



## Todd Coleman

Associate Professor of Bioengineering and, by courtesy, of Electrical Engineering

### Bio

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#### BIO

Todd P. Coleman is a Wu Tsai Neurosciences Institute Faculty Scholar and an Associate Professor in the Department of Bioengineering, and by courtesy, Electrical Engineering at Stanford University. He received B.S. degrees in electrical engineering (summa cum laude), as well as computer engineering (summa cum laude) from the University of Michigan (Go Blue). He received M.S. and Ph.D. degrees from MIT in electrical engineering and computer science. He did postdoctoral studies at MIT and Mass General Hospital in quantitative neuroscience. He previously was a faculty member in the Departments of Electrical & Computer Engineering and Bioengineering at the University of Illinois, Urbana-Champaign, and the University of California, San Diego, respectively. Dr. Coleman's research is very multi-disciplinary, using tools from applied probability, physiology, and bioelectronics. Examples include, for instance, optimal transport methods in high-dimensional uncertainty quantification and developing technologies and algorithms to monitor and modulate physiology of the nervous systems in the brain and visceral organs. He has served as a Principal Investigator on grants from the NSF, NIH, Department of Defense, and multiple private foundations. Dr. Coleman is an inventor on 10 granted US patents. He has been selected as a Gilbreth Lecturer for the National Academy of Engineering, a TEDMED speaker, and a Fellow of IEEE as well as the American Institute for Medical and Biological Engineering. He recently served as Chair of the National Academies Standing Committee on Biotechnology Capabilities and National Security Needs. He is currently a deputy director of the Wu Tsai Neurosciences Institute at Stanford University.

#### ACADEMIC APPOINTMENTS

- Associate Professor, Bioengineering
- Associate Professor (By courtesy), Electrical Engineering
- Member, Bio-X
- Member, Wu Tsai Human Performance Alliance
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

#### ADMINISTRATIVE APPOINTMENTS

- Executive Committee Member, Wu Tsai Neurosciences Institute, Stanford University, (2025- present)
- Executive Committee Member, Wu Tsai Human Performance Alliance, Stanford University, (2021- present)

#### HONORS AND AWARDS

- Willie Hobbs Moore Distinguished Alumni Lectureship, University of Michigan Department of EECS (2026)
- Annual Teaching Award, Stanford Department of Bioengineering (2024)
- Fellow, IEEE (2022)

- Fellow, American Institute for Medical and Biological Engineering (2019)
- Gilbreth Lecturer, National Academy of Engineering (2015)

## BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Editorial Board Member, Annual Review of Biomedical Engineering (2022 - present)
- Member, National Academies Standing Committee Biotechnology Capabilities and National Security Needs (2021 - present)
- Advisory Committee Member, Burroughs-Wellcome Fund, Career Award at the Scientific Interface (2019 - 2025)

## Teaching

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### COURSES

#### 2025-26

- Diagnostic Devices Lab: BIOE 201C, BIOE 301C (Spr)
- Measurements, Statistics, and Probability: BIOE 230 (Spr)

#### 2024-25

- Diagnostic Devices Lab: BIOE 201C, BIOE 301C (Spr)
- Measurements, Statistics, and Probability: BIOE 230 (Spr)

#### 2023-24

- Diagnostic Devices Lab: BIOE 201C, BIOE 301C (Spr)
- Measurements, Statistics, and Probability: BIOE 230 (Spr)

#### 2022-23

- Diagnostic Devices Lab: BIOE 201C, BIOE 301C (Spr)
- Measurements, Statistics, and Probability: BIOE 230 (Spr)

### STANFORD ADVISEES

#### Doctoral Dissertation Reader (AC)

George Crowley, Trishia El Chemaly, Madison George, Madeline Hays, Michelle Joyce, Caoimhe Lyons, Grace Maddocks, Laura Moreno Carbonell, Wally Niu, Parker Ruth, Gustavo Santiago-Reyes, Lara Weed, Max Yates

#### Doctoral Dissertation Advisor (AC)

Leen Abdul Razzak, Alisa Hathaway, Michelle Hedlund, Yun Hwang, Yasmine Kehnemouyi, Louise Gabrielle Lima, Sabrina Liu, Syamantak Payra, Akshita Rao, Sophia Shen, Tomasz Zaluska

