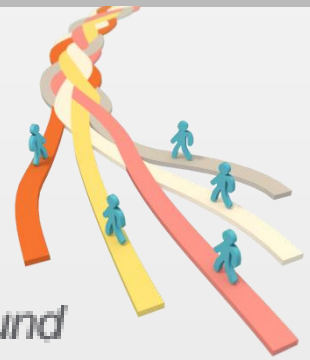




National Institutes of Health
Office of Strategic Coordination - The Common Fund



NIH Director's Broadening Experiences in Scientific Training (BEST) Award Informational Webinar

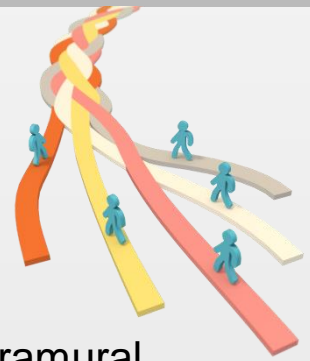
February 6, 2014, 1:00pm- 2:30pm EDT

To submit questions to be answered during the
webinar, please email questions to:

Workforce_Award@mail.nih.gov



Agenda



- **Welcome / NIH's Support for Biomedical and Behavioral Workforce Training**

Sally Rockey, Ph.D., Deputy Director for Extramural Research, Office of Extramural Research, NIH

- **Introduction to the Common Fund and Review of the Funding Announcement**

Patricia Labosky, Ph.D., Program Leader, Office of Strategic Coordination, DPCPSI, OD

- **Review Process for the NIH Director's BEST Award Applications**

Larry Boerboom, Ph.D., Review Group Chief, Center for Scientific Review, NIH

- **Question and Answer Session**

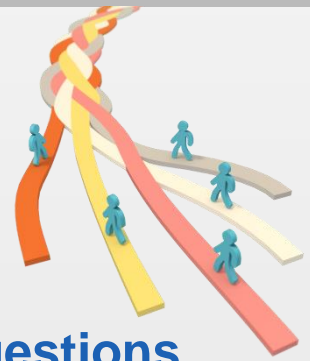
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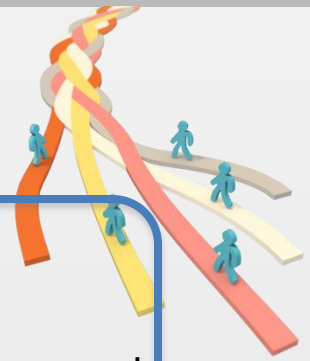
Patricia Labosky, Ph.D., Program Leader, Office of Strategic Coordination, DPCPSI, OD

Webinar Tips



- Participants will be in Listening Mode and cannot ask questions verbally or via chat.
- **Please email questions to Workforce_Award@mail.nih.gov**
- Questions will be de-identified and answered during the question and answer section of the webinar.
- These slides, a recording of today's webinar, and a set of Frequently Asked Questions will be available in a few weeks at the program website: <http://commonfund.nih.gov/workforce>

