Navigating EAR-Instrumentation and Facilities (EAR-IF)

Amanda Keen-Zebert, PhD, MBA
Program Director, EAR-IF Program
Geosciences Directorate, Earth Sciences Division

EAR-Instrumentation and Facilities Cluster

EAR Division Director
Dena Smith-Nufio

Program Directors
EAR-IF, MRI
David Lambert, Luciana Astiz, Amanda Keen-Zebert

EAR MSRI-1, -2
Paul Cutler

EAR Major Research Equip. & Facilities Construction
Maggie Benoit

EAR-Instrumentation and Facilities Cluster

Thank You and Happy Retirement to Russ Kelz!

YES!
(probably, maybe)
Slides from this webinar will be posted

YES!
(probably)
A recording will be posted

Check the EAR-IF website under 'Additional Program Resources'

During a lapse in NSF operations

Electronic systems for proposal preparation and submission will remain available, (i.e., Research.gov, and Grants.gov).

Recipients may continue performance under their NSF awards to the extent funds are available, and the period of performance of the grant or cooperative agreement has not expired.

More information on NSF operations for recipients and panelists, and employees will be posted at https://www.nsf.gov/

Responses to any inquiries will be deferred until normal operations resume.

All panels (including virtual panels) will be cancelled and/or rescheduled.

Thank you for registering, attending, and sending questions in advance!

Questions can be posted in the Q/A function in Zoom

We will answer questions at the end as time allows

For questions specific to your project, please email us

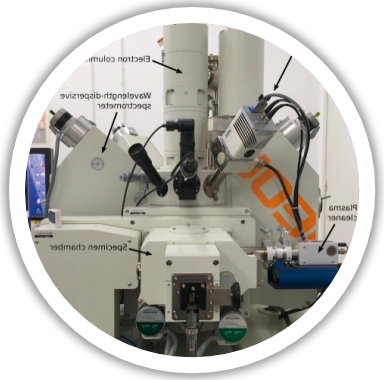
Agenda:

- Scope and Overview
- Types of proposals reviewed
- Merit Review Process
- Selection Considerations
- Proposal Elements
  - Postdoctoral Plan
  - Data Management Plan
  - Letters of Collaboration

NSF Infrastructure and Facilities Spectrum

EAR Instrumentation & Facilities

$ Varies per Track



Major Research Instrumentation

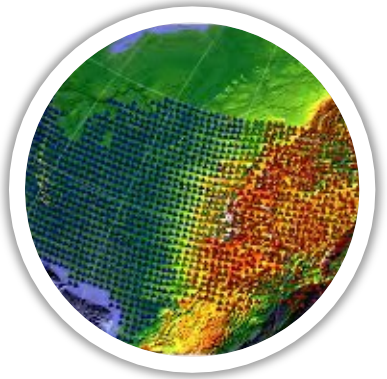
Up to $4M

Mid-Scale Research Infrastructure 1

Up to $20 M

Mid-Scale Research Infrastructure 2

$20 M-$100M



Major Research Equipment & Facilities Construction

Greater than $100M

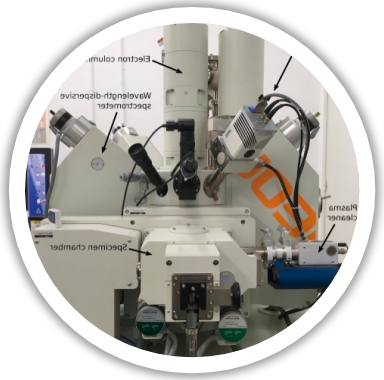
NSF Infrastructure and Facilities Spectrum

