Todd P Coleman

List of Publications by Year
in descending order

90 papers	6,860 citations	279798 23 h-index	128289 60 g-index
92 all docs	92 docs citations	92 times ranked	10089 citing authors

#	Article	IF	Citations
1	Epidermal Electronics. Science, 2011, 333, 838-843.	12.6	3,944
2	Fractal design concepts for stretchable electronics. Nature Communications, 2014, 5, 3266.	12.8	821
3	Estimating the directed information to infer causal relationships in ensemble neural spike train recordings. Journal of Computational Neuroscience, 2011, 30, 17-44.	1.0	245
4	Emerging Technologies for Molecular Diagnosis of Sepsis. Clinical Microbiology Reviews, 2018, 31, .	13.6	210
5	Circadian Rhythm of Redox State Regulates Excitability in Suprachiasmatic Nucleus Neurons. Science, 2012, 337, 839-842.	12.6	188
6	Spatial Patterns From High-Resolution Electrogastrography Correlate With Severity of Symptoms in Patients With Functional Dyspepsia and Gastroparesis. Clinical Gastroenterology and Hepatology, 2019, 17, 2668-2677.	4.4	101
7	Directed Information Graphs. IEEE Transactions on Information Theory, 2015, 61, 6887-6909.	2.4	93
8	Large-scale spatiotemporal spike patterning consistent with wave propagation in motor cortex. Nature Communications, 2015, 6, 7169.	12.8	85
9	High-Resolution Electrogastrogram: A Novel, Noninvasive Method for Determining Gastric Slow-Wave Direction and Speed. IEEE Transactions on Biomedical Engineering, 2017, 64, 807-815.	4.2	79
10	Artifact Rejection Methodology Enables Continuous, Noninvasive Measurement of Gastric Myoelectric Activity in Ambulatory Subjects. Scientific Reports, 2018, 8, 5019.	3.3	69
11	Introduction to the Special Issue on Information Theory in Molecular Biology and Neuroscience. IEEE Transactions on Information Theory, 2010, 56, 649-652.	2.4	65
12	Grand Challenges in Mapping the Human Brain: NSF Workshop Report. IEEE Transactions on Biomedical Engineering, 2013, 60, 2983-2992.	4.2	62
13	Scalable Manufacturing of Solderable and Stretchable Physiologic Sensing Systems. Advanced Materials, 2017, 29, 1701312.	21.0	49
14	Low-Complexity Approaches to Slepian–Wolf Near-Lossless Distributed Data Compression. IEEE Transactions on Information Theory, 2006, 52, 3546-3561.	2.4	43
15	Scalable Microfabrication Procedures for Adhesive-Integrated Flexible and Stretchable Electronic Sensors. Sensors, 2015, 15, 23459-23476.	3.8	38
16	A State Space and Density Estimation Framework for Sleep Staging in Obstructive Sleep Apnea. IEEE Transactions on Biomedical Engineering, 2018, 65, 1201-1212.	4.2	38
17	Biosynthesis of Orthogonal Molecules Using Ferredoxin and Ferredoxin-NADP^{+} Reductase Systems Enables Genetically Encoded PhyB Optogenetics. ACS Synthetic Biology, 2018, 7, 706-717.	3.8	35
18	Visualization of Whole-Night Sleep EEG From 2-Channel Mobile Recording Device Reveals Distinct Deep Sleep Stages with Differential Electrodermal Activity. Frontiers in Human Neuroscience, 2016, 10, 605.	2.0	33

