NSF Accelerator Science Program

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Program Directors for Accelerator Science
NSF Division of Physics

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Program Description

- PHY Accelerator Science program exists since FY14
- From the Program Description:

"*The Accelerator Science program supports and fosters research that exploits the educational and discovery potential of basic accelerator physics research at academic institutions. A key goal of the program is* ***to seed and develop research efforts in fundamental accelerator science at colleges and universities*** *that will enable transformational discoveries in this crosscutting academic discipline. In particular, this program seeks to support research* ***with the potential to disrupt existing paradigms*** *and advance accelerator science at a fundamental level…*"

Program Description

- More from the Program Description:

"*This program aims to provide the foundation in knowledge and workforce upon which major advances in accelerator-driven technologies will be based. An important component of the program is the support and training of the next generation of accelerator scientists, including* ***students, postdoctoral researchers, and junior faculty****, who will lead innovations in the field and will form the backbone of the nation's highly trained accelerator workforce.*

… Priority will be given to those proposals that enable the discovery science supported by the MPS Division of Physics and ***do not augment ongoing work supported by other agencies****."*

Program Description

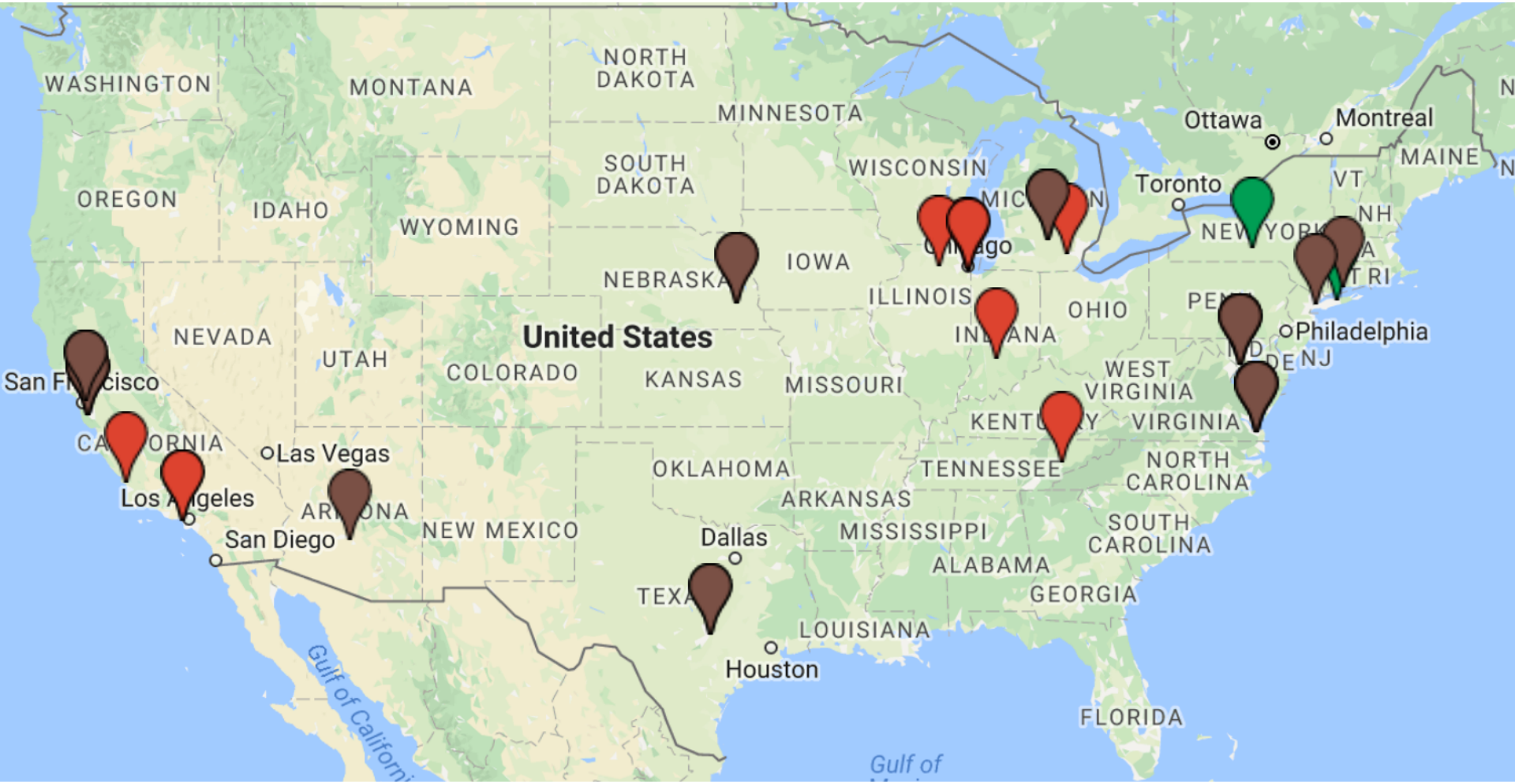
NSF Accelerator Science Program is NOT

R&D program

Educational program

Facility Support program

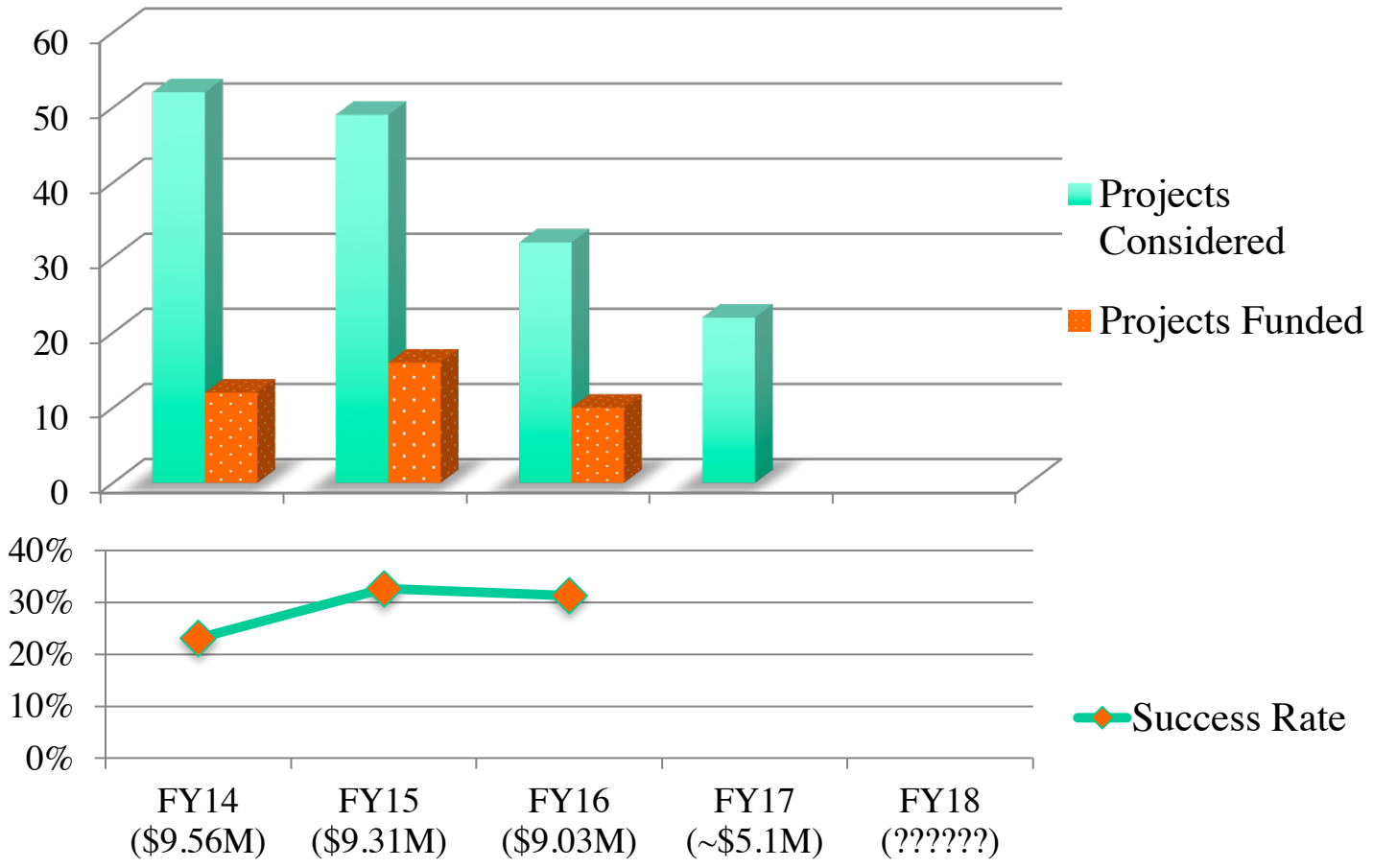
Program History: FY14-16 award map



Program History: FY16 awards

