



U.S. DEPARTMENT OF
ENERGY

Office of
Science

DOE Office of Science Early Career Research Program

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December 13, 2012

Federal Agency Panel

NSF CAREER Advisory Committee Meeting

Arlington, VA

<http://science.energy.gov/early-career/>

Background and Approach

- **Background**

- Many of our Committees of Visitors* (COVs) recommend more early career PI involvement in our programs
- Office of Science previously had 4 definitions of early career
- Labs desired help with recruiting early career scientists
- The Recovery Act provided an opportunity to start a new program focused on building careers

- **Approach**

- Office of Science began the Early Career Research Program in FY10
- Currently executing the fourth year (FY13) of the program

*<http://science.energy.gov/sc-2/committees-of-visitors/>



Purpose

- **To support the development of individual research programs of outstanding scientists early in their careers and to stimulate research careers in the disciplines supported by the DOE Office of Science.**
- **Proposals are invited in the following program areas:**
 - Advanced Scientific Computing Research (ASCR)
 - Biological and Environmental Research (BER)
 - Basic Energy Sciences (BES)
 - Fusion Energy Sciences (FES)
 - High Energy Physics (HEP)
 - Nuclear Physics (NP)



Program Overview

- **Universities and national labs eligible**
 - University grants at least \$150,000 per year for 5 years for summer salary & expenses.
 - Lab awards at least \$500,000 per year for 5 years for full annual salary & expenses
- **Plan is for about 300 active awards in steady state (reached in FY14)**
 - 200 university awards & 100 lab awards
- **Roughly \$16M in new funding each year**
 - About 60 new awards (40 university & 20 lab) per year
- **Management Principles**
 - One common solicitation for Office of Science
 - Decisions based on peer review with common review criteria
 - Reviewed, awarded, and managed locally in the programs
 - Program rules governed by the Office of the Deputy Director for Science Programs with advice from a six-member (ASCR, BER, BES, FES, HEP, and NP) coordinating committee



Eligibility

- **No more than ten (10) years can have passed between the year the Principal Investigator's Ph.D. was awarded and the year of the deadline for the proposal.**
- **DOE National Laboratories**
 - full-time, permanent, non-postdoctoral employee.
- **U.S. Academic Institutions**
 - untenured Assistant Professor or Associate Professor on the tenure track.
- **An employee with a joint appointment between a university and a DOE national laboratory must apply through the institution that pays his or her salary and provides his or her benefits; the eligibility criteria above must also be met.**



Merit review criteria

- 1. Scientific and/or technical merit of the project.**
- 2. Appropriateness of the proposed method or approach.**
- 3. Competency of applicant's personnel and adequacy of proposed resources.**
- 4. Reasonableness and appropriateness of the proposed budget.**
- 5. Relevance to the mission of the specific program (e.g., ASCR, BER, BES, FES, HEP, or NP) to which the proposal is submitted.**
- 6. Potential for leadership within the scientific community.**

Strongly Encourage Funding (5-6); Encourage Funding (3-4); or Discourage Funding (1-2).



Special Rules

General Rules:

- **Preproposals are required.**
- **A full proposal is not allowed if the work proposed in the preproposal is not responsive to the research topics identified in the solicitation.**
- **No co-PIs.**
- **A PI can submit one proposal per competition.**
- **A PI cannot participate more than three times.**
- **No letters of recommendation.**
- **Optional letters of collaboration, if included, must use a template.**
- **For DOE National Laboratories**
 - A letter from the lab director confirming that the proposed research idea fits within the scope of Office of Science-funded programs at the lab is required.
 - Lab scientists must charge at least 50% of their time to the award.
 - Execution of funding is at the PI's discretion according to the approved budget.
 - Employing lab addresses funding transition issues when the award ends.



