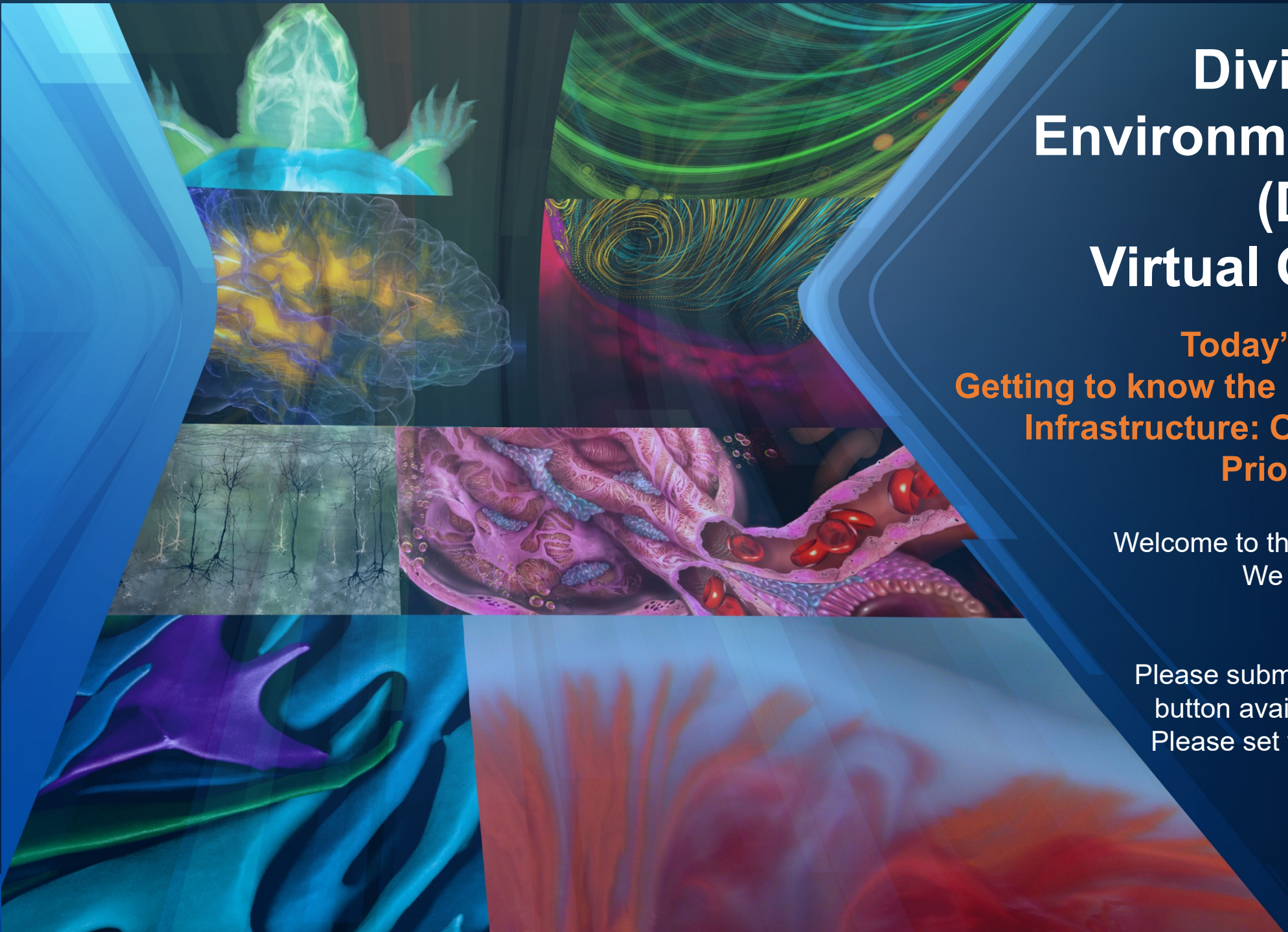


Division of Environmental Biology (DEB) Virtual Office Hour

Today's topic: Getting to know the Division of Biological Infrastructure: Opportunities and Priorities

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

Please submit questions via the Q&A button available to you on ZOOM.
Please set to "Send anonymously"

Division of Environmental Biology (DEB) Virtual Office Hour – Welcome!

