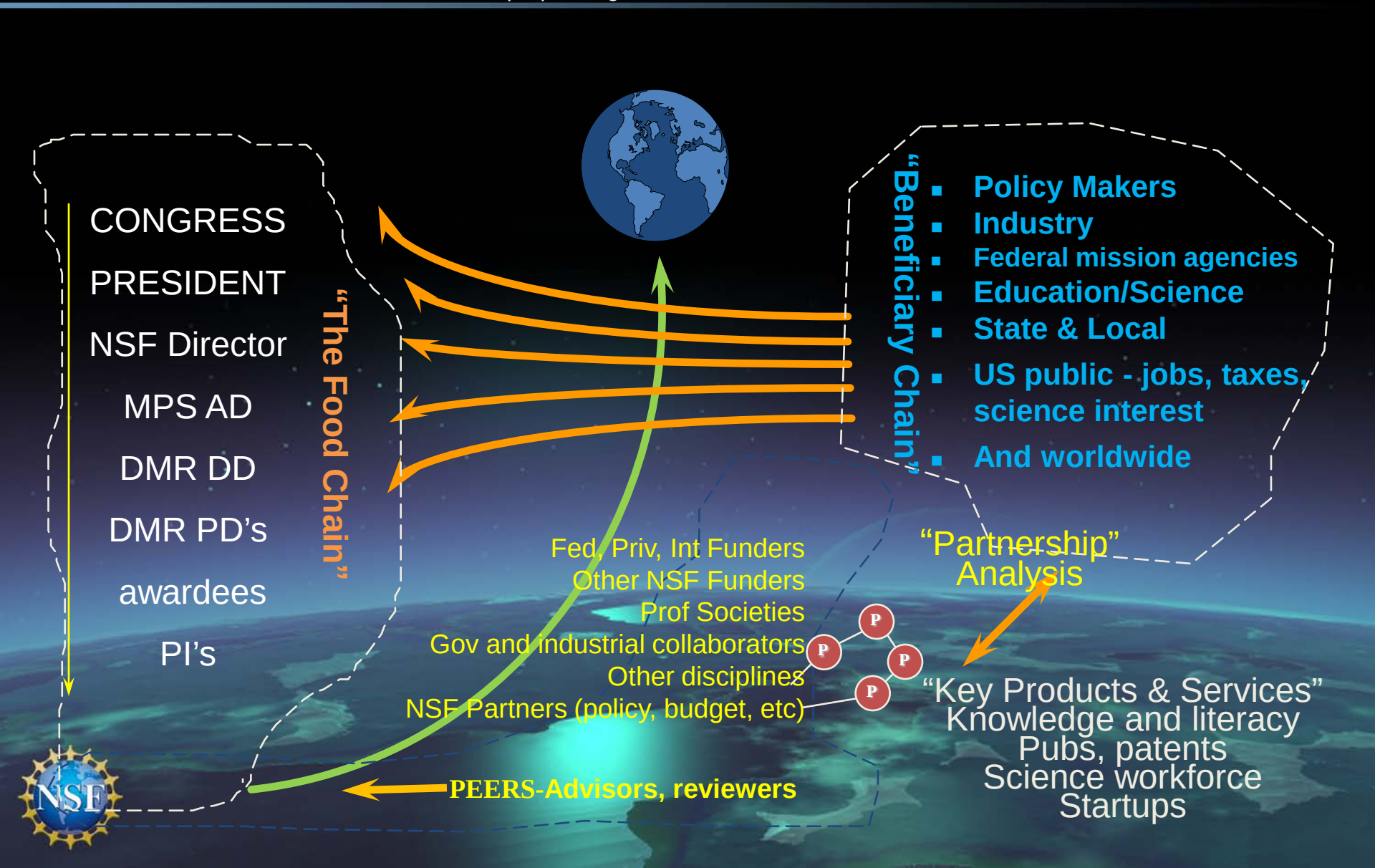
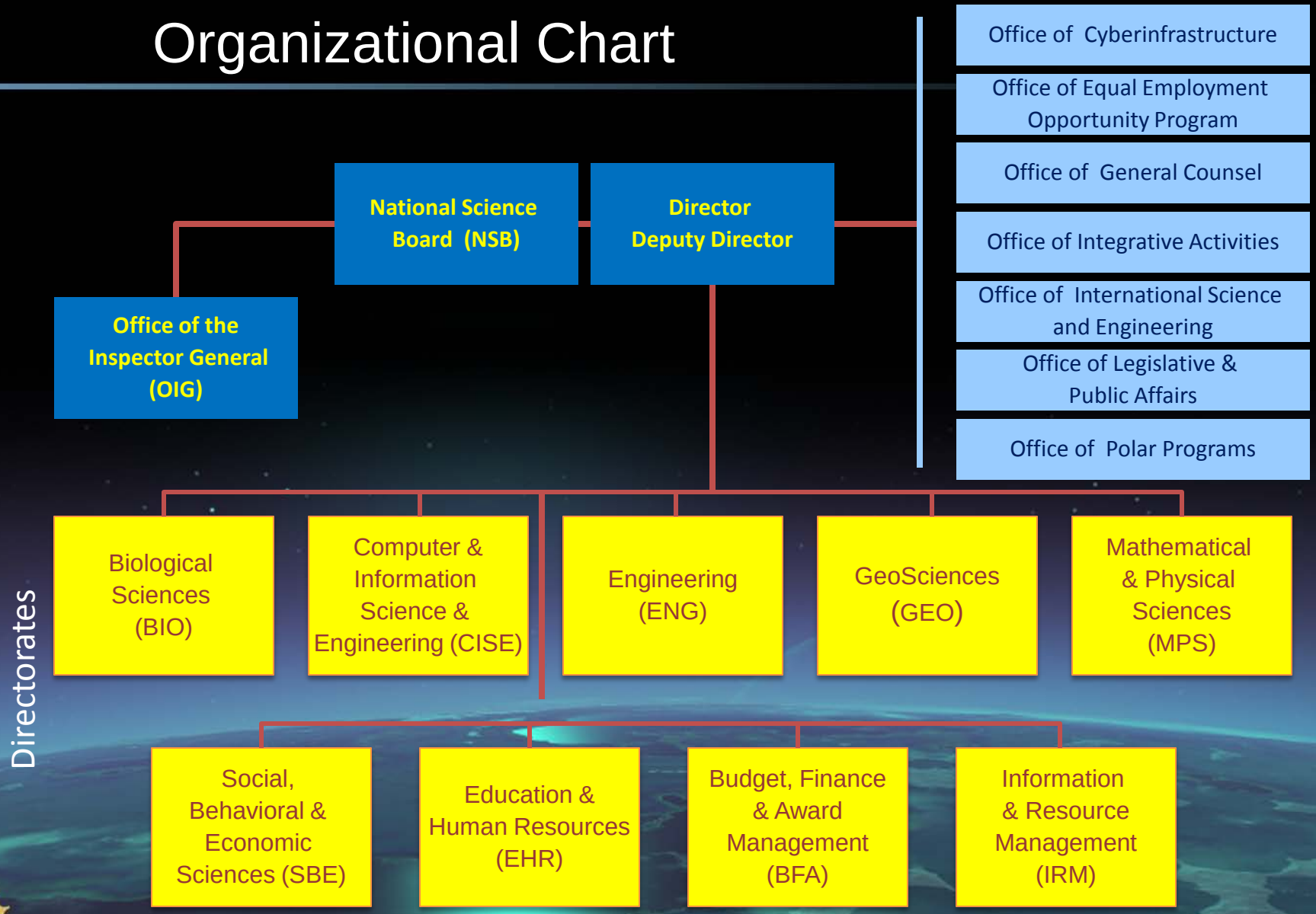
DMR Meeting for Facility, Center, and Institute Directors

