

National Science Foundation – Nuclear Physics



NSF/MPS/PHY Personnel

- Sethuraman Panchanathan Director
- Sean L. Jones Assistant Director for MPS
- Denise Caldwell Physics Division Director
- Jean Cottam Alan Deputy Division Director
- Bogdan Mihaila Nuclear Theory Program Director
- Alfredo Galindo-Uribarri Expt'l Nuclear Physics Program Director
- Allena Opper Expt'l Nuclear Physics Program Director



https://beta.nsf.gov/careers/openings/mps/phy/phy-21-001 www.nsf.gov/careers/rotator



NSAC April 2022

20.0

18.0

16.0

14.0

6.0

4.0 2.0

0.0

2015

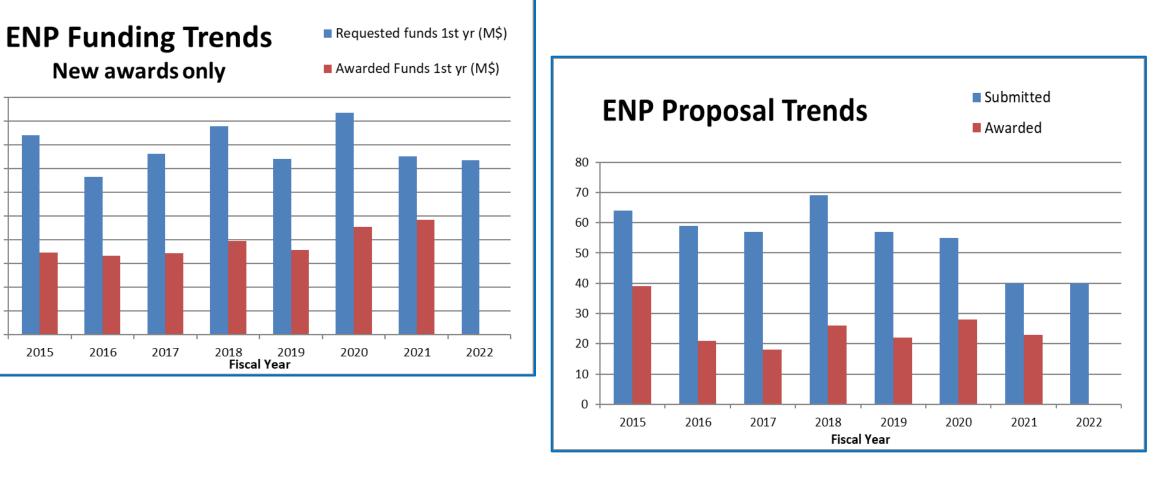
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NSAC April 2022

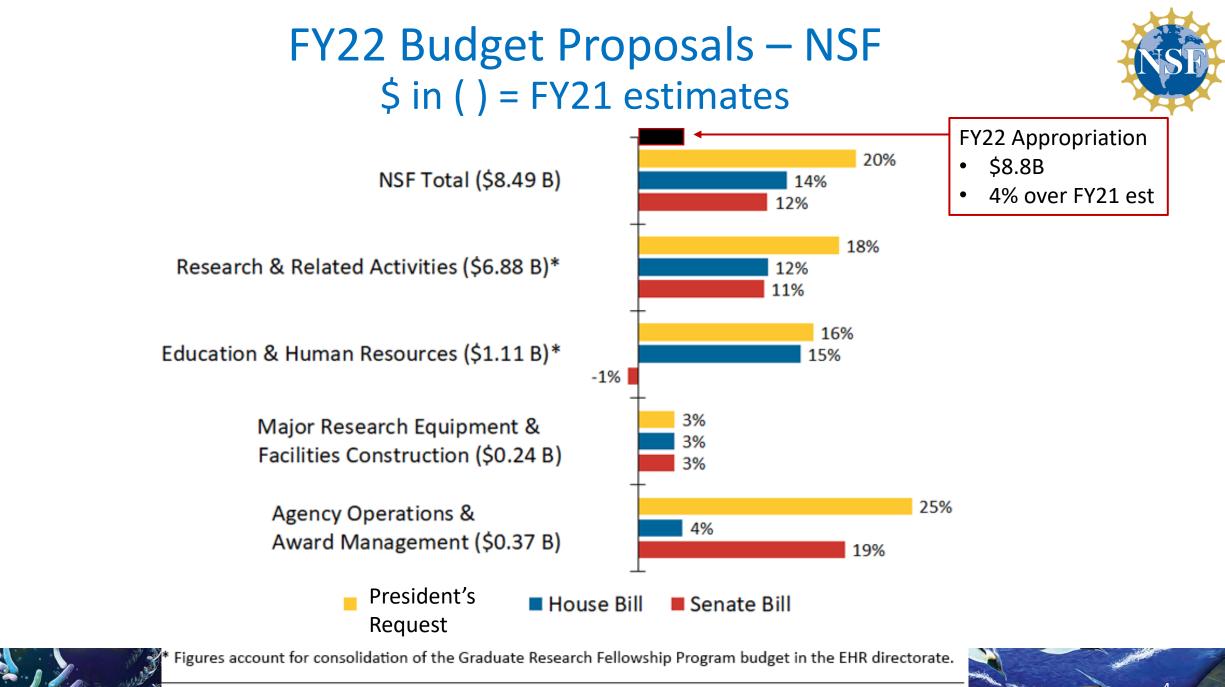
Proposal Trends in Experimental Nuclear Physics

