Fabio Pasqualetti

List of Publications by Year
in descending order

128 papers	7,219 citations	172457 29 h-index	118850 62 g-index
135 all docs	135 docs citations	135 times ranked	4739 citing authors

#	ARTICLE	IF	CITATIONS
1	Attack Detection and Identification in Cyber-Physical Systems. IEEE Transactions on Automatic Control, 2013, 58, 2715-2729.	5.7	1,579
2	Controllability of structural brain networks. Nature Communications, 2015, 6, 8414.	12.8	600
3	Controllability Metrics, Limitations and Algorithms for Complex Networks. IEEE Transactions on Control of Network Systems, 2014, 1, 40-52.	3.7	452
4	Consensus Computation in Unreliable Networks: A System Theoretic Approach. IEEE Transactions on Automatic Control, 2012, 57, 90-104.	5.7	398
5	Control-Theoretic Methods for Cyberphysical Security: Geometric Principles for Optimal Cross-Layer Resilient Control Systems. IEEE Control Systems, 2015, 35, 110-127.	0.8	286
6	Stimulation-Based Control of Dynamic Brain Networks. PLoS Computational Biology, 2016, 12, e1005076.	3.2	234
7	Cyber-physical attacks in power networks: Models, fundamental limitations and monitor design. , 2011, , .		193
8	Optimally controlling the human connectome: the role of network topology. Scientific Reports, 2016, 6, 30770.	3.3	190
9	Data-injection attacks in stochastic control systems: Detectability and performance tradeoffs. Automatica, 2017, 82, 251-260.	5.0	160
10	Optimal trajectories of brain state transitions. NeuroImage, 2017, 148, 305-317.	4.2	143
11	On Cooperative Patrolling: Optimal Trajectories, Complexity Analysis, and Approximation Algorithms. IEEE Transactions on Robotics, 2012, 28, 592-606.	10.3	142
12	Dynamic Load Altering Attacks Against Power System Stability: Attack Models and Protection Schemes. IEEE Transactions on Smart Grid, 2018, 9, 2862-2872.	9.0	133
13	White Matter Network Architecture Guides Direct Electrical Stimulation through Optimal State Transitions. Cell Reports, 2019, 28, 2554-2566.e7.	6.4	104
14	Role of graph architecture in controlling dynamical networks with applications to neural systems. Nature Physics, 2018, 14, 91-98.	16.7	96
15	Brain and cognitive reserve: Translation via network control theory. Neuroscience and Biobehavioral Reviews, 2017, 75, 53-64.	6.1	95
16	On Kalman Filtering with Compromised Sensors: Attack Stealthiness and Performance Bounds. IEEE Transactions on Automatic Control, 2017, 62, 6641-6648.	5.7	95
17	Distributed estimation via iterative projections with application to power network monitoring. Automatica, 2012, 48, 747-758.	5.0	89
18	Cooperative Patrolling via Weighted Tours: Performance Analysis and Distributed Algorithms. IEEE Transactions on Robotics, 2012, 28, 1181-1188.	10.3	87

