Broadening Participation Programs: Research and Mentoring for Postbaccalaureates in Biological Sciences (RaMP), Research Coordination Networks for Undergraduate Biology Education (RCN-UBE), and Building Research Capacity of New Faculty in Biology (BRC-BIO)
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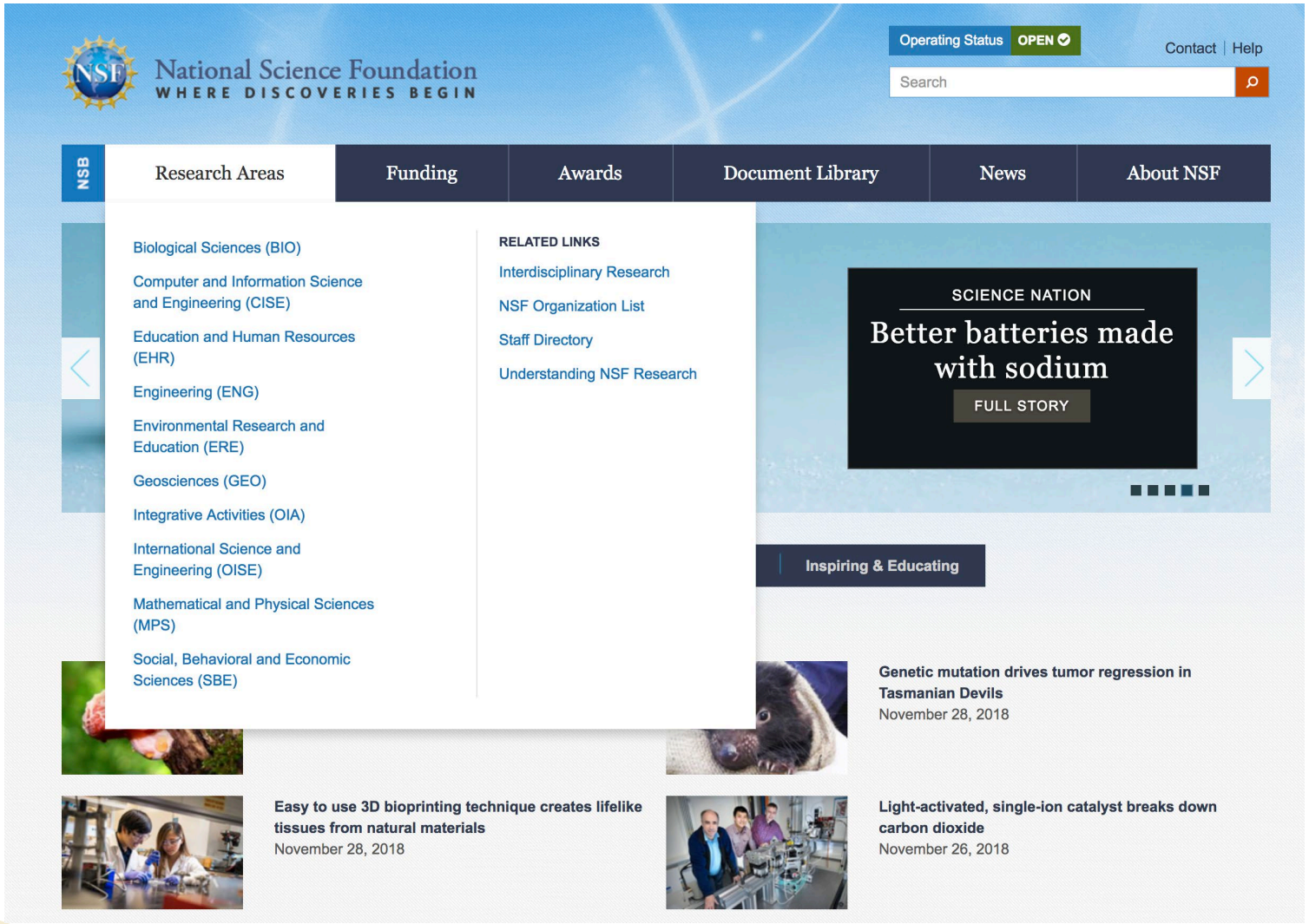
Slides and Q&A recaps will be posted on the DBI blog, dbiblog.nsfbio.com