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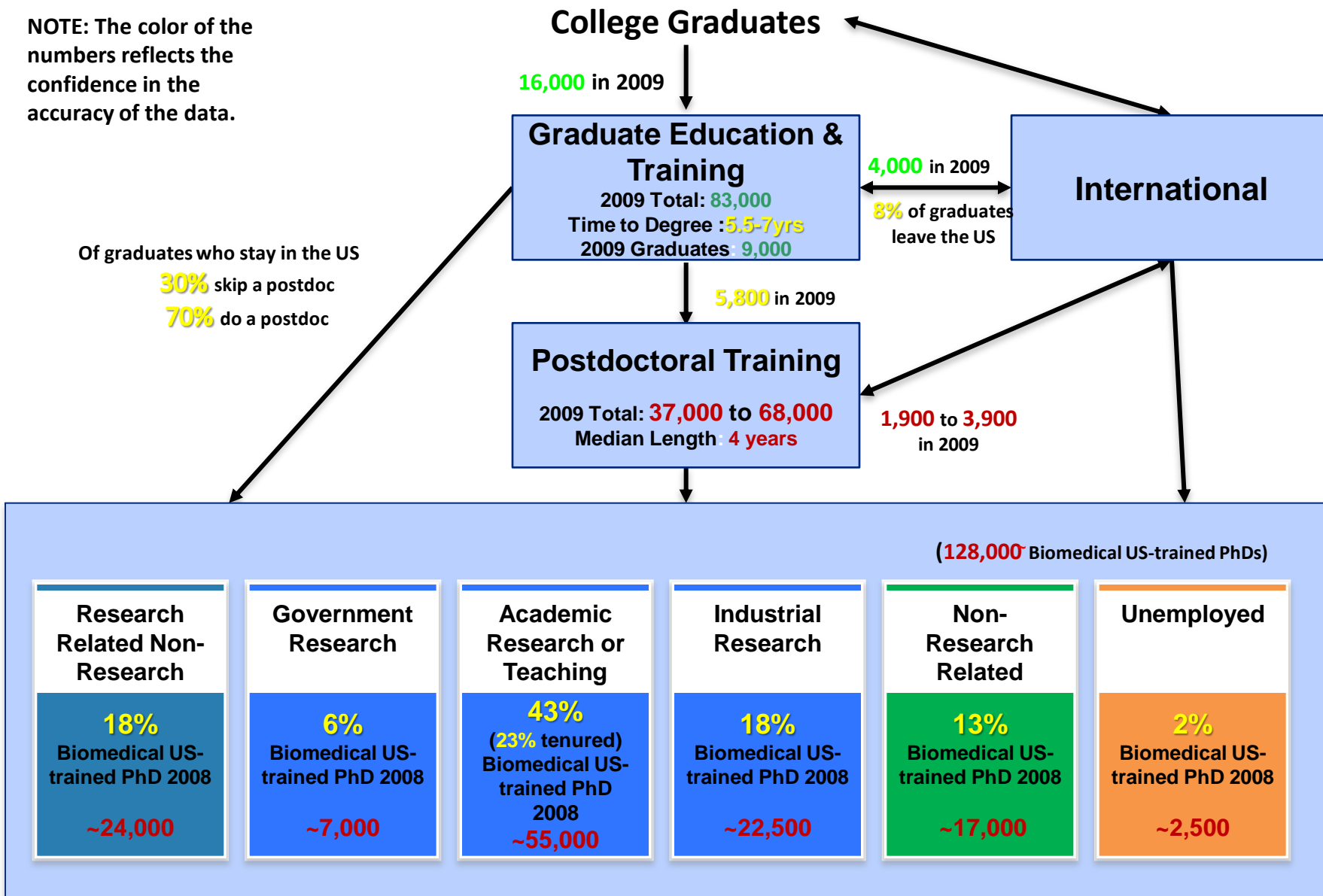
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Biomedical Research Workforce Working Group

- Chaired by Shirley Tilghman (Princeton) and Sally Rockey (NIH)
- Charge
 - Develop a model for a sustainable and diverse U.S. biomedical research workforce that can inform decisions about training of the optimal number of people for the appropriate types of positions that will advance science and promote health.
 - Based on this analysis and input from the extramural community, make recommendations for actions that NIH should take to support a future sustainable biomedical infrastructure.
- Report
 - Executive Summary http://acd.od.nih.gov/bmw_report.pdf
 - Report http://acd.od.nih.gov/Biomedical_research_wgreport.pdf
 - Supplementary Web Site http://report.nih.gov/investigators_and_trainees/ACD_BWF

Snapshot of the PhD Biomedical Research Workforce

NOTE: The color of the numbers reflects the confidence in the accuracy of the data.



Conclusions

Weighing all the data analyzed, the working group concluded that:

- The combination of the large upsurge in US-trained PhDs, increased influx of foreign-trained PhDs, and aging of the academic biomedical research workforce make launching a traditional, independent, academic research career increasingly difficult.
- The long training time and relatively low early-career salaries when compared to other scientific disciplines and professional careers may make the biomedical research career less attractive to the best and brightest of our young people.
- The current training programs do little to prepare people for anything besides an academic research career, despite clear evidence that a declining percentage of graduates find such positions in the future.