26 October, 2011

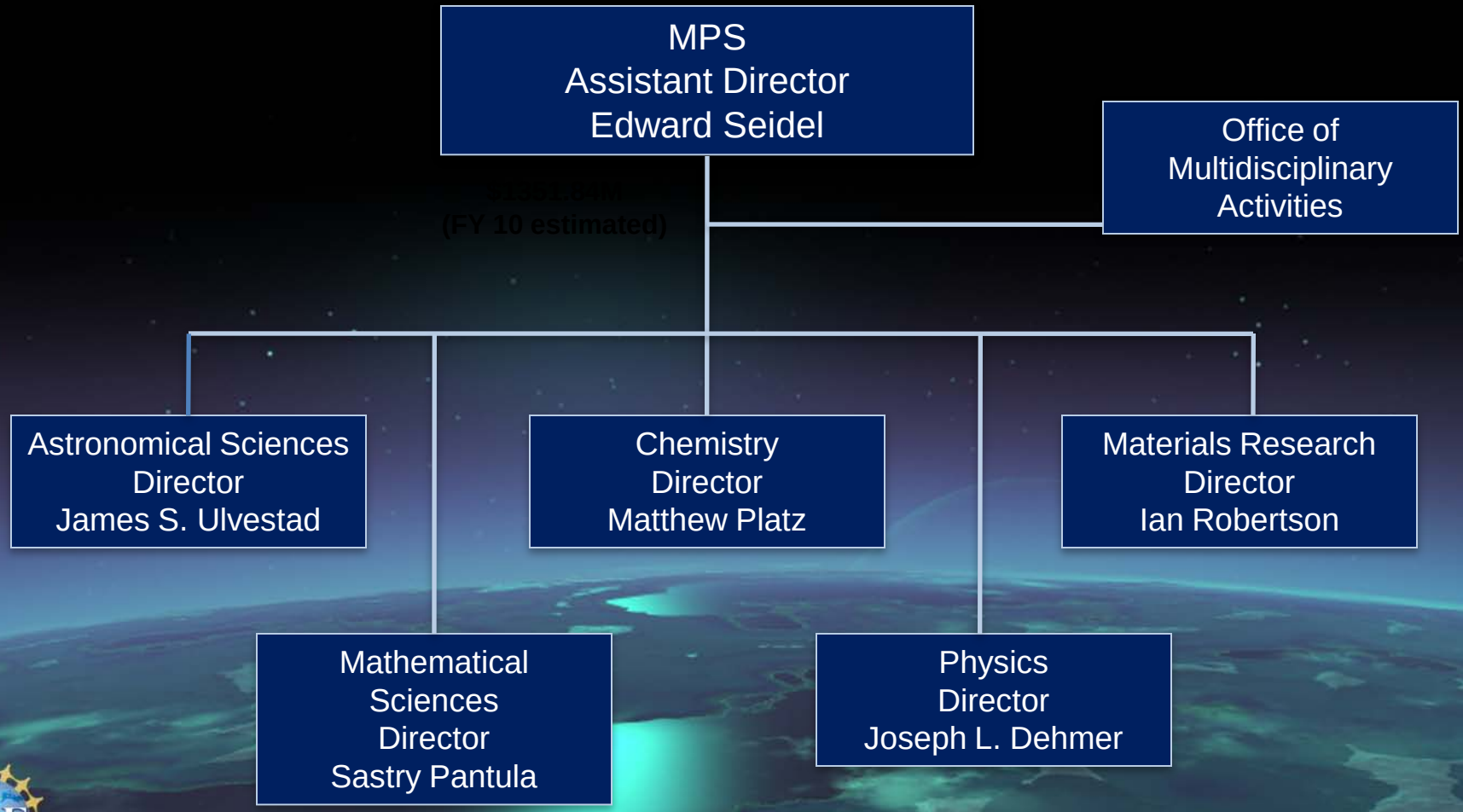
US National Science Foundation



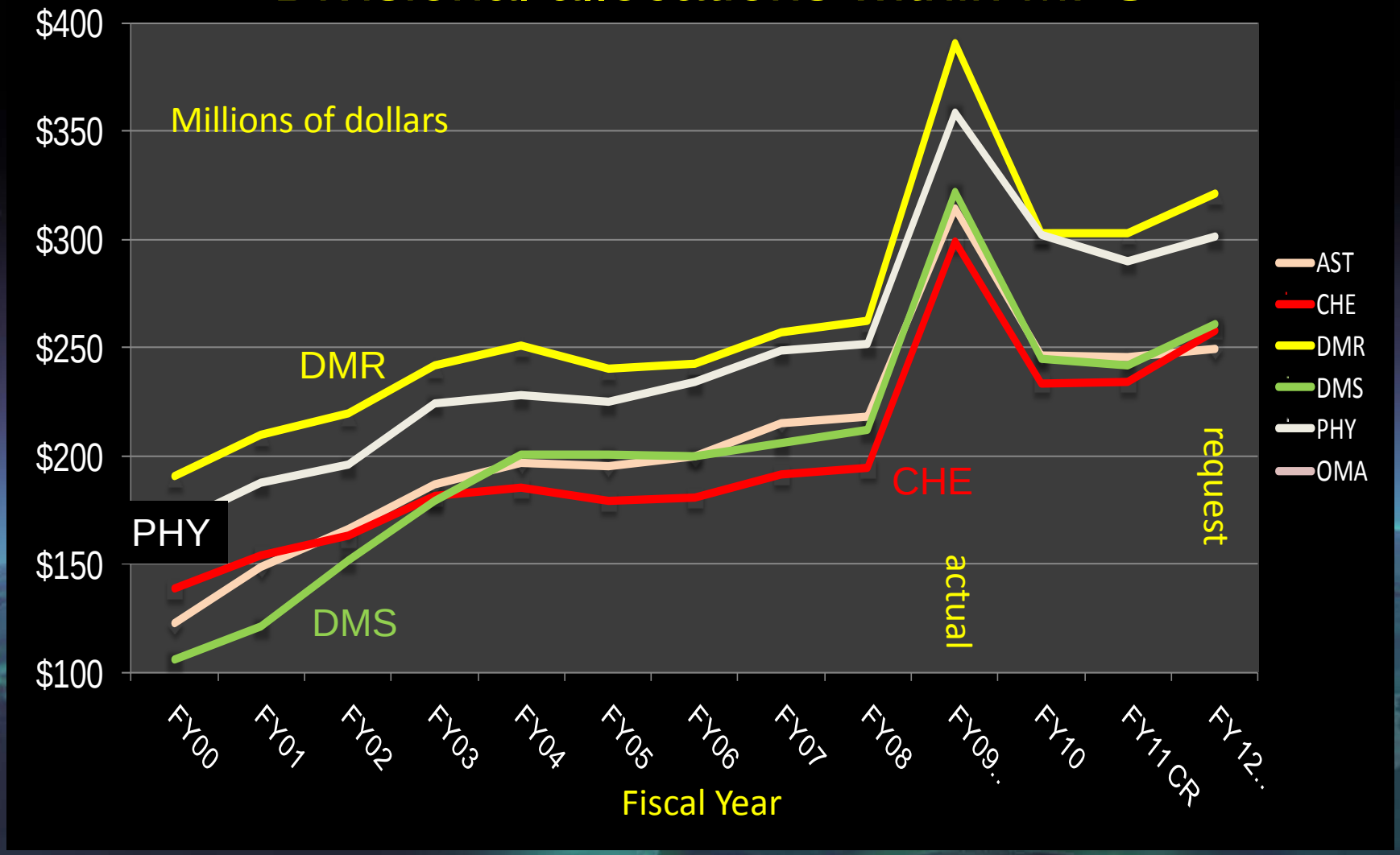
National Science Foundation Organizational Chart