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PBS WEEL







American Institute of Physics | aip.org/fyi

FY22 & FY23 NSF Budget Process

- Agency budget request \rightarrow OMB \sim end of summer
- "Pass Back": OMB iterates with agency ~ Fall
 May also include additional instructions
- President's Budget Request made public ~ early Feb

 Much activity → NSF Budget Book
- FY23 ✓

FY23 √



- Congress passes appropriation ~ before beginning of FY (1-oct)
 - NSF: Amounts for 6 high-level accounts, occasionally with
- President signs appropriation; budget \rightarrow agency via OMB
- NSF generates a full "Current Plan" and submits to Congress via OMB
- Congress acts within 30 days: "Current Plan" \rightarrow "Operating Plan"

FY22 Operating Plan ???

FY22:

15-mar-2022



FY 2023 BUDGET REQUEST TO CONGRESS

National Science Foundation

Director's vision points to opportunities we must seize:



- Strengthening Established NSF
 - NSF's central focus = accelerate discovery and enhance state of the art research capabilities
- Bringing the "Missing Millions" into the STEM Workforce
 - There is tremendous untapped STEM potential throughout the nation

Accelerating Partnerships

 NSF will foster partnerships with other agencies, private industry, philanthropy, like-minded countries – and thriving partnership environments

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FY23 President's Budget Request – NSF (\$M)



		FY 2021			FY 2	023 Reques	t change over	:
	FY 2021	ARP	FY 2022	FY 2023	FY 2021 Actual		FY 2022 Enacted	
NSF by Account	Actual	Actual	Enacted ¹	Request	Amount	Percent	Amount	Percen
BIO	\$817.74	\$9.18		\$970.23	\$152.49	18.6%	N/A	N/#
CISE	1,007.13	35.72		1,150.78	143.65	14.3%	N/A	N/A
ENG	764.43	3.00		940.28	175.85	23.0%	N/A	N/A
GEO	1,004.27	71.04		1,239.05	234.78	23.4%	N/A	N/A
MPS	1,593.31	20.33		1,746.847	153.54	9.6%	N/A	N/A
SBE	282.11	18.16		330.21	48.10	17.0%	N/A	N/A
TIP ²	369.01	19.87	I	879.87	510.86	138.4%	N/A	N/A
TIP Programs	136.73	2.00		596.81	460.08	336.5%	N/A	N/A
SBIR/STTR, including Operations	232.28	17.87		283.06	50.78	21.9%	N/A	N/A
OISE	51.29	1.45		74.04	22.75	44.4%	N/A	N/A
OPP	484.04	14.52		547.10	63.06	13.0%	N/A	N/A
IA ³	386.42	2.28		545.86	159.44	41.3%	N/A	N/A
U.S. Arctic Research Commission	1.60	-		1.72	0.12	7.5%	N/A	N/A
Research & Related Activities	\$6,761.35	\$195.54	\$7,159.40	\$8,425.987	\$1,664.63	24.6%	\$1,266.59	17.7%
STEM Education ^{3,4}	\$1,110.85	\$23.99	\$1,006.00	\$1,377.18	\$266.33	24.0%	\$371.18	36.9%
Major Research Equipment & Facilities	\$161.27	\$8.95	\$249.00	\$187.23	\$25.96	16.1%	-\$61.77	-24.8%
Agency Operations & Award Management	\$384.52	\$12.00	\$400.00	\$473.20	\$88.68	23.1%	\$73.20	18.3%
Office of Inspector General	\$17.61	-	\$19.00	\$23.393	\$5.78	32.8%	\$4.39	23.1%
Office of the National Science Board	\$4.43	-	\$4.60	\$5.09	\$0.66	14.9%	\$0.49	10.7%
Total, NSF Discretionary Funding	\$8,440.03	\$240.48	\$8,838.00	\$10,492.08	\$2,052.05	24.3%	1654.08	18.7%
STEM Education - H-1B Visa	146.51	-	162.47	158.86	12.35	8.4%	-3.61	-2.29
Donations	25.94	-	10.00	10.00	-15.94	-61.4%	- *	-
Total, NSF Mandatory Funding	\$172.45	-	\$172.47	\$168.86	-\$3.59	-2.1%	-\$3.61	-2.19
Total, NSF Budgetary Resources	\$8,612.48	\$240.48	\$9,010.47	\$10,660.94	\$2,048.46	23.8%	\$1,650.47	18.3%

