



U.S. DEPARTMENT OF
ENERGY

Office of
Science

DOE/HEP Status Report

Glen Crawford

Director, Research and Technology R&D

DOE Office of High Energy Physics

Outline




- **Implementation of P5 Plan**
 - Where we are at
 - Where we are going
 - Messages to the community
- **FY2017 Budget Request**
 - Priorities
 - Trends
 - Nuts and Bolts
- **Office News**
 - Personnel changes
 - New activities
- **Funding Opportunities (time permitting)**
- **Q&A**

NB: Will cover most activities at a high level. Apologies in advance to the many important experiments and R&D activities I don't have time to cover



The Science Drivers of Particle Physics

The P5 report identified five intertwined **science drivers**, compelling lines of inquiry that show great promise for discovery:

- Use the **Higgs boson** as a new tool for discovery *2013 
- Pursue the physics associated with **neutrino mass** *2015 
- Identify the new physics of **dark matter**
- Understand **cosmic acceleration**: dark energy and inflation *2011 
- **Explore the unknown**: new particles, interactions, and physical principles

** Since 2011, three of the five science drivers have been lines of inquiry recognized with Nobel Prizes*



International Partnerships

Successful partnerships key to implementing U.S. long-term strategy

*New Bilateral U.S.-CERN Agreement – **May 7, 2015***



*DOE-Italy Agreement on High Energy, Astroparticle and Nuclear Physics Research – **July 17, 2015***



*DOE-MEXT Project Arrangement – **Oct. 6, 2015***



Fulfilling the HEP Mission: Enabling Discovery

The P5 plan enables discovery in particle physics

- Pursues the most important science opportunities wherever they are: on- and off-shore
- Coordinates time-phased project execution
- Incorporates projects of different scales
- Balances across experimental Frontiers

“Scenario B+” aims to advance the LBNF/DUNE timeline

- First DUNE data late 2024, first beam data late 2026

P5 strategy produces continuous physics output

- Any science driver across the Frontiers could lead to discovery
- Historic opportunities await us!



Green: Physics Blue: Approximate Construction



Messages for the U.S. LHC Community

- The lion's share of DOE HEP investment remains the LHC program and will be for many more years
- Our traditional partnership with CERN has been strong and we look forward to continuing it through the U.S.-CERN Agreement and Protocols signed in 2015
- We realize that with the initial (Phase-1) and HL-LHC upgrades, as well as ongoing LHC Operations, resources are quite stretched
 - We are actively taking steps to address this in FY17-18 as the HL-LHC upgrade projects ramp-up and Phase-1 projects ramp-down
 - As a first step, we have added resources to the HL-LHC upgrade projects, for the accelerator, ATLAS R&D, and CMS R&D
 - DOE is leveraging its expertise in high-field magnets and silicon-based detectors to help enable the strong scientific and technological performance of the LHC
- P5 recognized that a compelling and comprehensive LHC program is a core part of U.S. particle physics, and DOE intends to support key leadership roles in all areas of the ATLAS and CMS experiments
 - **U.S. participation is enabled by leveraging U.S. expertise in accelerator science and technology to exploit future opportunities at the LHC**



Messages for U.S. Neutrino Community

- As part of the P5 global vision, DOE is working to establish a U.S.-hosted world-leading neutrino physics program with LBNF as its centerpiece
 - This major U.S. initiative in the global program must succeed to balance U.S. participation in science facilities hosted elsewhere, including the LHC
 - Given the compelling scientific discovery potential of LBNF/DUNE, Fermilab is working closely with its global partners to establish a truly international “mega-science” facility with first physics in mid-2020s
 - International partners are beginning to come aboard with contributions; more are expected...
 - CERN will be a major partner through the agreements signed last year
- “Scenario B+” strategy aims to accelerate LBNF/DUNE using additional funding while maintaining program balance and supporting priorities of Scenario B
 - Investments in early far-site construction necessary to enable interested international partners to make “in-kind” contributions on schedule
- Completion of ProtoDUNE is an important R&D step towards timely realization of LBNF/DUNE



Close Cooperation Between LHC and Neutrino Communities

The future programs of CERN and the U.S. are intertwined!

- P5's vision for the U.S. particle physics program requires both the LHC and neutrino programs to succeed
- Do:
 - Share your feedback about the P5 strategy implementation to the DOE
 - We are constantly in contact and are monitoring views of the community
 - Understand the elements of the P5 strategy that are outside of your specific research efforts
 - Your efforts are an important part of a global vision, and you should share your work in the context of the broader picture (see Steve's messages)
- Don't:
 - Attack areas of our field in favor of your favored area
 - Decision Makers notice: “bickering scientists get nothing”
 - Misinterpret Administration and Congressional support of the P5 plan to be entitlements
 - DOE implementation requires flawless project execution by *entire* community!

Implementing the P5 Strategy

- P5 presented a global vision for particle physics, and CERN is an important U.S. partner in realizing that vision
- Important activities that will enable the successful realization of HL-LHC and LBNF/DUNE will occur in FY17-18
 - HL-LHC accelerator and ATLAS/CMS upgrade projects begin in order to meet CERN's LHC schedule
 - Aim to begin LBNF/DUNE site preparation and excavation to enable contributions from international partners on planned schedule
- The P5 vision is both compelling and ambitious:
 - It challenges us (all of us!) to achieve goals we have not attained before
 - We are confident that the global particle physics community is up to the challenge