How to Find Funding Opportunities



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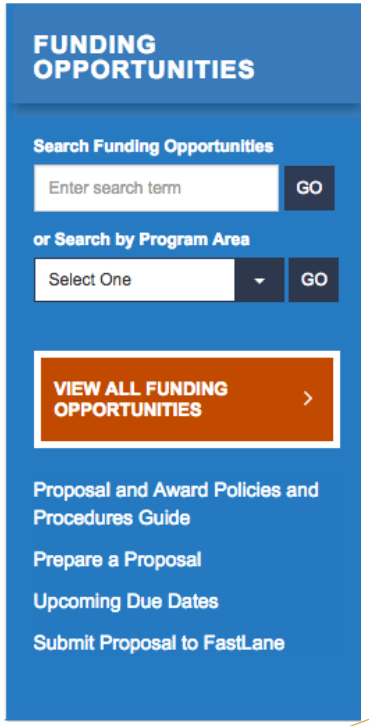
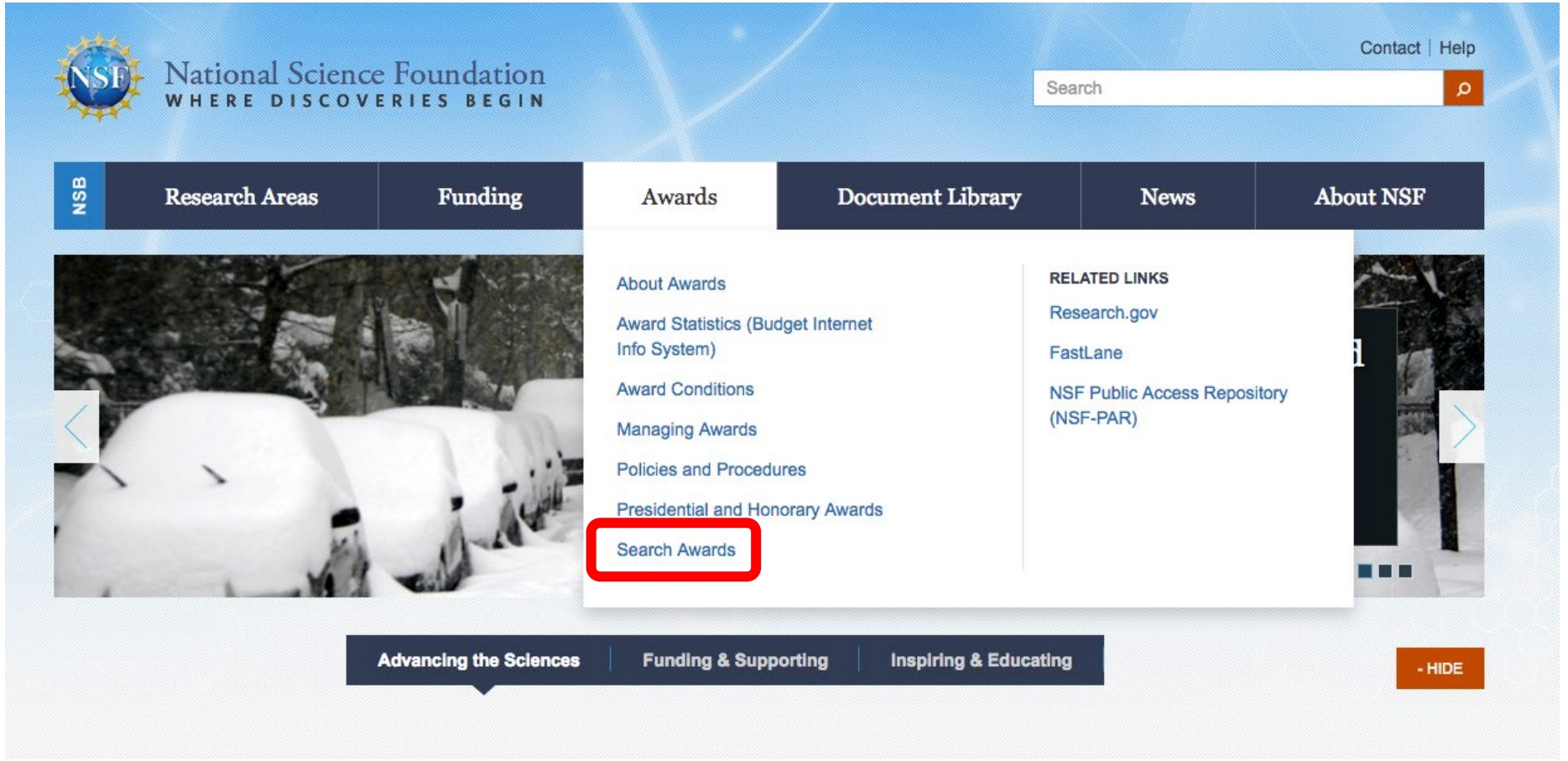