Mathematical and Physical Sciences Directorate



Divisional allocations within MPS

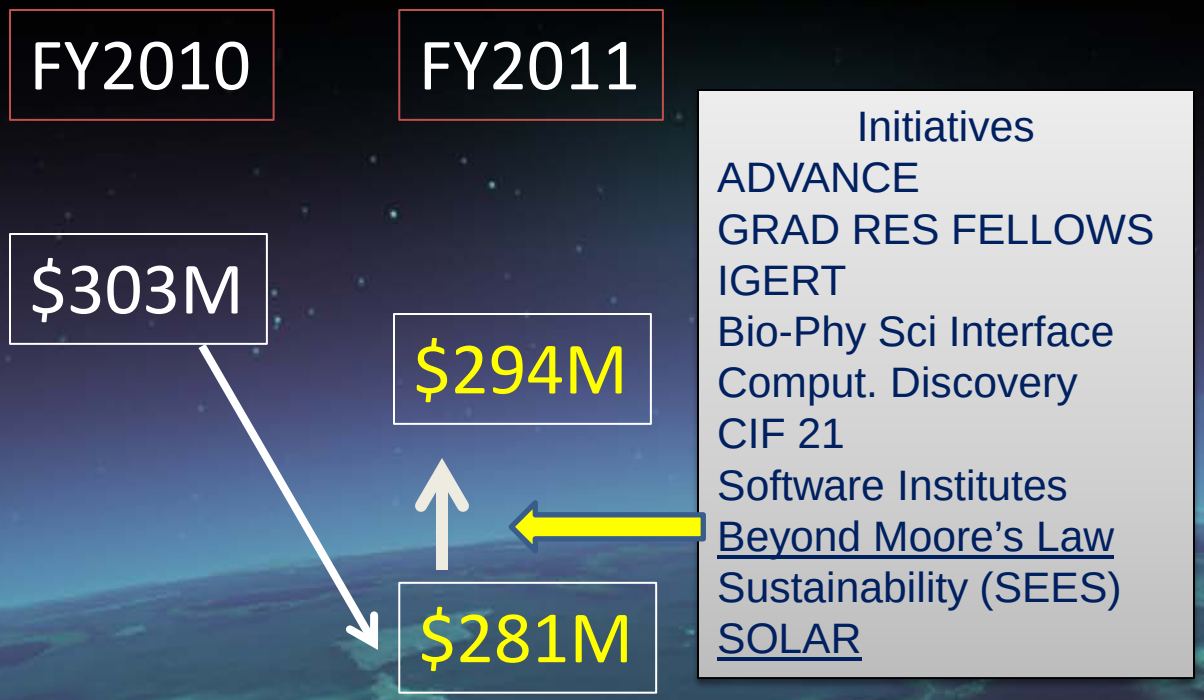


AST – Astronomy; CHE – Chemistry; Materials Research- DMR; Math- DMS; Physics -PHY

MPS FY 2012 Budget Request

	FY 2010 Omnibus Actual	FY 2010 ARRA Actual	FY 2010 Enacted/ Annualized	FY 2012 Request	Change Over FY 2010 Enacted	
					Amount	Percent
AST	$246.53	-	$245.69	$249.12	$3.43	1.4%
CHE	233.68	15.70	233.73	258.07	24.34	10.4%
DMR	302.57	-	302.67	320.79	18.12	6.0%
DMS	244.92	-	241.38	260.43	19.05	7.9%
PHY	301.66	-	290.04	300.91	10.87	3.7%
OMA	38.58	-	38.33	43.41	5.08	13.3%
Total, MPS	$1,367.95	$15.70	$1,351.84	$1,432.73	$80.89	6.0%

