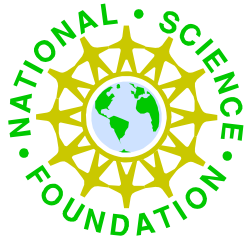


Nuclear Physics at NSF FY2009 Summary

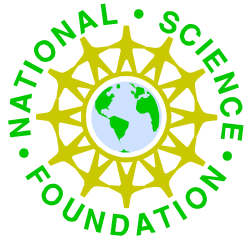
- FY2009 Appropriation
 - NP Experiment: +0.5%
 - NP Theory: +1.5%
 - Particle and Nuclear Astrophysics: +0.5%
- Recovery Act
 - across NP-related programs: \$13M+
 - ARRA awards are full, multi-year grants only
 - appropriation funds freed up
 - very few single-item supplements
 - buy down future year obligations
 - smoothes out ARRA “delta function”



Additional Funding

- Major Research Instrumentation (MRI)
 - UW: high-performance cluster for fission and lattice studies
 - MoNA (@NSCL): neutron detector array (major enhancement)
 - Notre Dame: detector array
 - Richmond: cluster for JLAB analysis + astronomy apps
 - Western Michigan: accelerator upgrade for nuclear and condensed matter research
 - Ursinus: LH target @NSCL
 - MSU/NSCL: active target TPC

Award Totals: \$3.7M

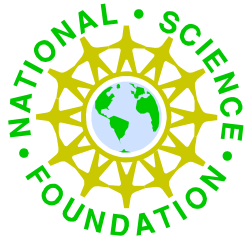


Additional Funding

- Cyber-Enabled Discovery and Innovation (CDI)
 - MSU/Duke: RHIC physics and other multi-scale systems
- Petascale Applications
 - LSU/OSU/Iowa State: nuclear structure theory
- DHS Domestic Nuclear Detection Office
 - Duke: nuclear interrogation using polarized photons

Award Totals: \$3.6M

- additional FY2009 solicitations (under review)
 - MRI-R²: up to \$6M
 - ARI-R²: up to \$10M; 1/university



FY2010 NSF Budget Request

NSF Funding by Account (Dollars in Millions)

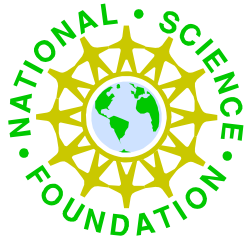
	FY 2008 Actual	FY 2009 Current Plan	FY 2009 Recovery Act	FY 2010 Request	Change over FY 2009 Current Plan		Full House	Committee Senate
					Amount	Percent		
Research and Related Activities	\$4,853.24	\$5,183.10	\$2,500.00	\$5,733.24	\$550.14	10.6%	\$5,642.10	\$5,618.10
Education and Human Resources	766.26	845.26	100.00	857.76	12.50	1.5%	\$862.90	\$857.80
Major Research Equipment and Facilities Construction	166.85	152.01	400.00	117.29	-34.72	-22.8%		
Agency Operations and Award Management	282.04	294.00	-	318.37	24.37	8.3%		
National Science Board	3.82	4.03	-	4.34	0.31	7.7%		
Office of Inspector General	11.83	12.00	2.00	14.00	2.00	16.7%		
Total, NSF	\$6,084.04	\$6,490.40	\$3,002.00	\$7,045.00	\$554.60	8.5%	\$6,936.50	\$6,916.80

Totals may not add due to rounding.

- House and Senate versions: +(8-9)%
- House version has no MRI funds for FY2010

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NSAC Meeting



FY2010 R&RA Budget Request

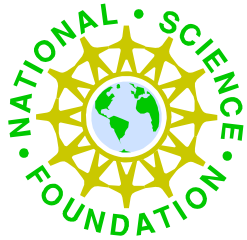
Research and Related Activities Funding (Dollars in Millions)

	FY 2008 Actual	FY 2009 Current Plan	FY 2009 ARRA Estimate	FY 2010 Request	Change over FY 2009 Plan	
					Amount	Percent
Biological Sciences ¹	\$615.62	\$655.81	260.00	\$733.00	\$77.19	11.8%
Computer & Information Science & Engineering ¹	535.26	573.74	235.00	633.00	59.26	10.3%
Engineering ¹	649.49	693.34	265.00	764.52	71.18	10.3%
Geosciences	757.87	807.13	347.00	909.00	101.87	12.6%
Mathematical & Physical Sciences	1,171.13	1,255.96	490.00	1,380.00	124.04	9.9%
Social, Behavioral & Economic Sciences ¹	227.87	240.30	85.00	257.00	16.70	6.9%
Office of Cyberinfrastructure	185.15	199.28	80.00	219.00	19.72	9.9%
Office of International Science & Engineering ²	47.77	44.03	14.00	49.00	4.97	11.3%
Office of Polar Programs	447.13	470.67	174.00	516.00	45.33	9.6%
Integrative Activities	214.48	241.34	550.00	271.12	29.78	12.3%
U.S. Arctic Research Commission	1.47	1.50	-	1.60	0.10	6.7%
Total, Research & Related Activities	\$4,853.24	\$5,183.10	\$2,500.00	\$5,733.24	\$550.14	10.6%

Totals may not add due to rounding.