Where Does My Research Fit?



NSF Structure

The Director, Office of Budget, Finance, & Award Management, Office of International Science & Engineering, etc.…

Directorate for **Biological Sciences (BIO)**	Directorate for **Geosciences (GEO)**	Directorate for **Computer & Information Science & Engineering (CISE)**	Directorate for **Engineering (ENG)**	Directorate for **Education & Human Resources (EHR)**	Directorate for **Mathematical & Physical Sciences (MPS)**	Directorate for **Social, Behavioral & Economic Sciences (SBE)**

Division of Environmental Biology (DEB)

Ecosystem Sciences
Evolutionary Processes
Population and Community Ecology
Systematics and Biodiversity Science

Division of Integrative Organismal Systems (IOS)

Behavioral Systems
Developmental Systems
Neural Systems
Physiological and Structural Systems
Plant Genome Research Program
Enabling Discovery through GEnomics

Division of Molecular and Cellular Biosciences (MCB)

Cellular Dynamics and Function
Genetic Mechanisms
Molecular Biophysics
Systems and Synthetic Biology

Division of Biological Infrastructure (DBI)

Research Resources
Human Resources
Centers, Facilities, and Additional Research Infrastructure

How the BIO Divisions Support Research Across Scales

Molecule → Gene → Protein → Cell → Organism → Population → Community → Ecosystem → Biosphere

- Molecular & Cellular Biosciences (MCB)
- Integrative Organismal Systems (IOS)
- Environmental Biology (DEB)
- Biological Infrastructure (DBI)

Research and Mentoring for Postbaccalaureates in (RaMP) in the Biological Sciences

The goals of this program are:

1. to establish networks to support full-time research, mentoring, and training for recent college graduates who have had few or no research or training opportunities during college in research fields typically supported by the Directorate of Biological Sciences (BIO).
2. to produce a more diverse workforce and innovative research outcomes that ensure that science benefits all members of our society.
3. to advance novel and potentially transformative research in areas supported by the Directorate of Biological Sciences.