Recommendations

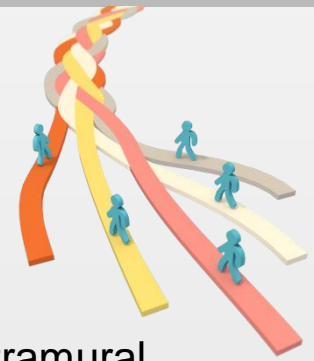
- The goal of the recommendations is to modify the career paths in biomedical research in a timely fashion in order to:
 - Attract and retain the best and most diverse scientists, engineers and physicians from around the world.
 - Increase the number of domestic students from diverse backgrounds who excel in science and become a part of the STEM workforce.
 - Better prepare biomedical PhD students and postdoctoral researchers to participate in a broad-based and evolving economy.
- The working group made specific recommendations on:
 - Graduate Students - diversify and shorten the PhD.
 - Postdoctoral Researchers, - shorten the pathway to an independent career, enhance the training aspects of the postdoc, and improve pay and benefits.
 - Information Collection, Analysis and Dissemination - fill data gaps, routinely track student and postdoc career outcomes, and institute ongoing analysis of the workforce
 - Physician Scientists - conduct a focused follow-on study.
 - Staff Scientists - study sections should be receptive to these positions in applications.
 - Salary Support – long term approach to assess NIH support.
 - Diversity – stronger coordination of programs and rigorous evaluation.

DP7 BEST Program - Broadening Experiences in Scientific Training

- Common Fund program seeking innovative approaches to complement traditional research training in biomedical sciences at institutions that receive NIH funds.
 - <http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-12-022.html>
 - **One application per institution**
 - **Up to \$250,000 in direct costs per year**
 - **Closed May 10, 2013**
 - **Over 100 applications**
 - **Awards were announced on September 23 -**
<http://www.nih.gov/news/health/sep2013/od-23.htm>
- Encourage institutions to leverage funds with existing institutional offices and programs, local resources outside the institution, or that partner with industry or other entities.
- Must include rigorous analysis to demonstrate impact.
- Proven approaches will be widely disseminated throughout the biomedical research community; awardees will meet to exchange ideas.



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Origins of the Common Fund

2004: NIH Roadmap is launched

December 9, 2006: Congress unanimously passes a reauthorization bill affirming importance of NIH and its vital role in advancing biomedical research to improve the health of the Nation



Establishes the **Division of Program Coordination, Planning, and Strategic Initiatives (DPCPSI)** within Office of the Director and the **NIH Common Fund** to provide a dedicated source of funding to enable *trans*-NIH research

One Hundred Ninth Congress of the United States of America

AT THE SECOND SESSION

*Begun and held at the City of Washington on Tuesday,
the third day of January, two thousand and six*

An Act

To amend title IV of the Public Health Service Act to revise and extend the authorities of the National Institutes of Health, and for other purposes.

*Be it enacted by the Senate and House of Representatives of
the United States of America in Congress assembled,*

SECTION 1. SHORT TITLE.

This Act may be cited as the “National Institutes of Health Reform Act of 2006”.

TITLE I—NIH REFORM

Criteria for Common Fund Programs

- **Transformative:** Must have high potential to dramatically affect biomedical and/or behavioral research over the next decade
- **Catalytic:** Must achieve a defined set of high impact goals within 5-10 years
- **Synergistic:** Outcomes must synergistically promote and advance individual missions of NIH Institutes and Centers to benefit health
- **Cross-cutting:** Program areas must cut across missions of multiple NIH Institutes and Centers, be relevant to multiple diseases or conditions, and be sufficiently complex to require a coordinated, trans-NIH approach
- **Unique:** Must be something no other entity is likely or able to do

What makes a Program Common Fund'able?

Common Fund programs catalyze progress across a broad spectrum of biomedical research

■ New Approaches, Tools, Technologies, Data

- We are trying to affect a “sea change” with this program.
- Alter the training landscape to give pre-doctoral students and postdoctoral fellows direct exposure to a myriad of career options.
- Provide trainees with a working knowledge of the opportunities available to them AND the information to facilitate their path towards these options.

■ Enabling Infrastructure

- We aim to enable institutions to build infrastructure, novel courses, internships, training opportunities, etc.