Effect of Initiatives on DMR's Budget



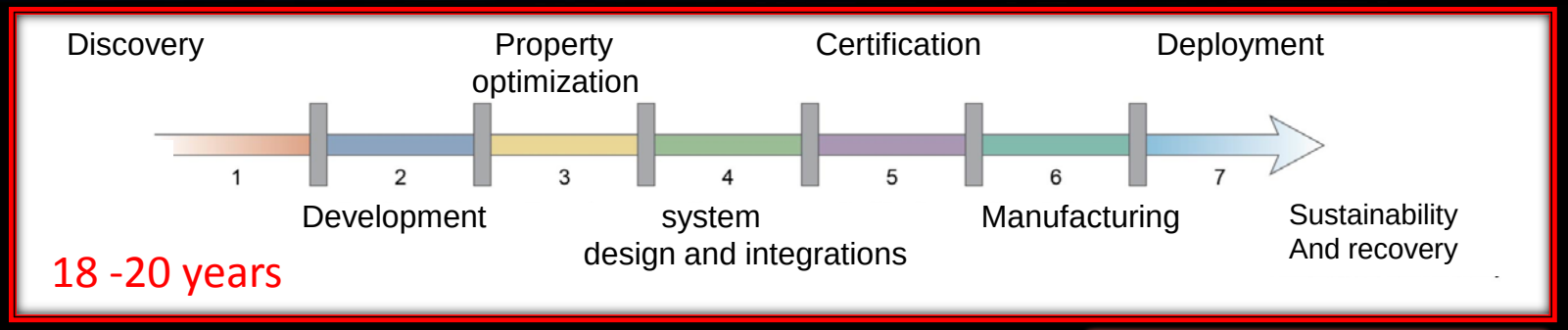
FY 2012

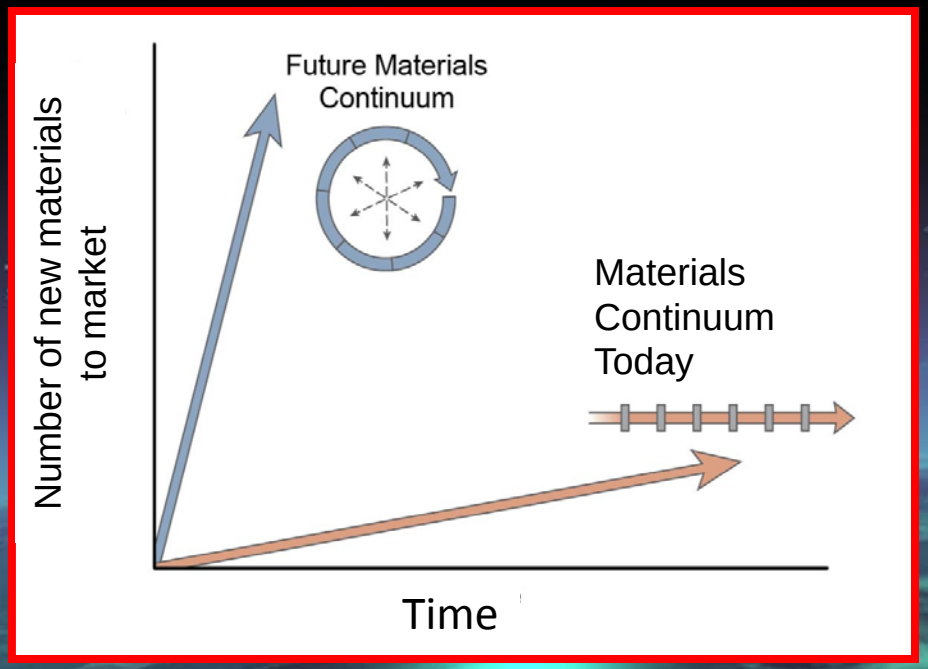
$320M Request

Initiatives
ADVANCE
GRAD RES FELLOWS
IGERT
Sustainability (SEES)
DMREF
SAVI
INSPIRE
PEER
Career Life Balance
Bio-Phy Sci Interface
Comput. Discovery
CIF21
Software Institutes

- Budgets can be increased with the increases being directed towards Foundation initiatives
- DMR is doing well but I believe can do better
- NEED YOUR SUPPORT AND HELP!

Materials Genome Initiative: New paradigm: "twice as fast, at a fraction of the cost"

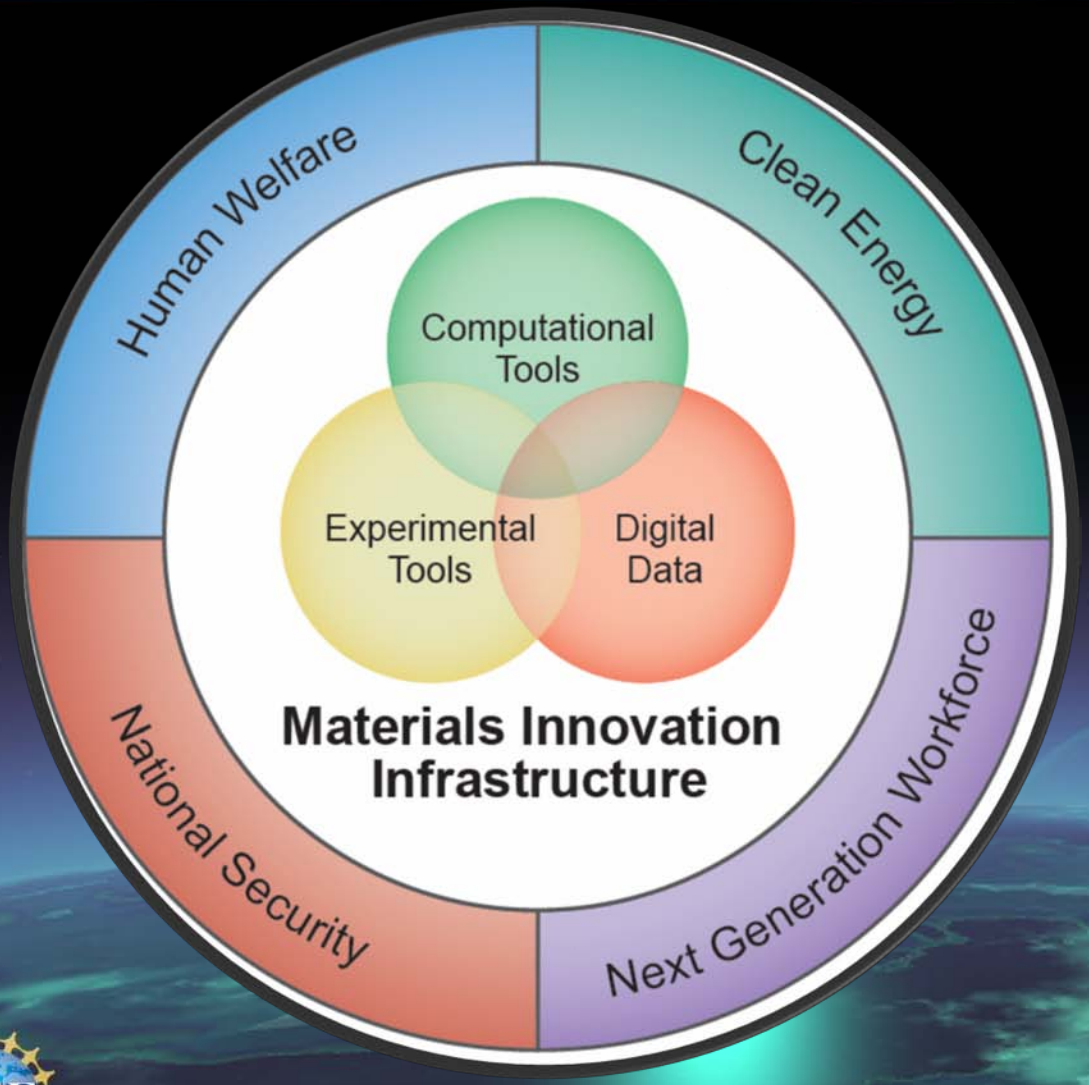




NSF Responds http://www.nsf.gov/pubs/2011/nsf11089/nsf11089.txt

Dear Colleague Letter: Designing Materials to Revolutionize and Engineer our Future (DMREF)

Materials Innovation Infrastructure



Looking for Next generations algorithms

Tools to access the appropriate time and spatial scale to determine the fundamental physical and chemical processes that govern the property, response.