Paul Cutler
pcutler@nsf.gov

Maggie Benoit
mbenoit@nsf.gov

EAR Instrumentation & Facilities

$ Varies per Track



Major Research Instrumentation

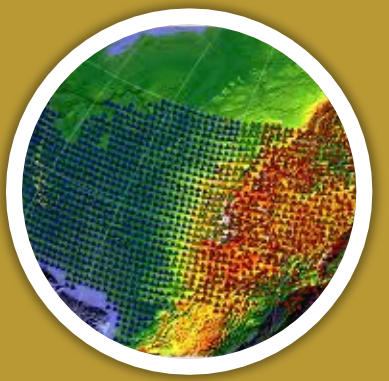
Up to $4M

Mid-Scale Research Infrastructure 1

Up to $20 M

Mid-Scale Research Infrastructure 2

$20 M-$100M



Major Research Equipment & Facilities Construction

Greater than $100M

NSF Infrastructure and Facilities Spectrum

EAR Instrumentation & Facilities

$ Varies per Track

Major Research Instrumentation

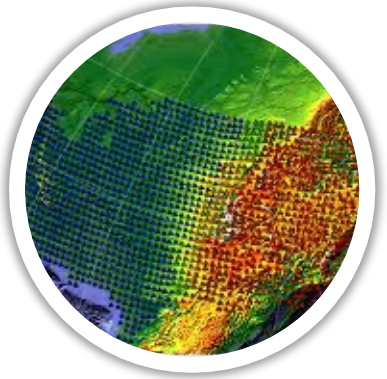
Up to $4M

Mid-Scale Research Infrastructure 1

Up to $20 M

Mid-Scale Research Infrastructure 2

$20 M-$100M



Major Research Equipment & Facilities Construction

Greater than $100M

EAR Instrumentation & Facilities (EAR-IF) Solicitation: 22-577

Earth Sciences Division Program

Funds multiple types of activities, instruments, and community facilities

Annual budget of ~$21m

No deadline for proposals

EAR Instrumentation & Facilities

EA	ITD	TS	CFS	CDP
Equipment Acquisition or Upgrade	Instrumentation and/or Technique Development	Technician Support	Community Facility Support	Continental Drilling Planning Grants

EAR Instrumentation & Facilities

EA Equipment Acquisition or Upgrade

$600k maximum

- **Additional $25k for broadening participation and/or outreach**

$75k maximum for computational equipment

$100k maximum for EA/Ed

EAR Instrumentation & Facilities

EA Equipment Acquisition or Upgrade

New research equipment or the

Upgrade of existing equipment

Used analytical equipment acquisition, shipping, and making suitable for research use

EAR Instrumentation & Facilities

EA Equipment Acquisition or Upgrade

EA/Ed: Proposals from community colleges and minority serving non-Ph.D.-granting institutions of higher education where the intended uses of the equipment are solely or predominantly focused on educational applications.

EAR Instrumentation & Facilities

ITD Instrument and/or Technique Development

$600k maximum

Additional $25k for broadening participation and/or outreach

New standards development

Inter-laboratory comparisons

EAR Instrumentation & Facilities

ITD Instrument and/or Technique Development

Demonstrate new/improved capability

Collaborations between academic and industrial partners are allowed

No support for commercial development of instrumentation or capabilities

EAR Instrumentation & Facilities

TS Technician Support

$200k/year maximum
5-year duration
Must be a single new 100% FTE
Technician salary, fringe, and related costs

EAR Instrumentation & Facilities

CFS Community Facility Support

3 tracks at different stages

Reporting guidelines for community facilities

EAR Instrumentation & Facilities

CFS Community Facility Support

Track 1- Community Facility Concept

Proposals should follow guidelines for Conference proposals in the PAPPG Chapter II.E.9

$200k maximum

EAR Instrumentation & Facilities

CFS Community Facility Support

Track 1- Community Facility Concept

Workshop(s):

- Identify and articulate a community need
- Developing or identify possible solution
- Assessing demand for a new Community Facility
- Exploration of models for community access, management and operational needs

EAR Instrumentation & Facilities

CFS Community Facility Support

Track 2- New Community Facility: Development and Operation

$1m annual budget

5 year maximum

EAR Instrumentation & Facilities

CFS Community Facility Support

Track 2- New Community Facility: Development and Operation

Following a compelling Track 1 Workshop Report

- **Initial Development, operational, and management support for a new community facility**
- **Meets needs for access to complex instrumentation and/or services through centralized support**

EAR Instrumentation & Facilities

CFS Community Facility Support

Track 3-Community Facility Renewal

$1.5 m annual budget

5 year maximum

EAR Instrumentation & Facilities

CFS Community Facility Support

Track 3-Community Facility Renewal

Continued Operational Support

- Demonstrated history of professional, effective, and efficient management and operations
- Importance to NSF-supported Earth science community
- Record of contribution
- Appropriate facility metrics and reporting

EAR Instrumentation & Facilities

CDP Continental Drilling Planning

New workshops
Community planning activities
Site surveys
Equipment design
Drilling plan
Budget preparation

EAR Instrumentation & Facilities

CDP Continental Drilling Planning

Proposals should follow guidance for Planning Proposals contained in PAPPG Chapter II.E.1

EAR Instrumentation & Facilities

EA	ITD	TS	CFS	CDP
Equipment Acquisition or Upgrade	Instrumentation and/or Technique Development	Technician Support	Community Facility Support	Continental Drilling Planning Grants

The EAR/IF program will NOT Support

EA track: Personnel or publication costs

EA and ITD: Costs of instrument service contracts or service agreements

(Those costs are allowable in proposals for Community Facility Support (Track II and III).

The EAR/IF program will NOT Support

All Tracks:

Construction or renovation of laboratory space

Direct costs of maintaining infrastructure or building systems or general-purpose systems or platforms.

This includes items such as HVAC, telecommunications, electrical systems, fume hoods, elevators, storage systems.