#	ARTICLE	IF	CITATIONS
19	The Energy Landscape of Neurophysiological Activity Implicit in Brain Network Structure. Scientific Reports, 2018, 8, 2507.	3.3	81
20	Security in stochastic control systems: Fundamental limitations and performance bounds. , 2015, , .		75
21	Distributed intrusion detection for secure consensus computations. , 2007, , .		74
22	A practical guide to methodological considerations in the controllability of structural brain networks. Journal of Neural Engineering, 2020, 17, 026031.	3.5	74
23	Data-driven control of complex networks. Nature Communications, 2021, 12, 1429.	12.8	72
24	Brain network dynamics during working memory are modulated by dopamine and diminished in schizophrenia. Nature Communications, 2021, 12, 3478.	12.8	69
25	Stability Conditions for Cluster Synchronization in Networks of Heterogeneous Kuramoto Oscillators. IEEE Transactions on Control of Network Systems, 2020, 7, 302-314.	3.7	61
26	Sex differences in network controllability as a predictor of executive function in youth. NeuroImage, 2019, 188, 122-134.	4.2	59
27	A graph-theoretical characterization of power network vulnerabilities. , 2011, , .		58
28	Data-Driven Minimum-Energy Controls for Linear Systems. , 2019, 3, 589-594.		58
29	Cross-Layer Codesign for Secure Cyber-Physical Systems. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2016, 35, 699-711.	2.7	57
30	Cyber-physical security via geometric control: Distributed monitoring and malicious attacks. , 2012, , .		50
31	Structural Controllability of Symmetric Networks. IEEE Transactions on Automatic Control, 2019, 64, 3740-3747.	5.7	50
32	Optimization of energy state transition trajectory supports the development of executive function during youth. ELife, 2020, 9, .	6.0	47
33	Consensus networks over finite fields. Automatica, 2014, 50, 349-358.	5.0	46
34	Dynamic load altering attacks in smart grid. , 2015, , .		46
35	Models of communication and control for brain networks: distinctions, convergence, and future outlook. Network Neuroscience, 2020, 4, 1122-1159.	2.6	46
36	A distributed method for state estimation and false data detection in power networks. , 2011, , .		41

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37	Continuous-Time Distributed Observers With Discrete Communication. IEEE Journal on Selected Topics in Signal Processing, 2013, 7, 296-304.	10.8	41
38	Time-evolving controllability of effective connectivity networks during seizure progression. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	41
39	Autaptic Connections Shift Network Excitability and Bursting. Scientific Reports, 2017, 7, 44006.	3.3	39
40	On optimal cooperative patrolling. , 2010, , .		32
41	Secure trajectory planning against undetectable spoofing attacks. Automatica, 2020, 112, 108655.	5.0	29
42	On the security of linear consensus networks. , 2009, , .		28
43	On privacy vs. cooperation in multi-agent systems. International Journal of Control, 2018, 91, 1693-1707.	1.9	28
44	Controllability metrics, limitations and algorithms for complex networks. , 2014, , .		27
45	Benchmarking Measures of Network Controllability on Canonical Graph Models. Journal of Nonlinear Science, 2020, 30, 2195-2233.	2.1	27
46	A divide-and-conquer approach to distributed attack identification. , 2015, , .		26
47	Gene coexpression patterns predict opiate-induced brain-state transitions. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 19556-19565.	7.1	26
48	On the controllability of isotropic and anisotropic networks. , 2014, , .		25
49	On Direct vs Indirect Data-Driven Predictive Control. , 2021, , .		25
50	Camera Network Coordination for Intruder Detection. IEEE Transactions on Control Systems Technology, 2014, 22, 1669-1683.	5.2	24
51	Stochastic surveillance strategies for spatial quickest detection. International Journal of Robotics Research, 2013, 32, 1438-1458.	8.5	21
52	Design and Operation of Secure Cyber-Physical Systems. IEEE Embedded Systems Letters, 2015, 7, 3-6.	1.9	21
53	Networks with diagonal controllability Gramian: Analysis, graphical conditions, and design algorithms. Automatica, 2019, 102, 10-18.	5.0	21
54	Synchronization patterns in networks of Kuramoto oscillators: A geometric approach for analysis and control. , 2017, , .		20