New tools for synthesizing and processing materials

Data- how to gather, store, analyze, visualize and search large data sets.

NSF DMREF WINDOW: Jan 15 – Feb 15 2012

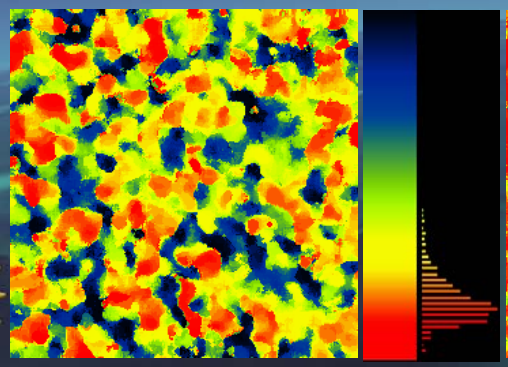
Science, Engineering, and Education for Sustainability (SEES):

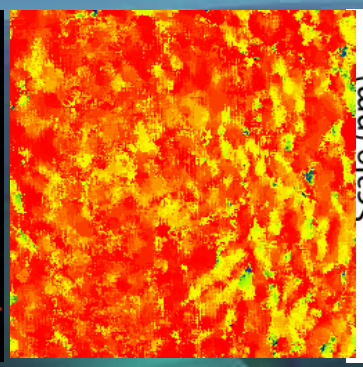
Foundation for future clean energy technologies and sustainable, environmentally benign chemical manufacturing, including educational initiatives.

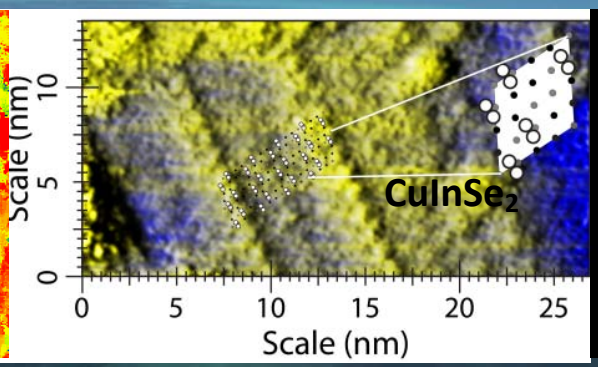
SEES Post-doc Fellows
http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=50467

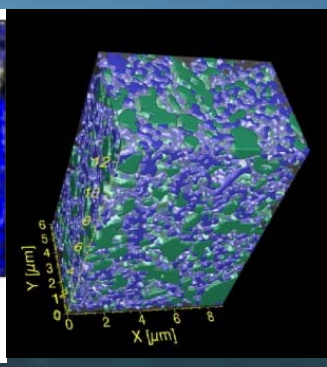
Sustainable Energy Pathways SEP Deadline 1 Feb. 2012
http://www.nsf.gov/pubs/2011/nsf11590/nsf11590.htm

Sustainable Research Networks pre-proposals due 1 December, 2011
Final proposals due 1 April, 2012
http://www.nsf.gov/pubs/2011/nsf11574/nsf11574.htm









Our planning cycle

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Begin process	Developing the concepts			Selecting the plans to put forth to upper management		Preparing final concept papers	Concept papers submitted		Learn about successes	Prepare budgets	
	Building consensus and partnerships										
Complete previous FY budget				President's budget request							

Yes, we have started working of FY 14 budget activities

DMR SPECIFICS

Division of Materials Research

Individual investigator programs

Ian Robertson
Division Director

Janice Hicks
Deputy Division Director

Ceramics

Lynnette Madsen

Electronic and Photonic Materials

Nadia El-Masry

Z. Charles Ying

Polymers

Andrew Lovinger

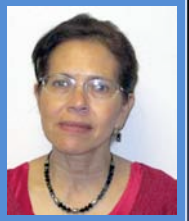
Office of Materials Instrumentation and National Facilities

