



NSF Nuclear Physics Overview for NSAC

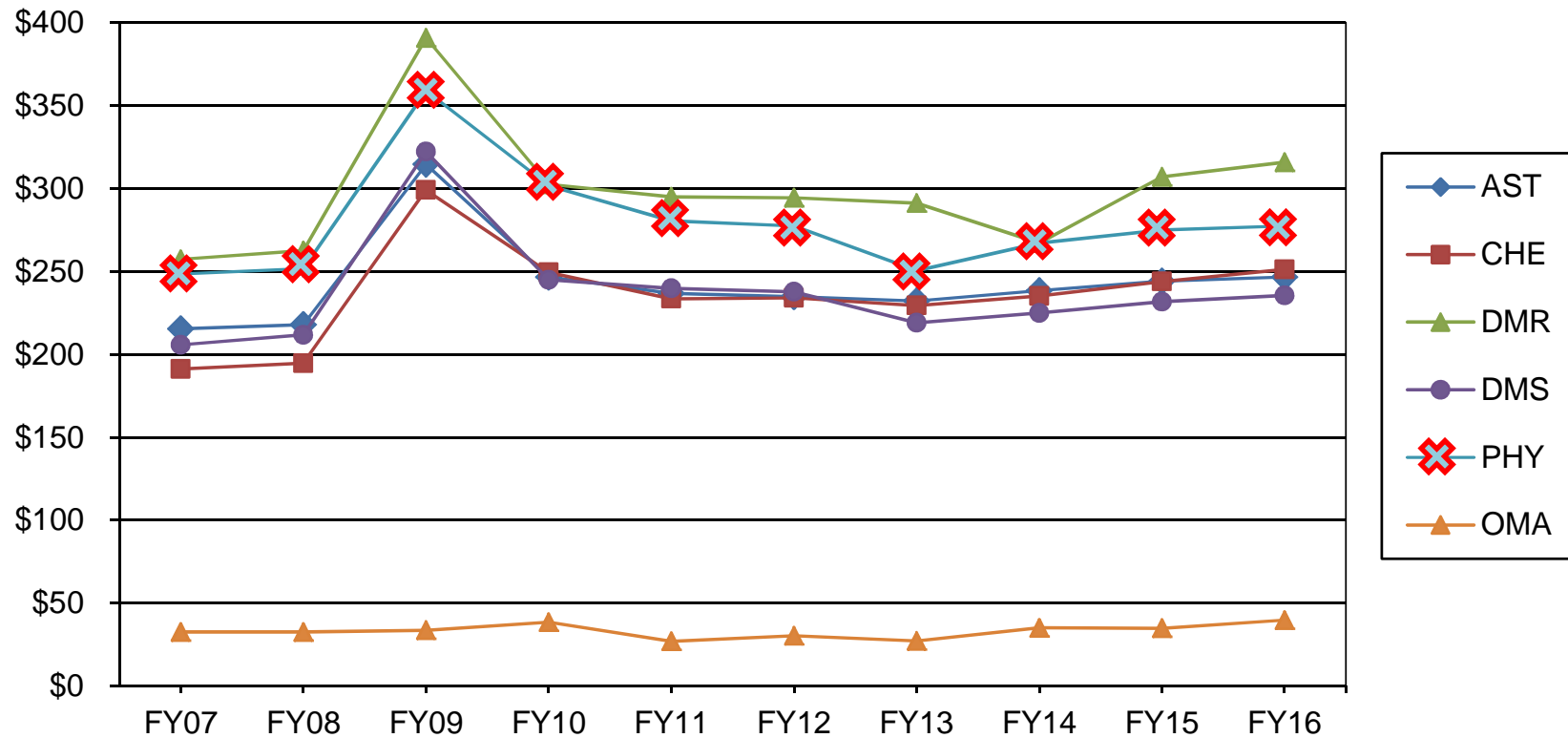
Allena K Opper

- ▶ Budget
- ▶ Announcements
 - Solicitation
 - Other funding opportunities
- ▶ Physics Division Personnel



NSF MPS Funding Trends

MPS Subactivity Funding
(Dollars in Millions)



FY 2009 funding reflects both the FY 2009 omnibus appropriation and funding provided through the American Recovery and Reinvestment Act of 2009 (P.L. 111-5).