FY23 President's Budget Request – MPS (\$M)



	FY 2021				Change over	
	FY 2021	ARP	FY 2022	FY 2023	FY 2021	Actual
	Actual	Actual	(TBD)	Request	Amount	Percent
Astronomical Sciences (AST) ¹	\$289.27	-	-	\$294.05	\$4.78	1.7%
Chemistry (CHE)	259.60	-	-	284.14	24.54	9.5%
Materials Research (DMR)	330.07	-	-	349.92	19.85	6.0%
Mathematical Sciences (DMS)	243.66	-	-	259.47	15.81	6.5%
Physics (PHY)	304.42	-	-	316.59	12.17	4.0%
Office of Multidiscplinary Activities (OMA)	166.29	20.33	-	242.677	76.39	45.9%
Total	\$1,593.31	\$20.33	-	\$1,746.847	\$153.54	9.6%

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Faculty Career Development Program (CAREER)



- CAREER Awards in support of early-career faculty who have the potential to serve as academic role models in research and education, and to lead advances in the mission of their department or organization.
 - Integration of Research and Education CAREER proposals should describe an integrated path that will lead to a career as a researcher and educator
- PECASE Presidential Early Career Awards for Scientists and Engineers from among the most meritorious recent CAREER awardees
 - PECASE nominees are chosen from within the pool of CAREER awardees
- Eligibility must be untenured assistant professor in position that is at least 50% tenure-track
- Five year awards



Faculty Career Development Program (CAREER)

NSF

NSF 22-586

- Deadline: Fourth Wednesday in July \Rightarrow July 27, 2022
- Required department chair may not be a letter of support; should
 - Affirm Pl's pre-tenure status
 - Indicate that the proposed research and education objectives of the proposal are supported by and advance department's goals
 - Describe how proposed goals are related to mission of department and how dept will provide appropriate mentoring
- PECASE text: additional requirement for the PI to reflect commitment to STEM DEI& accessibility
- Single copy document: states PI's eligibility for PECASE (optional)
- Submission through Research.gov or Grants.gov (not FastLane ³)



PHY DCL: Growing a Strong, Diverse Workforce NSF 21-065

PHY-GR Supplements – emphasis on URMs in STEM fields

- Graduate Student Eligibility
 - Not currently supported by federal government (NSF, DOE, NIH, ...)
 - o US Citizen, US National, or US Permanent Resident
- Stipend, tuition, benefits, and IDC (~\$60k)
- Renewable up to two times, <u>no deadline for submission however, early</u> <u>submission suggested</u>

REU Supplements – emphasis on URMs in STEM fields

• US Citizen, US National, or US Permanent Resident

MPS – ASCEND



ASCEND - Postdoctoral Research Fellowships NSF 22-501

- Goal: to support Postdoctoral Fellows who will broaden the participation of groups who are underrepresented in Mathematical and Physical Sciences (MPS) fields in the U.S.
- Prepare PD Fellows to transition from a postdoctoral position into the first few years of an academic faculty position
- Fellowships are awards to individuals, not institutions, and are administered by the Fellows
- \$100k/year for up to 3 years
- 2nd competition: under review

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MPS – ASCEND

ASCEND - Postdoctoral Research Fellowships

FY21 MPS ASCEND Fellows (33)