Charles Bouldin

Guebre X. Tessema

Office of Special Programs

Michael Scott



Carmina Londono

Biomaterials

Joseph Akkara

David Brant

Condensed Matter and Materials Theory

Daryl Hess

Diana Farkas

Serdar Ogut

Materials Research Centers and Teams

Sean L. Jones

Thomas P Rieker

Mary Galvin

Metal and Metallic Nanostructures

Alan Ardell

Condensed Matter Physics

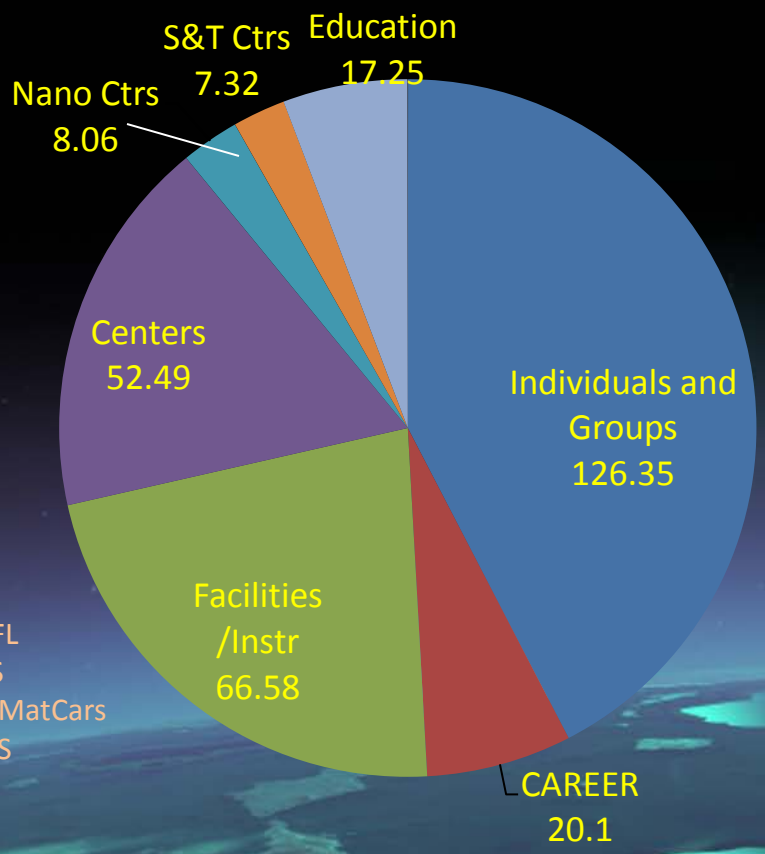
Daniele Finotello

Solid State and Materials Chemistry

Linda Sapochak

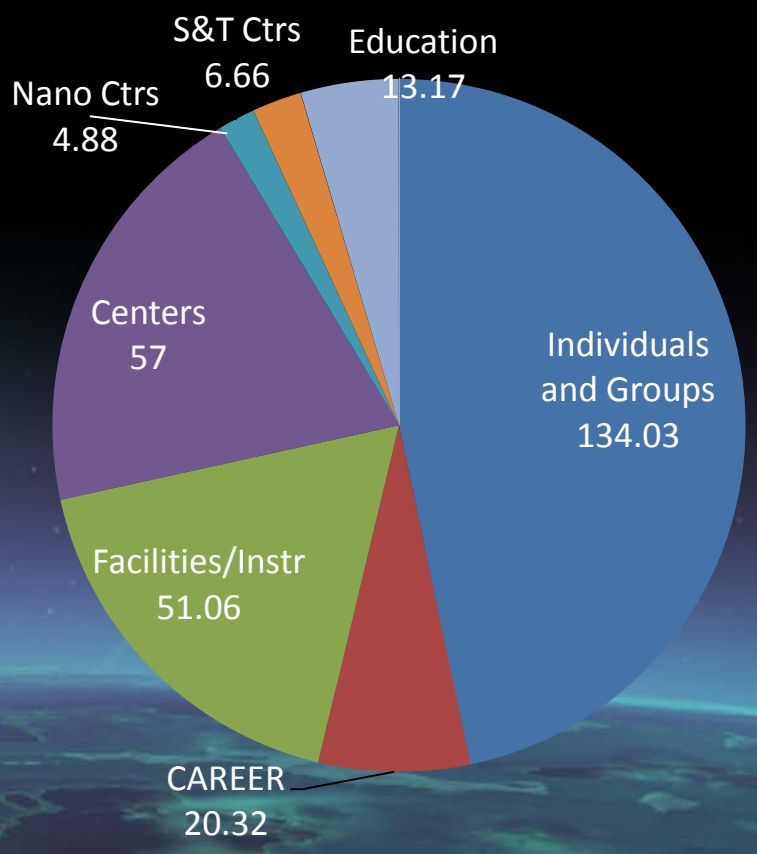
DMR Budget by Category FY 10 and FY 11 comparison

FY 2010: total $298 M



NHMFL
CHESS
ChemMatCars
CHRNS
NNIN

FY 2011: $287 M



MIRTS went into Individuals and groups in Fy2011; MIP cancelled in FY2011 accounting for most of the decrease in facilities/instr.

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

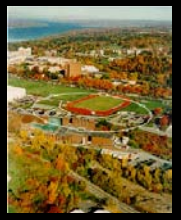
One of the challenges

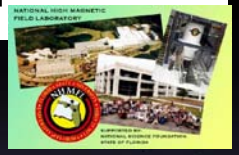
Stewardship

National High Magnetic Field Laboratory
Cornell High Energy Synchrotron
Synchrotron Radiation Facility

Partnerships
Center for High Resolution Neutron Scattering (NIST)
CheMatCars (APS)
National Nanotechnology Infrastructure Network

MRSEC instrument user facilities





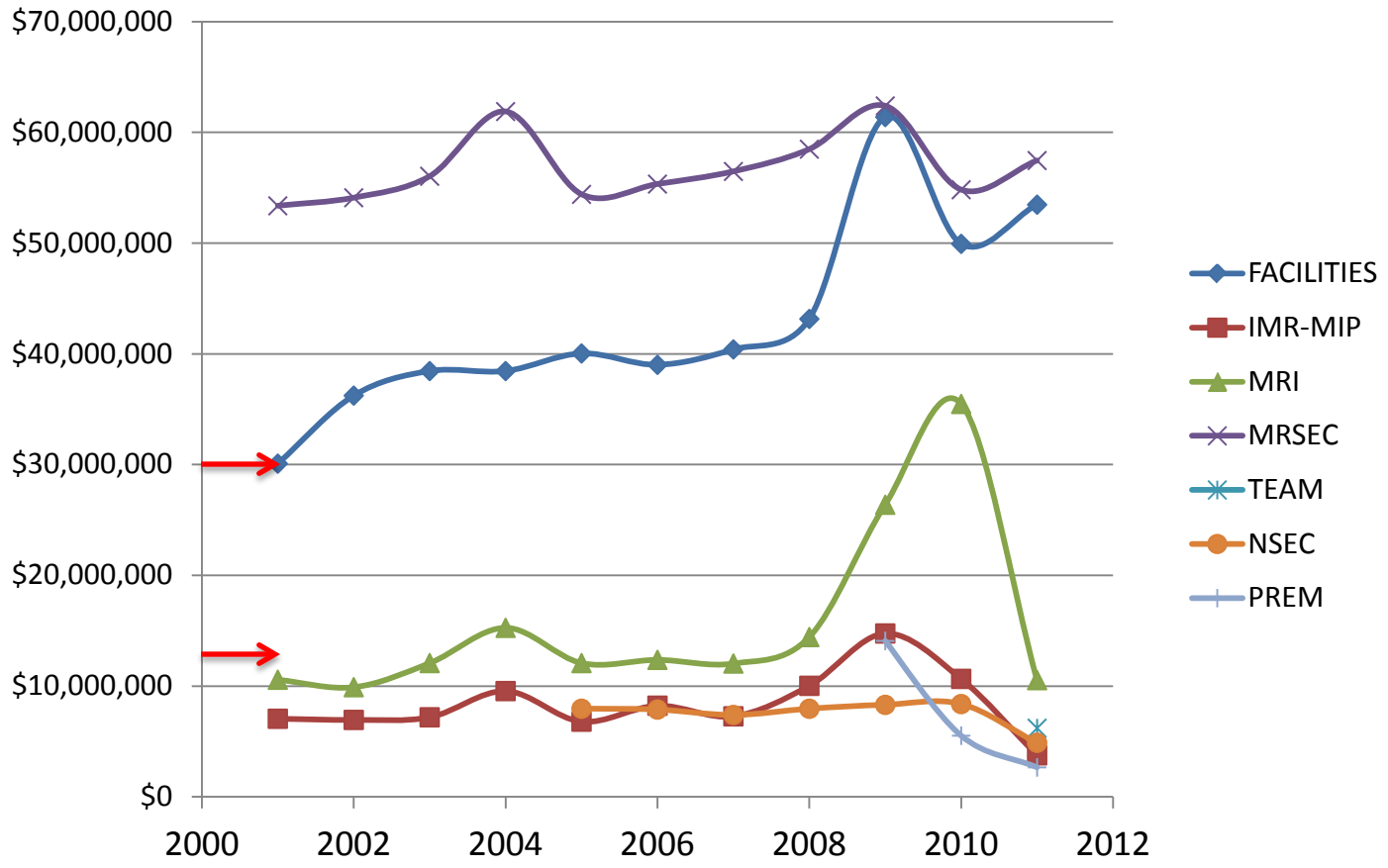
FY 2008	FY 2009	FY2010	FY2011	FY2012 Request
	Instrumentation for Materials Research - Major Instrumentation Projects (Limited budget)	Instrumentation for Materials Research - Major Instrumentation Projects (Continued in FY 11 and then cancelled).		Not in request
No IMR Program	No IMR Program	No IMR Program	No IMR	No IMR program in request

- NSF-wide MRI program
- ARRA funds for instrumentation.

