translation via network control theory. *Neuroscience and Biobehavioral Reviews*, 75(2017):53–64, 2017.
14. L. Wiles, S. Gu, F. Pasqualetti, D. S. Bassett, and D. F. Meaney. Autaptic Connections Shift Network Excitability and Bursting. *Scientific Reports*, 7(44006), 2017.
15. R. F. Betzel, S. Gu, J. D. Medaglia, F. Pasqualetti, and D. S. Bassett. Optimally controlling the human connectome: the role of network topology. *Scientific Reports*, 6:30770, 2016.
16. S. F. Muldoon, F. Pasqualetti, S. Gu, M. Cieslak, S. T. Grafton, J. M. Vettel, and D. S. Bassett. Stimulation-based control of dynamic brain networks. *PLoS Computational Biology*, 12(9):e1005076, 2016.
17. B. Zheng, P. Deng, R. Anguluri, Q. Zhu, and F. Pasqualetti. Cross-Layer Codesign for Secure Cyber-Physical Systems. *IEEE Transactions on Computer Aided Design of Integrated Circuits and Systems*, 35(5):699–711, 2016.
18. S. Amini, F. Pasqualetti, and H. Mohsenian-Rad. Dynamic Load Altering Attacks Against Power System Stability: Attack Models and Protection Schemes. *IEEE Transactions on Smart Grid*:1–5, 2015.
19. D. Borra, F. Pasqualetti, and F. Bullo. Continuous Graph Partitioning for Camera Network Surveillance. *Automatica*, 52(1):227–231, 2015.
20. S. Gu, F. Pasqualetti, M. Cieslak, Q. K. Telesford, B. Y. Alfred, A. E. Kahn, J. D. Medaglia, J. M. Vettel, M. B. Miller, S. T. Grafton, and D. S. Bassett. Controllability of structural brain networks. *Nature Communications*, 6, 2015.
21. F. Pasqualetti, F. Dörfler, and F. Bullo. Control-Theoretic Methods for Cyberphysical Security: Geometric Principles for Optimal Cross-Layer Resilient Control Systems. *IEEE Control Systems Magazine*, 35(1):110–127, 2015.
22. F. Pasqualetti and Q. Zhu. Design and Operation of Secure Cyber-Physical Systems. *Embedded Systems Letters*, 7(1):3–6, 2015.
23. F. Pasqualetti, D. Borra, and F. Bullo. Consensus Networks over Finite Fields. *Automatica*, 50(2), Feb. 2014.
24. F. Pasqualetti, S. Zampieri, and F. Bullo. Controllability Metrics, Limitations and Algorithms for Complex Networks. *IEEE Transactions on Control of Network Systems*, 1(1):40–52, 2014.
25. F. Pasqualetti, F. Zanella, J. R. Peters, M. Spindler, R. Carli, and F. Bullo. Camera Network Coordination for Intruder Detection. *IEEE Transactions on Control Systems Technology*, 22(5):1169–1683, 2014.
26. F. Dörfler, F. Pasqualetti, and F. Bullo. Continuous-Time Distributed Observers with Discrete Communication. *IEEE Journal of Selected Topics in Signal Processing*, 7(2):296–304, 2013.
27. F. Pasqualetti, F. Dörfler, and F. Bullo. Attack Detection and Identification in Cyber-Physical Systems. *IEEE Transactions on Automatic Control*, 58(11):2715–2729, 2013.
28. V. Srivastava, F. Pasqualetti, and F. Bullo. Stochastic Surveillance Strategies for Spatial Quickest Detection. *International Journal of Robotics Research*, 32(12):1438–1458, 2013.
29. F. Pasqualetti, R. Carli, and F. Bullo. Distributed Estimation via Iterative Projections with Application to Power Network Monitoring. *Automatica*, 48(5):747–758, 2012.
30. F. Pasqualetti, J. W. Durham, and F. Bullo. Cooperative Patrolling via Weighted Tours: Performance Analysis and Distributed Algorithms. *IEEE Transactions on Robotics*, 28(5):1181–1188, 2012.

