

NSF Programs for Funding Collections:

Advancing Digitization of Biodiversity Collections (ADBC)
Collections in Support of Biological Research (CSBR)



Judith E. Skog
Office of the Assistant Director
Biological Sciences Directorate

NEON

Directorate for Biological Sciences (BIO)

Emerging Frontiers (EF)

Division of Biological Infrastructure (DBI)

Human
Resources

Research
Resources

BIO Centers

Division of Environmental Biology (DEB)

Population and
Community Ecology

Ecosystem
Science

Evolutionary
Processes

Systematics &
Biodiversity Science

Division of Integrative Organismal Systems (IOS)

Behavioral
Systems

Developmental
Systems

Neural Systems

Physiological &
Structural Systems

Plant Genome
Research Program

Division of Molecular and Cellular Biosciences (MCB)

Molecular
Biophysics

Cellular Dynamics
and Function

Genetic
Mechanisms

Systems and
Synthetic Biology

Advancing Digitization of Biodiversity Collections (ADBC) - Program Goals

- Digitize (image) existing, vouchered, curated specimens in nonfederal U.S. collections
- Include available ancillary material
- Build on existing resources
- Innovate to improve process
- Collaborate to increase numbers of specimens
- Research grand challenges as rationale
- Link to national resource (iDigBio)
- Train next generation and inform public

ADBC – additional information

- GEO links to EarthCube so paleo projects should explain how enhancing the geo data strategy
- Specimens must be owned by the institution digitizing them – ownership by indication of acquisition into the collection
- Make it clear that these are biodiversity specimens through the name of the program – diversity important
- Emphasize links to research challenges
- PEN proposals may continue beyond term of TCN if TCN continuing to be active (society, etc.)
- Deadlines are the 3rd Friday in October

ADBC – Thematic Collections Networks (TCN)

- Research justification for specimens
- Assessment of importance of specimens for the theme
- Innovative methods to increase efficiency, lower cost
- Collaboration across institutions and across collection types
- Management plan, task analysis, data management
- 2-4 year awards
- Integration with iDigBio (data, outreach)

ADBC Partners to Existing Networks (PEN)

- Add information to existing network projects
- Should fit the TCN – why appropriate
- Fill in gaps for coverage and increase specimens to meet research theme
- Enhance outreach/training/education
- Improve data management of collection
- Increase collaboration and accessibility
- 1-3 years with TCN additional support (25K)



Cluster of terms from current abstracts of funded ADBC projects.

Diversity is evident.



What's next for ADBC

- Committee of Visitors just performed review
- Comments were all positive for impact on community
- Program must be sustained and has matured through Emerging Frontiers into solid program
- Will move to Biological Infrastructure next year
- Support for at least 6 more years
- iDigBio review next year for 5 year renewal
- Permanent program officer sought and in review process for hire

Collections in Support of Biological Research (CSBR)

- Combines BRC (collections) and LSCBR (stocks)
 - 1. Natural History Collections***
 - 2. Living Stock Collections***
 - 3. Supplements for Ownership Transfer***

Encouraging digitization and open data access
integration into all collections-securing activities

CSBR

- Ongoing since ca. 1993 (in various forms)
- Supports activities to secure important collections
- Focus on urgency, impact, innovation, accessibility
- Moved to biannual cycle in 2012



Collections in Support of Biological Research (CSBR)

PROGRAM SOLICITATION

NSF 11-558

REPLACES DOCUMENT(S):

NSF 09-548, NSF 09-550



National Science Foundation

Directorate for Biological Sciences
Division of Biological Infrastructure

Full Proposal Target Date(s):

October 16, 2011

July 27, 2012

Fourth Friday in July, Annually Thereafter

IMPORTANT INFORMATION AND REVISION NOTES

A revised version of the *NSF Proposal & Award Policies & Procedures Guide (PAPPG)*, *NSF 11-1*, was issued on October 1, 2010 and is effective for proposals submitted, or due, on or after January 18, 2011. Please be advised that the guidelines contained in *NSF 11-1* apply to proposals submitted in response to this funding opportunity. Proposers who opt to submit prior to January 18, 2011, must also follow the guidelines contained in *NSF 11-1*.

Challenge: **Mobilize collections “dark data”**

- Collections hold priceless biodiversity information
- Much inaccessible, inconsistent
 - Ancillary data may not be linked, usable
 - Identifying knowledge gaps impossible
 - Use of data for modeling, meta-analysis unreliable



Cluster of terms used in abstracts of CSBR funded projects.