Common Fund Program: Strengthening the Biomedical Research Workforce

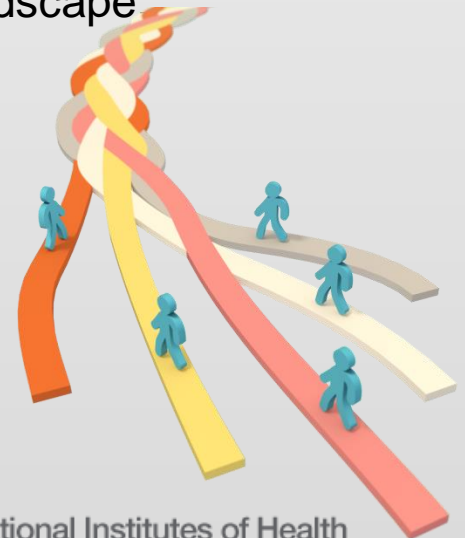
Challenge: Long training periods for Ph.D. students and postdoctoral researchers and the declining percentage of graduates obtaining traditional academic research positions make biomedical research a less attractive career to promising trainees.



Opportunity: The NIH Common Fund has launched the **Strengthening the Biomedical Research Workforce** program to expand the versatility of training opportunities to prepare early career scientists for entry into the dynamic biomedical workforce landscape

RFA-RM-13-019: NIH Director's Biomedical Research Workforce Innovation Award: Broadening Experiences in Scientific Training (BEST)

Goal: to develop innovative approaches to complement traditional research training in biomedical sciences



BEST Trans-NIH Working Group

Co-Chairs:

Judith Greenberg, Ph.D. (NIGMS)

Story Landis, Ph.D. (NINDS)

Sally J. Rockey, Ph.D. (OD)

Working Group Coordinators:

Nancy L. Desmond, Ph.D. (OD & NIMH)

Alison Hall, Ph.D. (NIGMS)

Stephen Korn, Ph.D. (NINDS)

Trish Labosky, Ph.D. (OD)

Members:

Neeraj Agarwal, Ph.D. (NEI)

Robin Barr, D.Phil. (NIA)

Larry Boerboom, Ph.D. (CSR)

Lori M. Conlan, Ph.D. (IRP/NIH)

John Connaughton, Ph.D. (NIDDK)

Charles R. Dearolf, Ph.D. (OD)

Melissa Green Parker, Ph.D. (OD)

Chyren Hunter, Ph.D. (NIA)

Henry Khachaturian, Ph.D. (OD)

Donna J. McCloskey, Ph.D. (NINR)

Alberto Rivera-Rentas, Ph.D. (NCCAM)

Dede Rutberg, M.B.A. (NIDCR)

Wally Schaffer, Ph.D. (OD)

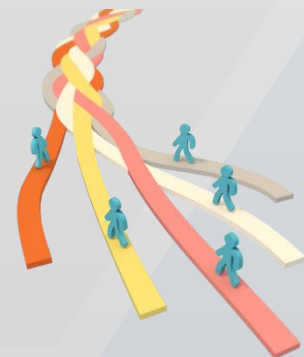
Daniel A. Sklare, Ph.D. (NIDCD)

Sanya A. Springfield, Ph.D. (NCI)

Jennifer Sutton, M.S. (OD)

Susan Weiss, Ph.D. (NIDA)

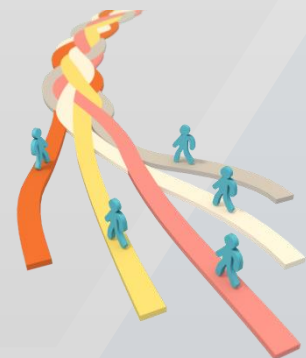
Jonathan Wiest, Ph.D. (NCI)



Broadening Experiences in Scientific Training: BEST Awards

Despite the broad range of career options available to U.S.-trained PhD biomedical scientists, **most graduate programs and postdoctoral training focus almost exclusively on preparing individuals for careers as academic researchers.**

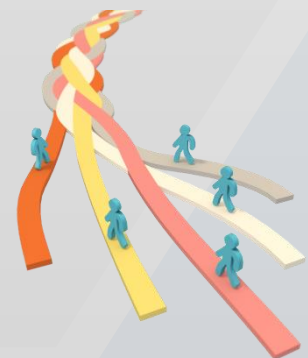
It makes sense that PIs may not have all the working knowledge to train their students and postdocs for career choices other than the one they know best.