31. F. Pasqualetti, A. Franchi, and F. Bullo. On Cooperative Patrolling: Optimal Trajectories, Complexity Analysis and Approximation Algorithms. *IEEE Transactions on Robotics*, **28**(3):592–606, 2012.
32. F. Pasqualetti, A. Bicchi, and F. Bullo. Consensus Computation in Unreliable Networks: A System Theoretic Approach. *IEEE Transactions on Automatic Control*, **56**(12):90–104, 2011.

Conference Articles Under Review

1. R. Anguluri, V. Katewa, and F. Pasqualetti. A Probabilistic Approach to Design Switching Attacks against Interconnected Systems. In: *American Control Conference*, Philadelphia, PA, USA, July 2019, Submitted.
2. G. Bianchin, F. Pasqualetti, and S. Kundu. Resilience of Traffic Networks with Partially Controlled Routing. In: *American Control Conference*, Philadelphia, PA, USA, July 2019, Submitted.
3. T. Menara, G. Baggio, D. S. Bassett, and F. Pasqualetti. Exact and Approximate Stability Conditions for Cluster Synchronization of Kuramoto Oscillators. In: *American Control Conference*, Philadelphia, PA, USA, July 2019, Submitted.

Conference Articles

1. R. Anguluri, V. Katewa, and F. Pasqualetti. Centralized Versus Decentralized Detection of Attacks in Stochastic Interconnected Systems. *IEEE Transactions on Automatic Control*, 2018, Submitted.
2. R. Anguluri, V. Katewa, and F. Pasqualetti. On the Role of Information Sharing in the Security of Interconnected Systems. In: *Asia-Pacific Signal and Information Processing Association Annual Summit and Conference*, Honolulu, HI, Nov. 2018, To appear.
3. G. Bianchin and F. Pasqualetti. A Network Optimization Framework for the Analysis and Control of Traffic Dynamics and Intersection Signaling. In: *IEEE Conf. on Decision and Control*, Miami, FL, Dec. 2018, To appear.
4. A. Duz, S. Phillips, A. Fagiolini, R. G. Sanfelice, and F. Pasqualetti. Stealthy Attacks in Cloud-Connected (Linear-Impulsive) Systems. In: *American Control Conference*, Milwaukee, WI, USA, pp. 146–152, June 2018.
5. T. Menara, V. Katewa, D. S. Bassett, and F. Pasqualetti. The Structured Controllability Radius of Symmetric (Brain) Networks. In: *American Control Conference*, Milwaukee, WI, USA, pp. 2802–2807, June 2018.
6. F. Pasqualetti, C. Favaretto, S. Zhao, and S. Zampieri. Fragility and Controllability Tradeoff in Complex Networks. In: *American Control Conference*, Milwaukee, WI, USA, pp. 216–221, June 2018.
7. S. Zhao and F. Pasqualetti. Controllability Degree of Directed Line Networks: Nodal Energy and Asymptotic Bounds. In: *European Control Conference*, Limassol, Cyprus, June 2018, To appear.
8. G. Bianchin and F. Pasqualetti. Time-Delay Attacks in Network Systems. In: *Cyber Physical Systems Security Education Workshop*, Paris, France, July 2017, To appear.
9. C. Favaretto, D. S. Bassett, A. Cenedese, and F. Pasqualetti. Bode meets Kuramoto: Synchronized Clusters in Oscillatory Networks. In: *American Control Conference*, Seattle, WA, pp. 2378–5861, May 2017.
10. C. Favaretto, A. Cenedese, and F. Pasqualetti. Cluster Synchronization in Networks of Kuramoto Oscillators. In: *IFAC World Congress*, Toulouse, France, pp. 2433–2438, July 2017.
11. A. Ganlath, R. Anguluri, V. Katewa, and F. Pasqualetti. Secure Reference-Tracking with Resource-Constrained UAVs. In: *Conference on Control Technology and Applications*, Kohala Coast, Hawaii, USA, pp. 1319–1325, Aug. 2017.
12. T. Menara, G. Bianchin, M. Innocenti, and F. Pasqualetti. On the Number of Strongly Structurally Controllable Networks. In: *American Control Conference*, Seattle, WA, USA, pp. 340–345, 2017.
13. E. Nozari, F. Pasqualetti, and J. Cortés. Time-invariant versus time-varying actuator scheduling in complex networks. In: *American Control Conference*, Seattle, WA, USA, pp. 4995–5000, May 2017.