#	Article	IF	Citations
19	An Optimizer's Approach to Stochastic Control Problems With Nonclassical Information Structures. IEEE Transactions on Automatic Control, 2015, 60, 937-949.	5.7	30
20	A Feedback Information-Theoretic Approach to the Design of Brainâ€"Computer Interfaces. International Journal of Human-Computer Interaction, 2010, 27, 5-23.	4.8	29
21	A Computationally Efficient Method for Nonparametric Modeling of Neural Spiking Activity with Point Processes. Neural Computation, 2010, 22, 2002-2030.	2.2	28
22	A Timing Channel Spyware for the CSMA/CA Protocol. IEEE Transactions on Information Forensics and Security, 2013, 8, 477-487.	6.9	28
23	EEG Gamma Band Oscillations Differentiate the Planning of Spatially Directed Movements of the Arm Versus Eye: Multivariate Empirical Mode Decomposition Analysis. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2014, 22, 1083-1096.	4.9	26
24	Efficient Methods to Compute Optimal Tree Approximations of Directed Information Graphs. IEEE Transactions on Signal Processing, 2013, 61, 3173-3182.	5.3	24
25	A Mixed-Filter Algorithm for Dynamically Tracking Learning from Multiple Behavioral and Neurophysiological Measures. , 2011, , 3-28.		20
26	A stochastic control viewpoint on ‘Posterior Matching’-style feedback communication schemes. , 2009, , .		19
27	Learning Minimal Latent Directed Information Polytrees. Neural Computation, 2016, 28, 1723-1768.	2.2	19
28	The Use of Cardiac Orienting Responses as an Early and Scalable Biomarker of Alcoholâ€Related Neurodevelopmental Impairment. Alcoholism: Clinical and Experimental Research, 2017, 41, 128-138.	2.4	19
29	Covert timing channels codes for communication over interactive traffic. , 2009, , .		18
30	Equivalence between minimal generative model graphs and directed information graphs. , 2011, , .		18
31	A Deep Convolutional Neural Network Approach to Classify Normal and Abnormal Gastric Slow Wave Initiation From the High Resolution Electrogastrogram. IEEE Transactions on Biomedical Engineering, 2020, 67, 854-867.	4.2	18
32	In-Home Sleep Recordings in Military Veterans With Posttraumatic Stress Disorder Reveal Less REM and Deep Sleep <1 Hz. Frontiers in Human Neuroscience, 2018, 12, 196.	2.0	17
33	Bayesian inverse methods for spatiotemporal characterization of gastric electrical activity from cutaneous multi-electrode recordings. PLoS ONE, 2019, 14, e0220315.	2.5	16
34	A Distributed Scheme for Achieving Energy-Delay Tradeoffs With Multiple Service Classes Over a Dynamically Varying Network. IEEE Journal on Selected Areas in Communications, 2004, 22, 929-941.	14.0	15
35	Generalizing the Posterior Matching Scheme to higher dimensions via optimal transportation. , 2011, , .		15
36	Efficient Bayesian inference methods via convex optimization and optimal transport. , 2013, , .		15

#	Article	IF	Citations
37	Characterizing the Efficacy of the NRL Network Pump in Mitigating Covert Timing Channels. IEEE Transactions on Information Forensics and Security, 2012, 7, 64-75.	6.9	14
38	Dynamic and Succinct Statistical Analysis of Neuroscience Data. Proceedings of the IEEE, 2014, 102, 683-698.	21.3	14
39	High‐density surface electromyography: A visualization method of laryngeal muscle activity. Laryngoscope, 2019, 129, 2347-2353.	2.0	14
40	An Adhesive‐Integrated Stretchable Silver‐Silver Chloride Electrode Array for Unobtrusive Monitoring of Gastric Neuromuscular Activity. Advanced Materials Technologies, 2021, 6, 2001229.	5.8	13
41	Interoceptive insular cortex participates in sensory processing of gastrointestinal malaise and associated behaviors. Scientific Reports, 2020, 10, 21642.	3.3	12
42	Smart Electronic Eyedrop Bottle for Unobtrusive Monitoring of Glaucoma Medication Adherence. Sensors, 2020, 20, 2570.	3.8	12
43	A Stochastic Control Approach to Optimally Designing Hierarchical Flash Sets in P300 Communication Prostheses. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2012, 20, 102-112.	4.9	11
44	A Message-Passing Approach to Combating Desynchronization Attacks. IEEE Transactions on Information Forensics and Security, 2011, 6, 894-905.	6.9	10
45	Adaptive flexible antennas for wireless biomedical applications. , 2016, , .		9
46	A High-Resolution Digital DNA Melting Platform for Robust Sequence Profiling and Enhanced Genotype Discrimination. SLAS Technology, 2018, 23, 580-591.	1.9	9
47	Epidermal Electrode Technology for Detecting Ultrasonic Perturbation of Sensory Brain Activity. IEEE Transactions on Biomedical Engineering, 2018, 65, 1272-1280.	4.2	9
48	The activity of discrete sets of neurons in the posterior insula correlates with the behavioral expression and extinction of conditioned fear. Journal of Neurophysiology, 2018, 120, 1906-1913.	1.8	9
49	Joint Source‐Channel Coding for Transmitting Correlated Sources Over Broadcast Networks. IEEE Transactions on Information Theory, 2009, 55, 3864-3868.	2.4	8
50	On reversible Markov chains and maximization of directed information. , 2010, , .		8
51	An Information and Control Framework for Optimizing User-Compliant Human‐Computer Interfaces. Proceedings of the IEEE, 2017, 105, 273-285.	21.3	8
52	Data-driven noise modeling of digital DNA melting analysis enables prediction of sequence discriminating power. Bioinformatics, 2021, 36, 5337-5343.	4.1	8
53	An analytic spatial filter and a hidden Markov model for enhanced information transfer rate in EEG-based brain computer interfaces. , 2010, , .		7
54	A Modularized Efficient Framework for Non-Markov Time Series Estimation. IEEE Transactions on Signal Processing, 2018, 66, 3140-3154.	5.3	7