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55	Hierarchical Location Identification of Destabilizing Faults and Attacks in Power Systems: A Frequency-Domain Approach. IEEE Transactions on Smart Grid, 2019, 10, 2036-2045.	9.0	20
56	Scheduling of control nodes for improved network controllability. , 2016, , .		19
57	RE: Warnings and caveats in brain controllability. NeuroImage, 2019, 197, 586-588.	4.2	19
58	Distributed detection of cyber-physical attacks in power networks: A waveform relaxation approach. , 2011, , .		17
59	Cluster Synchronization in Networks of Kuramoto Oscillators 1 1This material is based upon work supported in part by NSF awards BCS-1631112 and BCS-1430279.. IFAC-PapersOnLine, 2017, 50, 2433-2438.	0.9	17
60	Time-invariant versus time-varying actuator scheduling in complex networks. , 2017, , .		17
61	Gramian-Based Optimization for the Analysis and Control of Traffic Networks. IEEE Transactions on Intelligent Transportation Systems, 2020, 21, 3013-3024.	8.0	17
62	The Observability Radius of Networks. IEEE Transactions on Automatic Control, 2017, 62, 3006-3013.	5.7	16
63	Learning in brain-computer interface control evidenced by joint decomposition of brain and behavior. Journal of Neural Engineering, 2020, 17, 046018.	3.5	15
64	Detecting dynamic load altering attacks: A data-driven time-frequency analysis. , 2015, , .		14
65	A Framework to Control Functional Connectivity in the Human Brain. , 2019, , .		14
66	Control of brain network dynamics across diverse scales of space and time. Physical Review E, 2020, 101, 062301.	2.1	14
67	Data-Driven Attack Detection for Linear Systems. , 2021, 5, 671-676.		14
68	Identifying cyber attacks via local model information. , 2010, , .		13
69	Fragility and Controllability Tradeoff in Complex Networks. , 2018, , .		13
70	The Structured Controllability Radius of Symmetric (Brain) Networks. , 2018, , .		13
71	Mediated Remote Synchronization of Kuramoto-Sakaguchi Oscillators: The Number of Mediators Matters. , 2021, 5, 767-772.		12
72	Heterogeneity of central nodes explains the benefits of time-varying control scheduling in complex dynamical networks. Journal of Complex Networks, 2019, , .	1.8	11

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73	Secure Navigation of Robots in Adversarial Environments. , 2020, 4, 1-6.		11
74	Centralized Versus Decentralized Detection of Attacks in Stochastic Interconnected Systems. IEEE Transactions on Automatic Control, 2020, 65, 3903-3910.	5.7	11
75	Fragility Limits Performance in Complex Networks. Scientific Reports, 2020, 10, 1774.	3.3	11
76	The role of diameter in the controllability of complex networks. , 2015, , .		10
77	Time-Delay Attacks in Network Systems. , 2018, , 157-174.		10
78	Path-dependent connectivity, not modularity, consistently predicts controllability of structural brain networks. Network Neuroscience, 2020, 4, 1091-1121.	2.6	10
79	Steering a Leader-Follower Team Via Linear Consensus. Lecture Notes in Computer Science, 2008, , 642-645.	1.3	10
80	Distributed multi-camera synchronization for smart-intruder detection. , 2012, , .		9
81	Discrete-Time Dynamical Networks with Diagonal Controllability Gramian * *This material is based upon work supported in part by ONR award N00014-14-1-0816 and NSF award ECCS 1462530.. IFAC-PapersOnLine, 2017, 50, 8297-8302.	0.9	8
82	Attack Detection in Stochastic Interconnected Systems: Centralized vs Decentralized Detectors. , 2018, , .		8
83	Exact and Approximate Stability Conditions for Cluster Synchronization of Kuramoto Oscillators. , 2019, , .		8
84	On the real stability radius of sparse systems. Automatica, 2020, 113, 108685.	5.0	8
85	Phase-amplitude coupling in neuronal oscillator networks. Physical Review Research, 2021, 3, .	3.6	8
86	Learning Minimum-Energy Controls from Heterogeneous Data. , 2020, , .		8
87	Distributed Learning of Optimal Controls for Linear Systems. , 2021, , .		8
88	A Network Optimization Framework for the Analysis and Control of Traffic Dynamics and Intersection Signaling. , 2018, , .		7
89	Conditions for Feedback Linearization of Network Systems. , 2020, 4, 578-583.		7
90	Minimum-Gain Pole Placement With Sparse Static Feedback. IEEE Transactions on Automatic Control, 2021, 66, 3445-3459.	5.7	7