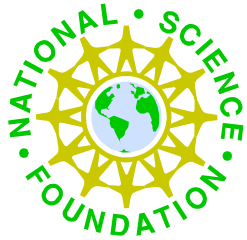
November 5, 2009

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FY2010 MPS Budget Request

Mathematical and Physical Sciences Funding						
(Dollars in Millions)						
	FY 2008	FY 2009	FY 2009	FY 2010	Change Over	
	Actual	Current	ARRA	Request	FY 2009 Plan	
		Plan	Estimate		Amount	Percent
Astronomical S	\$217.90	\$228.62	\$85.80	\$250.81	\$22.19	9.7%
Chemistry	194.62	211.35	103.00	238.60	27.25	12.9%
Materials Resea	262.55	282.13	106.90	308.97	26.84	9.5%
Mathematical S	211.75	226.18	98.00	246.41	20.23	8.9%
Physics	251.64	274.47	96.30	296.08	21.61	7.9%
Office of Multi	32.67	33.21	-	39.13	5.92	17.8%
Total, MPS	\$1,171.13	\$1,255.96	\$490.00	\$1,380.00	\$124.04	9.9%
Totals may not add due to rounding.						

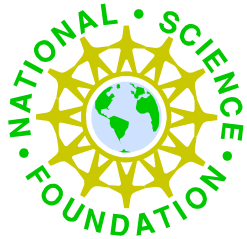


FY2010 Physics Division Budget Request

Physics Funding							
(Dollars in Millions)							
		FY 2008	FY 2009	FY 2009	FY 2010	Change Over	
		Actual	Current	ARRA	Request	FY 2009 Plan	
			Plan	Estimate		Amount	Percent
Total, PHY		\$251.64	\$274.47	\$96.30	\$296.08	\$21.61	7.9%
Major Components:							
Research and Education Grants		158.93	181.46	93.00	211.75	30.29	16.7%
Instrumentation		4.00	7.20	-	9.00	1.80	25.0%
Centers		6.35	6.36	-	5.68	-0.68	-10.7%
<i>Science & Technology Centers</i>		3.95	3.96	-	3.28	-0.68	-17.2%
<i>Nanoscale Science & Engr. Cer</i>		2.40	2.40	-	2.40	-	-
Facilities		82.36	79.45	3.30	69.65	-9.80	-12.3%
<i>LIGO</i>		29.50	30.30	-	28.50	-1.80	-5.9%
<i>Large Hadron Collider</i>		18.00	18.00	-	18.00	-	-
<i>IceCube</i>		1.50	2.15	-	2.15	-	-
<i>NSCL</i>		19.25	20.50	2.00	21.00	0.50	2.4%
<i>Cornell Electron Storage Ring</i>		14.11	8.50	1.30	-	-8.50	-100.0%

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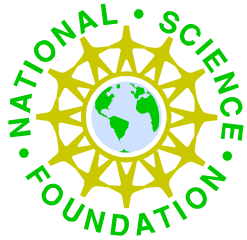
DUSEL

Signed September 24, 2009 by NSB Chair:

RESOLVED, that the National Science Board authorized the Director, at his discretion, to make an award to the University of California at Berkeley for preliminary design of the Deep Underground Science and Engineering Laboratory (DUSEL) for an amount not to exceed \$29,092,000 for 24 months.

Furthermore, the Board shall receive a status report twice per year on the preliminary design from NSF management during the lifetime of the award. The first report is expected at the February 2010 Board meeting. DUSEL will be included in the NSF large facilities portfolio review at the May 2010 National Science Board meeting. National Science Board approval shall be requested by the Director for any DUSEL planning and design awards subsequent to this award.

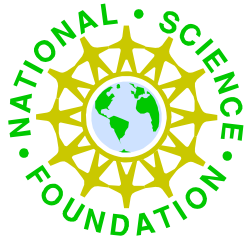
Furthermore, the Board directs NSF management to undertake a broad independent review of DUSEL to establish its priority so that it can inform the May 2011 portfolio review.



Developing the DUSEL Experimental Program: S4

- **Solicitation 4 (S4):** called for proposals to develop designs and pursue targeted R&D for potential candidates for the DUSEL suite of experiments.
- **25 proposals received; 300 senior researchers named; 91 institutions.**
- **Nine proposals funded in physics.**
 - Dark matter
 - Neutrino-less double-beta decay
 - Large water Cerenkov detector (multipurpose)
 - Underground accelerator
 - Assaying sub-facility
- **Seven proposals funded in BIO, GEO & ENG sciences:**
 - Fracture processes
 - Coupled processes
 - Subsurface imaging and sensing
 - Fiber optic strain monitoring
 - CO₂ sequestration
 - Eco-hydrology & deep drilling
- **Total physics awards: \$21M over 3 years.**
- **Total BGE awards: \$3M.**

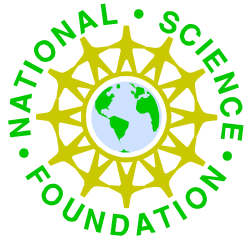
NSF is committed to a rich, diverse, and multi-disciplinary DUSEL research program.



DUSEL Target Timeline for MREFC

- **January '09: NSF Project Review #1.**
- **February '10: NSF Project Review #2.**
- **December '10: NSF Preliminary Design Review (PDR).**
- **Spring '11: Presentation of DUSEL MREFC proposal to National Science Board.**

Above targets an FY 2013 construction start.



People

- **NSF Director: Arden Bement**
- **NSF Deputy Director: Cora Marrett (acting)**
- **MPS Assistant Director**
 - **interim AD: H. E. Seidel (current OCI head)**
 - **search underway**
- **Physics Division Director: Joe Dehmer**
- **Nuclear Physics:**
 - **BDK (expt and theory)**
 - **Allena Opper (and astro, underground lab)**