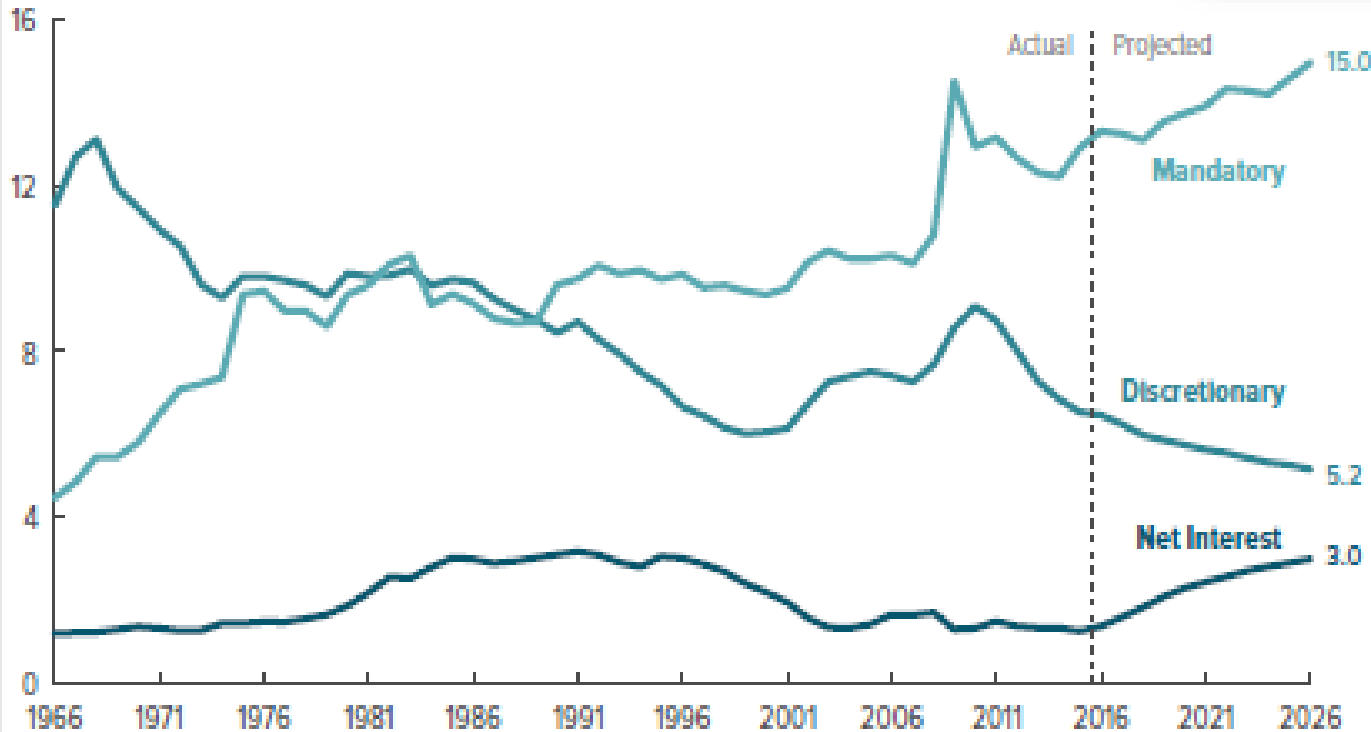
HEP FY 2017 BUDGET



Figure 3-1.

Outlays, by Type of Spending

Percentage of Gross Domestic Product



<https://www.cbo.gov/publication/51129>

The Budget and Economic Outlook: 2016 to 2026

Under current law, rising spending for Social Security and Medicare would boost mandatory outlays.

Total discretionary spending is projected to fall relative to GDP as funding grows modestly in nominal terms.

At the same time, higher interest rates and growing debt are projected to push up net interest payments.

Source: Congressional Budget Office.

GDP = gross domestic product.



FY 2017 HEP Budget Strategy

- The FY 2017 HEP budget request reflects the way that implementing the P5 strategy has evolved as the U.S. and international community has adopted and responded to it
 - LHC (including upgrades) is still the highest near-term HEP priority
 - LBNF/DUNE has been reconfigured and is gaining international support much more rapidly than anticipated in the P5 strategy
 - U.S. Administration and Congress strongly support establishing LBNF/DUNE as the first U.S.-hosted international science facility
- This presents an opportunity to advance the P5 strategy on a shorter time scale through additional funding: “Scenario B+”
 - HL-LHC accelerator and detector upgrades per CERN schedule
 - Support all other projects in P5’s Scenario B
 - Maintain balance between Research, Operations, and Projects
 - Additional funding *beyond* the above priorities would support accelerating the implementation of LBNF/DUNE



HEP FY 2017 Budget: Research Thrusts

- **Energy Frontier:** Continue to support leadership roles in the successful LHC program
 - Initial (Phase-1) LHC detector upgrade project funding completes in FY17
 - Develop TDRs for **High Luminosity (HL)-LHC experiments**; CD-0 April 2016
 - Continue R&D/prototyping towards **HL-LHC accelerator**; CD-0 April 2016
 - The U.S. will continue to play a leadership role in LHC discoveries by remaining actively engaged in LHC operations and data analysis
- **Intensity Frontier:** Solidify international partnerships for U.S.-hosted LBNF/DUNE
 - Rapid progress on **LBNF/DUNE** has attracted attention from interested international partners and FY17 investments in site preparation and cavern excavation aim to solidify international partnerships
 - Fermilab will continue improvements to accelerator complex while serving high-intensity neutrino beams to short-and long-baseline experiments, enabling full utilization of the FNAL facilities
- **Cosmic Frontier:** Advance leadership efforts in the dark matter, dark energy programs
 - Fabrication funding ramp-up in FY17 supports key P5 recommended Cosmic Frontier projects: **LSSTcam, DESI, SuperCDMS-SNOlab, LZ, ADMX**
- **Theoretical Physics:** Support a vibrant program that plays essential roles in all areas
 - Interpreting results from current experiments, motivating future experiments, and pursuing the deepest questions about the foundations of particle physics



Breaking the Cycle: Continuing Resolution

- If the U.S. Congress and the President have not passed all appropriations bills by September 30, a Continuing Resolution (CR) may be passed to avoid a U.S. Government shutdown
 - CRs typically extend level of funding from the previous year for a set amount of time
- A CR may impede the start of new projects
 - Projects with total cost >\$10M must be line-items approved by Congress in an appropriations bill before funding can begin
 - It is possible, though not typical, for CRs to include “anomalies” that would allow new starts
- A CR may impact the ramp-up of new projects
 - DOE is committed to the successful execution of projects that have reached CD-2 and aims to provide the baseline funding profile
 - Projects that have not reached CD-2 are most likely to be impacted under a CR
- A CR may also impact future-year planning through such effects...
- Given the current political climate, we expect a CR for at least part of FY 2017 and are planning accordingly
 - **DOE has limited flexibility for adjustments under a CR, but will work closely with laboratory and project management to minimize any impacts**



