DOE Office of Science
Early Career Research Program

Linda G. Blevins, Ph.D.
December 13, 2012
Federal Agency Panel
NSF CAREER Advisory Committee Meeting
Arlington, VA

http://science.energy.gov/early-career/
• **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.
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

<table>
<thead>
<tr>
<th>Step</th>
<th>Date</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue Solicitation:</td>
<td>Jul 20, 2012</td>
<td>mid-summer</td>
</tr>
<tr>
<td>Due date for Preproposals:</td>
<td>Sep 6, 2012</td>
<td>6 weeks for PIs to write preproposals</td>
</tr>
<tr>
<td>Encourage/Discourage Decisions*:</td>
<td>Oct 4, 2012</td>
<td>4 weeks for DOE to decide</td>
</tr>
<tr>
<td>Due date for Proposals**:</td>
<td>Nov 26, 2012</td>
<td>8 weeks for PIs to write proposals</td>
</tr>
<tr>
<td>Target Award Start Date:</td>
<td>Jul 1, 2013</td>
<td></td>
</tr>
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*We typically encourage about 90% of preproposals

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

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Number of Proposals Received</th>
<th>Number of Awards Made</th>
<th>Success Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY10</td>
<td>1744</td>
<td>69</td>
<td>4%</td>
</tr>
<tr>
<td>FY11</td>
<td>1149</td>
<td>69</td>
<td>6%</td>
</tr>
<tr>
<td>FY12</td>
<td>838</td>
<td>68</td>
<td>8%</td>
</tr>
<tr>
<td>FY13</td>
<td>770</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
FY11 Score Distribution – Office of Science
About 450 proposals in the top two categories were unfunded.

Strongly Encourage Funding: 5-6
Encourage Funding: 3-4
Discourage Funding: 1-2

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

Proposals

Awards

Number of Proposals, FY10 & FY11

Number of Awards, FY10 & FY11

Years Since Ph.D.

Years Since Ph.D.

2268 University
651 Laboratory

94 University
44 Laboratory

U.S. DEPARTMENT OF
Office of
ENERGY Science
The Office of Science implemented a new PECASE process in FY10.

<table>
<thead>
<tr>
<th>Then</th>
<th>Now</th>
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<tbody>
<tr>
<td>• DOE Labs only</td>
<td>• DOE Labs &amp; Universities</td>
</tr>
<tr>
<td>• Candidates nominated by the 17 DOE laboratory directors</td>
<td>• Candidates are the eligible winners of Early Career Research Program</td>
</tr>
<tr>
<td>• Internal merit review</td>
<td>• External peer review</td>
</tr>
<tr>
<td>• Evaluated based on resume &amp; recommendation letters</td>
<td>• Evaluated based on research proposal &amp; expert reviews</td>
</tr>
<tr>
<td>• Small financial award for five years</td>
<td>• No additional financial award beyond already lucrative five years of early career funding</td>
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Questions?

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http://science.energy.gov/early-career/
## Awards by Program Office and Institution Type

<table>
<thead>
<tr>
<th>Program Office</th>
<th>Number of University Awards</th>
<th>Number of Laboratory Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FY10</td>
<td>FY11</td>
</tr>
<tr>
<td>ASCR</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>BER</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>BES</td>
<td>18</td>
<td>24</td>
</tr>
<tr>
<td>FES</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>HEP</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>NP</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>47</td>
<td>47</td>
</tr>
</tbody>
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FY11 Distribution of Year of Ph.D. by program demonstrates the different norms in scientific fields (e.g., long postdoctoral periods).

Source: Proposal Cover Sheets