Budget Trends – NSF Nuclear Physics

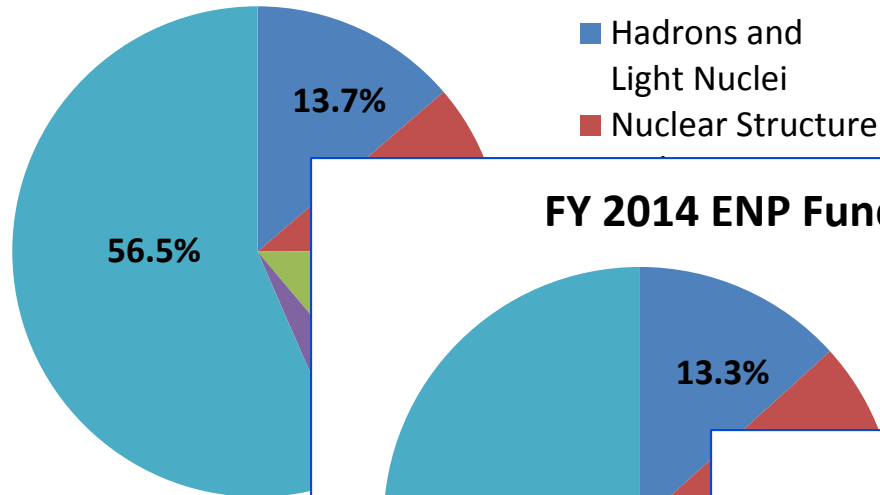


FY	Hadrons & Light Nuclei (k\$)	Structure & Heavy Ions (k\$)	Fund. Sym. (k\$)	Nucl. Astro. (k\$)	Theory (k\$)	Program Total (k\$)	NSCL (k\$)	JINA JINA-CEE (k\$)	MRI (k\$)	Mid-Scale (k\$)	Total Nuclear Physics (k\$)
2009	7,663	4,734	5,572	N/A	5,825	23,794	22,500	2,000	8,058	9,524	65,877
2010	6,421	6,863	5,532	1,078	3,855	22,672	21,000	2,150	1,134		46,956
2011	5,349	6,485	5,336	1,994	3,719	22,883	21,500	2,150	729		47,262
2012	7,657	3,375	5,855	1,610	3,829	22,326	21,500	2,150	2,744		48,720
2013	5,218	4,259	5,304	1,754	3,474	20,008	21,500	2,150	2,996	490	47,144
2014	5,275	4,215	5,250	2,475	3,514	20,728	22,500	2,280	1,038	1,188	47,733
2015	5,366	4,295	5,551 includes 1,320 for 0νββ	2,667	4,187	20,045	23,000	2,280		1,367	49,690 PRELIMINARY + Any MRIs

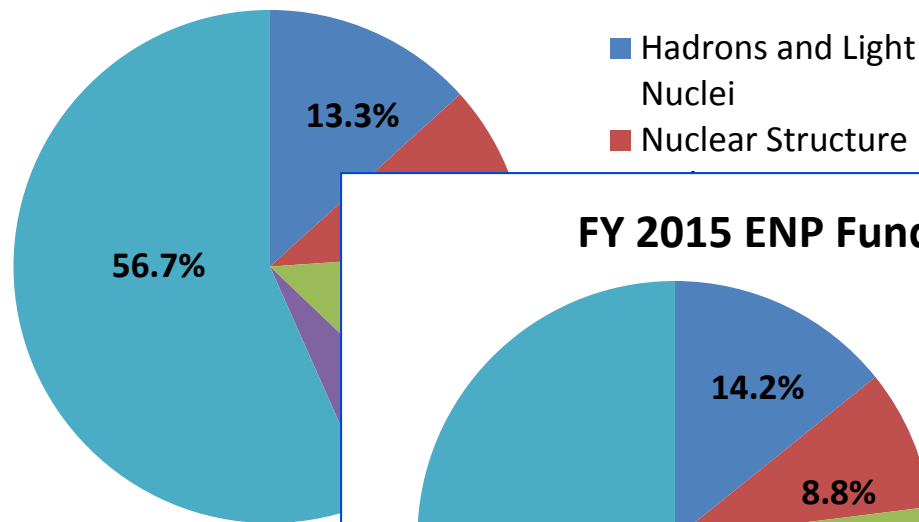
MRI: competes each year; supplemental one-time acquisition/development funds
 Mid-scale: ad hoc competition; supplemental construction funds



