Welcome to Materials 2022!

- **WEBINAR NOTICES**

1. **We will begin promptly at 3:30pm (Eastern Time).**
2. **For this webinar, you should also be connected to the audio bridge:**
   - **Using a touchtone phone (preferably a landline with speaker and mute capability), dial (Verizon) toll free: 1-888-989-4415 (US/Canada) or (Verizon) toll: 1-517-308-9009 (US/Canada), State participant passcode: DMR2022.**
3. **Participants will be in Listen Only mode until Q&A via live audio and WebEx chat is announced. To conserve bandwidth, non-presenters should turn off web cameras.**
4. **Remember to state your name and organization before commenting and speak clearly and loudly so everyone can hear you.**
5. **To view real-time captioning go to: http://www.fedrcc.us/, enter event confirmation number 1904351.**
6. **Problems? Send private WebEx chat to meeting host, Email: kotts@nsf.gov or go to: https://mmancusa.webex.com and click "Support" on the left navigation panel.**

Materials 2022 Charge -summary

How can the Division of Materials Research (DMR) best utilize its resources to:

1. meet national needs in instrumentation ?
2. provide access to unique instrumentation capabilities through user programs at national facilities ?
3. support acquisition of multi-user instrumentation for the materials community?
4. develop new instrumentation and facilities?
5. support workforce development?

Constraints:

1. Finite budget of DMR and its distribution with the broad portfolio,
2. Other opportunities for funding for instrumentation, acquisition as well as research and development, and user facilities for materials research,
3. No discussion of current or future individual projects nor will it determine how funds are to be distributed among individual ongoing efforts.

Timeline

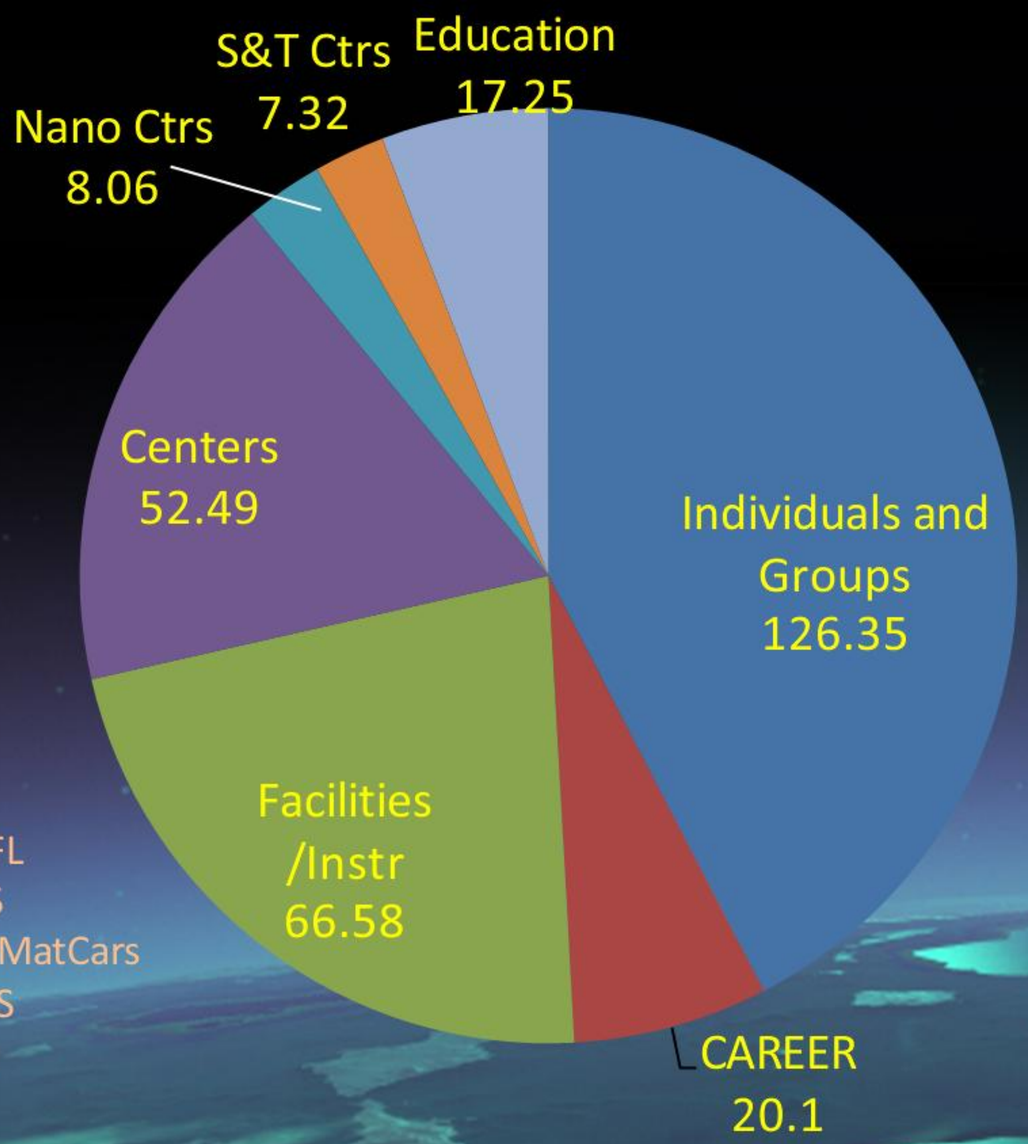
1. Materials 2022 committee meeting: 15 December 2012
2. Webinar – gathering input, 8 February 2012. Email option: materials2022@nsf.gov
3. Materials 2022 committee meeting: 9 March, 2012.
4. Preliminary report to MPSAC 5- 6 April 2012
5. Report submitted June 2012
6. Report accepted by MPSAC