#### Undergraduate Major Advisor

Raj Patel

#### Doctoral (Program)

Frida Bjoerklund, Nicolai Dorka, Kyung Geun Kim, Marvin Li, Peter Lu, Kenji Marshall, Michael Megally, Kathryn Myers

## Publications

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### PUBLICATIONS

- **Vascular waveform analysis using Bayesian pulse deconvolution.** *bioRxiv : the preprint server for biology*  
Ruth, P. S., DeBenedetti, T., O'Brien, L., Landay, J. A., Coleman, T. P., Fox, E. B.  
2026

- **Deep Learning-Based Continuous QT Monitoring to Identify High-Risk Prolongation Events After Class III Antiarrhythmic Initiation.** *Circulation*  
Ansari, R. A., Bandyopadhyay, S., Trivedi, R. K., Brennan, K. A., Liu, X., Ganesan, P., Hughes, J. W., Perino, A. C., Ashley, E. A., Wang, P. J., Coleman, T., Perez, M. V., Ouyang, et al  
2026; 153 (1): 35-46
- **Color-neutral and reversible tissue transparency enables longitudinal deep-tissue imaging in live mice.** *Proceedings of the National Academy of Sciences of the United States of America*  
Keck, C. H., Schmidt, E. L., Roth, R. H., Floyd, B. M., Tsai, A. P., Garcia, H. B., Cui, M., Chen, X., Wang, C., Park, A., Zhao, S., Liao, P. A., Casey, et al  
2025; 122 (35): e2504264122
- **Functionalized Adhesive Thin Flexible Electrode Arrays for Large-Scale Unobtrusive Ambulatory Monitoring of Neuromuscular Activity.** *Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual International Conference*  
Razzak, L. A., Bao, Z., Coleman, T. P.  
2025; 2025: 1-5
- **Sequential Probability Assignment for Outlier Detection in Heartbeat Timings.** *Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual International Conference*  
Liu, S., Coleman, T. P.  
2025; 2025: 1-6
- **A Dynamic Mutual Information Measure of Phase Amplitude Coupling.** *Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual International Conference*  
Perley, A. S., Coleman, T. P.  
2025; 2025: 1-7
- **Dynamic Facial Analysis for Predicting Facial Palsy Outcomes: Comparing Landmark Detection Models and Integrating Ordinal Regression.** *Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual International Conference*  
Rao, A. A., Greene, J. J., Coleman, T. P.  
2025; 2025: 1-7
- **Assessing Usability and Patient Experience of Sensor Technology for Glaucoma Medication Adherence**  
Bhanvadia, S., Brar, M., Tavakoli, K., Vital, D., Calvo-Gaytan, A., York, B., Nebeker, C., Coleman, T., Weinreb, R., Baxter, S.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2025
- **Machine learning methods to track dynamic facial function in facial palsy.** *IEEE transactions on bio-medical engineering*  
Rao, A. A., Greene, J. J., Coleman, T. P.  
2025; PP
- **Spontaneous enteric nervous system activity generates contractile patterns prior to maturation of gastrointestinal motility.** *Neurogastroenterology and motility*  
Dershowitz, L. B., Bueno Garcia, H., Perley, A. S., Coleman, T. P., Kaltschmidt, J. A.  
2024: e14890
- **Non-invasive ventral cervical magnetoneurography as a proxy of in vivo lipopolysaccharide-induced inflammation.** *Communications biology*  
Bu, Y., Burks, J., Yang, K., Prince, J., Borna, A., Coe, C. L., Simmons, A., Tu, X. M., Baker, D., Kimball, D., Rao, R., Shah, V., Huang, et al  
2024; 7 (1): 893
- **An exact mathematical description of computation with transient spatiotemporal dynamics in a complex-valued neural network** *COMMUNICATIONS PHYSICS*  
Budzinski, R. C., Busch, A. N., Mestern, S., Martin, E., Liboni, L. H. B., Pasini, F. W., Minac, J., Coleman, T., Inoue, W., Muller, L. E.  
2024; 7 (1)
- **Measuring Medication Adherence Glaucoma Patients using Novel Sensor Technology**  
Rivera, C., Tavakoli, K., Brar, M., Bhanvadia, S., Bueno, H., Coleman, T. P., Nichol, A., Nebeker, C., Vital, D., Schairer, C. E., Weinreb, R. N., Baxter, S. L.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2024