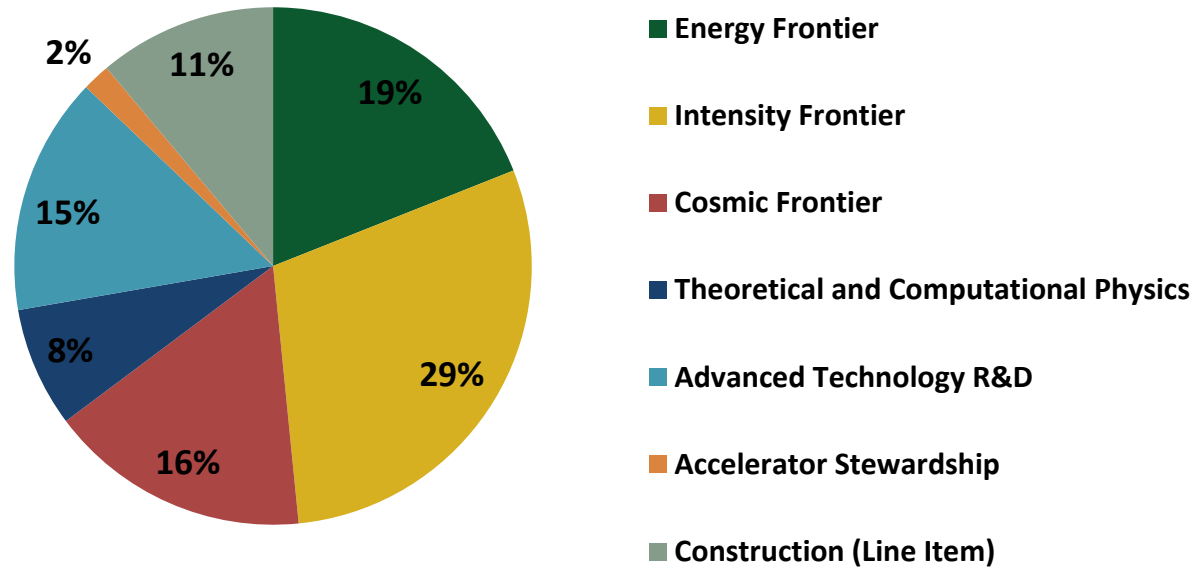
FY 2017 HEP Funding by Activity

HEP Funding Category (\$ in K)	FY 2015 Actual	FY 2016 Current	FY 2017 Request	Explanation of Changes (FY17 vs. FY16)
Research	334,225	327,389	331,123	Sustain support for research program
Facilities	264,634	254,979	252,037	Overall operations support reductions due to scheduled completion of projects
Projects	99,373	107,620	108,516	<i>*Other Project Costs (OPC) includes CDR, project-specific R&D, prototyping and testing, installation and commissioning/pre-operations before CD-4</i>
<i>Energy Frontier Projects</i>	<i>15,000</i>	<i>19,000</i>	<i>18,967</i>	<i>Initial ATLAS/CMS upgrades complete in FY17; OPC* begins for HL-LHC detector upgrades</i>
<i>Intensity Frontier Projects</i>	<i>48,170</i>	<i>17,685</i>	<i>9,349</i>	<i>Reduction from ramp down of g-2 & end of LBNF/DUNE OPC*; SBN Program increases</i>
<i>Cosmic Frontier Projects</i>	<i>45,203</i>	<i>66,835</i>	<i>70,200</i>	<i>Planned ramp up supports fabrication of LSSTcam, DESI, SuperCDMS-SNOlab, LZ</i>
<i>Other Projects</i>	<i>1,000</i>	<i>4,100</i>	<i>10,000</i>	<i>Increase to support the FACET-II project</i>
Construction (Line Item)	37,000	84,115	103,741	Request engineering design, site preparation and long-lead procurement for the LBNF/DUNE; planned profile for Mu2e
SBIR/STTR	20,768*	20,897	22,580	
Total	766,000*	795,000	817,997	House mark \$823M, Senate mark \$833M

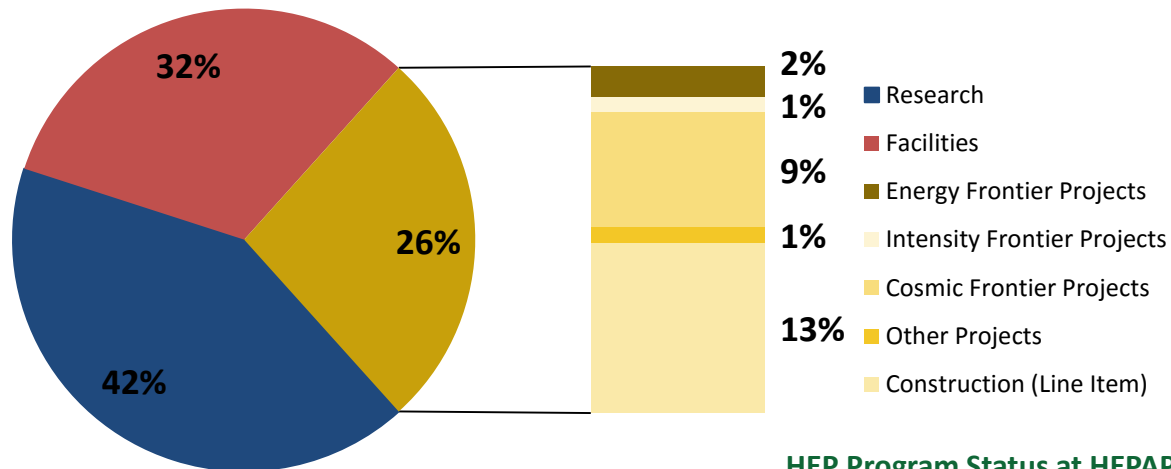
* SBIR/STTR added to FY 2015 for comparison to FY 2016/2017