Key aspects of the program (specific review criteria)

- **Scientific Theme:** Proposals should be centered around a cohesive biological research theme.
- **Network:** Provide high-quality interactions of postbaccs with research mentors in a wide range of facilities, diverse mentorship, and professional development opportunities.
- **Cohort structure and Mentoring**: Networks are expected to develop evidence-based mentoring programs that are grounded in established practices that will help meet the network goals.
- It is expected that networks will involve and provide clear benefits to investigators (mentors and co-mentors) from **diverse organizations**.
- Networks are encouraged to leverage **established broadening participation programs** and should have a **strong participants recruitment and selection process.**

RaMP Specific Review Criteria

- **Network structure:** coordination plans, communication strategies, community engagement, training and professional development, optimization networking opportunities for participants.
- **Cohort structure:** distribution of the participants into mentor labs, establishment of a cohesive training environment that fosters interactions among mentees and all network participants.
- **Participants recruitment and selection process,** plans to broaden participation.
- **The evidence-based and inclusive mentoring program.** Does it foster critical thinking, provide authentic research experiences, promote a sense of identify and belonging. Does it utilize culturally-appropriate practices, promote fair assigning of research credit, and professional development?
- **The assessment plan:** Evaluate the plans to assess project progress and outcomes
- **Project Management:** Does it includes strategies to facilitate communication among all network members?

RCN-UBE Research Coordination Networks in Undergraduate Biology Education

- **Synopsis**
  - Unique collaboration between BIO and EDU (STEM Education)
  - 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

RCN-UBE Research Coordination Networks in Undergraduate Biology Education

- **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
- **When**
  - January 24, 2023 (Fourth Thursday in January annually)
- **How**

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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.

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

BRC-BIO Building Research Capacity of New Faculty in Biology

- **Who:** Primary investigators must hold at least a 50% tenure-track (or tenure-track equivalent) position as an assistant professor (or equivalent rank), who are untenured, have both research and teaching components to their appointment, and are within the first three years of their appointment.
- **What:** Proposed projects should enable the establishment of research programs for new faculty to position them to apply for future grants to sustain their research and should also enrich undergraduate research experiences and thereby grow the STEM workforce.
- **Where:** Minority-serving institutions (MSIs), predominantly undergraduate institutions (PUIs), and other universities and colleges that are not among the nation's most research-intensive and resourced institutions.
- **When:** Proposal windows are December 1-30, 2022 and June 1-30, 2023
- **How:**

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BRC-BIO: Proposals

- Projects should enable the **establishment of sustainable research programs** for faculty and enrich undergraduate research experiences and thereby grow the STEM workforce.
- Projects **can include biology-focused research collaborations** among faculty within the same institution, across peer-, or research-intensive institutions, or partnerships with industry or other non-academic partners that advance the candidate's research program.

BRC-BIO: Proposals – Unique Elements

- Project Descriptions **limited to 6 pages**
- **Supplemental Document – Impact Statement (2 pages)**
- **Single Copy Document – Institutional Letter of Support (1 page)**
- **Intellectual Merit** section should articulate a compelling overarching research goal for the PI's research program, specific research questions to be addressed, and a brief but feasible research plan
- **Broader Impacts** section should include how proposed activities will increase participation of underrepresented students of biology

BRC-BIO: Budget

- Up to **$450,000 in research costs and up to $50,000 in justified equipment costs over 3 years**
- Costs may include **50% teaching release time/year + 2 months of summer salary**
- **Personnel** such as undergraduates, post-bac associates, lab technicians and postdoctoral support are allowed
- **Other** acceptable costs:
  - Research and conference related travel
  - Contractual administrative services as needed
  - Strongly justified subawards to collaborating institutions

BRC-BIO: Solicitation Specific Criteria

- Potential of the project to increase the quantity, quality, and capacity of research of the PI
- Potential to increase the diversity and number of students engaged in authentic research experiences
- Institutional support for the activity, as described in the institutional support letter
- If applicable, the nature and impact of the proposed collaborations or partnerships

BRC-BIO: Target Dates

- December Submission Window: 01 December – 30 December 2022
- June Submission Window: 01 June – 30 June 2023
- For any questions, please contact BRC-BIO@nsf.gov

Other cross-divisional / cross-directorate programs

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URoL Understanding the Rules of Life