- **Machine learning based DNA melt curve profiling enables automated novel genotype detection.** *BMC bioinformatics*  
Boussina, A., Langouche, L., Obirieze, A. C., Sinha, M., Mack, H., Leineweber, W., Aralar, A., Pride, D. T., Coleman, T. P., Fraley, S. I.  
2024; 25 (1): 185
- **Emerging wearable technologies for multisystem monitoring and treatment of Parkinson's disease: a narrative review.** *Frontiers in network physiology*  
Kehnemouyi, Y. M., Coleman, T. P., Tass, P. A.  
2024; 4: 1354211
- **A mutual information measure of phase-amplitude coupling using gamma generalized linear models.** *Frontiers in computational neuroscience*  
Perley, A. S., Coleman, T. P.  
2024; 18: 1392655
- **Spontaneous enteric nervous system activity precedes maturation of gastrointestinal motility.** *bioRxiv : the preprint server for biology*  
Dershowitz, L. B., Garcia, H. B., Perley, A. S., Coleman, T. P., Kaltschmidt, J. A.  
2023
- **Exploring the Gut-Brain Connection in Gastroparesis with Autonomic and Gastric Myoelectric Monitoring.** *IEEE transactions on bio-medical engineering*  
Subramanian, S., Kunkel, D. C., Nguyen, L., Coleman, T. P.  
2023; PP
- **Differentiation of Bolus Texture During Deglutition via High-Density Surface Electromyography: A Pilot Study.** *The Laryngoscope*  
Ornelas, G., Bueno Garcia, H., Bracken, D. J., Linnemeyer-Risser, K., Coleman, T. P., Weissbrod, P. A.  
2023
- **Exploring the aperiodic nature of parasympathetic activity during sleep in idiopathic gastroparesis.** *Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual International Conference*  
Subramanian, S., Kunkel, D. C., Coleman, T. P.  
2023; 2023: 1-4
- **Non-Nutritive Suckling System for Real-Time Characterization of Intraoral Vacuum Profile in Full Term Neonates.** *IEEE journal of translational engineering in health and medicine*  
Truong, P., Walsh, E., Scott, V. P., Coleman, T., Tilwawala, G., Friend, J.  
2023; 11: 107-115
- **A Convex Formulation of Point Process Heartbeat Dynamics using a Gamma Generalized Linear Model**  
Perley, A., Subramanian, S., Coleman, T. P., IEEE  
IEEE.2023
- **Simultaneous Gut-Brain Electrophysiology Shows Cognition and Satiety Specific Coupling.** *Sensors (Basel, Switzerland)*  
Balasubramani, P. P., Walke, A., Grennan, G., Perley, A., Purpura, S., Ramanathan, D., Coleman, T. P., Mishra, J.  
2022; 22 (23)
- **Wireless Heart Sensor for Capturing Cardiac Orienting Response for Prediction of Neurodevelopmental Delay in Infants.** *Sensors (Basel, Switzerland)*  
Aguilar-Rivera, M., Kable, J. A., Yevtushok, L., Kulikovskiy, Y., Zymak-Zakutnya, N., Dubchak, I., Akhmedzhanova, D., Wertelecki, W., Chambers, C., Coleman, T. P.  
2022; 22 (23)
- **A flexible adhesive surface electrode array capable of cervical electroneurography during sequential autonomic stress challenge.** *Scientific reports*  
Bu, Y., Kurniawan, J. F., Prince, J., Nguyen, A. K., Ho, B., Sit, N. L., Pham, T., Wu, V. M., Tjhia, B., Shin, A. J., Wu, T., Tu, X. M., Rao, et al  
2022; 12 (1): 19467
- **Modeling relationships between rhythmic processes and neuronal spike timing.** *Journal of neurophysiology*  
Riviere, P. D., Schamberg, G., Coleman, T. P., Rangel, L.  
2022
- **A Mutual Information Measure of Phase-Amplitude Coupling using High Dimensional Sparse Models.** *Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual International Conference*