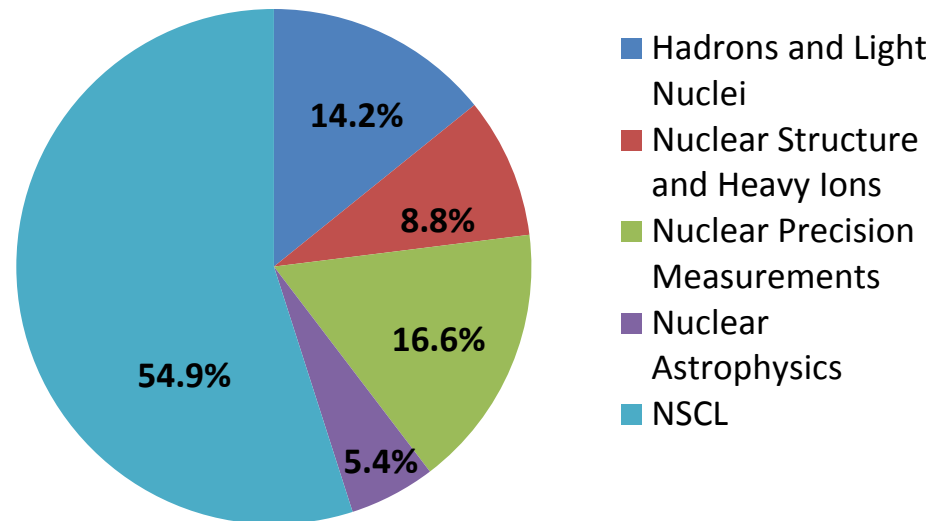
FY 2013 ENP Funding by Program Area



FY 2014 ENP Funding by Program Area



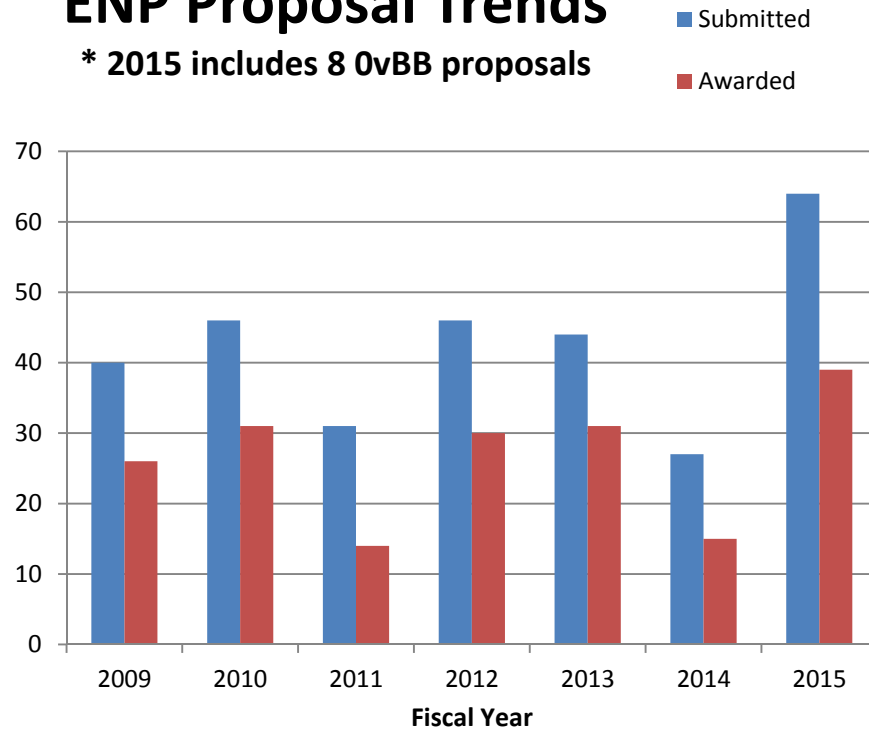
FY 2015 ENP Funding by Program Area





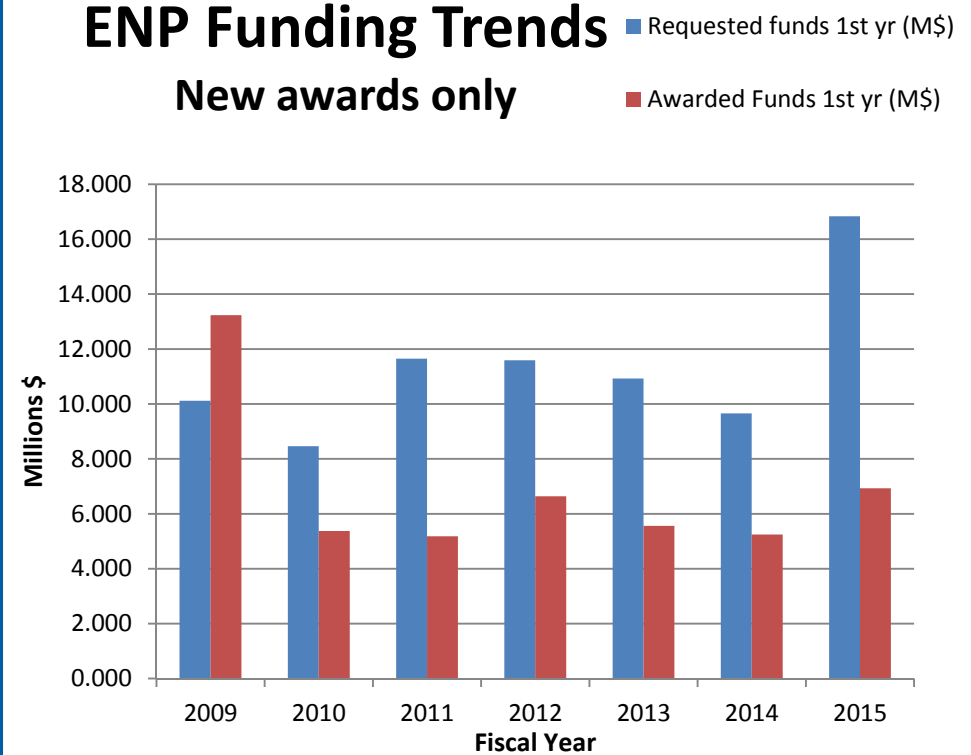
ENP Proposal Trends

* 2015 includes 8 0vBB proposals



ENP Funding Trends

New awards only



Solicitation for NSF Physics Division Investigator-Initiated Research Projects 15-579



All proposals submitted to the Division of Physics programs must go through this solicitation.

- **Deadlines:**
 - October 28, 2015 for Particle Astrophysics
 - **November 13, 2015 for Experimental Nuclear Physics & Theoretical Nuclear Physics**
 - December 3, 2015 Computational Physics
 - February 3, 2016 for Accelerator Science
- Follow Grant Proposal Guide (GPG)
http://www.nsf.gov/pubs/policydocs/pappguide/nsf15001/gpg_index.jsp
- Follow the GPG checklist
- Follow instructions that are specific to this solicitation ...

NSF Physics Division: Investigator-Initiated Research Projects (15-579)



- **PI Effort and Sources of Support:**

- PIs who have or anticipate **additional concurrent sources of support should clearly explain the differences** between this proposal and the other awards (including ALL grants regardless of the agency of origin)

- Where? **Project Description**



- *“The proposal review process will include an assessment of the proposers’ ability to carry out the proposed research in light of these commitments”*

- PIs with similar proposals for different agencies will be expected to withdraw all other applications should one of them be funded



NSF Physics Division: Investigator-Initiated Research Projects (15-579)

- **Collaborators:**



