



NSF Regional Grants Conference

Salt Lake City, UT

Biological Sciences Directorate

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October 25 & 26, 2010

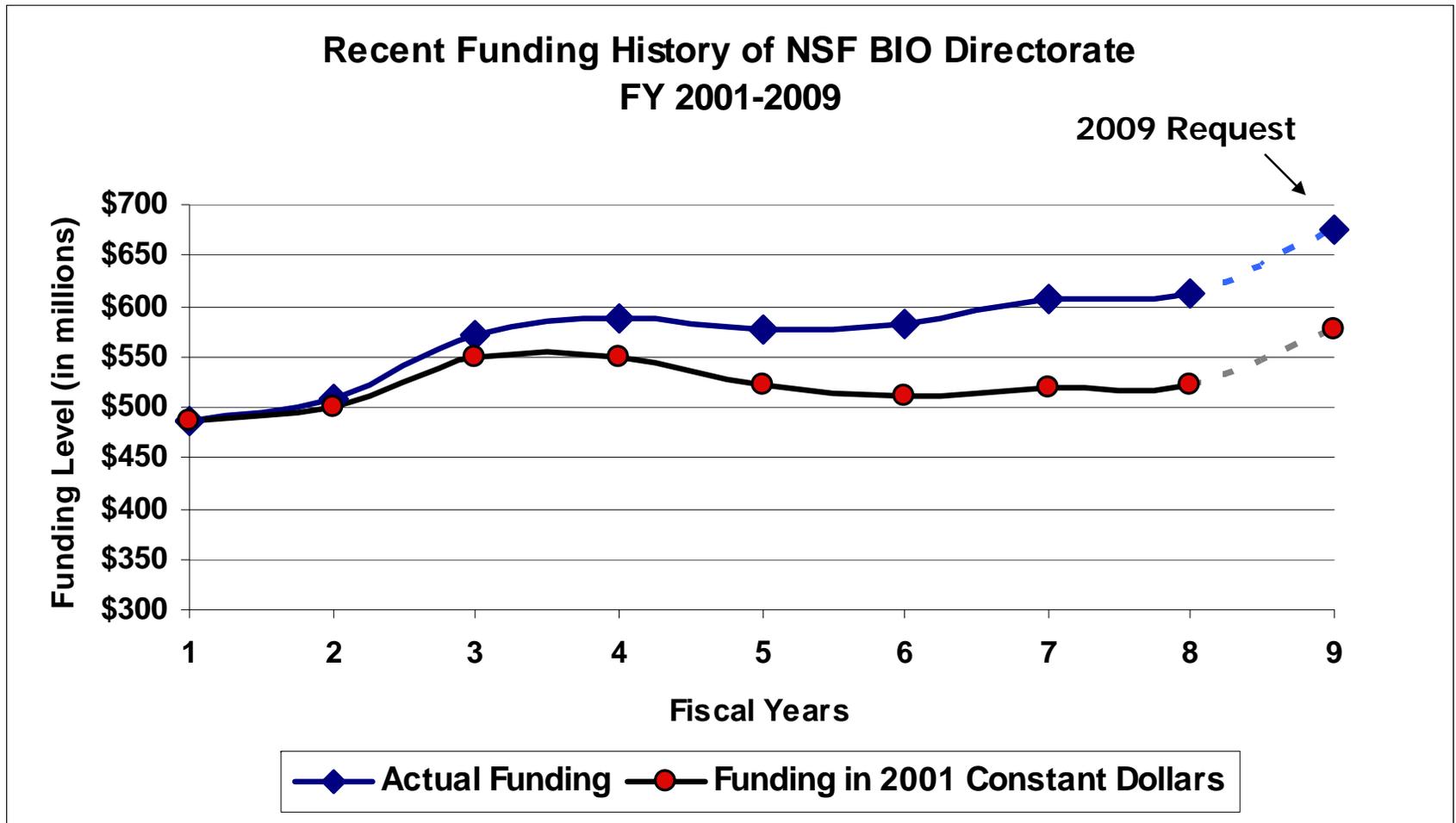
Biological Sciences Directorate



*Promoting and advancing
scientific progress in biology*



Realities



http://www.nsf.gov



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Funding Opportunities

- Find Funding Opportunities
- Upcoming Due Dates
- Funding Trends

Program Areas
Select One

Quick Links

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General Information About NSF

Special Notices

- National Science Board STEM Education Recommendations for the Obama Administration
- New Proposal and Award Policies and Procedures Guide Available, Effective April 6, 2009.

