**Joshua T. Vogelstein**

**BIOGRAPHICAL SKETCH**

**A. Professional Preparation**

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| Washington University, St. Louis, MO, BS, 2002 Biomedical Engineering |
| Johns Hopkins University, Baltimore MD, MS, 2009, Applied Mathematics and Statistics |
| Johns Hopkins University, Baltimore MD, PhD, 2009, Neuroscience |
| Johns Hopkins University, Baltimore MD, Postdoctoral Fellow, Applied Mathematics and Statistics |

**B. Appointments**

2014 to present: Assistant Professor, Department of Biomedical Engineering, Johns Hopkins University

2014 to present: Assistant Professor, Institute for Computational Medicine, Johns Hopkins University

2014 to present: Core Member, Center for Imaging Science, Johns Hopkins University

2010 to present: Adjunct Research Scientist, Human Language Technology Center of Excellence, Johns Hopkins University.

2012 to present: Member of the Institute for Data Intensive Engineering and Sciences, Johns Hopkins University.

2013 to 2014: Senior Research Scientist, Departments of Statistical Science and Mathematics, Duke University.

2013 to 2014: Assistant Consulting Professor, Department of Neurobiology, Duke University.

2013 to 2014: Senior Fellow at the Kenan Institute for Ethics, Duke University.

2012 to 2013: Visiting Assistant Research Professor, Department of Mathematics, Duke University.

2011 to 2012: Assistant Research Scientist, Department of Applied Mathematics and Statistics, Johns Hopkins University.

2004 to 2012: Chief Scientist, Global Domain Partners, LLC.

2010 to 2011: Postdoctoral Fellow under Professor Carey E Priebe, Department of Applied Mathematics and Statistics, Johns Hopkins University.

Summer of 2001: Research Assistant under Professor Randy O'Reilly, Department of Psychology, University of Colorado.

Summer of 2000: Clinical Engineer, Johns Hopkins Hospital.

**C. Products (out of 50+ refereed publications, h-index 13 in Google Scholar (4 years after PhD))**

***Most Closely Related to the Proposed Project***

1. **JT Vogelstein**, Y Park, T Ohyama, R Kerr, JW Truman, CE Priebe, M Zlatic (2014). Discovery of Brainwide Neural-Behavioral Maps via Multiscale Unsupervised Structure Learning. Science. 344, 286. PMID: 24674869.
2. **JT Vogelstein**, BO Watson, AM Packer, B Jedynak, R Yuste, L Paninski (2009). Spike inference from calcium imaging using sequential Monte Carlo methods. Biophysical Journal 97, 636-655. PMCID: PMC2711341.
3. **JT Vogelstein**, AM Packer, TA Machado, T Sippy, B Babadi, R Yuste, L Paninski (2010). Fast non-negative deconvolution for spike train inference from population calcium imaging. Journal of Neurophysiology 104, 3691-704. PMCID: PMC3007657.
4. Y Mishchenko, **JT Vogelstein**, L Paninski (2011). A Bayesian approach for inferring neuronal connectivity from calcium fluorescent imaging data. Annals of Applied Statistics 5, 1229-1261. PMCID in progress.
5. SB Hofer, H Ko, B Pichler, **JT Vogelstein**, H Ros, H Zeng, E Lein, NA Lesica, TD Mrsic-Flogel (2011). Differential tuning and population dynamics of excitatory and inhibitory neurons reflect differences in local intracortical connectivity. Nature Neuroscience. PMID: 21765421.

***Other Significant Products***

1. NJ Roberts, **JT Vogelstein**, G Parmigiani, KW Kinzler, B Vogelstein, VE Velculescu. The Predictive Capacity of Personal Genome Sequencing. Scientific Translational Medicine, 2012 May 9;4(133):133ra58. doi: 10.1126/scitranslmed.3003380. Epub 2012 Apr 2. PMID: 22472521.
2. CE Priebe, **JT Vogelstein**, D Bock (2011). Optimizing the quantity/quality trade-off in connectome inference. Communications in Statistics—Theory and Methods. PMID in progress.
3. **JT Vogelstein**, WR Gray, RJ Vogelstein, CE Priebe. Graph Classification using Signal Subgraphs: Applications in Statistical Connectomics. IEEE Transactions on Pattern Recognition and Machine Intelligence, 2012 Oct 26. [Epub ahead of print]. PMID: 23109521.
4. D Carlson, **JT Vogelstein**, Q Wu, W Lian, M Zhou, CR Stoetzner, D Kipke, D Weber, D Dunson, L Carin. Sorting Electrophysiological Data via Dictionary Learning & Mixture Modeling. in press at IEEE TBME. PMID in progress.
5. RC Craddock, S Jbabdi, C-G Yan, **JT Vogelstein,** et al. Imaging human connectomes at the macroscale. Nat Methods. 2013 Jun;10(6):524-39. doi: 10.1038/nmeth.2482. PMID 23722212.

**D. Synergistic Activities**

***Service to the Scientific and Engineering Community***

**E. Collaborators & Other Affiliations**

**Collaborators:** Dora Angelaki (Baylor), Davi Bock (Janelia), Randal Burns (JHU), Brian Caffo (JHU), Vince Calhoun (UMN), Lawrence Carin (Duke), Xavier Castellanos (Child Mind Instittute), Forrest Collman (Allen Institute), John Conroy (IDA), Cameron Craddock (Child Mind Institute), Ciprian Crainiceanu (JHU), Ingrid Daubechies (Duke), Peter Dayan (Gatsby UCL), Karl Deisseroth (Stanford), David Dunson (Duke), Christos Faloutsos (CMU), Donniell Fishkind (JHU), Satra Ghosh (MIT), Logan Grosenick (Stanford), Rex Jung (UMN), Michael Kazhdan (JHU), Kenneth Kinzler (JHU), Dean Kleissas (JHU/APL), Daryl Kipke (UMich), Ed Lein (Allen Institute), Jeff Lichtman (Harvard), Martin Lindquist (JHU), Vince Lyzinski (JHU), Jason MacLean (UChicago), Michael Milham (Child Mind Institute), Yuriy Mishchenko (Toros, Turkey), Thomas Mrsic-Flogel (Basil, Switzerland), Adam Packer (UCL), Liam Paninski (Columbia), Youngser Park (JHU), Giovanni Parmigiani (Harvard), James Pekar (JHU), Eric Perlman (Janelia), Hanspeter Pfister (Harvard), Carey E. Priebe (JHU), Jerry Prince (JHU), Daniel Reich (NIH), Clay Reid (Allen Institute), Susan Resnick (NIH), Sephira Ryman (UMN), Haris Sair (JHU), Guillermo Sapiro (Duke), Stephen Smith (Allen Institute), Xiaobai Sun (Duke), Daniel Sussman (Harvard), Elizabeth Sweeney (JHU), Alexander Szalay (JHU), Minh Tang (JHU), Victor Velculescu (JHU), Bert Vogelstein (JHU), R. Jacob Vogelstein (IARPA), Rafael Yuste (Columbia), Marta Zlatic (Janelia).

**Graduate Students**: Tyler Tomita, Greg Kiar.

**Thesis Advisor:** Prof. Eric Young (JHU)

**Postgraduate-Scholar Sponsor**: Carey Priebe (JHU)