– **List of collaborators** that do not fit in the Bio sketches (such as those of large collaborations) **should be included as a Supplementary Document**

- For those who belong to large collaborations (> 30 members), **identify those members with whom the PIs and Co-PIs work closely** e.g. members of the same Working Group.
- Indicate collaborations which the PIs and Co-PIs left more than 48 months ago but are still listed as co-authors because of the publishing rules of the collaboration.
- Include collaborations for experiments that have been proposed if the PIs and Co-PIs have worked closely with others in the collaboration in the last 48 months, *even if the proposed measurements have not taken place.*

NSF Physics Division: Investigator-Initiated Research Projects (15-579)



NEW!

Letters of Collaboration:

- **Letters of support should not be submitted**, as they are not a standard component of an NSF proposal. On the other hand, letters of collaboration, limited to stating the intent to collaborate and not containing endorsements or evaluation of the proposed project, are allowed. Letters of collaboration should follow the single-sentence format:

“If the proposal submitted by Dr. [insert the full name of the Principal Investigator] entitled [insert the proposal title] is selected for funding by the NSF, it is my intent to collaborate and/or commit resources as detailed in the Project Description.”

Departure from this format may result in the proposal being returned without review.



Announcements: Major Research Instrumentation (MRI)

FY15

- Due date = 22-jan-2015 (past)
- *Physics received 24 proposals, NP received 8 proposals*
- Review completed and awards are being made.