Other sources of support

- NSF Programs such as Major Research Instrumentation, Advances in Biological Informatics, Dimensions of Biodiversity, Genealogy of Life
- Request support on research awards for handling collections and preparing them for long term preservation and access (digitizing). Should be in the Data Management Plan (see GPG where physical products are included as part of this document)
- Outside NSF – IMLS, USDA or other agencies that deposit collections with you, GBIF, state and regional, your local library for digitization/storage
- Be creative

A Good Proposal

A good proposal is a good idea, well expressed, with a clear indication of methods for pursuing the idea, evaluating the findings, and making them known to all who need to know.

A Competitive Proposal is...

All of the above

Appropriate for the Program

Responsive to the Program Announcement

What to Look for in a Program Announcement

Read the Program Announcement Carefully

Pay special attention to:

- Goal of program
- Eligibility
- Special requirements

*For any questions...
call your Program Officer*

NSF Review Criteria

- Criterion 1 - What is the intellectual merit of the proposed activity?

This criterion addresses the overall quality of the proposed activity to advance science and engineering through research and education.

- Criterion 2 - What are the broader impacts of the proposed activity?

This criterion addresses the overall impact of the proposed activity.

Obtain a copy of a successful proposal. Check Award Abstracts search page. Things change, get a recent award.

Getting Started

- Take your best ideas for which you have some preliminary data or evidence it will work
- Develop rationale to take the next step(s).
- Consider feasibility in a 36 to 60 month window
- Consider what assistance you will need given teaching and other time commitments
- Prepare a plan of attack

Getting Started

- Communicate with a program officer
 1. Assist in program selection
 2. Provide advice about how to proceed
- Examine prior NSF awards in similar areas
 1. Visit www.nsf.gov.
 2. Link to award information through [BIO Award Search](#)
 - **Search by subject, institution, PI name**

Grant Proposal Guide (GPG)

- **GUIDANCE AND REGULATIONS** -
Preparing and submitting proposals
- **DESCRIBES PROCESS** - for
declinations, returns withdrawals, and
awards; significant grant administrative
highlights.

Commandments for Writing Competitive NSF Proposals

“Thou shalt start early.”

“Thou shalt read the Grant Proposal Guide and Program Announcement.”

“Thou shalt discuss the broader impacts.”

“Thou shalt get feedback from your colleagues.”

“Thou shalt write for the right audience.”

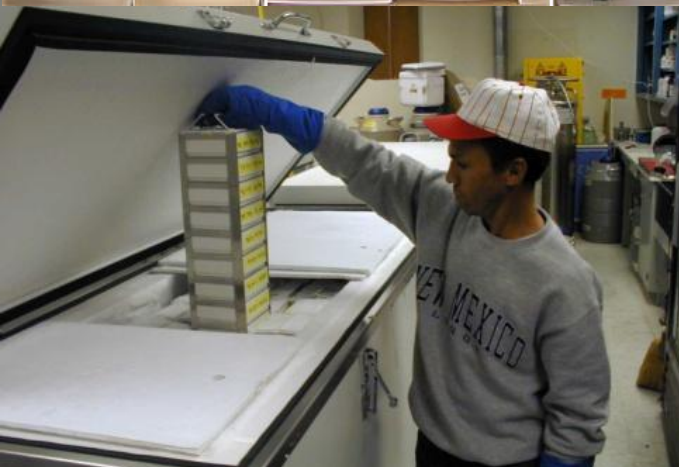
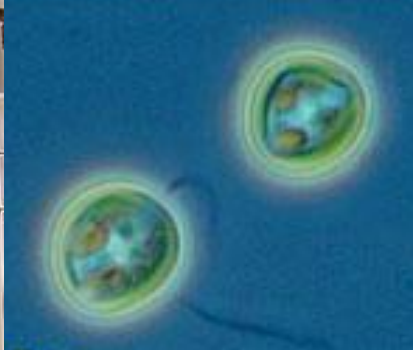
“Thou shalt not irritate the reviewers.”

“Thou shalt not kill (with some exceptions).”

“Thou shalt contact your Program Officer.”

Summary

- Start early – give yourself enough time
- Read the Program Announcement and follow rules in GPG
- Get feedback from your colleagues
- Proposals should be cogent, appropriate, and justified
- Anticipate criticisms and invite criticisms from others
- Study reviews carefully (award or declination)
- Anticipate some frustration (remember success rate)
- If declined – contact your program director after reading your reviews (take some time to think about them), the panel summary, the context statement
- If awarded - follow up on reporting and find out about supplemental funding (stay in touch with PD)



Genealogy of Life (GoLife)

- Successor to the Assembling the Tree of Life (AToL) program
- Goal of creating a Genealogy of Life framework for all comparative biology
- Emphasizes the complexity of phylogenetic patterns across the Tree of Life
- Requires integration of at least two layers of organismal data, and broad training in systematics
- March 26, 2014 deadline for submission of proposals