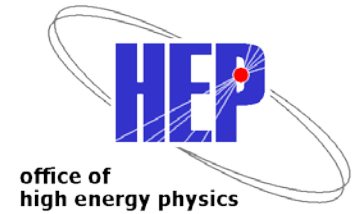




U.S. DEPARTMENT OF  
**ENERGY**

Office of  
Science



# FY2013 HEP University Comparative Review

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Office of High Energy Physics

# **FY2013 HEP COMPARATIVE REVIEW PROCESS**

# FY13 Submitted Proposals

- For the FY 2013 cycle, 185 proposals requesting support totaling \$335.782M in one or more of the six sub-programs were received by the September 10, 2012 deadline in response to the Funding Opportunity Announcement (FOA) “FY 2013 Research Opportunities in High Energy Physics” [DE-FOA-0000733].
- After pre-screening all incoming proposals for responsiveness to the subprogram descriptions and for compliance with the proposal requirements, 12 were declined before the competition.
  - There were hard page limits and other requirements. Proposals not respecting the page limits or other requirements were NOT reviewed
    - 5 proposals declined without review for this reason
    - 1 proposal was missing a research narrative
    - 4 were outside the scope of HEP
    - 2 proposals were non-responsive
  - PIs with proposals that were rejected for “technical” reasons could re-submit to general DOE/SC solicitation
- 11 proposals were withdrawn by the respective sponsoring institutions.
  - 4 were duplicate submissions
  - 6 were supplemental requests submitted to the incorrect FOA
  - 1 proposal was submitted from a federal agency which was ineligible

# FY13 Reviewers & Panels

- For the FY13 HEP Comparative Review process, 162 proposals were reviewed, evaluated and discussed by several panels of experts who met in 6 panels over 2 weeks:
  - HEP Intensity Frontier sub-program: 31 submitted proposals;
  - HEP Theory sub-program: 53 submitted proposals;
  - HEP Particle Detector R&D sub-program : 22 submitted proposals;
  - HEP Energy Frontier sub-program: 45 submitted proposals;
  - HEP Advanced Science and Technology R&D sub-program: 40 submitted proposals; and
  - HEP Cosmic Frontier sub-program: 28 submitted proposals.
- 30 of the proposals requested research support from two or more of the six sub-programs, e.g. umbrella proposals, in which case the proposal was sent in its entirety to all relevant panels.
  - However, the panels were asked to explicitly compare and rank only the section(s) of the proposal relevant to the sub-program they were reviewing.
- Each proposal which satisfied the requirements of the solicitation was sent out for review by at least three experts.
  - 130 reviewers participated in the review process. In cases where there were proposals on similar topics, reviewers were sent multiple proposals.
  - 834 reviews were completed with an average 5.2 reviews per proposal

# FY13 Declined Proposals

- **Based on the reviewers' assessments, the comparison and ranking of the proposals by the panel(s) within the subprogram(s), evaluations of the needs of the HEP research program by the respective program managers, the potential impact of the proposed work, the proposals' responsiveness to the FY13 HEP Comparative Review FOA, and the budgetary constraints, 61 proposals were recommended for declination.**
  - **12 proposals were seeking new scope of research support (currently funded by DOE HEP)**
  - **12 proposals were requesting support to extend currently funded research (aka "renewal")**
  - **37 proposals were from senior investigators not supported by a DOE HEP grant in FY12**
    - **Including 7 proposals from Small Business applicants**
    - **15 proposals came from senior investigators who were not successful in the FY12 Comparative Review**

# FY13 Review Data by Proposal

	Energy	Intensity	Cosmic	Theory	Acc. R&D	Det. R&D	HEP Total
Received	46	33	33	56	44	30	185
Declined/Withdrawn Without Review	1	2	5	3	4	8	23
Reviewed	45 (1)	31 (5)	28 (14)	53 (11)	40 (21)	22 (14)	162 (58)
Funded	40 <sup>a</sup> (0)	24 (3)	18 (4)	35 (4)	17 <sup>b</sup> (3)	12 (6)	101 (20)
Declined	5 (1)	7 (2)	10 (10)	18 (7)	23 (17)	10 (8)	61 (38)
“Success Rate” (%) (Previous/New)	89	77	64	66	43	55	62 (78/34)

## NOTES:

- Single proposals with multiple research thrusts are counted multiple times (1 /thrust)
- ( ) indicates number of proposals from research groups that did not receive DOE HEP funding in FY12.
- “Success Rate” is = # Funded/ # Reviewed.
- Most proposals are not fully funded at requested level.
- About 68% of the proposals reviewed were from research groups that received DOE HEP funding in FY12.
- Overall success rate of reviewed proposals for previously (newly) funded groups was 78% (34%).

<sup>a</sup> 3 of 40 Energy funded proposals were provided term support (<1 year) for graduate students and post-docs.

<sup>b</sup> 5 of 17 Accelerator R&D funded proposals were provided term support (<1 year).