Program Officers in attendance today

- Matt Herron – Evolutionary Processes (mherron@nsf.gov)
- Kendra McLauchlan – Ecosystem Sciences (kmclauch@nsf.gov)
- Daniel R. Marenda- Division of Biological Infrastructure, Human Resources Cluster (dmarenda@nsf.gov)
- Jean Gao- Division of Biological Infrastructure, Research Resources Cluster (jgao@nsf.gov)

Facilitators – Christina Washington, Bill Lawson, and Megan Lewis

Recent Solicitations and DCLs

Find links to all recent solicitations and Dear Colleague Letters at the bottom of the DEB webpage (WebSearch: NSF DEB) under Funding Opportunities and Popular Links

Remember – Core DEB solicitation (NSF 21-504) has no deadlines and no submission limits.

- NSF 21-560 – Understanding the Rules of Life: Emergent Networks – Deadline May 10
- NSF 20-525 – Faculty Early Career Development Program (CAREER) - Deadline July 26
- NSF 20-564 – Opportunities for Promoting Understanding through Synthesis (OPUS)- Deadline Aug. 2
- NSF 19-582 – Research Experiences for Undergraduates (REU) Site- Deadline Aug. 25
- DCL 21-021 – Career-Life Balance Supplement
- DCL 21-049 – Dear Colleague Letter: LEAding cultural change through Professional Societies (LEAPS) of Biology
- DCL 20-033 – Developing and Supporting the National Ecology Observatory Network (NEON) User Community
- BIO 18-001 – Biological Sciences Temporary/Rotator Program Officer

DEB Virtual Office Hour

- DEB Office Hours: second Monday of each month, 1-2 pm Eastern
- Today: Getting to know Division of Biological Infrastructure: Opportunities and Priorities
- Volunteer to review for DEB: https://www.surveymonkey.com/r/DEBexpertise

Upcoming Topics:

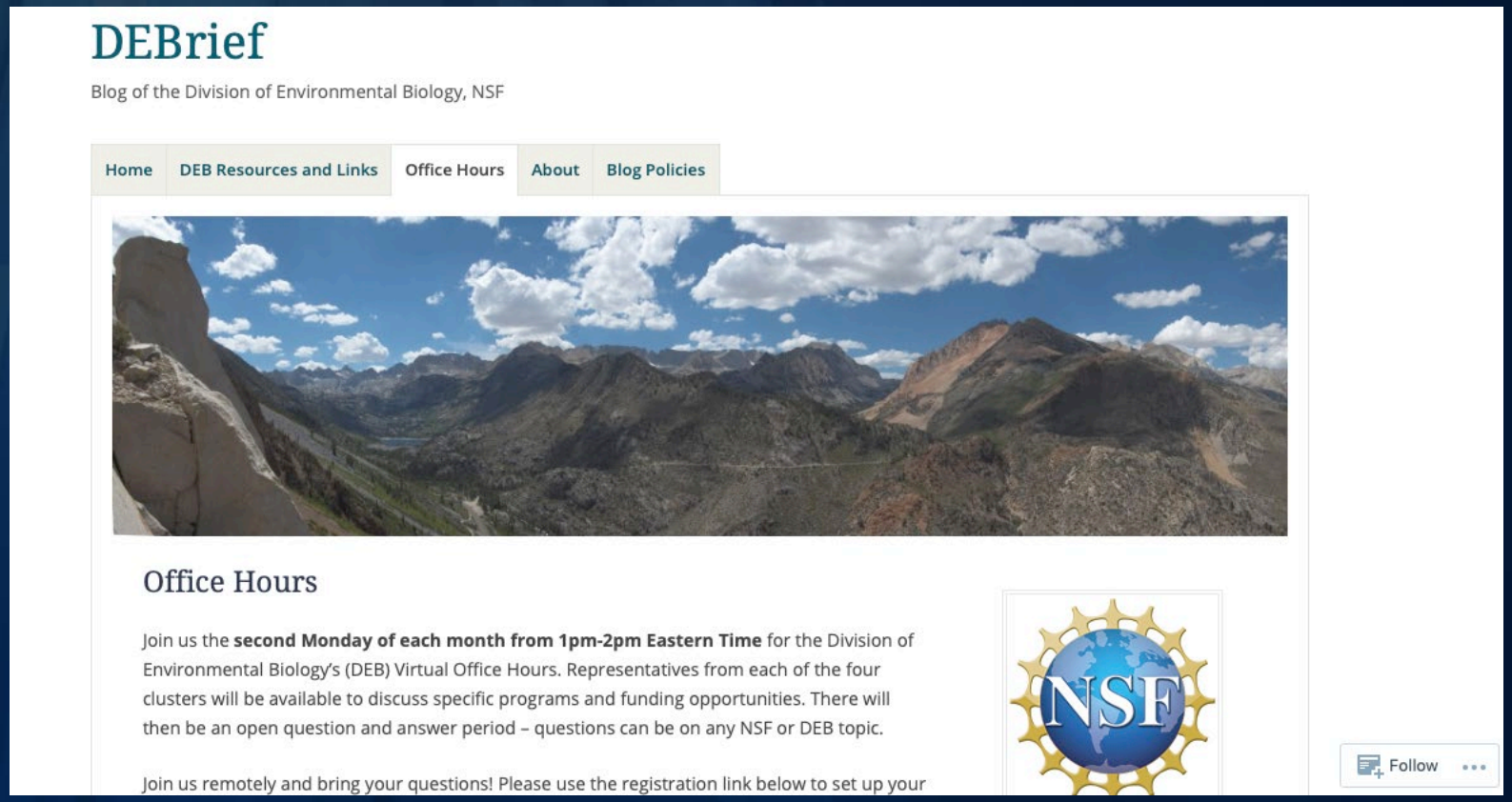
May 10: CAREER

June 14: How to Write a Great Proposal

July: No Office Hours; We'll be back in August!

DEB Office Hours webpage has upcoming topics, registration, and recap posts

https://debblog.nsfbio.com/office-hours/



DEBrief

Blog of the Division of Environmental Biology, NSF

Home | DEB Resources and Links | Office Hours | About | Blog Policies

Office Hours

Join us the **second Monday of each month from 1pm-2pm Eastern Time** for the Division of Environmental Biology's (DEB) Virtual Office Hours. Representatives from each of the four clusters will be available to discuss specific programs and funding opportunities. There will then be an open question and answer period – questions can be on any NSF or DEB topic.

Join us remotely and bring your questions! Please use the registration link below to set up your

Follow

DEB Virtual Office Hour

Questions:

- Submit your questions via the Q&A box on your screen and set to “Send anonymously”
- For recently asked questions and future office hour topics, see the DEB blog (https://debblog.nsfbio.com/)
- For specific questions about your project, please contact a Program Officer

Getting to know the Division of Biological Infrastructure: Opportunities and Priorities

www.nsf.gov/dbi

DBI supports the full life-cycle of research infrastructure, including through (1) **research resources**, (2) **human resources**, and (3) **mid-to-large scale facilities, centers, and institutes**, including:

- The physical and technological infrastructure required to carry out data-driven, cutting-edge biological research;
- The training and education of scientists of all backgrounds throughout all stages of their careers;
- The connection and collaboration of individuals and institutions conducting biological science; and
- The mid-scale and major facilities that meet the needs of the biological sciences research community and enable US researchers to remain competitive in a global research environment.

DBI is organized into three clusters.

Research Resources (RR)

- Innovation
- Capacity
- Sustaining
- Major Research Instrumentation (MRI)

Human Resources (HR)

- Postdoctoral Fellowships (PRFB)
- RCN for Undergraduate Biology Education (RCN-UBE)
- Research Experiences for Undergraduates (REU Sites)
- Mid-Career Advancement (MCA)

Centers, Facilities, and Additional Research Infrastructure Cluster (CFARI)

- Biology Integration Institutes (BII)
- Center for Open Environmental Data (OED)
- Management of Operations and Maintenance of NEON
- Mid-scale Research Infrastructure-1 and 2

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Human Resources Cluster

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Research Coordination Networks in Undergraduate Biology Education (RCN-UBE)

- **Synopsis**
  - Unique collaboration between BIO and EHR (Education & Human Resources)
  - Supports groups of investigators to communicate and coordinate their research, training and educational activities around Undergraduate Biology Education
  - Committed to developing and disseminating educational research resources and modules, forging new collaborations, and sharing best practices and ideas for scalability and sustainability of activities

Research Coordination Networks in Undergraduate Biology Education (RCN-UBE)

- **Funding Mechanisms**
  - Incubator awards (up to $75K, one year duration) to fund the formation of new teams
  - Full awards (up to $500K, up to 5 years duration) to fund more mature projects
- **Where do I find more information?**
  - New solicitation in the works, previously NSF 18-510
  - Proposals likely due in January 2022
  - **Program Officer: Sophie George (sgeorge@nsf.gov)**

RCN-UBE: How does it differ from a "regular" grant?

- Supports projects to build communities of biology faculty ("We" instead of "I") to solve problems and accomplish more than any one person or institution could achieve.

- RCNs foster networking activities (such as conferences, workshops, student and faculty exchanges) and will not **directly** support laboratory and field research.