- Perley, A., Coleman, T. P.  
2022; 2022: 21-24
- **Automated classification of sleep and wake from single day triaxial accelerometer data.** *Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual International Conference*  
Subramanian, S., Coleman, T. P.  
2022; 2022: 3665-3668
  - **Peripheral Nerve Magnetoneurography With Optically Pumped Magnetometers.** *Frontiers in physiology*  
Bu, Y., Prince, J., Mojtahed, H., Kimball, D., Shah, V., Coleman, T., Sarkar, M., Rao, R., Huang, M., Schwindt, P., Borna, A., Lerman, I.  
2022; 13: 798376
  - **Robust Regression and Optimal Transport Methods to Predict Gastrointestinal Disease Etiology from High Resolution EGG and Symptom Severity** *IEEE Transactions on Biomedical Engineering*  
Agrusa, A. S., Kunkel, D. C., Coleman, T. P.  
2022
  - **Electrochemical performance study of Ag/AgCl and Au flexible electrodes for unobtrusive monitoring of human biopotentials** *Nano Select*  
Kurniawan, J. F., Allegra, A., Pham, T., Nguyen, A. K., Sit, N. L., Tjhia, B., Shin, A. J., Coleman, T. P.  
2022
  - **Passive longitudinal weight and cardiopulmonary monitoring in the home bed.** *Scientific reports*  
Harrington, N., Bui, Q. M., Wei, Z., Hernandez-Pacheco, B., DeYoung, P. N., Wassell, A., Duwaik, B., Desai, A. S., Bhatt, D. L., Agnihotri, P., Owens, R. L., Coleman, T. P., King, et al  
1800; 11 (1): 24376
  - **Macrophage calcium reporter mice reveal immune cell communication in vitro and in vivo.** *Cell reports methods*  
Taghdiri, N., Calcagno, D. M., Fu, Z., Huang, K., Kohler, R. H., Weissleder, R., Coleman, T. P., King, K. R.  
1800; 1 (8)
  - **Statistical uncertainty quantification to augment clinical decision support: a first implementation in sleep medicine.** *NPJ digital medicine*  
Kang, D. Y., DeYoung, P. N., Tantiongloc, J., Coleman, T. P., Owens, R. L.  
2021; 4 (1): 142
  - **Miniaturized wireless gastric pacing via inductive power transfer with non-invasive monitoring using cutaneous Electrogastrography.** *Bioelectronic medicine*  
Perley, A., Roustaei, M., Aguilar-Rivera, M., Kunkel, D. C., Hsiai, T. K., Coleman, T. P., Abiri, P.  
2021; 7 (1): 12
  - **An Adhesive-Integrated Stretchable Silver-Silver Chloride Electrode Array for Unobtrusive Monitoring of Gastric Neuromuscular Activity** *ADVANCED MATERIALS TECHNOLOGIES*  
Kurniawan, J. F., Tjhia, B., Wu, V. M., Shin, A., Sit, N. L. J., Pham, T., Nguyen, A., Li, C., Kumar, R., Aguilar-Rivera, M., Lerman, I., Kunkel, D. C., Coleman, et al  
2021; 6 (5)
  - **Sampling, variational Bayesian inference, and conditioned stochastic differential equations**  
Coleman, T. P., Raginsky, M., IEEE  
IEEE.2021: 3054-3059
  - **Building a Simple and Versatile Illumination System for Optogenetic Experiments** *JOVE-JOURNAL OF VISUALIZED EXPERIMENTS*  
Kyriakakis, P., de Cossio, L., Howard, P., Kouv, S., Catanho, M., Hu, V. J., Kyriakakis, R., Allen, M. E., Ma, Y., Aguilar-Rivera, M., Coleman, T. P.  
2021
  - **Interoceptive insular cortex participates in sensory processing of gastrointestinal malaise and associated behaviors** *SCIENTIFIC REPORTS*  
Aguilar-Rivera, M., Kim, S., Coleman, T. P., Maldonado, P. E., Torrealba, F.  
2020; 10 (1): 21642
  - **Data-driven noise modeling of digital DNA melting analysis enables prediction of sequence discriminating power** *BIOINFORMATICS*  
Langouche, L., Aralar, A., Sinha, M., Lawrence, S. M., Fraley, S., Coleman, T. P.  
2020; 36 (22-23): 5337-5343