Broadening Experiences in Scientific Training: BEST Awards

This program is seeking applications that propose the **establishment, implementation, and rigorous assessment** of innovative approaches and activities to broaden and complement traditional research training in biomedical, behavioral, social and clinical (referred to as 'biomedical') sciences.

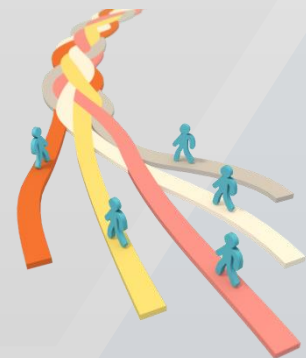
This is intended to be an **EXPERIMENT!**
This is not a training grant.



Broadening Experiences in Scientific Training: BEST Awards

Two major goals:

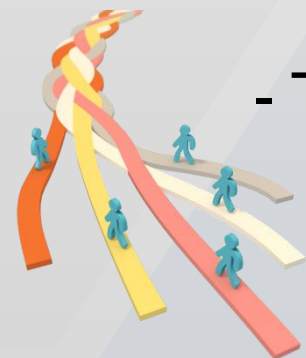
1. Better prepare pre-doctoral students and postdoctoral scientists for the breadth of careers in the biomedical research workforce, and
2. Establish a network to develop, share, evaluate, and disseminate best practices within the training community.



Broadening Experiences in Scientific Training: BEST Awards

Award Details:

- \$250,000 plus full indirect costs.
- Five year award, non-renewable.
- Allowable costs:
 - faculty and/or staff salary is allowed
 - no tuition, stipend or salary for students or postdocs is allowed
 - consultant costs, equipment, supplies, travel for key persons, and other program-related expenses may be included in the proposed budget
- There are no more plans for future solicitations

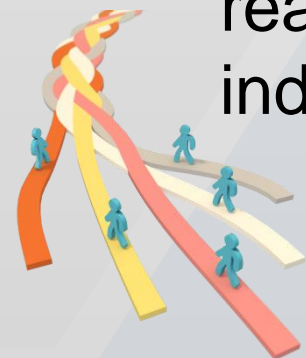


Broadening Experiences in Scientific Training: BEST Awards

Eligible institutions must be **doctoral degree granting institutions** with established pre-doctoral programs.

If the applicant institution also trains a significant number of postdoctoral scientists, the postdocs must be included in the novel program.

Activities must be available to all trainees regardless of funding source. (Note: these programs must be far-reaching; they are not intended to reside within an individual department.)



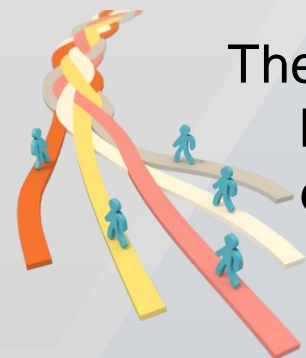
Broadening Experiences in Scientific Training: BEST Awards

Applications should **leverage existing institutional resources** to broaden and enrich training experiences so that trainees are exposed to multiple research and research-related career paths **early** in their training.

Programs should identify various career paths and develop **meaningful** opportunities targeting those pathways. These may include industry, government, academia, or entrepreneurial career paths.

Trainees are expected to have the opportunity to select from among these experiences.

The program is NOT meant to train them fully for new career options, but should prepare them for the next steps in their career development.

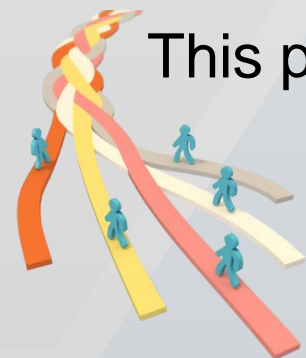


Broadening Experiences in Scientific Training: BEST Awards

While it is expected that trainees intending to enter academic research careers will benefit from the broader training experience, **programs designed exclusively to target academic research careers will be considered non-responsive.**

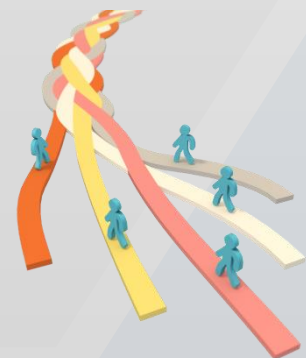
Design of positive and attractive exit pathways for those individuals intending careers that do not require a research doctorate are encouraged.

