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Current Positions

08/14 – now **Assistant Professor**, *Department of Biomedical Engineering.*
Johns Hopkins University

08/14 – now **Core Faculty**, *Institute for Computational Medicine & Center for Imaging Science.*
Johns Hopkins University

08/14 – now **Assistant Research Faculty**, *Human Language Technology Center of Excellence.*
Johns Hopkins University

08/12 – now **Affiliated Faculty**, *Institute for Data Intensive Engineering and Sciences.*
Johns Hopkins University

08/12 – now **Adjunct Faculty**, *Department of Computer Science.*
Johns Hopkins University

01/11 – now **Co-Founder and Co-Director**,
Open Connectome Project.

Professional Experience

08/12 – 08/14 **Senior Research Scientist**, *Dept's of Statistical Sciences & Mathematics & Neurobiology.*
Duke University

08/12 – 08/14 **Affiliated Faculty**, *Kenan Institute for Ethics.*
Duke University

01/11 – 08/12 **Assistant Research Professor**, *Department of Applied Mathematics and Statistics.*
Johns Hopkins University

12/09 – 01/11 **Postdoctoral Fellow**, *Department of Applied Mathematics and Statistics.*
Johns Hopkins University

07/04 – 07/12 **Chief Scientist**,
Global Domain Partners, LLC.

06/01 – 09/01 **Research Assistant**, *Prof. Randy O'Reilly, Dept. of Psychology.*
University of Colorado

06/00 – 09/00 **Clinical Engineer**,
Johns Hopkins Hospital.

Education

2003 – 2009 **Ph.D in Neuroscience**,
Johns Hopkins School fo Medicine,
Dissertation: OOPSI: a family of optical spike inference algorithms for inferring neural connectivity from population calcium imaging .

2009 – 2009 **M.S. in Applied Mathematics & Statistics**,
Johns Hopkins University.

1998 – 2002 **B.A. in Biomedical Engineering**,
Washington University, St. Louis.

Funding

08/13 – 07/19 **NIH (Director's Transformative Research Award)**, *R01OD019123*,
Synaptomes of Mouse and Man.
The major goals of this project are to discovery the synaptic diversity and complexity in mammalian brains, specifically comparing and contrasting humans with mice, the leading experimental animal.

Awards

2013 – 2014 **Senior Fellow at the Kenan Institute for Ethics**, *Duke University*.

Publications

Pre-Prints

NC Weiler, FC Collman, JT Vogelstein, R Burns, SJ Smith, *Molecular architecture of barrel synapses following experience dependent plasticity*, Accepted pending revisions at Nature Scientific Data.

Peer-Reviewed Journal Publications

CE Priebe, DL Sussman, M Tang, JT Vogelstein, *Statistical inference on errorfully observed graphs*, Accepted at JASA, arxiv.

Peer-Reviewed Conference Proceedings

F Petralia, JT Vogelstein, D Dunson, *Multiscale Dictionary Learning for Estimating Conditional Distributions*, Neural Information Processing Systems (NIPS), 2013, manuscript.

Invited Talks

05/14 **Big Statistics in Brain Science**, *Baylor College of Medicine*, Department of Neuroscience.

Poster Presentations

2013 **JT Vogelstein, CE Priebe**, *Nonparametric Two-Sample Testing on Graph-Valued Data*, Duke Workshop on Sensing and Analysis of High-Dimensional Data.

2013 **Qin Y, et al**, *Robust Clustering of Adjacency Spectral Embeddings of Brain Graph Data via Lq-Likelihood*, OHBM.

2013 **Koutra D, et al**, *Are All Brains Wired Equally?*, OHBM.

2013 **Sussman D, et al**, *Massive Diffusion MRI Graph Structure Preserves Spatial Information*, OHBM.

2013 **Mhembere D, et al**, *Multivariate Invariants from Massive Brain-Graphs*, OHBM.