FY 2017 HEP Budget Request Overview

FY 2017 HEP Request by Subprogram



FY 2017 HEP Request by Activity



Overall HEP Budget Trend

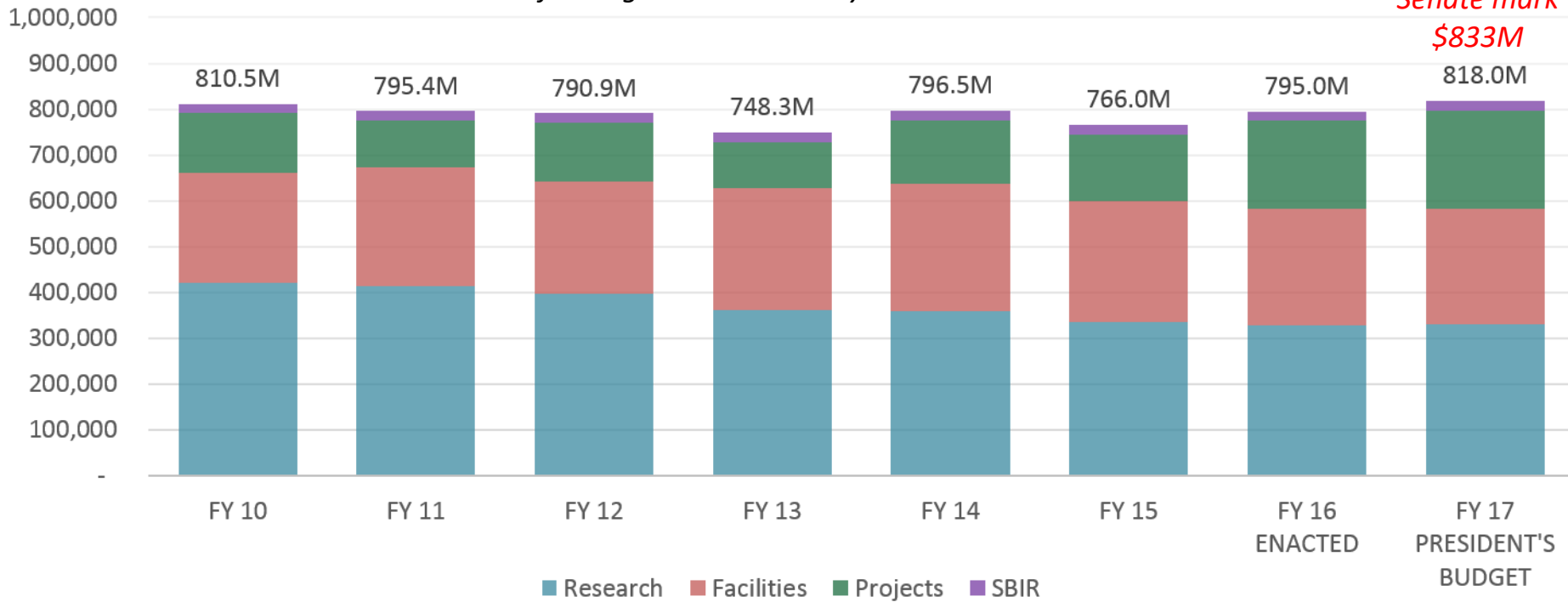
- Significant dip in FY13 from Congressional sequestration
- FY15 request developed prior to P5 report release
- Plus-ups in FY17 House/Senate Marks for Projects

HEP BUDGET ALLOCATION BY FISCAL YEAR (\$ IN K)

All funding shown in "then-year" U.S. dollars

House mark
\$823M

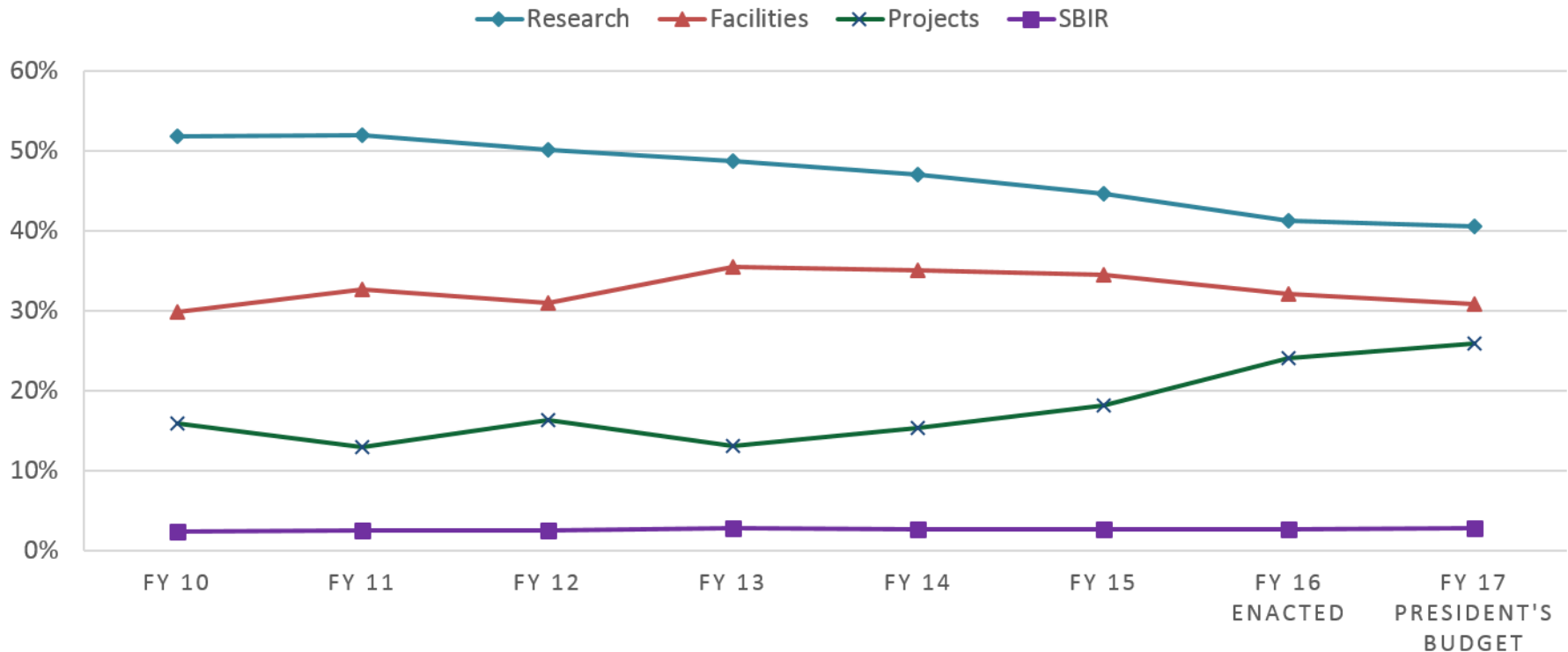
Senate mark
\$833M



HEP Budget Trend by Category

- HEP must coordinate **Projects**, **Facilities/Operations**, and **Research** efforts in order to succeed in its mission
- Recently, trading Research for Project investments