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91	Relay Interactions Enable Remote Synchronization in Networks of Phase Oscillators. , 2022, 6, 500-505.		7
92	Data-Driven Meets Geometric Control: Zero Dynamics, Subspace Stabilization, and Malicious Attacks. , 2022, 6, 2569-2574.		7
93	Controllability Degree of Directed Line Networks: Nodal Energy and Asymptotic Bounds. , 2018, , .		6
94	A Fundamental Performance Limitation for Adversarial Classification. , 2020, 4, 169-174.		6
95	Accuracy Prevents Robustness in Perception-based Control. , 2020, , .		6
96	Periodic coordinated attacks against cyber-physical systems: Detectability and performance bounds. , 2016, , .		5
97	Bode meets Kuramoto: Synchronized clusters in oscillatory networks. , 2017, , .		5
98	Stealthy Attacks in Cloud-Connected Linear Impulsive Systems. , 2018, , .		5
99	Guest Editorial: Special Issue on Security and Privacy of Distributed Algorithms and Network Systems. IEEE Transactions on Automatic Control, 2020, 65, 3725-3727.	5.7	5
100	Brain network dynamics fingerprints are resilient to data heterogeneity. Journal of Neural Engineering, 2021, 18, 026004.	3.5	5
101	Resilience of Traffic Networks with Partially Controlled Routing. , 2019, , .		5
102	Non-Stationary Representation Learning in Sequential Linear Bandits. , 2022, 1, 41-56.		5
103	Continuous graph partitioning for camera network surveillance. Automatica, 2015, 52, 227-231.	5.0	4
104	Network composition for optimal disturbance rejection. , 2016, , .		4
105	The observability radius of network systems. , 2016, , .		4
106	Secure reference-tracking with resource-constrained UAVs. , 2017, , .		4
107	On the number of strongly structurally controllable networks. , 2017, , .		4
108	Hybrid attack monitor design to detect recurrent attacks in a class of cyber-physical systems. , 2017, , .		4

#	ARTICLE	IF	CITATIONS
109	Linear-Threshold Dynamics for the Study of Epileptic Events. , 2021, 5, 1405-1410.		4
110	On a security vs privacy trade-off in interconnected dynamical systems. Automatica, 2021, 125, 109426.	5.0	4
111	Multiagent Persistent Monitoring via Time-Inverted Kuramoto Dynamics. , 2022, 6, 2798-2803.		4
112	Network invariants for optimal input detection. , 2016, , .		3
113	The Shannon Capacity of Linear Dynamical Networks. , 2019, , .		3
114	Energy-Aware Controllability of Complex Networks. Annual Review of Control, Robotics, and Autonomous Systems, 2022, 5, 465-489.	11.8	3
115	Path-dependent dynamics induced by rewiring networks of inertial oscillators. Physical Review E, 2022, 105, 024304.	2.1	3
116	Finite-field consensus. , 2013, , .		1
117	On the Role of Information Sharing in the Security of Interconnected Systems. , 2018, , .		1
118	Optimal Dynamic Load-Altering Attacks Against Power Systems. , 2021, , .		1
119	Deflection-based Attack Detection for Network Systems. , 2021, , .		1
120	Detection of Attacks in Cyber-Physical Systems: Theory and Applications. Lecture Notes in Control and Information Sciences, 2021, , 79-98.	1.0	1
121	A Probabilistic Approach to Design Switching Attacks against Interconnected Systems. , 2019, , .		1
122	55th IEEE Conference on Decision and Control, CDC 2016 [Conference Reports]. IEEE Control Systems, 2017, 37, 104-110.	0.8	0
123	Controllability of Network Systems. , 2021, , 419-424.		0
124	Controllability of Network Systems. , 2020, , 1-6.		0
125	Accuracy Prevents Robustness in Perception-based Control. , 2020, , .		0
126	Robust Adversarial Classification via Abstaining. , 2021, , .		0

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127	Time-Inverted Kuramoto Dynamics for Î³-Clustered Circle Coverage. , 2021, , .		0
128	Network theoretic analysis of maximum a posteriori detectors for optimal input detection. Automatica, 2022, 141, 110277.	5.0	0