- **Direct and Indirect Effects-An Information Theoretic Perspective** *ENTROPY*  
Schamberg, G., Chapman, W., Xie, S., Coleman, T. P.  
2020; 22 (8)
- **Measuring Sample Path Causal Influences With Relative Entropy** *IEEE TRANSACTIONS ON INFORMATION THEORY*  
Schamberg, G., Coleman, T. P.  
2020; 66 (5): 2777-2798
- **Smart Electronic Eyedrop Bottle for Unobtrusive Monitoring of Glaucoma Medication Adherence** *SENSORS*  
Aguilar-Rivera, M., Erudaitius, D. T., Wu, V. M., Tantiongloc, J. C., Kang, D. Y., Coleman, T. P., Baxter, S. L., Weinreb, R. N.  
2020; 20 (9)
- **A Deep Convolutional Neural Network Approach to Classify Normal and Abnormal Gastric Slow Wave Initiation From the High Resolution Electrogastragram** *IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING*  
Agrusa, A. S., Gharibans, A. A., Allegra, A. A., Kunkel, D. C., Coleman, T. P.  
2020; 67 (3): 854-867
- **Spatial Patterns From High-Resolution Electrogastragraphy Correlate With Severity of Symptoms in Patients With Functional Dyspepsia and Gastroparesis** *CLINICAL GASTROENTEROLOGY AND HEPATOLOGY*  
Gharibans, A. A., Coleman, T. P., Mousa, H., Kunkel, D. C.  
2019; 17 (13): 2668-2677
- **Bayesian inverse methods for spatiotemporal characterization of gastric electrical activity from cutaneous multi-electrode recordings** *PLOS ONE*  
Allegra, A. B., Gharibans, A. A., Schamberg, G. E., Kunkel, D. C., Coleman, T. P.  
2019; 14 (10): e0220315
- **High-density surface electromyography: A visualization method of laryngeal muscle activity**  
Bracken, D. J., Ornelas, G., Coleman, T. P., Weissbrod, P. A.  
WILEY.2019: 2347-2353
- **A Distributed Framework for the Construction of Transport Maps.** *Neural computation*  
Mesa, D. A., Tantiongloc, J. n., Mendoza, M. n., Kim, S. n., P Coleman, T. n.  
2019; 31 (4): 613-52
- **A flexible likelihood approach for predicting neural spiking activity from oscillatory phase** *JOURNAL OF NEUROSCIENCE METHODS*  
Johnson, T. D., Coleman, T. P., Rangel, L. M.  
2019; 311: 307-317
- **A High-Resolution Digital DNA Melting Platform for Robust Sequence Profiling and Enhanced Genotype Discrimination** *SLAS TECHNOLOGY*  
Sinha, M., Mack, H., Coleman, T. P., Fraley, S.  
2018; 23 (6): 580-591
- **The activity of discrete sets of neurons in the posterior insula correlates with the behavioral expression and extinction of conditioned fear** *JOURNAL OF NEUROPHYSIOLOGY*  
Patricio Casanova, J., Aguilar-Rivera, M., de los Angeles Rodriguez, M., Coleman, T. P., Torrealba, F.  
2018; 120 (4): 1906-1913
- **A Modularized Efficient Framework for Non-Markov Time Series Estimation** *IEEE TRANSACTIONS ON SIGNAL PROCESSING*  
Schamberg, G., Ba, D., Coleman, T. P.  
2018; 66 (12): 3140-3154
- **A State Space and Density Estimation Framework for Sleep Staging in Obstructive Sleep Apnea** *IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING*  
Kang, D. Y., DeYoung, P. N., Malhotra, A., Owens, R. L., Coleman, T. P.  
2018; 65 (6): 1201-1212
- **Epidermal Electrode Technology for Detecting Ultrasonic Perturbation of Sensory Brain Activity** *IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING*  
Huang, S., Fisher, J. A. N., Ye, M., Kim, Y., Ma, R., Nabili, M., Krauthamer, V., Myers, M. R., Coleman, T. P., Welle, C. G.