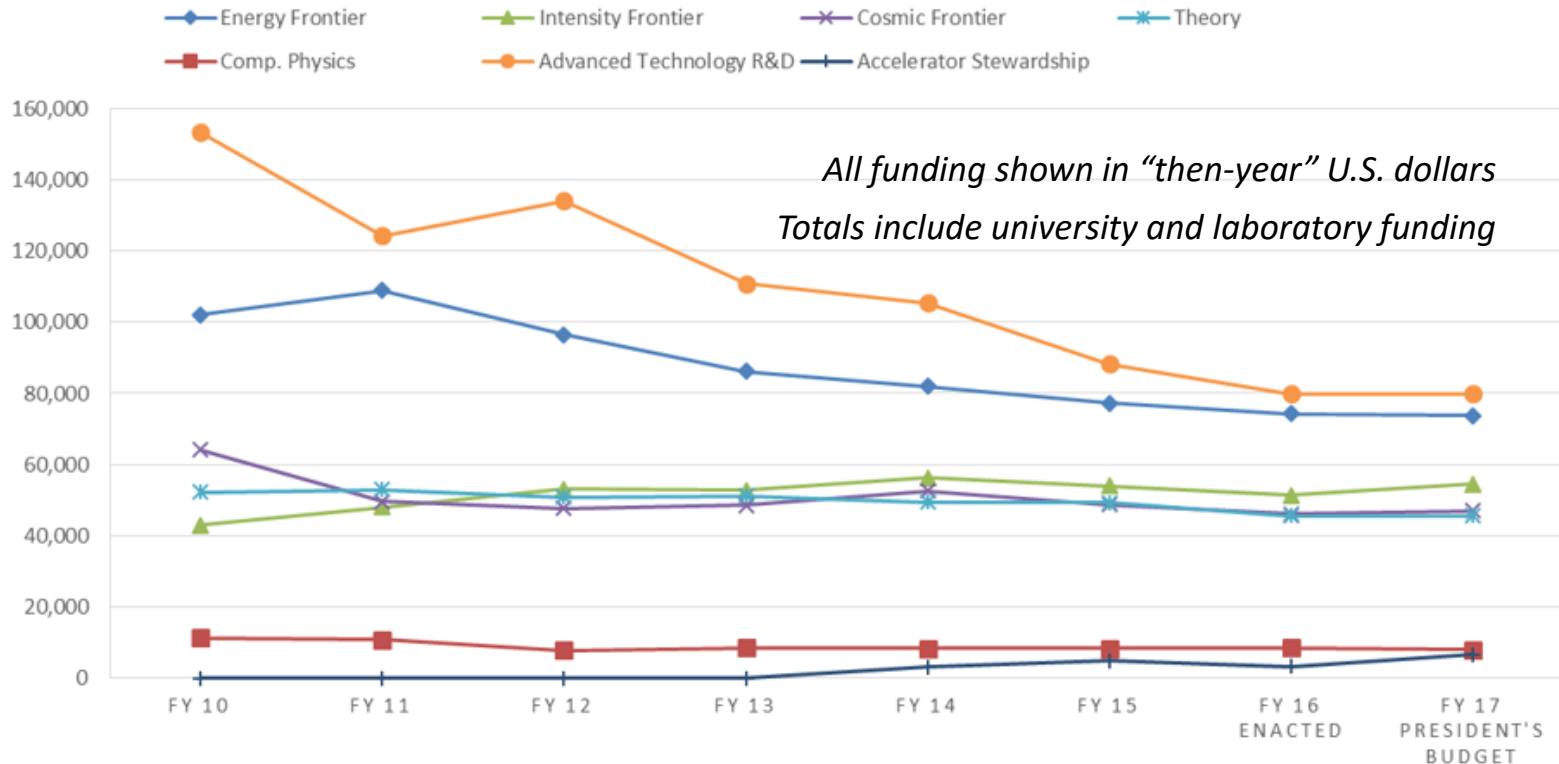
HEP BUDGET ALLOCATION BY FISCAL YEAR
(% OF TOTAL HEP BUDGET)



HEP Research Subprogram Trends

- Research reductions aimed to re-balance HEP subprograms as the Tevatron era ended while ramping down ILC R&D support
- Going forward, future adjustments in Research are planned to be targeted
 - However, a CR may impact plans for FY17 and beyond...

HEP RESEARCH FUNDS - BY FRONTIER/PROGRAM
(\$ IN K)



Research Support Strategy

- We are carefully planning the Research program to maximize the impact of the science enabled by the P5 strategy
 - We aim to end the trend where Research has been declining during past fiscal years, but the projected slow (1-2%) growth in coming years will not keep pace with “cost of doing business”
 - Goal is maintaining Research \geq 40% of HEP budget
 - University research program will be constructed through comparative peer review + targeted investments (e.g., Early Career)
 - We are working closely with DOE HEP labs on sustainability of their research efforts (more on this later)
 - Health of the HEP Research program can be gauged internally by the quality of proposals and success rate; this is reviewed externally by HEP Committee of Visitors
- Research support is flat in the FY17 President’s Budget Request
 - Funding not determined until an actual appropriation passes Congress, and a CR could cause difficulties





OFFICE NEWS AND MISCELLANY

HEP Program Personnel Updates

- **Comings and Goings**
 - Kevin Flood arrived as IPA for Intensity Frontier August 1, 2016
 - Jim Stone (IPA, Energy Frontier) departing at end of August 2016
- **New Assignments and Opportunities**
 - New permanent position for Theory PM (vice Simona) closed
 - Permanent position for Intensity Frontier PM (vice Petros) approved. Advertisement out this fall.
 - New IPA (Stewardship) starting this fall
 - **Interested in new IPA/Detailee for Energy Frontier starting 2017**
 - *Interested parties should contact HEP management!*



HEP Laboratory Sustainability

- **HEP is working with the laboratories to improve the long-term sustainability and optimization of the HEP program**
 - Exercise looks ahead 7 years, attempting to account for:
 - Expected modest growth of Research funding
 - Expected costs of Operations
 - Expected participation in Projects
- **Process is ongoing and has not yet reached an outcome, but progress is being made**
 - Some marginal or low priority efforts have been curtailed
 - Laboratory leadership are discussing the HEP program across laboratory boundaries, exploring:
 - Unique capabilities brought by each laboratory to HEP mission
 - Best way to leverage unique capabilities in future program
 - Prioritization of where to invest resources to maintain a healthy, sustainable program in the long term



Best Practices in Media Communication

- A “Best Practices in Media Communication” meeting was held for spokespersons of HEP experiments on January 19, 2016
- Recently followed up with spokespersons, including:
 - Outcome of collaboration’s review of their media plan
 - Request to provide DOE PM and Michael Cooke with contact information for collaboration’s media coordinator
 - Encourage community to host & attend communications training talks
- **Further areas that collaborations can assist with announcements :**
 - Reach out to DOE to help amplify big press releases/results
 - Work with laboratories to generate Science Highlights for DOE SC (not necessarily press-release level results!)
 - DOE will amplify University press releases/articles through “University Research” highlights if they mention DOE as source of funding.