Typical Schedule

Step	Date	Notes
Issue Solicitation:	Jul 20, 2012	mid-summer
Due date for Preproposals:	Sep 6, 2012	6 weeks for PIs to write preproposals
Encourage/Discourage Decisions*:	Oct 4, 2012	4 weeks for DOE to decide
Due date for Proposals**:	Nov 26, 2012	8 weeks for PIs to write proposals
Target Award Start Date:	Jul 1, 2013	

*We typically encourage about 90% of preproposals

**20% attrition rate for full proposals relative to encouraged preproposals

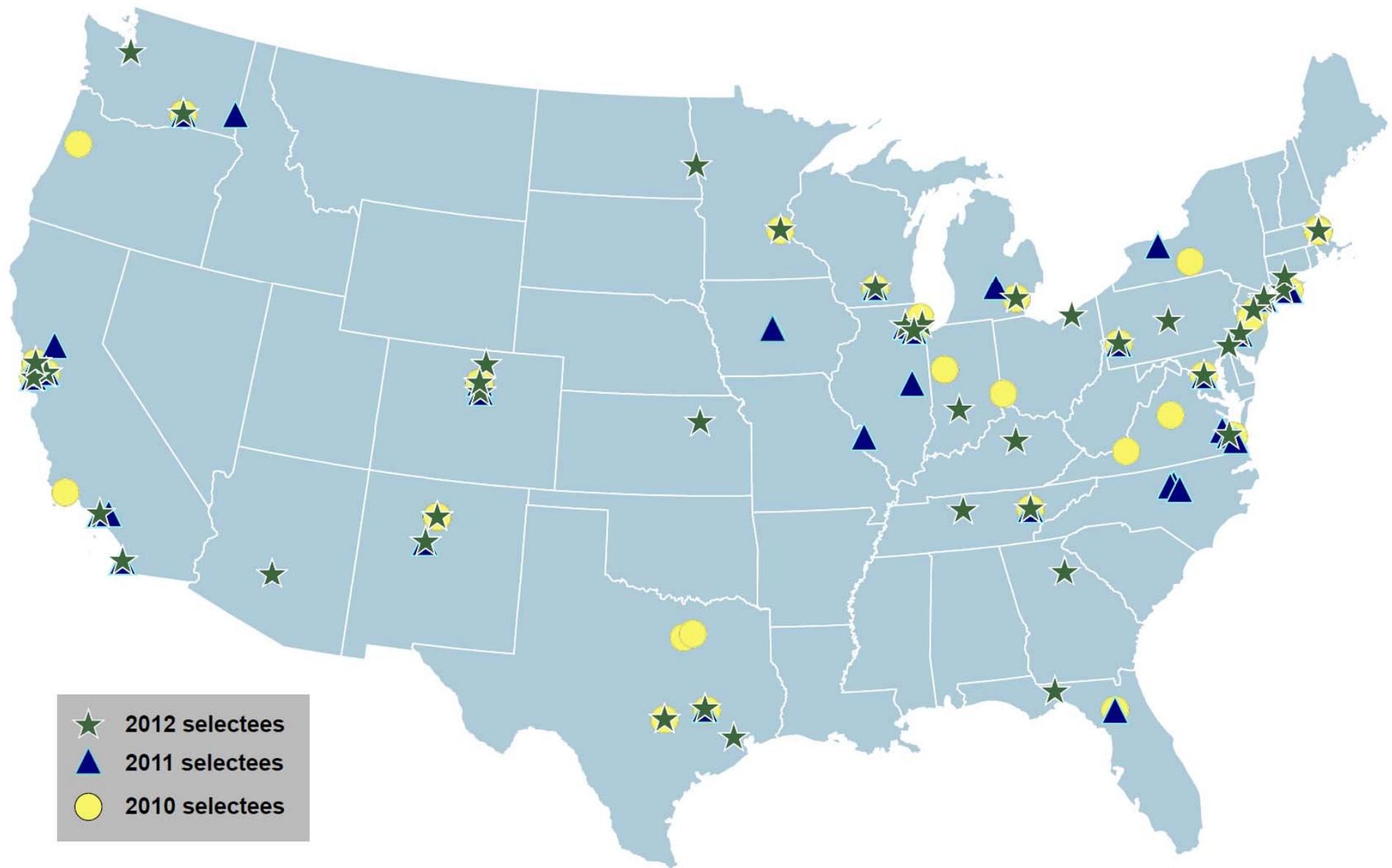
Results

- **206 awards made over three years.**
 - 138 university awards
 - 68 DOE National Laboratory awards
- **Awards made at 14 labs and 73 universities in 33 states.**
- **Percentage women awardees 20%, 25%, and 33% in FY12, FY11, and FY10, respectively.**