# FY13 Review Data by Senior Investigator

	Energy	Intensity	Cosmic	Theory	Acc. R&D	Det. R&D	HEP Total
Received	127	56	61	155	57	47	504
Declined/Withdrawn Without Review	1	2	8	9	4	18	42
Reviewed	126 (7)	54 (8)	54 (30)	146 (24)	53 (25)	29 (19)	462 (113)
Funded	112 (3)	43 (6)	27 (7)	115 (11)	24 (4)	19 (9)	338 (40)
Declined	14 (4)	11 (2)	26 (23)	31 (13)	29 (21)	13 (10)	124 (73)
“Success Rate” (%) (Previous/New)	89	80	51	79	45	53	73 (85/35)

## NOTES:

- ( ) indicates number of senior investigators that did not receive DOE HEP funding in FY12.
- “Success Rate” is = # Funded/ # Reviewed.
- Overall success rate for previously (newly) funded DOE HEP PIs was 85% (35%).
- Most (but not all) PIs who are funded, are funded at requested effort level.

# FY13 Review Data

## Jr. Faculty and Research Scientists

	Total # Jr. Faculty Reviewed (New)	# Jr. Faculty Funded (New)	Total # Res. Scientists Reviewed (New)	# Res. Scientists Funded (New)
Accelerator R&D	7 (7)	1 (1)	34 (11)	20 (0)
Cosmic Frontier	10 (8)	3 (3)	2 (2)	0 (0)
Detector R&D	3 (2)	1 (1)	10 (5)	6 (2)
Energy Frontier	16 (3)	15 (2)	28 (2)	18 (1) *
Intensity Frontier	9 (5)	7 (5)	5 (0)	4 (0)
Theory	15 (7)	13 (6)	3 (0)	0 (0)
<b>HEP Total</b>	<b>60 (32)</b>	<b>40 (18)</b>	<b>81 (20)</b>	<b>47 (3)</b>

\* DOE working with US CMS and US ATLAS management to find support for fraction of needed Research Scientists through the LHC Ops program.



# FY13 Proposals vs. FY12 Status

	New Proposals		Efforts funded in FY12				Total
	Fund	Decline	Up	Flat	Down	No-Fund	
Accelerator R&D	3	17	2	4	8	6	40
Cosmic Frontier	4	10	7	1	6	0	28
Detector R&D	6	8	2	2	2	2	22
Energy Frontier	0	4	10	2	28 <sup>a</sup>	1	45
Intensity Frontier	3	2	8	6	7	5	31
Theory	4	7	2	7	22	11	53
<b>HEP Total</b>	<b>20</b>	<b>38</b>	<b>20</b>	<b>14</b>	<b>48</b>	<b>22</b>	<b>162</b>

- Single proposals with multiple research thrusts are counted multiple times (1 /thrust)
- New/Fund = HEP research effort was not funded at this institution in FY12 but is funded in FY13
- New/Decline = HEP research effort was not funded at this institution in FY12 and is not funded in FY13
- Up = FY13 funding level +2% or more compared to FY12.
- Flat = FY13 funding level within  $\pm 2\%$  of FY12.
- Down = FY13 funding -2% or more compared to FY12.
- No-Fund = No funding is provided in FY13. This effort was funded in FY12.

<sup>a</sup> 11 of 28 proposals had Tevatron (CDF or D0) research activities associated with them in addition to CMS/ATLAS research activities. In general, the Tevatron efforts saw a downward reduction with respect to FY12.

# FY13 versus FY12 Outcomes

- **FY13 had many more total proposals and PIs**
  - Due to historical renewal pattern + break-up of umbrellas
  - Review logistics more complicated
  - Average proposal success rate somewhat lower
  - \$ Requests/funding was similar in most subprograms
- **Overall univ. funding down a few percent on average**
  - Significantly lower in Theory and Energy Frontier
- **Success rate was generally better for recurring PIs and somewhat worse for new (to DOE) PIs**
  - Most new PIs in Cosmic Frontier and Technology R&D
- **Success rate for new Jr faculty about the same (~60%)**
- **Success rate for Sr Research Scientists somewhat better**

# Lessons Learned I

- **We consider the 2013 comparative peer review process was successful in identifying proposals with highest scientific impact and potential in a generally strong pool of applications.**
  - We therefore will maintain the external peer review elements of this process for the 2014 review cycle.
- **For continual improvement of the process, we implemented lessons learned from the 2012 review process into the 2013 comparative review, e.g.:**
  - Starting the review process earlier to allow more time for programmatic decisions
  - Making the panel (+mail) review process more uniform across all research thrusts
  - Asking panel chairs to write brief summaries of panel deliberations for all proposals and PIs (as appropriate)
- **To further improve the process, we are considering the following in 2014:**
  - Optimize the proposal workload of the panel reviewers
  - Provide uniform template for personnel distributions and budgets. This will help in reviewing multi-thrust (or sub-tasks) research proposals.
  - Strongly encourage panel reviewers to write any additional comments made during the panel deliberations into PeerNet prior to adjourning
  - Ensure a balanced demographics of panel reviewers

# Lessons Learned II

- **Communications.**

- We continue to communicate process/outcomes/impacts to the community:
  - Updated FAQ available on HEP website
  - Talks at HEPAP, community meetings, site visits
  - Continue interactions with DPF
- In 2014, we will continue to involve reviewers with experience from either the 2012 or 2013 process.
- When panels convene, individual Program Managers will continue to present DOE programmatic priorities, future directions, and the role of the panel in order to help guide panelists in their reviews.
- Questions?
  - Proposal technical areas: see contacts in FOA
  - Formatting, attachments, general: email to [SCHEPFOA@science.doe.gov](mailto:SCHEPFOA@science.doe.gov)