2013 **Gray W, et al**, *Towards A Fully Automatic Pipeline for Connectome Estimation from High-Resolution EM Data*, OHBM.

2013 **Craddock C, et al**, *Towards Automated Analysis of Connectomes: The Configurable Pipeline for the Analysis of Connectomes*, OHBM.

2013 **Sismanis N, et al**, *Feature Clustering from a Brain Graph for Voxel-to-Region Classification*, 5th Panhellenic Conference on Biomedical Technology, slides for invited talk.

2013 **Vogelstein JT, et al**, *Anomaly Screening and Clustering of Multi-Object Movies via Multiscale Structure Learning*, XDATA Colloquium.

2013 **Pnevmatikakis EA, et al**, *Rank-penalized nonnegative spatiotemporal deconvolution and demixing of calcium imaging data*, COSYNE (invited talk).

2013 **Airan RD, Vogelstein J, et al**, *Reproducible differentiation of individual subjects with minimal acquisition time via resting state fMRI*, Proc ISMRM. 21:1932.

2012 **Gray WR, et al**, *Towards A Fully Automatic Pipeline for Connectome Estimation from High-Resolution EM Data*, Cold Spring Harbor Laboratory, Neuronal Circuits.

2012 **Vogelstein JT, et al**, *Statistical Connectomics. Janelia Farm conference on Machine Learning*, Statistical Inference and Neuroscience.

Other Publications

R Yuste, J MacLean, JT Vogelstein, L Paninski, *Imaging Action Potentials with Calcium Indicators*, Cold Spring Harb Protoc; 2011; doi:10.1101/pdb.prot5650, abstract, pdf.

JT Vogelstein, *Q and A: What is the Open Connectome Project?*, Neural Systems and Circuits, 2011 1:16, article.

Vogelstein JT, Vogelstein JV, Vogelstein B, *Testing the effects of genetic variations using MINIME technology*, Science, 286:2300-2301, 1999 (Essay).

Reviewing

Annals of Applied Statistics (AOAS).

Biophysical Journal.

IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP).

IEEE Global Conference on Signal and Information Processing (GlobalSIP).

IEEE Signal Processing Letters.

IEEE Transactions on Signal Processing.

Frontiers in Brain Imaging Methods.

Journal of Machine Learning Research (JMLR).

Journal of Neurophysiology.

Journal of the Royal Statistical Society B (JRSSB).

Nature Methods.

Neural Computation.

Neural Information Processing Systems.

NeuroImage.

Neuroinformatics.

Nature Reviews Neuroscience.

PLoS One.

Work in Progress (some pre-prints available upon request)

Joint work with DB Dunson, CE Priebe, Y Qin, *Robust Bayesian Inference via Lq-Likelihood*.

Joint work with M Maggioni, *Optimal Subspace Projection for High-Dimensional Classification and Testing*.

Joint work with CE Priebe, *Nonparametric Two-Sample Testing on Graph-Valued Populations*.

Joint work with S Chen, S Lee, Martin Lindquist, B Caffo, *Massive State Space Learning and Inference*.

Joint work with R Goldin, D Marchette, P Salomonsky, CE Priebe, G Ascoli, *Neuronal Classification from Network Connectivity*.

Joint work with D Marchette, CE Priebe, *Class Morphing*.

Joint work with D Greenberg, J Kerr, *Optimal Spike Inference from in vivo 2-Photon Calcium Imaging*.

Joint work with N Sismanis, DL Sussman, X Sun, N Pitsianis, *Extracting Proximity for Brain Graph Voxel Classification*.

Unpublished Work

Joint work with CE Connor CE, et al, *A Six Degree-Of-Freedom Two-Photon Microscope for Functional Imaging in Awake Behaving Primates*.

Joint work with E Young, *A Spiking Model of Ventral Cochlear Nucleus in Response to Complex Stimuli*, 2004.

Joint work with D Moran, *A Hardware Emulator of Awake Behaving Macaque Primary Motor Cortex*, 2003.