The image features several stacks of US pennies arranged in a descending staircase pattern from the top-left towards the bottom-right. The coins are copper-colored and show some signs of use. The background is a plain, light-colored surface.

**HEP FUNDING OPPORTUNITY
ANNOUNCEMENT (FOA):
COMPARATIVE REVIEWS**

Schedule of DOE/HEP-based Solicitations

Ongoing: “FY 2016 Continuation of Solicitation for the Office of Science Financial Assistance Program” [DE-FOA-0001414]

- Also known as the “general or open annual DOE/SC solicitation”
 - SC-wide FOA that invites applications in support of work in any of six SC offices, incl. HEP research
- Published annually, typically at beginning of FY (October), remains open until successive issuance

New: “FY 2017 Research Opportunities in High Energy Physics” [DE-FOA-0001604]

- Issued for *new* or *renewing* grant applications, evaluated through comparative review (CR) process
 - Optional but encouraged Letter of Intent (LOI) due August 23
 - Final applications due September 20

New: “Early Career Research Program” [DE-FOA-0001625]

- SC-wide invitation for junior investigators (within 10-years post PhD) from labs or universities
 - Early career development of outstanding scientist’s research programs in areas supported by DOE/SC
 - Required pre-application due September 8, final applications due Nov 14

Upcoming: “Research Opportunities in Accelerator Stewardship”

- Specifically for accelerator R&D which predominantly impacts non-HEP applications
 - LOI will be required, resulting in encourage/discourage response
 - Eligibility will include academia, national labs, and industry



Recent FOA Changes

- **Data Management Plans (DMPs)**
 - All **Research** proposals to DOE/SC must have a data management plan
 - Includes HEP comparative review, Early Career
 - *Does not include* conferences, workshops, operations, projects
 - **Please make sure applicants know that the requirement for a data management plan will be strictly enforced. Any research thrust in a proposal without a DMP will be declined without review.**
- All **Renewal** proposals will need to also submit “proposal products” (essentially recent publications and other records of science outcomes from DOE-supported research) after the application is submitted
 - PIs will be notified by PAMS and have 5 days to respond
 - We cannot review incoming proposals until this step is completed
 - In the future, these will be captured with your annual Progress Report, but during the transition phase, you will need to enter them by-hand
- All FOAs have different eligibility, technical requirements, page limits, etc. Read the instructions carefully!



DOE HEP Research Priorities: Snapshot

- **Energy Frontier**
 - Analysis of LHC Run 2 data
 - Contribute to operational responsibilities and complete “Phase I” upgrades
 - Prepare for leading roles and determine scope of U.S. contributions to HL-LHC upgrades
- **Intensity Frontier**
 - Neutrino Program
 - NOvA, T2K/SK, Minerva, MINOS+ data analysis
 - Implement Fermilab Short Baseline Neutrino Program and Intermediate Neutrino Program
 - Prepare to host LBNF/DUNE and PIP-II
 - Muon Program: Complete Mu2e and Muon g-2 and take data
 - Heavy Flavor Program: Complete Belle-II and take data
- **Cosmic Frontier**
 - Dark Matter: Complete G1 analysis, construct G2 experiments, modest R&D
 - Dark Energy: Complete BOSS, DES analysis; construct LSST and DESI
 - Continue planning for CMB-S4
- **Accelerator R&D**
 - Focus on outcomes and capabilities that will dramatically improve cost effectiveness for mid-term and far-term accelerators
 - Hosting workshops to develop and implement R&D plan following P5 and GARD panels
- **Detector R&D**
 - In process of seeking community input to identify highest priority R&D activities in wake of P5
 - Long-term “high-risk” R&D with potential for wide applicability and/or high-impact
 - “Blue-Sky” scientific research on innovative technologies not already in contention for implementation in future DOE HEP projects
- **HEP Theory**
 - Maintain an overall “thriving” program as per P5

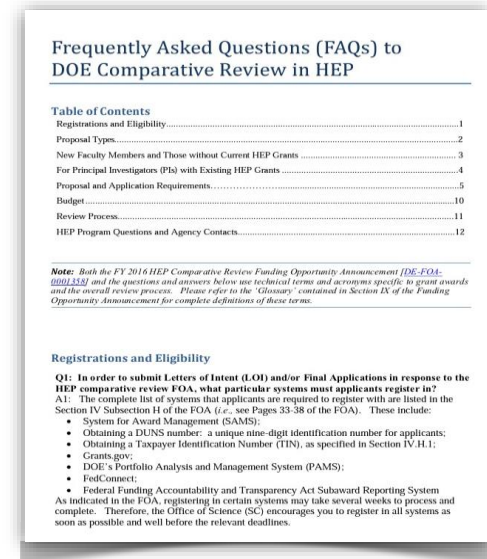
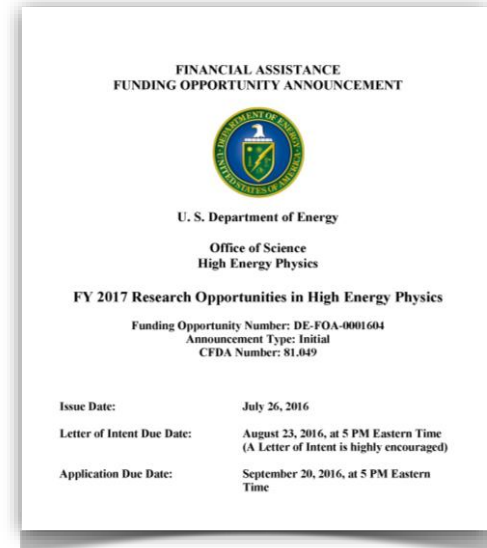