MPS – LEAPS



LEAPS: Launching Early-Career Academic Pathways in MPS NSF 22-503

- Designed to launch research careers of pre-tenure faculty in MPS fields, emphasis on *minority-serving institutions (MSIs), predominantly undergraduate institutions (PUIs), and Carnegie Research 2 (R2) universities* while promoting the participation of the entire MPS scientific community
- Awards = 24 months, up to \$250k
- 2nd competition: under review

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MPS – LEAPS

LEAPS: Launching Early-Career Academic Pathways

FY21 LEAPS-MPS Ascend Awardees (45)

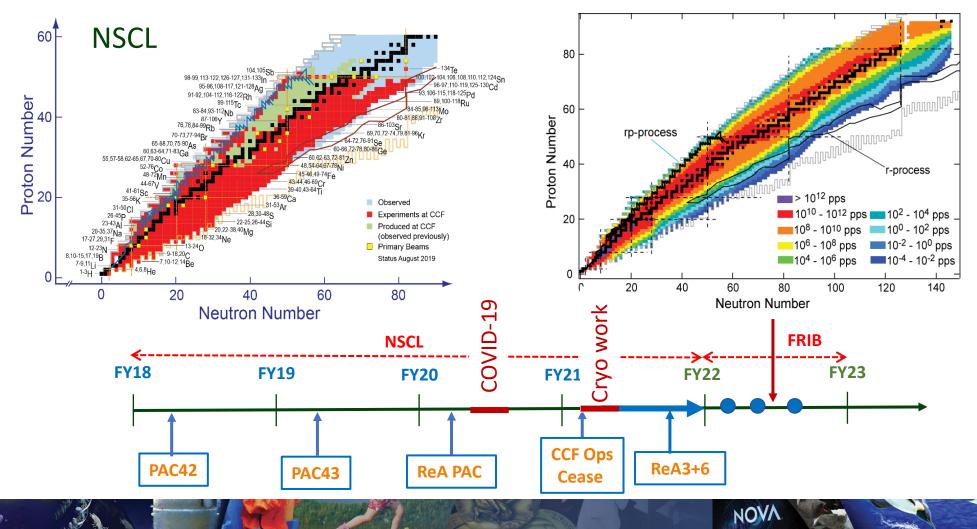




NSCL / FRIB Transition



Smooth & close coordination \rightarrow exciting opportunities



For the latest updates: https://www.nsf.gov/physics

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- or call (703)292-8235 agalindo@nsf.gov
- or call (703)292-5139
- aopper@nsf.gov
 - or call (703)292-8958

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Physics (PHY)	Email Print . Share + Physics (PHY) PHY Replaces DCL with Solicitation NSF 14-576
PHY Home About PHY Funding Opportunities Awards News Events Discoveries Publications Career Opportunities Facilities and Centers PHY Program Director Jobs See Additional PHY Resources View PHY Staff	The Physics Division has issued a solicitation (<u>NSF 14-576</u>) for FY2015 that replaces its prior annual Dear Colleague Letter. The solicitation follows most of the requirements in the Grant Proposal Guide, but has additional requirements that relate primarily to proposers who anticipate having multiple sources of support, and proposals involving significant instrumentation development. The solicitation also has deadlines instead of target dates. All proposals submitted to the Physics Division that are not governed by another solicitation (such as CAREER) should be submitted to this solicitation; otherwise they will be returned without review. PHY Int'l Activities - Potential Co-Review The Physics Division has issued a Dear Colleague Letter (<u>NSF 14-009</u>) to announce the guidelines for "International Activities within the Physics Division - Potential International Co-Review". The DCL outlines a possible coordinated review of projects involving international colleagues and counterpart funding organizations where a mutual review and funding process is beneficial to the advancement of Physics research. Contact with the appropriate NSF Program Officer is a necessary first step and additional time for this coordination must be allowed. Proposals requesting co-review will be competing with all other proposals in that area and must succeed on the strengths of their intellectual merit and broader impact.
Search PHY Staff	Special Announcements
MPS Organizations Astronomical Sciences (AST) Chemistry (CHE) Materials Research (DMR)	<u>MPS Alliances for Graduate Education and the Professoriate - Graduate</u> <u>Research Supplements (AGEP-GRS) Dear Colleague Letter (NSF 13-071)</u> <u>Dear Colleague Letter - Announcement of Instrumentation Fund to Provide Mid-Scale</u> <u>Instrumentation for FY2014 Awards in Physics Division</u> (NSF 13-118)

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PBS WGEH