Planning for FY14 is underway and one possibility for DMR is an effort emphasizing " mid-scale research infrastructure."

DMR Budget by Category FY 10 and FY 11 comparison

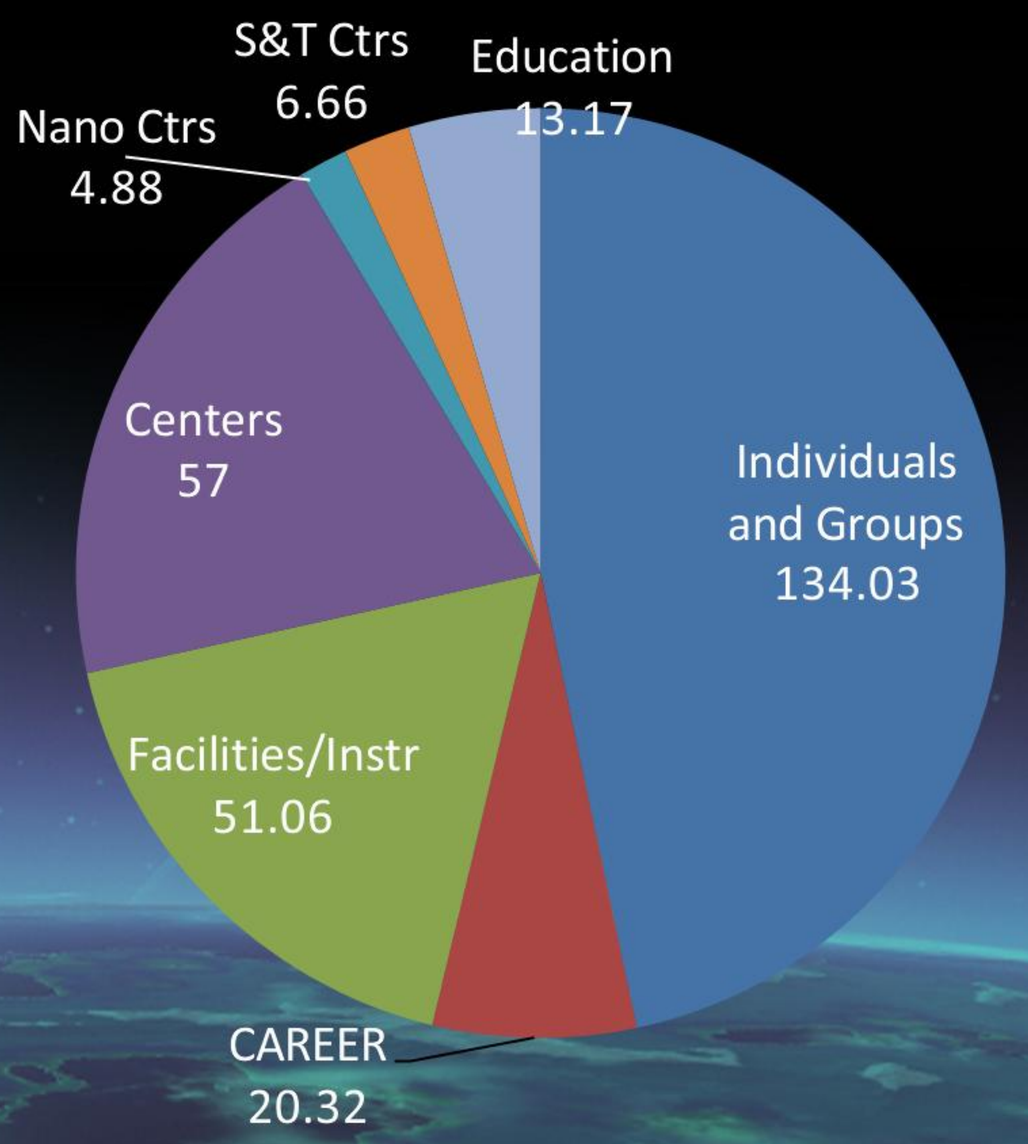
Charts do not include Foundation-wide programs such as IGERT, MRI and GRF.