EAR Instrumentation & Facilities (EAR-IF)

No deadline for proposals

Usually, 2 panels per year

Potential for co-review and co-fund:

- **Other programs (GEO/EAR)**
- **EPSCoR**
- **Other agencies (e.g. NASA)**

NSF Infrastructure and Facilities Spectrum

EAR Instrumentation & Facilities

$ Varies per Track

Major Research Instrumentation

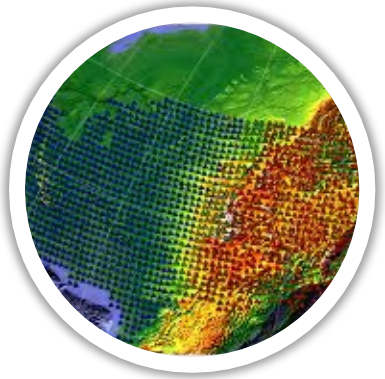
Up to $4M

Mid-Scale Research Infrastructure 1

Up to $20 M

Mid-Scale Research Infrastructure 2

$20 M-$100M



Major Research Equipment & Facilities Construction

Greater than $100M

Major Research Instrumentation (MRI) Solicitation: 23-519

NSF-wide program managed by Office of Integrative Activities

Program Directors:

Randy Phelps

Jonathan Friedman

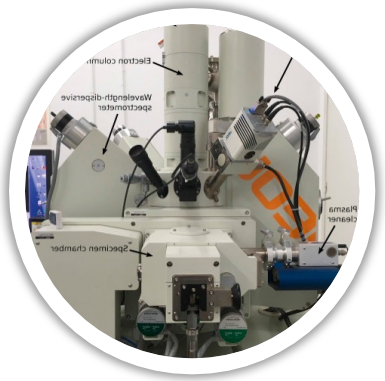
Major Research Instrumentation (MRI) Solicitation: 23-519

OIA MRI budget is set by Congress

Divisions receive an allocation

Allocation is split between degree-granting and non-degree granting institutions

EAR-IF and EPSCoR contribute



Major Research Instrumentation

Track 1

Proposals budgets greater than $100,000 and less than $1,400,000

Each institution may submit 2

Major Research Instrumentation

Track 2

Proposal budgets greater than or equal to $1,400,000 up to and including $4,000,000

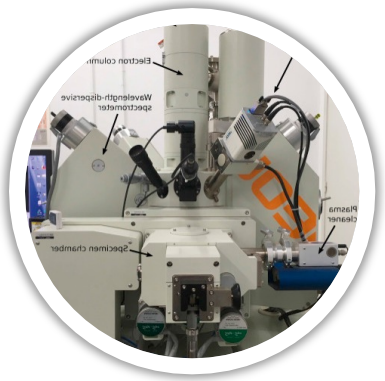
Each institution may submit 1

Major Research Instrumentation

Track 3

Proposal budgets greater than or equal to $100,000 and less than or equal to $4,000,000 for the acquisition or development, purchase, installation, operation & maintenance of equipment to conserve or reduce consumption of helium

Each institution may submit 1



Major Research Instrumentation

Target window for proposal submission (Oct 16-Nov 15, 2023)

Proposals are submitted to OIA with Division preference indicated

Don’t wait until the deadline

Email a program officer for fit

Program Directors
EAR-IF, MRI

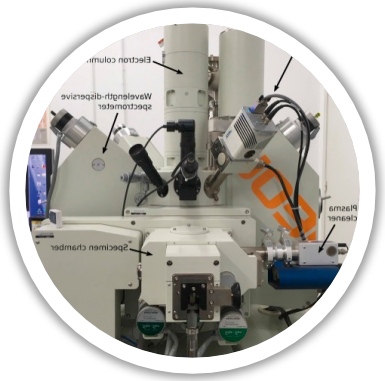
David Lambert
dlambert@nsf.gov

Luciana Astiz
lastiz@nsf.gov

Amanda Keen-Zebert
akeenzeb@nsf.gov

EAR Instrumentation & Facilities

$ Varies per Track



Major Research Instrumentation

Up to $4M

Review Process

EAR-IF typically uses both:

Ad Hoc (aka ‘mail’ reviews)

Panel Review

Please volunteer to be a reviewer and/or panelist!

Merit Review

All proposals are evaluated equally on

Intellectual Merit

Broader Impacts

Both should be compelling!

Merit Review

Broader Impacts

https://new.nsf.gov/funding/learn/broader-impacts

The Broader Impacts discussion is a critical component of any proposal submitted to the U.S. National Science Foundation.

It answers the following question:

How does your research benefit society?

Merit Review

Broader Impacts

- Inclusion
- STEM education
- Public Engagement
- Societal Well-Being
- STEM Workforce
- Partnerships
- National Security
- Economic Competitiveness
- Infrastructure

Solicitation specific criteria
EAR-IF 22-577

Planned uses of requested facilities, instruments, or software must include basic research on Earth processes SUPPORTED BY PROGRAMS OF THE DIVISION OF EARTH SCIENCES.