14. S. Phillips, A. Duz, F. Pasqualetti, and R. G. Sanfelice. Hybrid Attack Monitor Design to Detect Recurrent Attacks in a Class of Cyber-Physical Systems. In: *IEEE Conf. on Decision and Control*, Melbourne, Australia, pp. 1368–1373, Dec. 2017.
15. L. Tiberi, C. Favaretto, M. Innocenti, D. S. Bassett, and F. Pasqualetti. Synchronization Patterns in Networks of Kuramoto Oscillators: A Geometric Approach for Analysis and Control. In: *IEEE Conf. on Decision and Control*, Melbourne, Australia, pp. 481–486, Dec. 2017.
16. S. Zhao and F. Pasqualetti. Discrete-Time Dynamical Networks with Diagonal Controllability Gramian. In: *IFAC World Congress*, Toulouse, France, pp. 8297–8302, July 2017.
17. R. Anguluri, R. Dhal, S. Roy, and F. Pasqualetti. Network Invariants for Optimal Input Detection. In: *American Control Conference*, Boston, MA, pp. 3776–3781, July 2016.
18. R. Anguluri, V. Gupta, and F. Pasqualetti. Periodic Coordinated Attacks Against Cyber-Physical Systems: Detectability and Performance Bounds. In: *IEEE Conf. on Decision and Control*, Las Vegas, NV, pp. 5079–5084, Dec. 2016.
19. G. Bianchin, P. Frasca, A. Gasparri, and F. Pasqualetti. The Observability Radius of Network Systems. In: *American Control Conference*, Boston, MA, pp. 185–190, July 2016.
20. A. Gasparri, F. Pasqualetti, R. Santini, and S. Panzieri. Network Composition for Optimal Disturbance Rejection. In: *American Control Conference*, Boston, MA, pp. 3764–3769, July 2016.
21. Y. Zhao, F. Pasqualetti, and J. Cortés. Scheduling of Control Nodes for Improved Network Controllability. In: *IEEE Conf. on Decision and Control*, Las Vegas, NV, pp. 1859–1864, Dec. 2016.
22. S. Amini, H. Mohsenian-Rad, and F. Pasqualetti. Dynamic Load Altering Attacks in Smart Grid. In: *IEEE PES Conf. on Innovative Smart Grid Technologies*, Washington, DC, Feb. 2015.
23. S. Amini, F. Pasqualetti, and H. Mohsenian-Rad. Detecting dynamic load altering attacks: A data-driven time-frequency analysis. In: *IEEE Int. Conf. on Smart Grid Communications*, Miami, FL, pp. 503–508, Nov. 2015.
24. Cheng-Zong Bai, F. Pasqualetti, and V. Gupta. Security in stochastic control systems: Fundamental limitations and performance bounds. In: *American Control Conference*, Chicago, IL, pp. 195–200, July 2015.
25. G. Bianchin, F. Pasqualetti, and S. Zampieri. The Role of Diameter in the Controllability of Complex Networks. In: *IEEE Conf. on Decision and Control*, Osaka, Japan, pp. 980–985, Dec. 2015.
26. F. Pasqualetti, F. Dörfler, and F. Bullo. A Divide-and-Conquer Approach to Distributed Attack Identification. In: *IEEE Conf. on Decision and Control*, Osaka, Japan, pp. 5801–5807, Dec. 2015.
27. F. Pasqualetti and S. Zampieri. On the Controllability of Isotropic and Anisotropic Networks. In: *IEEE Conf. on Decision and Control*, Los Angeles, CA, USA, pp. 607–612, Dec. 2014.
28. F. Pasqualetti, S. Zampieri, and F. Bullo. Controllability metrics and algorithms for complex networks. In: *American Control Conference*, Portland, OR, June 2014.
29. F. Pasqualetti, D. Borra, and F. Bullo. Finite-Field Consensus. In: *IEEE Conf. on Decision and Control*, Florence, Italy, pp. 2629–2634, Dec. 2013.
30. D. Borra, F. Pasqualetti, and F. Bullo. Continuous graph partitioning for camera network surveillance. In: *IFAC Workshop on Distributed Estimation and Control in Networked Systems*, Santa Barbara, CA, pp. 228–233, Sept. 2012.
31. F. Pasqualetti, F. Dörfler, and F. Bullo. Cyber-physical security via geometric control: Distributed monitoring and malicious attacks. In: *IEEE Conf. on Decision and Control*, Maui, HI, pp. 3418–3425, Dec. 2012.
32. M. Spindler, F. Pasqualetti, and F. Bullo. Distributed multi-camera synchronization for smart-intruder detection. In: *American Control Conference*, Montreal, Canada, June 2012.
33. F. Zanella, F. Pasqualetti, R. Carli, and F. Bullo. Simultaneous boundary partitioning and cameras synchronization for optimal video surveillance. In: *IFAC Workshop on Distributed Estimation and Control in Networked Systems*, Santa Barbara, CA, pp. 1–6, Sept. 2012.