#	Article	IF	Citations
55	Measuring Sample Path Causal Influences With Relative Entropy. IEEE Transactions on Information Theory, 2020, 66, 2777-2798.	2.4	7
56	A dynamical point process model of auditory nerve spiking in response to complex sounds. Journal of Computational Neuroscience, 2010, 29, 193-201.	1.0	6
57	Stretchable and flexible adhesive-integrated antenna for biomedical applications. , 2016, , .		6
58	Querying the user properly for high-performance brain-machine interfaces: Recursive estimation, control, and feedback information-theoretic perspectives. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	5
59	An optimizer's approach to stochastic control problems with nonclassical information structures. , 2012, , .		5
60	Bit-Wise Unequal Error Protection for Variable-Length Block Codes With Feedback. IEEE Transactions on Information Theory, 2013, 59, 1475-1504.	2.4	5
61	A Distributed Framework for the Construction of Transport Maps. Neural Computation, 2019, 31, 613-652.	2.2	5
62	Statistical uncertainty quantification to augment clinical decision support: a first implementation in sleep medicine. Npj Digital Medicine, 2021, 4, 142.	10.9	5
63	Passive longitudinal weight and cardiopulmonary monitoring in the home bed. Scientific Reports, 2021, 11, 24376.	3.3	5
64	Approximating discrete probability distributions with causal dependence trees. , 2010, , .		4
65	Bit-wise unequal error protection for variable length blockcodes with feedback. , 2010, , .		4
66	Learning minimal latent directed information trees. , 2012, , .		4
67	A flexible likelihood approach for predicting neural spiking activity from oscillatory phase. Journal of Neuroscience Methods, 2019, 311, 307-317.	2.5	4
68	Electrochemical performance study of Ag/AgCl and Au flexible electrodes for unobtrusive monitoring of human biopotentials. Nano Select, 2022, 3, 1277-1287.	3.7	4
69	Policies for neural prosthetic control: Initial experiments with a text interface. , 2008, , .		3
70	A generalized prediction framework for granger causality. , 2011, , .		3
71	Information transfer between neurons in the motor cortex triggered by visual cues. , 2011, 2011, 7278-81.		3
72	A minimal approach to causal inference on topologies with bounded indegree. , 2011, , .		3

#	Article	IF	Citations
73	Robust directed tree approximations for networks of stochastic processes. , 2013, , .		3
74	Robust Methods to Detect Abnormal Initiation in the Gastric Slow Wave from Cutaneous Recordings. , 2020, 2020, 225-231.		3
75	Direct and Indirect Effectsâ€"An Information Theoretic Perspective. Entropy, 2020, 22, 854.	2.2	3
76	Building a Simple and Versatile Illumination System for Optogenetic Experiments. Journal of Visualized Experiments, 2021, , .	0.3	3
77	Using stochastic control with data compression perspectives to enhance P300 Neural Communication Prostheses. , 2008, , .		2
78	Efficient low-rank spectrotemporal decomposition using ADMM. , 2016, , .		2
79	On the Bias of Directed Information Estimators. , 2019, , .		2
80	Miniaturized wireless gastric pacing via inductive power transfer with non-invasive monitoring using cutaneous Electrogastrography. Bioelectronic Medicine, 2021, 7, 12.	2.3	2
81	Macrophage calcium reporter mice reveal immune cell communication inÂvitro and inÂvivo. Cell Reports Methods, 2021, 1, 100132.	2.9	2
82	A Low-Complexity Universal Scheme for Rate-Constrained Distributed Regression Using a Wireless Sensor Network. IEEE Transactions on Signal Processing, 2009, 57, 1731-1744.	5.3	1
83	Assessing time-varying causality network of ensemble neural spiking activity. BMC Neuroscience, 2011, 12, .	1.9	1
84	The parabigeminal nucleus as a recursive estimator. , 2009, , .		0
85	Special session on information theory and neuroscience at ISIT 2011. , 2011, , .		0
86	Bayesian LASSO in a distributed architecture. , 2015, , .		0
87	Efficient total probability prediction via convex optimization and optimal transport. , 2015, , .		0
88	Diffeomorphism learning via relative entropy constrained optimal transport. , 2016, , .		0
89	Dynamical systems, ergodicity, and posterior matching. , 2017, , .		0
90	Sampling, variational Bayesian inference, and conditioned stochastic differential equations. , 2021, , .		0