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When preparing your RCN-UBE proposal, be sure to address:

- The seven RCN-specific guidance items

- Additional RCN-UBE guidance - How the network will:
  - Evaluate and assess its effectiveness, activities, and products
  - Engage its partners, grow, evolve, and be sustained.
  - Identify metrics and contribute to the infrastructure beyond traditional products (such as papers).

- The RCN-UBE-specific review criteria

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REU: Research Experiences for Undergraduates

- **Synopsis**
  - Provides funding to engage undergrads in research
  - Two mechanisms:
    1. REU Sites: Centralized training of a group of undergrads in a theme-focused bioscience research. Sites include immersive dive into science and activities to develop student professional skills.
    2. REU Supplements: Supplements to new or existing awards to engage one or more students in the research activity
- **Where do I find more information?**
  - NSF 19-582, proposals due August 25, 2021 (new solicitation coming soon)
  - **Program Officer: Sally O'Connor (soconnor@nsf.gov)**

General Info on BIO-REU Sites

- On average 10 students for a summer program lasting approximately 10 weeks long.
- At least 50% of participants must come from outside the host institution.
- Stipend, meal allowance and travel to and from the REU site must be budgeted. A small research allowance of $1,000-2,000 per student can be added to Participant Support costs.
- Over the past several years, Site awards to institutions have the predominant costs under the Participant Support Costs (PSC); typically, PSC constitute 90% or more of the Total Direct Costs.
- Most awards provide 3 years of funding.
- To view recent awards, go to https://nsf.gov/awardsearch/

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Postdoctoral Research Fellowships in Biology (PRFB)

- **Synopsis**
  - Support independent research and training of recent recipients of the doctoral degree
- **Stipend (salary):** $54,000, plus $15,000 per year for research, training, travel, fringe benefits (health insurance)
- **Duration of fellowship:**
  - Areas 1 & 2 & 4: Two years or three years if there is a significant international component lasting ~ one year
  - Area 3: Three years
- **Where do I find more information?**
  - Solicitation forthcoming, previously NSF 20-602
  - Proposals due early November 2021
  - **Program Officer: Dan Marenda (dmarenda@nsf.gov)**

Postdoctoral Research Fellowships in Biology (PRFB)

- Area 1: Broadening Participation of Groups Underrepresented in Biology
  - Any area of research supported by NSF BIO directorate
  - Activities to promote diversifying biology, particularly at the postdoctoral level
- Area 2: Integrative Research Investigating the Rules of Life Governing Interactions Between Genomes, Environment and Phenotypes
  - Stimulate integration of subdisciplines of biology using combinations of observational, experimental, theoretical, and computational approaches
  - Aim to discover the underlying principles operating across hierarchical levels of life, from biomolecules to organisms to ecosystems
- Area 3: National Plant Genome Initiative (NPGI) Postdoctoral Research Fellowships

Research Resources Cluster

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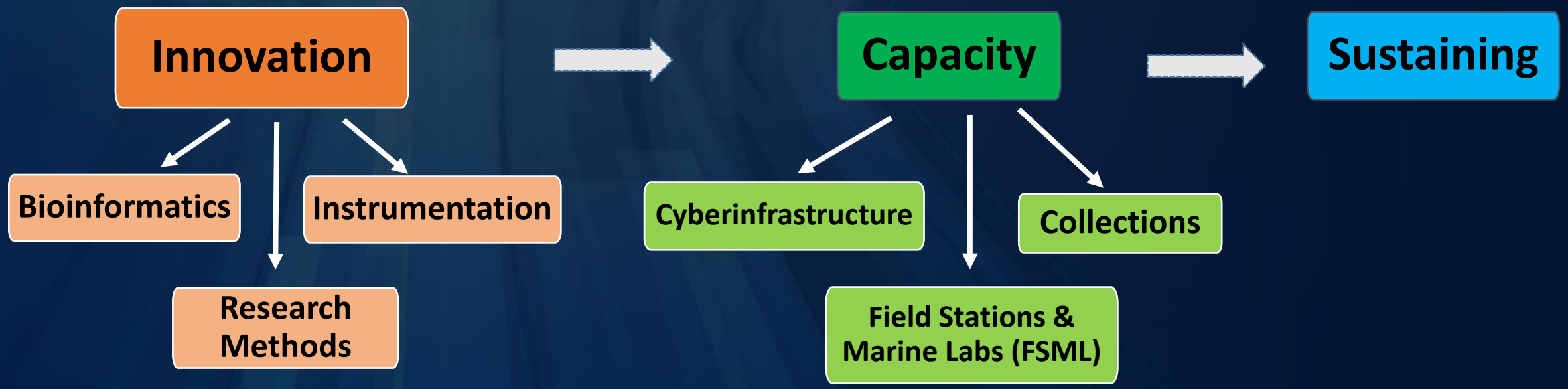
Research Resources Infrastructure



Infrastructure Innovation for Biological Research (Innovation) *NSF 21-502*

Infrastructure Capacity for Biology (ICB) *NSF 21-501*

Sustaining Infrastructure for Biological Research (Sustaining) *NSF 21-503*

NO DEADLINES!