2018; 65 (6): 1272-1280

- **In-Home Sleep Recordings in Military Veterans With Posttraumatic Stress Disorder Reveal Less REM and Deep Sleep < 1 Hz** *FRONTIERS IN HUMAN NEUROSCIENCE*  
Onton, J. A., Matthews, S. C., Kang, D. Y., Coleman, T. P.  
2018; 12: 196
- **Emerging Technologies for Molecular Diagnosis of Sepsis** *CLINICAL MICROBIOLOGY REVIEWS*  
Sinha, M., Jupe, J., Mack, H., Coleman, T. P., Lawrence, S. M., Fraley, S. I.  
2018; 31 (2)
- **Artifact Rejection Methodology Enables Continuous, Noninvasive Measurement of Gastric Myoelectric Activity in Ambulatory Subjects** *SCIENTIFIC REPORTS*  
Gharibans, A. A., Smarr, B. L., Kunkel, D. C., Kriegsfeld, L. J., Mousa, H. M., Coleman, T. P.  
2018; 8: 5019
- **Biosynthesis of Orthogonal Molecules Using Ferredoxin and Ferredoxin-NADP(+) Reductase Systems Enables Genetically Encoded PhyB Optogenetics** *ACS SYNTHETIC BIOLOGY*  
Kyriakakis, P., Catanho, M., Hoffner, N., Thavarajah, W., Hu, V. J., Chao, S., Hsu, A., Pham, V., Naghavian, L., Dozier, L. E., Patrick, G. N., Coleman, T. P.  
2018; 7 (2): 706-717
- **Scalable Manufacturing of Solderable and Stretchable Physiologic Sensing Systems** *ADVANCED MATERIALS*  
Kim, Y., Lu, J., Shih, B., Gharibans, A., Zou, Z., Matsuno, K., Aguilera, R., Han, Y., Meek, A., Xiao, J., Tolley, M. T., Coleman, T. P.  
2017; 29 (39)
- **High-Resolution Electrogastragram: A Novel, Noninvasive Method for Determining Gastric Slow-Wave Direction and Speed** *IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING*  
Gharibans, A. A., Kim, S., Kunkel, D. C., Coleman, T. P.  
2017; 64 (4): 807-815
- **An Information and Control Framework for Optimizing User-Compliant Human-Computer Interfaces** *PROCEEDINGS OF THE IEEE*  
Tantiongluc, J., Mesa, D. A., Ma, R., Kim, S., Alzate, C. H., Camacho, J. J., Manian, V., Coleman, T. P.  
2017; 105 (2): 273-285
- **The Use of Cardiac Orienting Responses as an Early and Scalable Biomarker of Alcohol-Related Neurodevelopmental Impairment** *ALCOHOLISM-CLINICAL AND EXPERIMENTAL RESEARCH*  
Mesa, D. A., Kable, J. A., Coles, C. D., Jones, K., Yevtushok, L., Kulikovskiy, Y., Wertelecki, W., Coleman, T. P., Chambers, C. D., CIFASD  
2017; 41 (1): 128-138
- **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*  
Onton, J. A., Kang, D. Y., Coleman, T. P.  
2016; 10: 605
- **Learning Minimal Latent Directed Information Polytrees** *NEURAL COMPUTATION*  
Etesami, J., Kiyavash, N., Coleman, T.  
2016; 28 (9): 1723-1768
- **Directed Information Graphs** *IEEE TRANSACTIONS ON INFORMATION THEORY*  
Quinn, C. J., Kiyavash, N., Coleman, T. P.  
2015; 61 (12): 6887-6909
- **Scalable Microfabrication Procedures for Adhesive-Integrated Flexible and Stretchable Electronic Sensors** *SENSORS*  
Kang, D. Y., Kim, Y., Ornelas, G., Sinha, M., Naidu, K., Coleman, T. P.  
2015; 15 (9): 23459-23476
- **Large-scale spatiotemporal spike patterning consistent with wave propagation in motor cortex** *NATURE COMMUNICATIONS*  
Takahashi, K., Kim, S., Coleman, T. P., Brown, K. A., Suminski, A. J., Best, M. D., Hatsopoulos, N. G.  
2015; 6: 7169