FY17 HEP Comparative Review FOA and FAQ

- **DE-FOA-0001604** issued July 26, 2016
- **Six HEP research subprograms**
 - Energy, Intensity, and Cosmic Frontiers
 - HEP Theory
 - Accelerator Science and Technology R&D
 - Detector R&D
- **Letter of Intent due August 23, 2016 by 5 PM Eastern Time**
 - *Strongly encouraged*
- **Final Proposal deadline September 20, 2016 by 5 PM Eastern Time**
- **In addition to information provided in FOA, a FAQ is available and addresses topics on:**
 - Registration and eligibility requirements
 - Proposal types and proposal requirements
 - Guidance for new faculty and those without current HEP grants
 - Guidance for PIs with existing HEP grants
 - Letter of Intent
 - Budget information and guidance on scope of request(s)
 - Information on overall scientific merit review process

Both the FOA and FAQ available at:

<http://science.energy.gov/hep/funding-opportunities/>



Key Items to Keep in Mind

- Proposed research will review best if closely aligned with the DOE/HEP mission, its program, and the Particle Physics Project Prioritization Panel (P5) strategy
- Investigators in experimental HEP research frontiers (Energy, Intensity, Cosmic) will review best if they are closely integrated into HEP experiment collaborations and have key roles and responsibilities on those experiments
- “Generic” research that is not to be carried out as part of a specific HEP experimental collaboration should be directed to the HEP Theory or Accelerator/Detector R&D programs, as appropriate.
- Read the FOA carefully and follow the requirements on content, length, etc.;
 - Several requirements in the FOA are set from outside the DOE/HEP office, and there is little to no flexibility to modify. Non-compliant proposals submitted to the FOA will not be reviewed.
 - In recent years, 10-15% of incoming proposals are declined without review. Requirements that are most often missed or overlooked include: data management plans, page limits, separate budget sheets (if needed) for each research subprogram or thrust, and inclusion of Personally Identifiable Information (PII)

Programmatic Considerations

- Generally very useful to have head-to-head reviews of PIs working in similar areas, particularly for large grants
- Lots of discussion of relative strengths and weaknesses of individual proposals and PIs
- Many factors weigh into final funding decisions
 - Compelling research proposal for next ~3 years
 - ☑ Interesting? Novel? Significant? Plausibly achievable?
 - ☒ Incremental? Implausibly ambitious? Poorly presented?
 - Significant *recent* contributions in last 3-4 years
 - Synergy and collaboration within group (as appropriate)
 - Contributions to the research infrastructure of experiments
 - Alignment with programmatic priorities
- Supportive of excellent people, including excellent *new* people, even when **times are tough!**

Guidance Checklist for FY17 Comp Rev

- Non-compliant applications will not be reviewed, and therefore, will not be considered for funding. As a convenience and courtesy, DOE/HEP has provided a checklist in the FY17 FOA.
 - **The list, on the opening pages of the FOA, is not intended to be complete; applicants should review the FOA in-detail and follow all instructions.**

FY 2017 Comparative Review FOA – GUIDELINE FOR APPLICATION REQUIREMENTS	COMPLETED
Is the proposed research scope aligned with programmatic priorities of DOE-HEP?	✓
Personally Identifiable Information (PII): Do not supply any information, such as birth date or place, citizenship, home address, personal phone nos., etc., that should not enter into the merit review.	✓
A Data Management Plan is required for each and every research thrust (<i>e.g.</i> , ATLAS, LSST, lattice gauge theory, etc.), and must appear in Appendix 8 of the application.	✓
Project Summary/Abstract Page: contains the name(s) of the applicant, the project director/principal investigator(s) and the PD/PI's institutional affiliation, and any Co-Investigators and their affiliations.	✓
DOE Cover Page: list each HEP research subprogram (<i>e.g.</i> , Energy Frontier, HEP Theory) for which funding is requested. If there is more than one, be sure to attach the Cover Page Supplement.	✓
Page limits for each section comply with the FOA requirements (as defined in Section IV of the FOA).	✓
Biographical sketches carefully follow the FOA instructions and avoid PII.	✓
Current and Pending Support information completed, including an abstract of the scope of work.	✓
In addition to the budget information for the full proposal: separate budget and budget justification narratives for each HEP research subprogram in the proposal for each year in which funding is being requested and for the cumulative funding period has been provided in Appendix 7.	✓
Level of Effort Tables completed in Budget Justifications in Appendix 7: for each person for whom funding is requested in a research thrust, on the scope of activities during proposed project period.	✓
Post-submission of the application, timely submitted the Renewal Proposal Products (RPP) in PAMS.	✓

FY17 Early Career (EC)

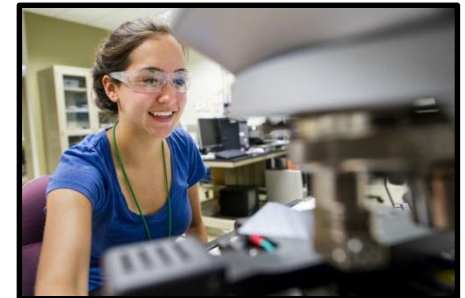
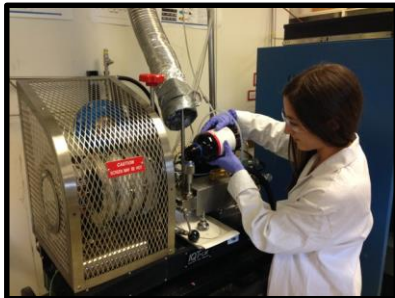
- **FY17 FOA [DE-FOA-0001625; LAB_16-1625] posted July 28, 2016 at the EC website:**
 - <http://science.energy.gov/early-career/>
- **Read the FY17 FAQ, also available on the above website**
- **Features of FY17**
 - PhD's no earlier than 2006 are eligible
 - Some population of candidates will no longer be eligible due to the "3-strikes rule"
 - **Mandatory Pre-application requirement. Two pages.**
 - **Deadline: September 8, 2016 by 5 PM Eastern Time**
 - All interested PIs encouraged to register as soon as possible in DOE/SC Portfolio Analysis and Management System (PAMS) for submission [link provided in EC website]
 - Encourage/discourage feedback: October 6, 2016
 - **Full proposals due: November 14, 2016 by 5 PM Eastern Time**
 - Candidates normally have more than 3 months to develop a plan, write a narrative, and submit an application
- **Presidential Early Career Awards for Scientists and Engineers (PECASE)**
 - PECASE-eligible candidates are selected from the pool of Early Career awardees
 - <http://science.energy.gov/about/honors-and-awards/pecase/>

