



NSF UPDATE

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HEPAP
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Budget Snapshot

- **FY 2009 Congressional Request:** Operating under a continuing resolution through March 6. Appropriation likely to pass by 3/6.
- **FY 2009 American Recovery and Reinvestment Act:** NSF awarded \$3 billion.
- **FY 2010 Congressional Request:** Under development. Full Congressional Request expected to be delivered in late March or early April.
- **FY 2011 Congressional Request:** Planning process begins this spring.

American Competes Act (ACA)

- America Competitiveness Initiative (ACI), discussed last year, went out with the Bush Administration.
- ACA is law authorizing specific funding but not appropriating actual funds.
- ACI emphasized doubling the budget for critical physical sciences.
- ACA calls for doubling the budget in 7 years BUT emphasis is on a balance across scientific disciplines and science education, not the physical sciences alone.

Some Emphases of Obama Administration

- Science with focus on basic research
- Climate Change
- Energy
- Innovation and Education

FY 2009 NSF Request

National Science Foundation (Dollars in Millions)

	FY 2008 Estimated	FY 2009 Request	Change over FY 2008 Estimated	
			Amount	Percent
R&RA	\$4,821.47	\$5,593.99	\$772.52	16.0%
EHR	725.60	790.41	64.81	8.9%
MREFC	220.74	147.51	-73.23	-33.2%
AOAM (S&E)	281.79	305.06	23.27	8.3%
National Science Board	3.97	4.03	0.06	1.5%
Office of Inspect. General	11.43	13.10	1.67	14.6%
Total, NSF	\$6,065.00	\$6,854.10	\$789.10	13.0%

Totals may not add due to rounding.

Full FY 2009 Request unlikely given ACA

FY 2009 NSF R&RA Request

(Dollars in Millions)

	FY 2008 Estimate	FY 2009 Request	Change over FY 2008 Estimated	
			Amount	Percent
BIO	\$612.02	\$675.06	\$63.04	10.3%
CISE	534.53	638.76	104.23	19.5%
ENG (incl. SBIR/STTR)	636.87	759.33	122.46	19.2%
GEO	752.66	848.67	96.01	12.8%
MPS	1,167.31	1402.67	235.36	20.2%
SBE	215.13	233.48	18.35	8.5%
OCI	185.33	220.08	34.75	18.8%
OISE	41.34	47.44	6.10	14.8%
OPP	442.54	490.97	48.43	10.9%
IA	232.27	276.00	43.73	18.8%
US Arctic Research Comm.	1.47	1.53	0.06	4.1%
Total, NSF	\$4,821.47	\$5,593.99	\$772.52	16.0%

Totals may not add due to rounding.

MREFC FY 2009 Budget Request

MREFC Account Funding

(Dollars in Millions)

	FY 2007 Actual	FY 2008 Estimate	FY 2009 Request	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate
Ongoing Projects								
AdvLIGO	-	\$32.75	\$51.43	\$46.30	\$15.21	\$23.73	\$15.50	\$19.78
ALMA	64.30	102.07	82.25	42.76	13.91	3.00	-	-
IceCube	24.38	25.91	11.33	0.95	-			
New MREFC Funding								
Advanced Technology Solar Telescope	-	-	(D&D) 2.5	-				

Totals may not add due to rounding.

Still on track to support these ongoing facility construction projects in FY 2009.

FY 2009 Budget Request by Division

Mathematical and Physical Sciences Funding

(Dollars in Millions)

	FY 2007 Actual	FY 2008 Estimated	FY 2009 Request	Change over FY 2008 Estimated	
				Amount	Percent
Astronomical Sciences	\$215.39	\$217.86	\$250.01	\$32.15	14.8%
Chemistry	191.22	194.22	244.67	50.45	26.0%
Materials Research	257.27	260.22	324.59	64.37	24.7%
Mathematical Sciences	205.74	211.79	245.70	33.91	16.0%
Physics	248.47	250.52	297.70	47.18	18.8%
Multidisciplinary Activities	32.64	32.70	40.00	7.30	22.3%
Total, MPS	\$1,150.73	\$1,167.31	\$1,402.67	\$235.36	20.2%

Totals may not add due to rounding.

**NSF:
\$6.854 B,
+13.0%**

American Recovery and Reinvestment Act (ARRA)

NSF awarded \$3 billion:

- \$2.5 billion - Research and Related Activities
 - \$300M for Major Research Instrumentation program
 - \$200M for academic research facilities modernization
- \$100M - Education and Human Resources
- \$400M - Major Research Equipment & Facilities Construction

- Guiding principles for funds use: Increase funding rates, support young investigators, provide for “shovel ready” projects.

- NSF spending plan must be approved by OMB and Congress before funds may be used. Goal is quick deployment of funds.



Joint NSF-DOE Stewardship of HEP

- LHC
- Many other jointly funded projects: Auger, CDMSII, Veritas, Mini-Boone, etc.
- ILC R&D at CESR
- DUSEL R&D, long baseline experiment
- HEPAP, P5 report
- LSST

MPS UPDATES

- P5 report accepted May 2008
- PHY COV: just completed
- DUSEL first annual review just completed
- Accelerator Physics Session at AAAS Feb 09
- NSB new MREFC process

The Energy Frontier

Origin of Mass

Report of the P5 Panel May 29, 2008

Matter/Anti-matter
Asymmetry

Dark Matter

Origin of Universe

Unification of Forces

New Physics
Beyond the Standard Model

Neutrino Physics

Dark Energy

Proton Decay

The Intensity Frontier

The Cosmic Frontier

PHY COV

(unofficial summary)

- Review process: high marks
- Portfolio balance: endorses \$ >50% PI, < 10% PFC
- Facilities: endorses life-cycle planning, strengthened project management
- DUSEL started well but needs agency commitment and adequate up front D&D
- Commends LIGO Lab + LIGO Science Collaboration
- Economic crisis: how to support young PIs?
- Recommends mid-scale instrumentation program

The Future of US Accelerator Science – Is there a US plan?

- AAAS Chicago 2/12/09 session: Murray, Tigner, Bienenstock, Rozensweig, P. Dehmer, TC
- Lots of exciting new science & technology
- Lots of international competition, but
- Lack of a US coordinated plan
- NSF Light Source Panel report released Nov 09
 - Recommends NSF stewardship, R&R, training roles
- DOE BESAC Workshop later 2009



Possible Changes to MREFC

(from 12/08 1/09 NSB Mtgs)

- NSB prioritization of candidate MREFC projects following CDR, rather than PDR
- Possible augmentation of the sponsoring Division budget, beginning during PDR
- NSB would assess candidate projects within constellation of competing opportunities, existing facilities, and balance of support for infrastructure and individual PI research.
- Inputs to NSB: NSF would provide NSB with a full picture for how the potential new facility fits into the broad program of activities NSF supports, including the opportunity costs for pursuing the proposed activity instead of others.



Proposed NSB Committee Involvement and Annual Timing in Proposed New MREFC Process

