

Division of Integrative Organismal Systems (IOS) Virtual Office Hour

Welcome to the IOS Virtual Office Hour. We will begin soon.

Please submit questions via the chat box in the 'Q & A section'
available to you on WebEx



Division of Integrative Organismal Systems (IOS) Virtual Office Hour – Welcome!

Program Directors in attendance today

- Evan Balaban – Neural Systems Cluster (ebalaban@nsf.gov)
- Patrick Abbot – Behavioral Systems Cluster (dabbot@nsf.gov)
- Edda “Floh” Thiels – Neural Systems Cluster, EDGE (ethiels@nsf.gov)
- Gerald Schoenknecht– Plant Genome Research Program (gschoenk@nsf.gov)
- Michael Mishkind – Physiological and Structural Systems Cluster (mmishkin@nsqf.gov)
- Mamta Rawat - Physiological and Structural Systems, URoL-Microbiome (mrawat@nsf.gov)
- Anne Sylvester – Developmental Systems Cluster (asylvest@nsf.gov)

Facilitators – Maya Anderson and Kevin Nguyen



IOS Virtual Office Hour

Questions:

- Submit your questions via the chat box 'Q & A section' on your screen
- For recently asked questions and future office hour topics, see the IOS blog (www.iosblog.nsfbio.com)
- For specific questions about your project, please contact a Program Director
- Next IOS Virtual Office Hour: March 19th, 2020



IOS Virtual Office Hour

Today's Topics:

- Recent solicitations and Dear Colleague Letters (DCLs)
- EDGE proposals
- Open question and answer period



Recent Solicitations and DCLs

Core IOS solicitation (**20-536**) has no deadlines and no submission limits. **PBI (18-590)** and **PGRP (18-579)**. **No deadlines, no limits on number of submissions.**



- **NSF 20-044** Dear Colleague Letter: IMAGiNE 2020: Organisms in a Dynamic Environment. Research addresses how organism-environment interactions determine the emergence of complex traits; proposals explicitly reference the environmental scale across time and space, and environmental variables used in the research. **No separate solicitation or deadlines.**



- **NSF 20-532** Enabling Discovery through Genomic Tools (EDGE) – new solicitation, discussed in more detail below. **No deadlines.**
- **NSF 20-513** URoL: Microbiome Theory and Mechanisms – if you submitted a letter of intent, the full proposal is due **March 2, 2020.**
- **NSF 20-524** Dimensions in Biodiversity – new solicitation, full proposals due **March 27, 2020.**



- **NSF 20-542** Historically Black Colleges and Universities - Excellence in Research (HBCU - EiR) – new solicitation, more detail given below. Letter of Intent due **July 23, 2020**, full proposals due **October 6, 2020.**



NSF 20-542

HBCU Excellence in Research (EiR)

- The **HBCU Excellence in Research (EiR)** component in HBCU-UP was developed in response to Congressional mandate to increase support for research at HBCUs.
- **The new 2020 solicitation has just been released – main change is that there are no longer multiple tracks in EiR proposals, only research proposals.**
- EiR supports projects that enable STEM and STEM education faculty at HBCUs **to conduct research** and to further develop research capacity.
- EiR aims to accelerate support of research at HBCUs across NSF's full portfolio.
- The FY2020 budget is anticipated to be \$10 million; 25 awards anticipated.
- The deadline Letter of Intent is due on **July 23, 2020**, for and full proposals are due on **October 6, 2020**.

<https://nsf.gov/pubs/2020/nsf20536/nsf20536.htm>



Enabling **D**iscovery through **G**Enomic Tools

EDGE Program solicitation: [NSF 20-532](#)

EDGE Program page:

https://nsf.gov/funding/pgm_summ.jsp?pims_id=505480

(for a list of “What Has Been Funded”, see the bottom of the Program page)

EDGE contact: BIOEDGE@NSF.GOV

Proposal submissions accepted any time



EDGE Program Overview

Purpose

Enable advancement of understanding the relation between genomes and phenomes – part of Rules of Life

Goals

To support:

- (1) development of **tools**, approaches, and infrastructure for testing cause and effect hypotheses between gene function and phenotypes in **organisms for which such methods are presently unavailable**
- (2) hypothesis-driven **research** that tests cause-and-effect relations between genotype(s) and phenotypes **in diverse non-model organisms within the context (environmental, developmental, social, and/or genomic) in which they function**



EDGE Program Overview

Functional Genomics Tools Track (FGT)

For example:

- Development of mutant libraries and/or high-quality reference genomes
- Generalizable high-throughput phenotyping methods
- Innovative approaches for manipulating individual genes or multiple genes simultaneously
- Innovative approaches to test gene function in targeted, single cells in organisms
- Innovative approaches for establishing function of single or networks of genes

Complex Multigenic Traits Track (CMT)

For example:

- Systems-level analysis of the gene regulatory networks underlying complex traits
- Innovative analytical approaches to linking genes and complex traits
- Elucidation of the causal connections across levels of biological organization that underlie complex multigenic traits
- Elucidation of multi-genome/epigenome interactions with the environment, with the goal of predicting complex organismal phenotypes across contexts

Functional Genomics in Diverse Organisms



EDGE Program Overview

Functional genomics EDGE does not support:

- Model organisms
Complex Multigenic Trait Track permits use of model organism but must include extension to non-model organism to demonstrate generalizability
- Sequencing, bioinformatics, or in-silico biology exclusively

Tool development or research supported by other programs:

Examples:

- Core Programs Track in DBI, DEB, IOS, and MCB
- Rules of Life Track in DBI, DEB, IOS, and MCB
- Plant Genome Research Program (PGRP)
- Infrastructure Innovation for Biological Research (IIBR)
- Infrastructure Capacity for Biology (ICB)
- Mid-scale Research Infrastructure 1 and 2 (MSRI-1, MSRI-2)



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