Workforce Development for Teachers and Scientists at a Glance

Ensuring a pipeline of STEM workers to support the DOE mission

- At DOE labs and facilities, WDTS supports >1,000 students and faculty annually:
 - 100 graduate students engaged in Ph.D. thesis research for 3-12 months at a DOE laboratory (SCSGR)
 - 100 Community College Interns (CCI)
 - 800 Science Undergraduate Laboratory Interns (SULI) placed at one of 17 DOE labs or facilities
 - 60 faculty and 25 students in the Visiting Faculty Program (VFP)
- **Support for the National Science Bowl®**
 - The Department of Energy (DOE) created the National Science Bowl® in 1991 to encourage students to excel in mathematics and science and to pursue careers in these fields. More than 250,000 students have participated in the National Science Bowl® throughout its 25-year history
 - The National Science Bowl® regional winning teams receive expenses-paid trips to Washington D.C. to compete at the National Finals in late April. SC manages the National Science Bowl®, provides central management of 116 regional events, and sponsors the NSB Finals competition
- **Support for 6 Albert Einstein Distinguished Educator Fellows**
- **Support for on-line business systems modernization**
 - This activity modernizes on-line systems used to manage applications and review, data collection, and evaluation for all WDTS programs.
- **Support for program evaluation and assessment**
 - This activity assess whether programs meet established goals using collection and analysis of data and other materials, such as pre- and post-participation questionnaires, participant deliverables, notable outcomes, and longitudinal participant tracking.

<http://www.science.energy.gov/wdts>



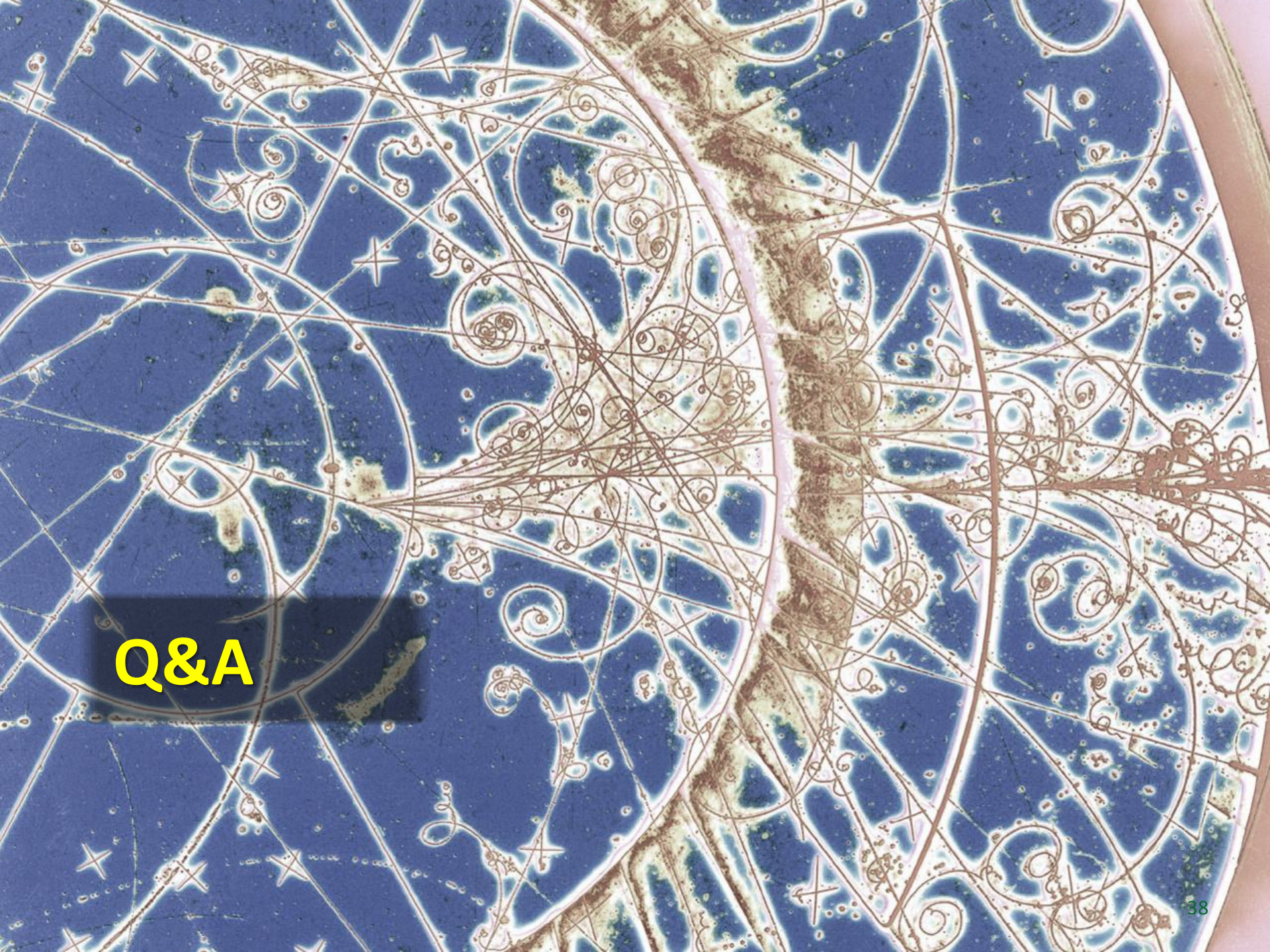
SCSGR Key Dates for 2016 -2017

At the submission deadline (shown in red), the online application system will close after which no additional materials will be accepted. **The online application system closes at 5:00 PM Eastern Time.**

	2016 Solicitation 1	2016 Solicitation 2	2017 Solicitation 1***
On-line Application Opens	February 16, 2016	August 30, 2016	February 2017
Applications Due	May 11, 2016 5:00 PM ET	November 21, 2016 5:00 PM ET	May 2017
Offer Notification Period <i>Begins on or around</i>	September 2016	April 2017	August/September 2017
<i>Earliest*</i> Start Date for Proposed Project Periods	November 1, 2016	June 1, 2017	October 31, 2017
<i>Latest**</i> Start Date for Proposed Project Periods	February 28, 2017	October 2, 2017	February 28, 2018

*Proposed project periods may not begin before this date, and may be 3 to 12 consecutive months in duration.

** Proposed project period must begin no later than this date, and may be 3 to 12 consecutive months in duration.



Q&A