Solicitation specific criteria
EAR-IF 22-577

Human resource development and education.

Efforts to support participation of underrepresented groups in laboratory and/or field instrument use and training are encouraged.

Solicitation specific criteria
EAR-IF 22-577

EAR/IF asks reviewers to evaluate all proposals submitted to the program on:

Intrinsic merit of the Earth Science research that will benefit

Number of investigators who will substantially benefit, and the strength of their Earth Science research programs

Solicitation specific criteria EAR-IF 22-577

EAR/IF asks reviewers to evaluate all proposals submitted to the program on (contd):

Adequacy of the management plan describing the ability to operate and maintain complex equipment during its expected lifetime

The adequacy of the facilities, equipment, and other resources provided as institutional support to carry out the proposed management plan

Solicitation specific criteria
MRI 23-519

Refer to MRI website

https://new.nsf.gov/funding/opportunities/major-research-instrumentation-program-mri

Consult with MRI Program Directors

Randy Phelps

Jonathan Friedman

Project Considerations

Science questions should lead

Plan for the whole lifecycle

To be competitive for larger programs, a coherent, integrated whole with strong project management must be presented

Project Considerations

Enable frontier science research and education

Compelling research needs and priority within the community

Appropriately broad user community

Project Considerations

Consider your audience

Think like a reviewer

Proposal Elements

Read the Solicitation

Varied specific requirements and recommendations for different tracks

Proposal Elements

Postdoctoral Researcher Mentoring Plan

Any proposal that requests funding to support a post-doctoral researcher is required to include a postdoctoral researcher mentoring plan (see PAPPG Chapter II.C.2.j).

Proposal Elements

Data Management Plan

All NSF proposals must include a Data Management Plan (DMP) no more than 2 pages (see PAPPG Chapter II.C.2.j).

Become familiar with community data and informatics efforts supported by NSF Programs such as the EAR Geoinformatics Program or through other agencies.

Proposal Elements

Data Management Plan

The Division of Earth Sciences has a specific Data and Sample Policy that applies to workflows for using instrumentation to generate data for research.

Proposals to EAR/IF should describe in an included DMP how a supported project will address the EAR Data and Sample Policy.
https://www.nsf.gov/geo/geo-data-policies/ear/index.jsp

Proposal Elements

Letters of Collaboration

Limited to stating the intent to collaborate

Should not contain endorsements or evaluation of the proposed project.

The recommended format for letters of collaboration is as follows:

"If the proposal submitted by Dr. [insert the full name of the Principal Investigator] entitled [insert the proposal title] is selected for funding by NSF, it is my intent to collaborate and/or commit resources as detailed in the Project Description or the Facilities, Equipment and Other Resources section of the proposal."

Proposal Elements

List of Suggested Reviewers or Reviewers Not to Include (optional)

Take the option!

Include non conflicted suggested reviewers, affiliation, email address

Proposal Elements

Several proposal elements specific to each track and program

Read the solicitation

Email us for help, clarifications, questions

Program Directors
EAR-IF, MRI

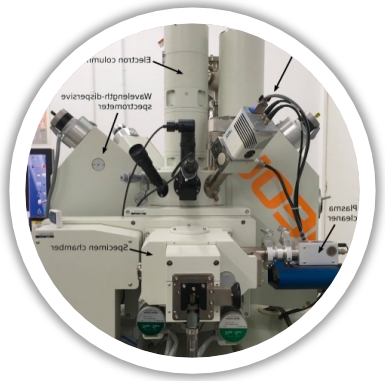
David Lambert
dlambert@nsf.gov

Luciana Astiz
lastiz@nsf.gov

Amanda Keen-Zebert
akeenzeb@nsf.gov

EAR Instrumentation & Facilities

$ Varies per Track



Major Research Instrumentation

Up to $4M

YES!
(probably)
Slides from this webinar will be posted

YES!
(probably)
A recording will be posted

Check the EAR-IF website under 'Additional Program Resources'

During a lapse in NSF operations

Electronic systems for proposal preparation and submission will remain available, (i.e., Research.gov, and Grants.gov).

Recipients may continue performance under their NSF awards to the extent funds are available, and the period of performance of the grant or cooperative agreement has not expired.

More information on NSF operations for recipients and panelists, and employees will be posted at https://www.nsf.gov/,

Responses to any inquiries will be deferred until normal operations resume.

All panels (including virtual panels) will be cancelled and/or rescheduled.

Subscribe to the EAR Newsletter for news on upcoming EAR events including EAR-IF Office Hours

To subscribe to EAR's informational listserv, send an email to listserv@listserv.nsf.gov with the following text in the body of the message:

Subscribe Earth your name

[for example: Subscribe Earth Florence Bascom]