FY 2010: total $298 M



NHMFL
CHESS
ChemMatCars
CHRNS
NNIN

FY 2011: $287 M



The National Facilities program (NAF)

Facility	FY 11 Budget (millions of dollars)			
	DMR	Other NSF	Other	Total
National High Magnetic Field Facility, NHMFL	31.2	1.5 NSF CHE	3.12 FSU	35.82
Cornell High Energy Synchrotron Science, CHESS	14.115		0.416 NIH	14.531
ChemMatCars, at Advanced Photon Source	0.3	0.6 +0.3 NSF CHE	0.3 DOE BES	1.2
Center for High Resolution Neutron Scattering, CHRNS	3.5		7.5 NIST	11.0
National Nanotechnology Infrastructure Network, NNIN	2.975	14 NSF		16.975

Instrumentation for Materials Research - Major Instrumentation Projects (IMR-MIP)

The Instrumentation for Materials Research - Major Instrumentation Projects (IMR-MIP) program in the Division of Materials Research provides support for the design and construction of major instruments costing more than $4 million but less than $20 million. Such instruments may include, but are not limited to, key instrumentation for coherent light sources, neutron beam lines, synchrotron beam lines, high field magnets, and detectors.

Three types of awards:

- Research and Development (R&D) awards,
- Conceptual and Engineering Design (CED) awards,
- and Construction (CNST) awards.

IMR Program

The IMR Program supports the acquisition and/or development of research instruments that will provide new capability and/or advance current capability to:

- discover fundamental phenomena in materials;
- synthesize, process, and/or characterize the composition, structure, properties, and performance of materials; and
- improve the quality, expand the scope, and foster and enable the integration of research and education in research-intensive environments.

Major Research Instrumentation Program (MRI)

The goal

- increase access to shared scientific and engineering instruments for research and research training in our Nation's institutions of higher education, museums, science centers, and not-for-profit organizations.
- improve the quality and expand the scope of research and research training in science and engineering, by providing shared instrumentation that fosters the integration of research and education in research-intensive learning environments.

MRI encourages development and acquisition of research instrumentation for shared inter- and/or intra-organizational use are encouraged, as are development efforts that leverage the strengths of private sector partners to build instrument development capacity at academic institutions.