Title	Principal Investigator	Institution
New frontiers of direct laser acceleration in Megatesla magnetic fields	Arefiev, Alexey	UT - Austin
Magnetic Field Mapping of Vortex Hotspots and Identifying the Sources of Losses in Superconducting Accelerating Cavities	Ciovati, Gianluigi	Old Dominion U.
Accurate Electron Spin Optical Polarimetry (AESOP)	Gay, Timothy J.	U. Nebraska-Lincoln
High-energy laser-proton acceleration from cryogenic hydrogen	Glenzer, Siegfried	Stanford U.
Nanopatterned Electron Beams for Coherent Radiation Emission	Graves, William S.	Arizona State U.
Beam-Driven Accelerator Studies	Jiang, Yong	Yale U.
From phase space manipulation to first light from a laser plasma accelerator powered free electron laser	Leemans, Wim	UC-Berkeley
Graduate Research at Michigan State University to Push the Intensity Frontier and Support Accelerator Science	Lund, Steven	Michigan State U.
Intense sub-femtosecond optical radiation from relativistic plasmas	Milchberg, Howard M.	U. Maryland - College Park
Modeling Ion Extraction from first Toroidal Electron-Cyclotron-Resonance Ion Source	Volpe, Francesco	Columbia U.

Program History



Program's Future

- The Accelerator Science program has not seen a large number of proposals that would fit well under the Program Description
- We have decided not to hold a regular Accelerator Science competition in FY18: recently released NSF PHY Investigator-Initiated Research Projects solicitation 17-561 does not contain a due date for the Accelerator Science program.
- The program will consider proposals submitted to NSF-wide solicitations such as CAREER – we maintain the desire "***to seed and develop research efforts in fundamental accelerator science at colleges and universities***".
- The program intends to be able to entertain supplement requests for graduate student support from PI's whose current awards expire in FY18.