
For New and Renewal Applications (PHS 398) – DO NOT SUBMIT UNLESS REQUESTED

PHS 398 OTHER SUPPORT

VOGELSTEIN, J.T.**ACTIVE**

R01NS092474 (Smith)	9/30/2014 – 6/30/2019	0.89 calendar
NIH (TRA); Prime: Allen Institute	\$178,305 (Subcontract)	
Title: Synaptomes of Mouse and Man		

The major goals of this project are to discover the synaptic diversity and complexity in mammalian brains, specifically comparing and contrasting humans with mice, the leading experimental animal.

(Vogelstein)	3/1/15 - 2/29/18	2.37 calendar
DARPA	\$477,178	
Title: From RAGs to Riches: Utilizing Richly Attributed Graphs to Reason from Heterogeneous Data		

Multiple, large, multifarious brain imaging datasets are rapidly becoming standards in neuroscience. Yet, we lack the tools to analyze individual datasets, much less populations thereof. Therefore, we will develop theory and methods to analyze and otherwise make such data available.

ACI-1649880 (Burns)	1/01/17 – 10/31/18	0.24 calendar
NSF	\$92,722	
Title: Brain Comp Infra: EAGER: BrainLab CI: Collaborative, Community Experiments with Data-Quality Controls through Continuous Integration		

The BrainLab CI prototype system will deploy an experimental-management infrastructure that allows users to construct community-wide experiments that implement data and metadata controls on the inclusion and exclusion of data.

(Cencheng)	05/01/2017 - 04/30/2020	0.40 calendar
NSF	\$42,707	
Title: Multiscale Generalized Correlation: A Unified Distance-Based Correlation Measure for Dependence Discovery		

This project aims to establish a unified methodology framework for statistical testing in high-dimensional, noisy, big data, through theoretical advancements, comprehensive simulations, and real data experiments.

1R01DC016784-01 (Ratnanather)	07/01/2017 – 06/30/2020	1.0 calendar
NIH	\$151,863	
Title: CRCNS US-German Res Prop: functional computational anatomy of the auditory cortex		

The goal of this project is to create a robust computational framework for analyzing the cortical ribbon in a specific region: the auditory cortex.

(Vogelstein)	07/01/2017 - 06/30/2019	1.0 calendar
NSF 16-569 Neural System Cluster		

NSF \$246,773
Title: NeuroNex Technology Hub: Towards The International Brain Station for Accelerating and Democratizing Neuroscience Data Analysis and Modeling

We propose to lower the barrier to connecting data to analyses and models by providing a coherent cloud computational ecosystem that minimizes current bottlenecks in the scientific process.

PENDING

(Engert) 09/01/2017 - 08/31/2022 3.0 calendar
Harvard University/ Prime: NIH \$187,862
Title: Sensorimotor processing, decision making, and internal states: towards a realistic multiscale circuit model of the larval zebrafish brain

The general goal of the proposal is to generate a realistic multiscale circuit model of the larval zebrafish's brain – the multiscale virtual fish (MSVF). The model will span spatial ranges from the nanoscale at the synaptic level, to local microcircuits to inter-area connectivity - and its ultimate purpose is to explain and simulate the quantitative and qualitative nature of behavioral output across various timescales.

(Sommer) 09/01/2017 - 08/31/2020 0.5 calendar
University of California/ Prime: NIH \$94,245
Title: Software Tools and Services for the BRAIN Initiative

The goals for this project are to develop unsupervised dictionary learning methods exploiting spatial, temporal and spectral structure for revealing spikes and behaviorally meaningful components in high-dimensional neural recordings with minimal user intervention, publish polished implementations of both existing and novel (Aim 1) algorithms in an open-source curated tool suite, and develop a backend-agnostic analytics engine for managing and executing neurophysiology data analysis experiments.

(Sommer) 09/01/2017 - 08/31/2022 0.5 calendar
University of California/ Prime: NIH \$94,245
Leveraging Data Standards in CRCNS.org to Efficiently Host BRAIN Initiative Data

We propose enhancements of an existing repository for neuroscience data, CRCNS.org, by leveraging the NWB format to vastly increase efficiency of contributing, searching, and using shared data.

(Priebe) 10/1/2016 – 09/30/2020 2.0 Calendar
DARPA \$656,283
Title: What Would Tukey Do?

The goal is to develop theory & methods for generating a discoverable archive of data modeling primitives and for automatically selecting model primitives and for composing selected primitives into complex modeling pipelines based on user-specified data and outcome(s) of interest.

(Mostofsky) 04/1/2018 – 03/31/2023 0.9 Calendar
NIH \$19,892
Title: Physiologic Mechanisms of Mindful Movement in Children with ADHD

This research will provide objective measures of mechanisms that can be used to develop and target appropriate interventions for the improved coordination of thought and attention for a range of populations.

(Vogelstein)

DARPA

11/1/2017 – 10/31/2021

3.0 Calendar

\$1,551,326

Title: Lifelong Learning Forests

Our Lifelong Learning Forests (L2Fs) will learn continuously, selectively adapting to new environments and circumstances utilizing top-down feedback to impact low-level processing, with provable statistical guarantees, while maintaining computational tractability at scale.

OVERLAP

In the event that pending proposals are awarded, Dr. Vogelstein will adjust his effort to stay within 12 months of support.