34. F. Dörfler, F. Pasqualetti, and F. Bullo. Distributed detection of cyber-physical attacks in power networks: A waveform relaxation approach. In: *Allerton Conf. on Communications, Control and Computing*, Sept. 2011.
35. F. Pasqualetti, A. Bicchi, and F. Bullo. A graph-theoretical characterization of power network vulnerabilities. In: *American Control Conference*, San Francisco, CA, USA, pp. 3918–3923, June 2011.
36. F. Pasqualetti, R. Carli, and F. Bullo. A distributed method for state estimation and false data detection in power networks. In: *IEEE Int. Conf. on Smart Grid Communications*, Brussels, Belgium, Oct. 2011.
37. F. Pasqualetti, F. Dörfler, and F. Bullo. Cyber-physical attacks in power networks: Models, fundamental limitations and monitor design. In: *IEEE Conf. on Decision and Control and European Control Conference*, Orlando, FL, Dec. 2011.
38. F. Pasqualetti, R. Carli, A. Bicchi, and F. Bullo. Distributed estimation and detection under local information. In: *IFAC Workshop on Distributed Estimation and Control in Networked Systems*, Annecy, France, pp. 263–268, Sept. 2010.
39. F. Pasqualetti, R. Carli, A. Bicchi, and F. Bullo. Identifying cyber attacks under local model information. In: *IEEE Conf. on Decision and Control*, Atlanta, GA, pp. 5961–5966, Dec. 2010.
40. F. Pasqualetti, A. Franchi, and F. Bullo. On optimal cooperative patrolling. In: *IEEE Conf. on Decision and Control*, Atlanta, GA, pp. 7153–7158, Dec. 2010.
41. F. Pasqualetti, A. Bicchi, and F. Bullo. On the security of linear consensus networks. In: *IEEE Conf. on Decision and Control*, Shanghai, China, pp. 4894–4901, Dec. 2009.
42. F. Pasqualetti, S. Martini, and A. Bicchi. Steering a Leader-Follower Team Via Linear Consensus. In: *Hybrid Systems: Computation and Control*, Saint Louis, MO, pp. 642–645, Apr. 2008.
43. F. Pasqualetti, A. Bicchi, and F. Bullo. Distributed intrusion detection for secure consensus computations. In: *IEEE Conf. on Decision and Control*, New Orleans, LA, pp. 5594–5599, Dec. 2007.