Test News

- Evidence of Earliest Known Domestic Horses Found in Kazakhstan
Released March 5, 2009
Press Release
- Geologic Findings Undermine Theories of Permian Mass Extinction Timing
Released March 2, 2009
Press Release

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Local intranet 100%

Biological Sciences Directorate



**Division of
Biological
Infrastructure
(DBI)**

Empowering biological discovery

**Division of
Environmental
Biology
(DEB)**

*Populations, species, communities
and ecosystems*

**Integrative
Organismal
Systems
(IOS)**

*Integrative understanding of
organisms' structure and function*

**Molecular &
Cellular
Biosciences
(MCB)**

*Life processes at the molecular,
subcellular and cellular levels*



Division of Biological Infrastructure



Human Resources

Research Experiences for Undergraduates (Sites); Postdoctoral Research Fellowships

Research Resources

Biological databases and informatics; biological research collections; instrumentation and instrument development; improvements in field stations and marine laboratories



Division of Environmental Biology



Ecological Biology

Natural and managed ecological systems; ecology

Ecosystem Science

*Natural, managed, and disturbed ecosystems; ecosystem studies;
Long-Term Ecological Research (LTER)*

Population & Evolutionary Processes

*Evolutionary ecology; population dynamics; evolutionary genetics;
molecular population biology*

Systematic Biology & Biodiversity Inventories

Discovery, description, inventory of species diversity



Integrative Organismal Systems



Behavioral Systems

Development, function, mechanisms and evolutionary history of behavior

Developmental Systems

Interacting developmental processes shared by all organisms and those that produce diversity

Neural Systems

Complex function of the nervous system; information extraction and integration; adaptive behavior; learning

Physiological & Structural Systems

Interacting physiological and structural systems within environmental and evolutionary contexts



Molecular and Cellular Biosciences



Biomolecular Systems

Structure, function, dynamics, interactions, and interconversions of biological molecules

Cellular Systems

Structure, function, and regulation of plant, animal and microbial cells, and their interactions with the environment and with one another

Genes and Genome Systems

Genomes and genetic mechanisms in all organisms, whether prokaryote, eukaryote, phage, or virus



BIO-wide Opportunities



Plant Genome Research Program



- Structure, organization and function of plant genomes
- Accelerate acquisition and utilization of new knowledge and innovative technologies
- Focus on plants of economic importance and plant processes of potential economic value



Dimensions of Biodiversity



BIO, GEO/OCE, OPP, OISE

- Characterize biodiversity on Earth using integrative approaches. INTERSECTION of:
 - Taxonomic
 - Functional
 - Genetic
- Determine the role of biodiversity in critical ecological and evolutionary processes
 - Community or ecosystem resilience or stability
 - Symbioses
 - Sustainability or productivity



National Ecological Observatory Network



Biosphere, Geosphere, Atmosphere

- Continental-scale questions (*Will changing climate increase or decrease the biological carbon uptake or emission of the US and by how much?*)
 - Drivers (*climate, biological processes, land use change*)
 - Phenomena (*CO₂ uptake or emission*)
- Forecast effects of climate change, land use change, and invasive species



Research Coordination Networks

- Encourage and foster new interactions
- Promote new research direction or advance a field
- Support communication/coordination across disciplinary, organizational, institutional and geographical boundaries
- \$50 to \$100 K per year for up to 5 years



Research Coordination Networks

Undergraduate Biology Education



- Active and/or inquiry-based learning
- Use of emerging technologies
- Faculty professional development activities related to undergraduate education
- Incorporate emerging sub-disciplines into the biology curriculum (e.g., informatics, proteomics, ecological stoichiometry)
- Improve assessment of student learning
- Improve the transition of students from two-year to four-year institutions

BIO-Funded Centers



- National Center for Ecological Analysis and Synthesis
- National Evolutionary Synthesis Center
- iPlant Collaborative
- National Institute for Mathematical & Biological Synthesis
- Centers for Environmental Implications of Nanotechnology
- National Environmental Synthesis Center





Doctoral Dissertation Improvement Grants

- DEB and IOS
- Must pass candidacy by the deadline
- Funds research-related costs only
 - Upper limit is \$15,000
 - May include travel to meetings



BIO Supplementary Funding



- Research Opportunity Awards
- Research Experiences for Teachers
- Research Experiences for Undergraduates



Summary Points



- New opportunities – www.nsf.gov
- BIO Program Directors
- Program Solicitations / Dear Colleague Letters
- Proposal & Award Policies & Procedures Guide

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