This program is not intended for Masters level students.



Broadening Experiences in Scientific Training: BEST Awards

A long term goal of this program is to **work toward new business and academic models** of how graduate programs in biomedical research sciences define themselves and their purpose, how they recruit, admit, support, steer and mentor students to prepare them appropriately.



Broadening Experiences in Scientific Training: BEST Awards

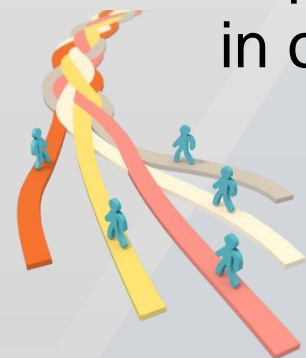
Principal Investigator Details:

- PI/PD: any individual(s) with the skills, knowledge, and resources necessary to carry out the proposed research.
- The PD/PI should be an **established investigator** in the scientific area in which the application is targeted (training or career development) and capable of providing administrative and scientific leadership to development and implementation of the proposed program.
- The PD/PI will be expected to monitor and assess the program and submit all documents and reports.
- **Multiple PIs are allowed.**
(Note: include a multiple PI plan)

Broadening Experiences in Scientific Training: BEST Awards

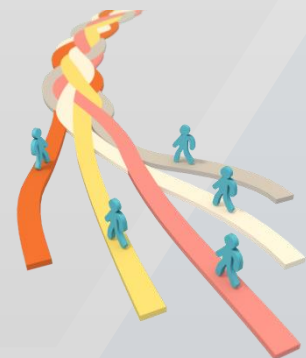
Partnerships:

Applicants are encouraged to form partnerships with organizations that employ scientists engaged in the careers for which the training experiences are directed (private sector, publishing, government, etc.). Partner organizations may provide opportunities for internships, their staff may participate in the development and implementation of novel curricula, or they may contribute in other ways to the success of the program.



Broadening Experiences in Scientific Training: BEST Awards

Applicants currently exploring novel approaches are encouraged to apply but must carefully explain how **support from this award would substantially complement and/or add new dimensions to their existing programs**. Applications that request additional support only to maintain an existing program will be deemed non-responsive.

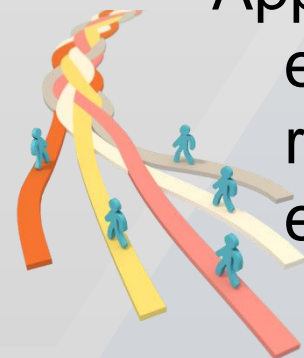


Broadening Experiences in Scientific Training: BEST Awards

It is expected that the novel programs will **transcend department, program, and possibly school boundaries**, and be available to biomedical science students and postdocs across disciplines.

They should aim to **transform the culture of research training in the biomedical sciences for both trainees and mentors** and disseminate findings widely across the training community.

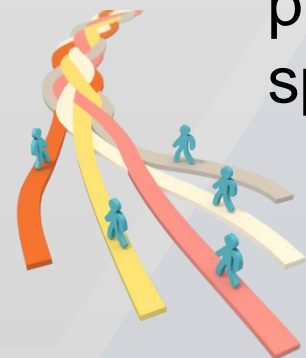
Applications that **leverage funds** from this program with existing institutional offices and programs, local resources outside the institution, or partners are highly encouraged.



Broadening Experiences in Scientific Training: BEST Awards

Evaluation:

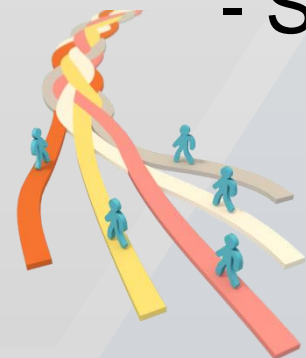
- This Common Fund Program is meant to be an **experiment**, therefore rigorous evaluation of each individual award will be required by both the individual awardees and independently by NIH.
- Each individual awardee will devise appropriate metrics to determine the impacts/outcomes of their program.
- For NIH's evaluation plan, awardees will be required to provide data including, but not limited to, information specified in the evaluation plan in the FOA.