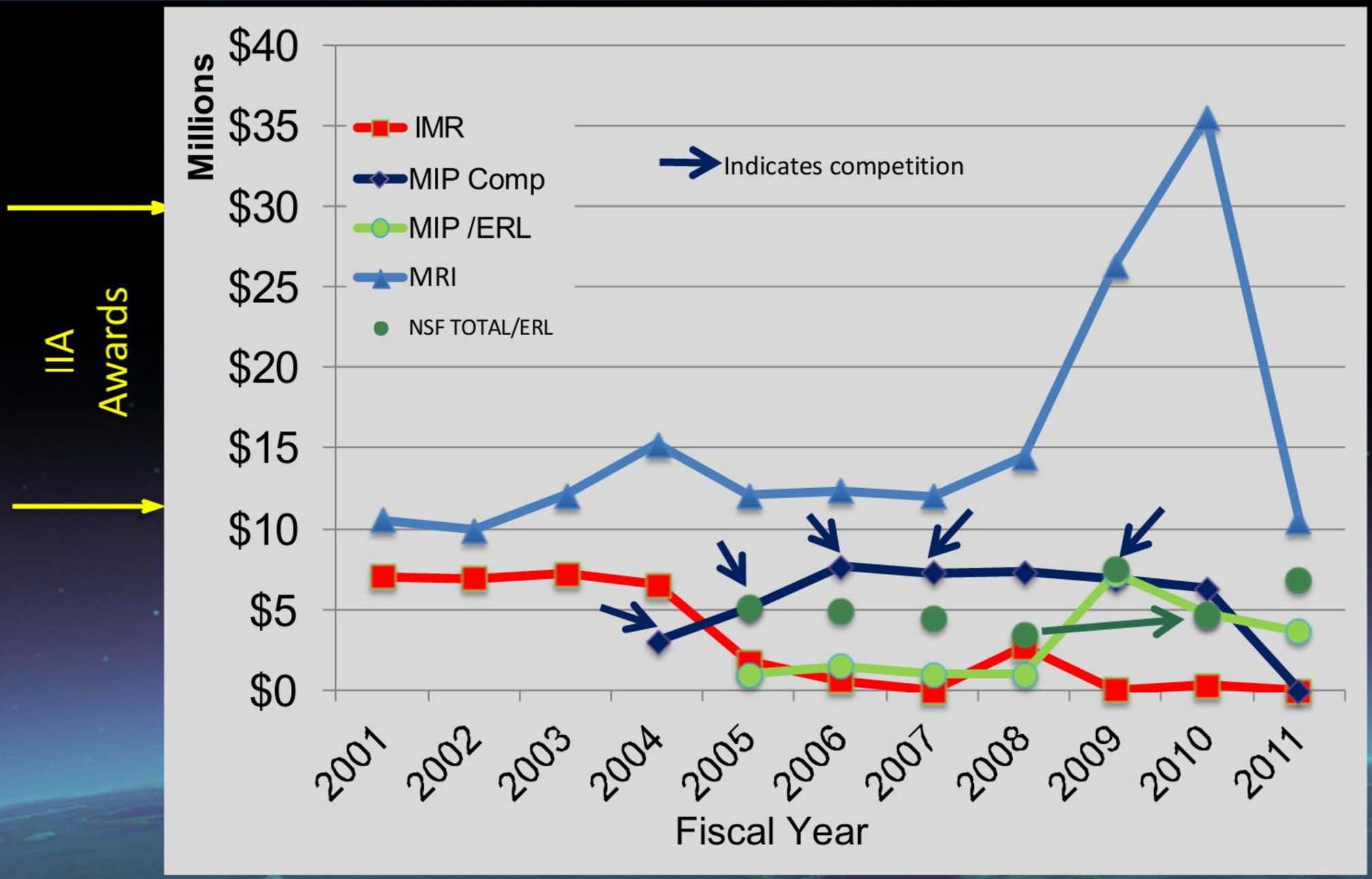
Budget Range

- $100,000-$4 million will be accepted from all eligible organizations.
- less than $100,000 will also be accepted from all eligible organizations for the disciplines of mathematics or social, behavioral and economic sciences and from non-Ph.D.-granting institutions of higher education for all NSF-supported disciplines.