Fiscal Year	Number of Proposals Received	Number of Awards Made	Success Rate
FY10	1744	69	4 %
FY11	1149	69	6 %
FY12	838	68	8 %
FY13	770	-	-

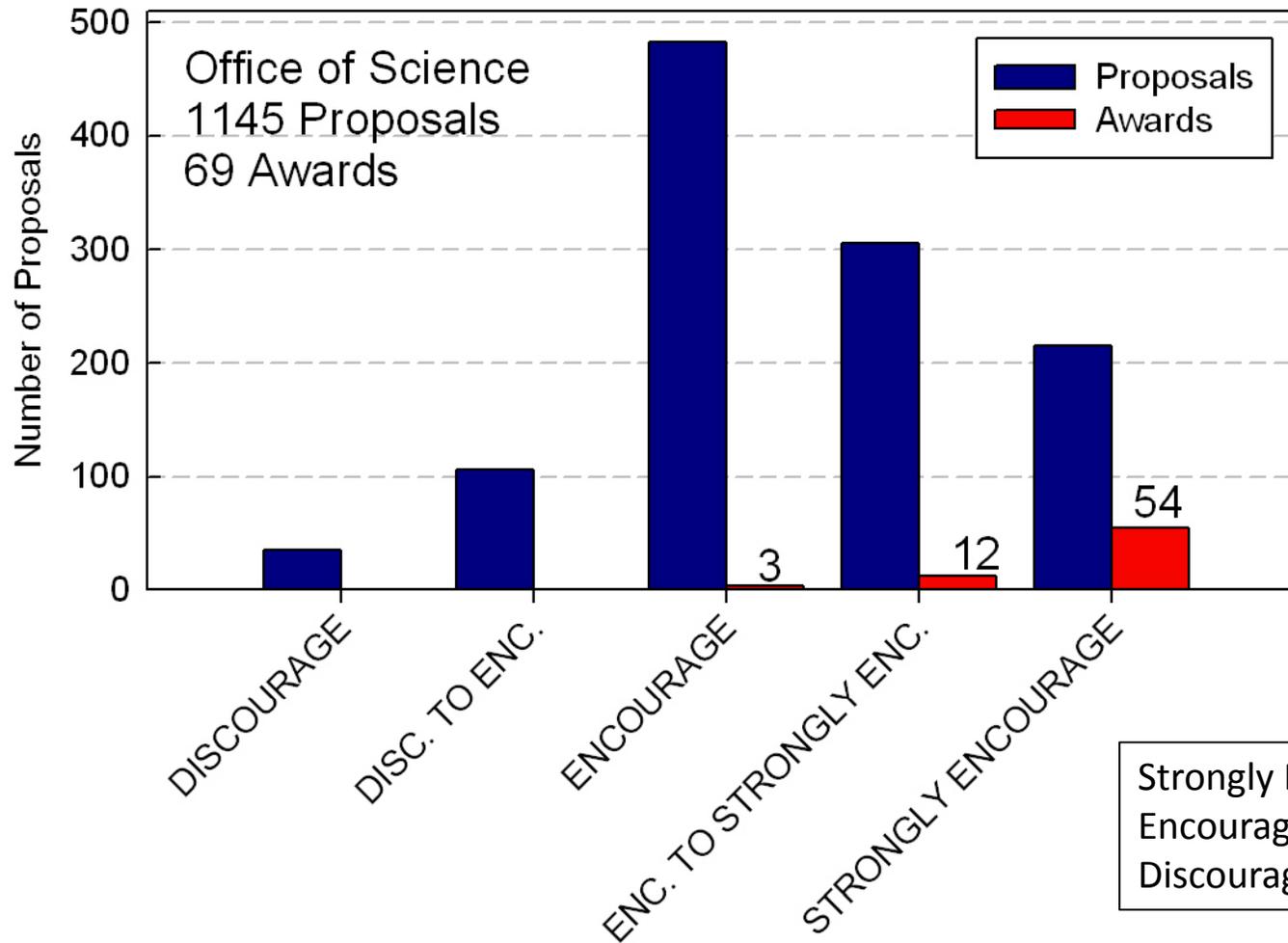


SC Early Career Research Program Award Locations FY 2010 – FY 2012



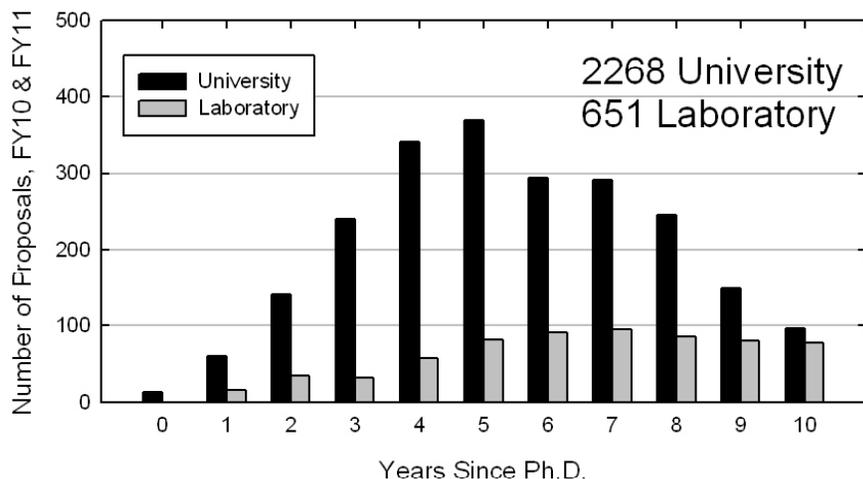
FY11 Score Distribution – Office of Science

About 450 proposals in the top two categories were unfunded.

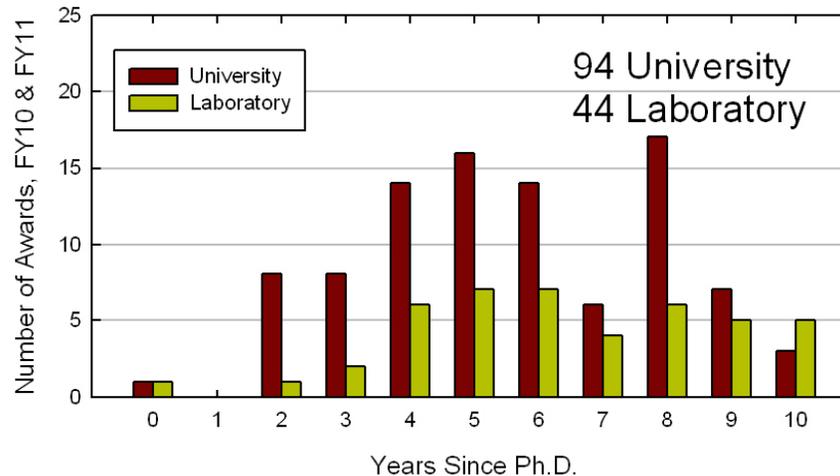


Distribution of Proposals and Awards, FY10 & FY11 by Year of Ph.D. and Institution Type

Proposals



Awards



The Office of Science implemented a new PECASE process in FY10.

Then

- DOE Labs only
- Candidates nominated by the 17 DOE laboratory directors
- Internal merit review
- Evaluated based on resume & recommendation letters
- Small financial award for five years

Now

- DOE Labs & Universities
- Candidates are the eligible winners of Early Career Research Program
- External peer review
- Evaluated based on research proposal & expert reviews
- No additional financial award beyond already lucrative five years of early career funding





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Questions?

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<http://science.energy.gov/early-career/>

Awards by Program Office and Institution Type

Program Office	Number of University Awards			Number of Laboratory Awards		
	FY10	FY11	FY12	FY10	FY11	FY12
ASCR	5	3	3	2	2	3
BER	3	4	6	3	3	3
BES	18	24	21	8	7	8
FES	4	4	1	2	2	3
HEP	10	8	8	4	5	4
NP	5	4	5	3	3	3
TOTAL	47	47	44	22	22	24



FY11 Distribution of Year of Ph.D. by program demonstrates the different norms in scientific fields (e.g., long postdoctoral periods).