DMR Distribution by Individual Investigator award program (FY 2010)

CMP – CONDENSED MATTER PHYSICS; CMMT – CONDENSED MATTER AND MATERIALS THEORY; EPM – ELECTRONIC AND PHOTONIC MATERIALS; POL –POLYMERS; SSMC- SOLID STATE AND MATERIALS CHEMISTRY; BIOM – BIOMATERIALS; MMN – METAL AND METALLIC NANOSTRUCTURES; CER- CERAMICS

Budget History: Facilities, Instrumentations, centers and teams



Setting priorities

Input obtained in various forms from:

- Program directors
- Committee of Visitors

- Directorate-level Advisory Committee (and subcommittees of this committee)

COMMUNITY
- Workshop reports
- National Academy Studies

- Resources to support activities in emerging areas

- Commitment to early career faculty and broadening participation.

- Balance in the portfolio – Committee of Visitor report and recommendations.

- Program director initiatives

- Maintaining a healthy and vibrant portfolio that meets division, directorate and Foundation priorities

- High Performance in all division activities

… it is impossible to support all. Our philosophy is to support activities at an adequate level to ensure they can meet the stated research objectives.

Reviewing the division – Committee of Visitors

NSF relies on the judgment of external experts to maintain high standards of program management, to provide advice for continuous improvement of NSF performance, and to ensure openness to the research and education community served by the Foundation. Committee of Visitors (COV) reviews provide NSF with external expert judgments in two areas: (1) assessments of the quality and integrity of program operations and program-level technical and managerial matters pertaining to proposal decisions; and (2) comments on how the outputs and outcomes generated by awardees have contributed to the attainment of NSF's mission and strategic outcome goals.

COV reviews are conducted at regular intervals of approximately three years for programs and offices that recommend or award grants, cooperative agreements, and/or contracts and whose main focus is the conduct or support of NSF research and education in science and engineering.

COV recommendations and our responses

1. Balanc… inst… d…
2. V… c… e…
3. D… c… r…
4. D… s… s… s…
5. D… c… s…
6. r… F…
7. Inc…

1. Balance instrumentation portfolio so that all scales of instruments are provided, including $30K to $10M+; develop a facilities stewardship strategy
6. DMR should develop instrumentation networks, possibly a national network, along the lines of the Materials Research Facilities Network (MRFN) developed by the MRSECs.

1. Subcommittee of the MPS-Advisory Committee will study this and make recommendations by June 2012 (led by Roger Falcone, Berkeley and Matt Tirrell, Chicago.)

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…n Spring 2012.

2. DMR will charge the Diversity Working Group with increasing outreach and holding an Equity Workshop on Minorities, following that by Gender in 2009.

DMR Members of the MPS-AC 2011

Juan dePablo
Wisconsin

Elsa Reichmanis
GA Tech

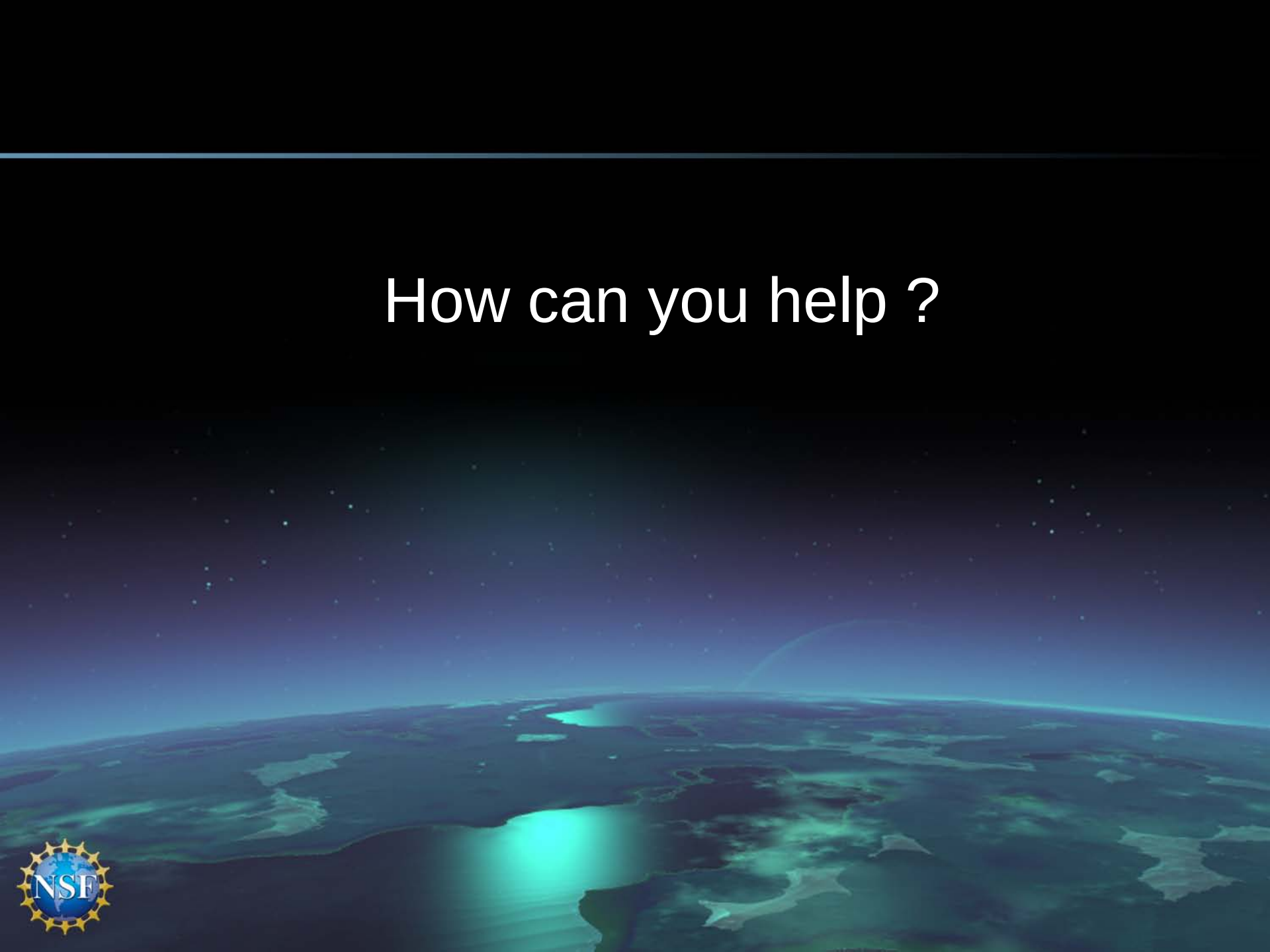
George Crabtree
Argonne Nat'l Lab

Naomi Halas
Rice

CONTACT WITH YOUR IDEAS
AND SUGGESTIONS
or
Contact us

Sharon Glotzer
Michigan

How can you help ?