- **An Optimizer's Approach to Stochastic Control Problems With Nonclassical Information Structures** *IEEE TRANSACTIONS ON AUTOMATIC CONTROL*  
Kulkarni, A. A., Coleman, T. P.  
2015; 60 (4): 937-949
- **Efficient Total Probability Prediction via Convex Optimization and Optimal Transport**  
Kim, S., Mesa, D., Coleman, T., IEEE  
IEEE.2015: 681-685
- **A Scalable Framework to Transform Samples from One Continuous Distribution to Another**  
Mesa, D., Kim, S., Coleman, T., IEEE  
IEEE.2015: 676-680
- **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*  
Park, C., Plank, M., Snider, J., Kim, S., Huang, H., Gepshtein, S., Coleman, T. P., Poizner, H.  
2014; 22 (5): 1083-1096
- **Dynamic and Succinct Statistical Analysis of Neuroscience Data** *PROCEEDINGS OF THE IEEE*  
Kim, S., Quinn, C. J., Kiyavash, N., Coleman, T. P.  
2014; 102 (5): 683-698
- **Fractal design concepts for stretchable electronics** *NATURE COMMUNICATIONS*  
Fan, J. A., Yeo, W., Su, Y., Hattori, Y., Lee, W., Jung, S., Zhang, Y., Liu, Z., Cheng, H., Falgout, L., Bajema, M., Coleman, T., Gregoire, et al  
2014; 5
- **Grand Challenges in Mapping the Human Brain: NSF Workshop Report** *IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING*  
He, B., Coleman, T., Genin, G. M., Glover, G., Hu, X., Johnson, N., Liu, T., Makeig, S., Sajda, P., Ye, K.  
2013; 60 (11): 2983-2992
- **Efficient Methods to Compute Optimal Tree Approximations of Directed Information Graphs** *IEEE TRANSACTIONS ON SIGNAL PROCESSING*  
Quinn, C. J., Kiyavash, N., Coleman, T. P.  
2013; 61 (12): 3173-3182
- **A Timing Channel Spyware for the CSMA/CA Protocol** *IEEE TRANSACTIONS ON INFORMATION FORENSICS AND SECURITY*  
Kiyavash, N., Koushanfar, F., Coleman, T. P., Rodrigues, M.  
2013; 8 (3): 477-487
- **Bit-Wise Unequal Error Protection for Variable-Length Block Codes With Feedback** *IEEE TRANSACTIONS ON INFORMATION THEORY*  
Nakiboglu, B., Gorantla, S. K., Zheng, L., Coleman, T. P.  
2013; 59 (3): 1475-1504
- **Robust Directed Tree Approximations for Networks of Stochastic Processes**  
Quinn, C. J., Etesami, J., Kiyavash, N., Coleman, T. P., IEEE  
IEEE.2013: 2254-2258
- **Circadian Rhythm of Redox State Regulates Excitability in Suprachiasmatic Nucleus Neurons** *SCIENCE*  
Wang, T. A., Yu, Y. V., Govindaiah, G., Ye, X., Artinian, L., Coleman, T. P., Sweedler, J. V., Cox, C. L., Gillette, M. U.  
2012; 337 (6096): 839-842
- **Characterizing the Efficacy of the NRL Network Pump in Mitigating Covert Timing Channels** *IEEE TRANSACTIONS ON INFORMATION FORENSICS AND SECURITY*  
Gorantla, S. K., Kadloor, S., Kiyavash, N., Coleman, T. P., Moskowitz, I. S., Kang, M. H.  
2012; 7 (1): 64-75
- **An Optimizer's Approach to Stochastic Control Problems with Nonclassical Information Structures**  
Kulkarni, A. A., Coleman, T. P., IEEE  
IEEE.2012: 154-159

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