FY16

- Due date = 13-jan-2016
- The new solicitation may have some changes

Career Awards



- Solicitation: 15-555
- Must include **excellent research proposal** as well as **excellent educational plan**
- There are eligibility requirements: e.g., must be assistant professor, untenured
- 5 year awards, \$400,000 minimum
- Proposal deadline: **July 23, 2015**
- PECASE nominees are chosen from CAREER winners
- **Contact program officer for information/advice ahead of time (budget, scope)**

How **NOT** to get Funded by NSF – the Fast Path



(special thanks to Frank Winkler NSF/AST)

- **No discussion of Broader Impacts in your Project Summary #1 cause of returns**
You're submitting to the National Science Foundation, not the National Broader Impacts Foundation, right? *It turns out these are taken very seriously, and if you don't include them in your summary, your proposal will be returned.*
- **No discussion of Broader Impacts in the main part of your Project Description**
Why give up precious space to talk about Broader Impacts, especially after you've devoted an entire paragraph to them in your Project Summary? After all, there are two review criteria (intellectual merit and broader impacts) - do you really need to worry about both of them? *It turns out the answer is "yes, yes you do." The reviewers won't get a chance to downgrade the proposal if Broader Impacts are missing – we will just send the proposal back unread.*
- **No discussion of Broader Impacts in your Results of Prior Support section #2 cause of returns**
Nobody cares if you have a record of fantastic outreach, creative mentoring of students and postdocs, broadening the participation of under-represented groups in physics, improving the national security, increasing the economic competitiveness of the US, ... right? *Actually, your record of contributing to the broader benefits of society gives reviewers confidence in your proposed activities – and it's required.*

Neutrinoless Double Beta Decay



- **NSF and DOE are working in a coordinated way to optimally utilize resources in support of NLDBD R&D.** The joint charge to the standing NSAC subcommittee on NLDBD to assess the critical R&D needs and technology driven schedules required to demonstrate the down-selection criteria for each candidate technology is part of that coordinated effort.
- In light of the R&D assessments provided by the NSAC subcommittee and within funding availability, the agencies and offices will move forward in a coordinated, unified approach to address these R&D needs, similar to the process used in the recent joint effort on the second generation dark matter experiments. That process included independent calls for proposals with coordinated requirements, and a joint review. A summary of the DOE/NSF Joint G2 Dark Matter Program can be found in the proceedings of the High-Energy Physics Advisory Panel meeting from September 29-30, 2014.

<http://science.energy.gov/hep/hepap/meetings/201409/>

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NSF/MPS/Physics Personnel



- **France Cordova** – Director
- **Fleming Crim** – Associate Director for MPS
- **Denise Caldwell** – Physics Division Director
- **Brad Keister** – Deputy Division Director
- **Bogdan Mihaila** – Nuclear Theory Program Director
- ★ **Ken Hicks** – Expt'l Nuclear Physics Program Director
- **Allena Opper** – Expt'l Nuclear Physics Program Director

Personnel have not changed since September 2014!
However, Ken plans to return to Ohio University August 2016.



For the latest updates, check out

<http://www.nsf.gov/div/index.jsp?div=PHY>

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The screenshot shows the NSF website interface. At the top, there is a navigation bar with links for HOME, FUNDING, AWARDS, DISCOVERIES, NEWS, PUBLICATIONS, STATISTICS, ABOUT NSF, and FASTLANE. Below this is the NSF logo and the text "National Science Foundation Directorate for Mathematical & Physical Sciences (MPS)". A search bar and a "QUICK LINKS" button are also visible. The main content area is titled "Physics (PHY)" and features a sidebar with a list of links: PHY Home, About PHY, Funding Opportunities, Awards, News, Events, Discoveries, Publications, Career Opportunities, Facilities and Centers, PHY Program Director Jobs, See Additional PHY Resources, and View PHY Staff. Below the sidebar is a search box for PHY Staff. The main content area contains several sections: "PHY Replaces DCL with Solicitation NSF 14-576" with a detailed paragraph about the solicitation; "PHY Int'l Activities - Potential Co-Review" with a paragraph about international activities; and "Special Announcements" with two links: "MPS Alliances for Graduate Education and the Professoriate - Graduate Research Supplements (AGEP-GRS) Dear Colleague Letter (NSF 13-071)" and "Dear Colleague Letter - Announcement of Instrumentation Fund to Provide Mid-Scale Instrumentation for FY2014 Awards in Physics Division (NSF 13-118)".