How you can help

1. Ideas for new areas – broad in scope, multi-divisional ones work best in terms of budget building.

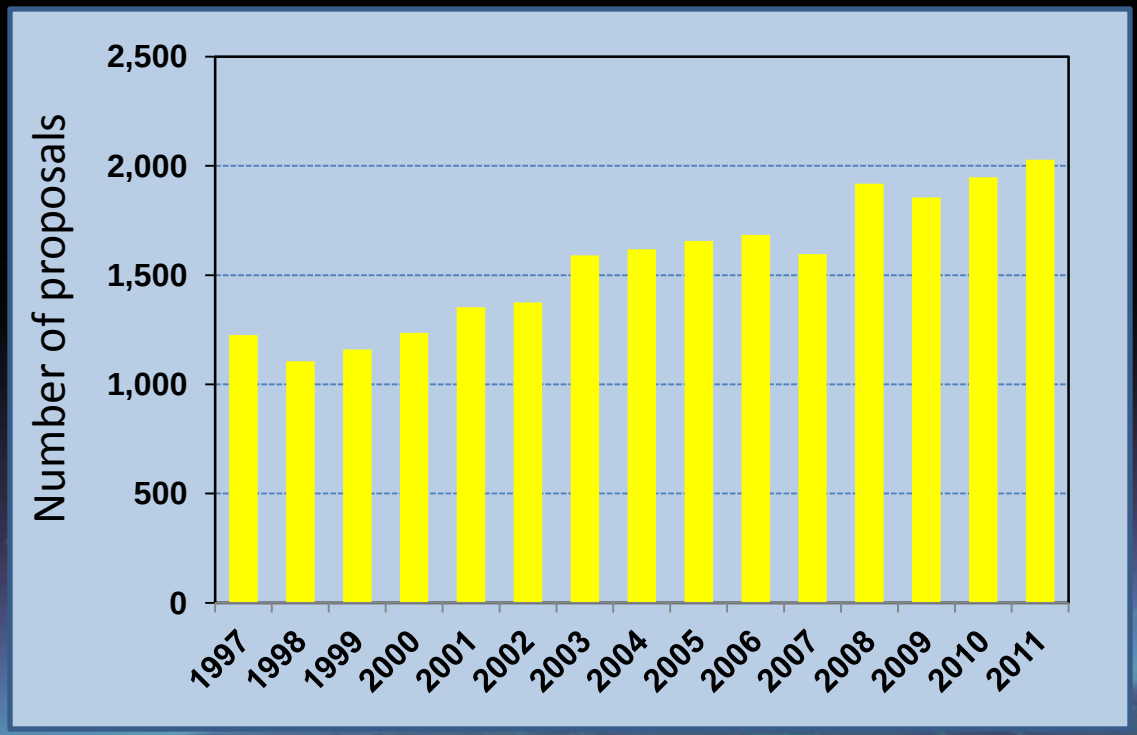
2. Workshops of specific areas with he outcome being a paper publishable in an archival journal

3. Help us communicate throughout the materials research community

4. Join us, encourage others to serve the National Science Foundation – it is enjoyable, rewarding, never dull and impactful.

5. Continue your superb science, educational outreach ……

DMR proposal pressure – internal and external impact



How you can help

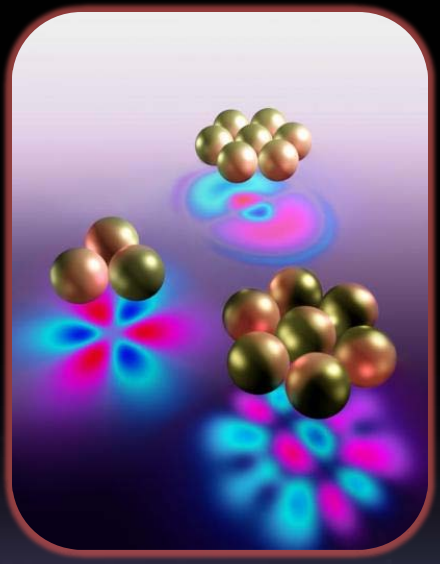
- Convey the message to your faculty that one strong proposal has a better chance of success than flooding the system with proposals.
- Think carefully about resubmitting declined proposals. Ask what have you done beyond trying to directly address the comments of a few reviewers. This approach rarely leads to success.
- Consult with the relevant program director.

How you can help

Serve as ambassadors for DMR and convey the message to your colleagues:

1. NSF DMR is interested in receiving high-risk research proposals
2. Encourage them to follow the preparation guidelines in the GPG,
3. to submit annual reports, final reports, and highlights etc. on time,
4. Work with the University so that your proposal is submitted early and to make sure it meets the guidelines in the GPC.

5. Press releases – tell us early in the process so NSF can decide if they want to highlight the release.



How you can help. Acknowledging your support from the Foundation

Support from the NSF must be appropriately acknowledged in all presentations and publications as well as web sites.

Reporting work supported by multiple agencies or programs within NSF is accepted but the contribution from each funding agency must be acknowledged appropriately.

Centers, institutes and facilities need to display the program name, for example “MRSEC” , should appear on websites, publications, and presentations. The “brand name” must be featured prominently.

We need your support to ensure NSF DMR activities receive appropriate recognition

How you can help. Consider a “Rotation” as a Program Director or as an Executive at the National Science Foundation

Manage the proposal review process. Interact with potential principal investigators. Recommend funding decisions. Manage post-award activities. Collaborate and interact with members of your specific scientific communities. Organize/inspire workshops, conferences, and forums. Help identify areas of potentially transformative research. Liaise with research or research education communities. Build new national and international collaborations. Play an important role in broadening participation of underrepresented groups in the science and engineering community and the implementation of family friendly policies. Create new cross-disciplinary and cross-agency partnerships. Influence new directions in the fields of science, engineering, and education. Support cutting-edge interdisciplinary research. Mentor future leaders in science and engineering. Executives influence the budgets and programs, all hiring in the Divisions, and represent the NSF and the US in all interests in your disciplinary area.

We know many potential candidates have ongoing NSF grants. NSF has mechanisms in place that allow active researchers and educators to continue functioning at their home institution while at NSF on temporary assignment serving the scientific community.

How you can help

Communications and marketing