- **Who:** There are no restrictions
- **What:** Convergence research that will allow us to better understand biological interactions and identify causal, predictive relationships across scales -- so-called "rules" for how life functions. *Current theme: Emergent Networks*
- **Where:** At any U.S. Institution of Higher Education or non-profit organization
- **When:** Varies by theme
- **Contact:** e-networks@nsf.gov

IntBIO Integrative Research in Biology

- **Who:** There are no restrictions
- **What:** Integrative biological research spans subdisciplines and incorporates cutting-edge methods, tools, and concepts from each to produce groundbreaking biological discovery. Research should be synergistic and produce novel, holistic understanding of how biological systems function and interact across different scales of organization.
- **Where:** At any U.S. Institution of Higher Education or non-profit organization
- **When:** January 24, 2023; Fourth Tuesday in January thereafter
- **How:** Research.gov ONLINE GRANTS MANAGEMENT FOR THE NSF COMMUNITY

RUI Research in Undergraduate Institutions

- **Who:** Faculty at Primarily Undergraduate Institutions
- **What:** An opportunity to support PUI faculty engagement in their professional field, build capacity for research at the institution, and support integration of research and undergraduate education.
- **Where:** At any U.S. PUI (awarded ≤20 PhDs in last 2 years)
- **When:** Any time (in BIO)
- **Contact:** Program officer in the appropriate program
- **See also:** ROA (Research Opportunity Award) supplements to existing awards to support PUI faculty research at collaborator's institution

GRFP Graduate Research Fellowship Program

- **Who:** Graduate or undergraduate student pursuing Master's or PhD studies (has to be a U.S. citizen, national, or permanent resident)
- **What:** A 5-year year STEM fellowship (3 years of financial support)
- **Where:** At any U.S. Institution of Higher Education or non-profit organization
- **When:** Can apply as an undergraduate in their final year of study, recent graduates, and graduate students within the first 12 months of study
  - **Applications due:** Oct./Nov. each year
- **How:** To apply go to fastlane.nsf.gov/grfp

CAREER Faculty Early-Career Development Program

- **Who:** Tenure track faculty members at assistant professor level, or equivalent
- **What:** Designed to help junior faculty members develop activities that can **effectively integrate research and education** within the context of his/her organization.
- **Where:** At any U.S. Institution of Higher Education or non-profit organization
- **When:** Application deadline is in the Summer
- **Contact:** nsf-ccc@nsf.gov

Academic STEM Enterprise: *NSF & BIO Programs along the Pathways*

Career Stage:	K-12	Undergraduate		Post-Bacc	Graduate		Postdoc	Faculty		
Milestone:	HS Diploma	AA/AS	BA/BS	*Research experience & Prof. Dev & Science identity*	MA/MS	PhD	Postdoc	New	Early-Career	Mid-Career
NSF & BIO Programs:	**[Supp: RET, RAHSS]** **BIO-RET**	**RCN-UBE, REU-Sites, [Supp:REU]**		[Supp: REPS] **RaMP**	*GRFP, NRT, IGE, INTERN*		**PRFB**	**BRC-BIO**	*CAREER,* **ROA**	*MCA NSF21-516,* **Transitions**
								HBCU-EIR, TCUP, ADVANCE, INCLUDES, AGEP, EPSCoR, **[Supp:RUI/ROA]**		

Research Environment Component:	*Culture:* **BIO-LEAPS**

BIO Virtual Office Hours

- BIO Directorate and each Division offers VOH
  - **DBI**: third Tuesday, 3-4 p.m. EST
  - DEB: second Monday, 1-2 p.m. EST
  - IOS: third Thursday, 1-2 p.m. EST
  - MCB: second Wednesday, 2-3 p.m. EST
- Monthly (or periodic) informational webinar focused on:
  - New and ongoing funding opportunities
  - Topics of general interest
  - Open questions from audience to be answered live
- Log-on information and upcoming topics for Virtual Office Hours can be found in BIO and Division blogs

NSF Needs You!

NSF Contact Information

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Questions?