

# Nuclear Physics at NSF

- Investment Overview
- Budgets (FY2012-14)
- Programs, Initiatives, Dates
- People

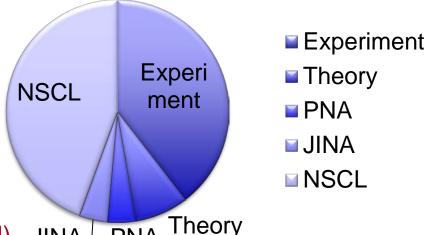
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## **Nuclear Physics at NSF**

- NP Experiment
  - Structure
  - Heavy Ions
  - Symmetries
  - Hadrons and QCD

  - Astrophysics (Notre Dame, FSU) JINA PNA Theory



- NP Theory
- Particle Astrophysics and Non-Accelerator Physics (PA)
  - Neutrinos (Borexino,  $\beta\beta$ ,  $\vartheta_{13}$ )
- Frontier Center (Joint Institute for Nuclear Astrophysics)
- **NSCL**
- FY2013 total: \$43M



### Research Highlight Samples

### **Completed Campaigns:**



**GRETINA at NSCL** 



W Physics at RHIC



**Qweak at JLAB** 



# FY2012-14 Budgets CR through Jan. 15

#### **NSF Research and Related Activities**

- FY 2013 actual (not including mandatory -5%): \$5,859.2M
- FY 2014 request: \$6,212.3M (+\$353.1M or +6.0%)
- FY 2014 Senate: \$6,018.3M (+\$159.1M or +2.7%)
- FY 2014 House: \$5,676.2M (-\$183.0M or -3.1%)

### **Directorate for Mathematical and Physical Sciences:**

- FY 2012 actual: \$1,308.7M
- FY 2013 actual: \$1,249.5M, (-\$59.2M or -4.5%)
- FY 2014 request: \$1,386.1M (+\$136.6M or +10.9% over FY 2013 actual)



# **FY2013 Physics Division Budget Impact**

- Division budget 10% down from FY2012
- NSF directive: hold commitments to facilities at FY13 request level, and to prior year awards
- Implication:
  - Investigator programs down 12%
  - Most of impact on FY13 proposals



## **Additional Funding**

- Domestic Nuclear Detection Office (DNDO)
  - FY2013: awarded
  - FY2014: process not started yet
- Major Research Instrumentation (MRI)
  - FY2013 awards (\$3 M)
    - g-2 instrumentation (U Washington, lead)
    - high-mass resolution beamline (Notre Dame)
- Physics Frontier Centers
  - review process ongoing



# Computational and Data-Enabled Science and Engineering (CDS&E)

- NSF-wide
  - resources will depend upon FY2014 actual budget
  - virtual program: implementation specific to division
- Physics Division
  - CDS&E includes ideas at the interface between scientific frameworks and computing capability that enable advances well beyond the expected natural progress of either activity, including development of science-driven algorithms to address pivotal problems in physics and efficient methods to access and mine large data sets.
  - extend/enhance PIF:

target date (passed): November 29, 2013



### **Accelerator Science**

- Starting in FY2014, the Physics Division is accepting proposals to a new program in accelerator science.
- Intended to fund accelerator science, not R&D for specific projects. Collaboration with a national lab (e.g. prototyping) is fine.
- Program Description is now posted (PD 13-7243).

**Target Date November 29, 2013** 



### **Mid-Scale Instrumentation**

- Some money in the Physics Division is set aside for instrumentation. The ultimate goal is for this to grow so that we will have a real "mid-scale" fund.
- Contact us for more information. The process for considering these larger projects is still being worked out.
- You cannot apply to APPI directly; all proposals must go through the program.

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## **Physics Division FY2014**

# All target dates for FY2014 have passed. Proposals under review

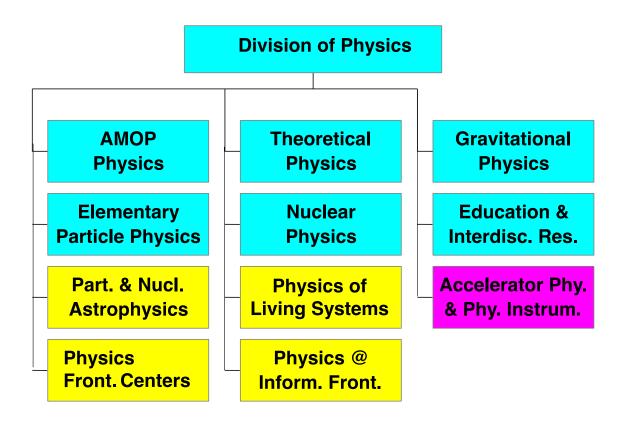


## **People**

- NSF Director: France Cordova (nominated)
- NSF Deputy Director: Cora Marrett
- MPS Assistant Director: F. Fleming Crim
- MPS Deputy Assistant Director: Celeste Rohlfing
- Physics Division Director: Denise Caldwell
- Physics Deputy Division Director: BDK
- Nuclear Physics:
  - Gail Dodge (expt)
  - Alice Mignerey (expt)
  - Bogdan Mihaila (theory)
  - Search begins soon for NP program director(s)



### **Physics Division Organization**





## **Backup Slides**