Infrastructure Innovation for Biological Research (Innovation)

- **Synopsis**:
  - Support research to design novel or greatly improved research tools and methods that advance contemporary biology

- **Programmatic Areas:**
  - **Innovation: Bioinformatics**
  - **Innovation: Instrumentation**
  - **Innovation: Research Methods**
- Program Information:
  - Duration of projects: usually 3 years
  - Number of Awards: 20 to 40

    Anticipated Budget: $18M to $20M

Innovation: Bioinformatics

- **Goal**:

  Seek pioneer new approaches to the application of informatics to biological problems

- **Priorities:**
  - Creating computational/informatics tools and database architectures that are applicable to a ***broad range*** of biological research questions
  - High degree of novelty and potential impact
  - Publication of new methodologies, proof of concept, or production of a prototype for further development
  - Solve challenging, high risk problems

Innovation: Instrumentation

- **Goal**:

  Supports the design of novel and innovative instrumentation and associated methods

- **Priorities:**
  - A significant application to one or more biological science questions
  - Potential to be used by a community of researchers beyond a single research team
  - Projects may include instrumentation for observing any level of biological phenomena (e.g., molecular, cellular, organismal, ecosystem, biome)

Innovation: Research Methods

- **Goal**:

  supports the design of novel and innovative laboratory- or field-based methodologies

- **Priorities:**
  - A significant application to one or more biological science questions
  - Potential to be used by a community of researchers beyond a single research team
  - Including any method for measurement, perturbation, or analysis of biological systems in the lab or field
  - Not supported: refinement, optimization, or scaling of existing methods and validation of new reagents for standard approaches (e.g., new antibodies or fluorescent tags).

Infrastructure Capacity for Biology (Capacity)

- **Synopsis**:

  Support the implementation of, scaling of, or major improvements to research tools, products, and services that advance contemporary biological research.

- **Programmatic Areas:**
  - **Capacity: Cyberinfrastructure**
  - **Capacity: Collection**
  - **Capacity: Field Stations & Marine Labs (FSML)**
- Anticipated Budget: $18M to $20M

  Number of Awards: 50 to 75

Capacity: Cyber Infrastructure (previously CIBR)

- **Goal**

  Provide robust cyberinfrastructure that will enable transformative biological research

- **Priorities**
  - Finished product that will have demonstrable impact
  - User engagement, design quality, engineering practices, management plan, and dissemination
  - Bringing a proof of concept into a robust, broadly-adopted cyberinfrastructure

Capacity: Collection (previously CSBR)

- **Goal**
  - Support major improvements to or digitization of biological collections and collection-based information increasing the broader applicability of collections

- **Priorities**
  - Enhance, secure, and improve existing research collections
  - Improve the accessibility of collection-related data
  - Develop capacity for curation and collection management
  - Transfer ownership of collections that are significant to the NSF BIO-funded research community.

- **Types of [non-federal] biological collections supported**
  - Living stock/culture collections
  - Natural history voucher collections
  - Jointly-curated ancillary collections such as preserved tissues and libraries of genetic and genomic materials.

Capacity: Field Stations and Marine Labs (FSML)

- **Goal**

  Supports major improvements to biological field stations or laboratories in any terrestrial, marine, estuarine, or freshwater environment for research and education.

Proposals should focus on well-defined and significant efforts rather than a compilation of small improvements.

- **Improvement Grants:**
  - Improvements in the physical plant of a field station or marine laboratory.
- **Planning Grants:**
  - Strategic planning for advancing science and education activities at a site or network of sites.

Sustaining Infrastructure for Biological Research (Sustaining)

- **Synopsis**:

  Support ongoing operations and maintenance of existing cyberinfrastructure that is critical for continued advancement of priority biological research

- Projects are expected to ensure continued availability of existing, mature resources
- Requests for sustaining awards may not include funds for research or development leading to new capabilities, or features
- Must be limited to activities and materials essential for maintaining the current level of functionality.
- # of awards: 1-3, Anticipated Budget: $5M