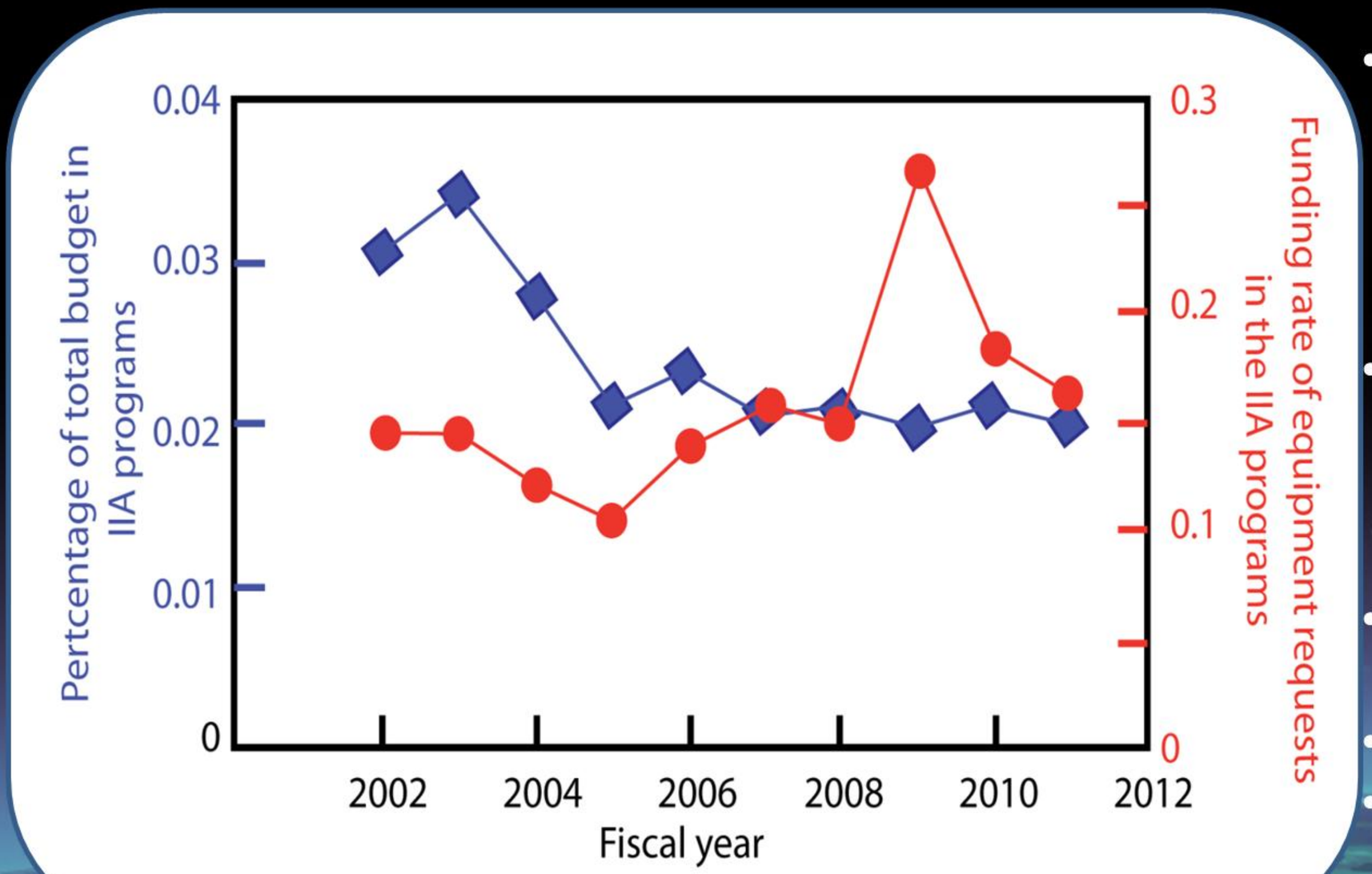
Cost-sharing

- 30% of the total project cost is required for Ph.D.-granting institutions and for non-degree-granting organizations.
- Non-Ph.D.-granting institutions are exempt from cost-sharing.

Instrumentation programs – budget history



Instrumentation acquisition through individual investigator programs



- Individual Investigator Programs averaged $2.9M annually (2% of their total)
- The other programs averaged $27.28M annually.
- Roughly half of this is MRI.
-
- MRSEC accounts for $4M annually

Input from the Community

Your input is needed to help the committee and the division address the following:

What types of research infrastructure is needed to support the materials research mission of the division?

What instrumentation research and development is needed to support the materials research mission of the division.

How to provide your input:

1. Follow operator instructions to get in the Q&A queue to ask a question via live audio.

OR

2. Submit your question via the chat box at the bottom of the screen.

If we do not have time to answer your question or for you to make a comment please submit via the following email address: materials2022@nsf.gov