Broadening Experiences in Scientific Training: BEST Awards

Interactive Network: BEST awardees will interact on a regular basis. Each year, awardees will meet to discuss developments, progress and insights gained.

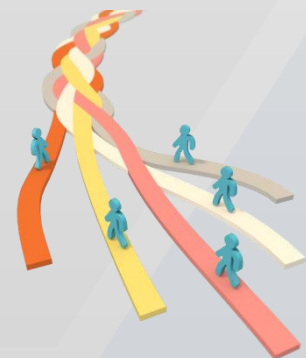
- Annual meetings in Bethesda (October 2014)
- Monthly teleconference calls
- Site visits from NIH staff



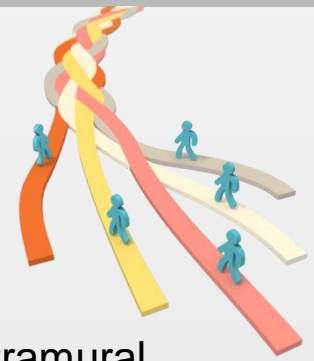
Broadening Experiences in Scientific Training: BEST Awards

- **Important dates:**

RFA Published:	January 17, 2014
Letter of Intent Due Date:	February 28, 2014
Application Receipt:	March 31, 2014
Scientific Merit Review:	July 2014
Advisory Council Review:	September 2014
Earliest Start Date:	September 2014
Annual Meeting:	October 30-31, 2014



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Center for
Scientific Review

Review of Applications: Broadening Experiences in Scientific Training (BEST)

Lawrence Boerboom, PhD

Chief, Cardiovascular and Respiratory Sciences

Integrated Review Group

Center for Scientific Review

Two Levels of Review

- Peer review for scientific and technical merit (study section meeting)
 - Applications discussed and scored
 - Meeting dates
 - July 10-11, 2014
 - July 24-25, 2014
- National Advisory Council
 - Funding decisions made
 - September 17, 2014

Review Panel

- Approximately 25 reviewers for each of the two meetings
- Academic institutions
- Non-academics
 - Pharmaceutical industry
 - Biotech
 - Scientific societies
 - Communications/publishing
 - Law
 - Others

Critiques and Scores

- Overall Impact
- Scored Review Criteria
 - Significance
 - Investigators
 - Innovation
 - Approach
 - Environment
- Preliminary scores given to Overall Impact and each criterion
 - Range 1-9 (best to worst)

Review Criteria

- **Significance**
- **Investigator(s)**
- **Innovation**
- **Approach**
- **Environment**

Review Criteria

- **Significance**
 - Is an important need in training addressed?
 - Is there **convincing evidence** in the application that the proposed activity will **significantly contribute** to broadening the experiences of the future biomedical research workforce?

Review Criteria

- **Investigator(s)**
 - Is the PD/PI capable of providing administrative and scientific leadership to develop and implement the proposed program?
 - Is there evidence that an appropriate level of effort will be devoted by the program leadership to ensure the program's intended goal?
 - Is there evidence that the participating faculty and other experts have experience in mentoring students and teaching science or other aspects of research and research-related careers?
 - Are the faculty and experts good role models for the participants by nature of their scientific and career accomplishments?
 - If the project is collaborative or multi-PD/PI, do the investigators have complementary and integrated expertise; are their leadership approach, governance and organizational structure appropriate for the project?

Review Criteria

- **Innovation**

- Are the proposed experiences innovative in nature?
- Is the proposed program developing or utilizing innovative approaches and latest best practices to improve the knowledge and/or skills of the intended audience?
- Does the program clearly propose to go beyond the traditional training activities experienced by graduate students and postdoctoral scientists?

Review Criteria

- **Approach**
 - Are clear goals and objectives stated?
 - Are appropriate partnerships in place to provide novel training experiences? (Note: partnerships are not required but are strongly encouraged as appropriate.)
 - Is there a sound evaluative component? Is the plan for evaluation sound, does it include the evaluative elements outlined in this FOA, and likely to provide information on the effectiveness of the program?
 - Are the planned recruitment and enlistment plans adequate to ensure a highly qualified and diverse participant pool from across the institution?
 - Is the dissemination plan adequately detailed? Is there evidence of strong institutional commitment to the short and long term goals of the program?

Review Criteria

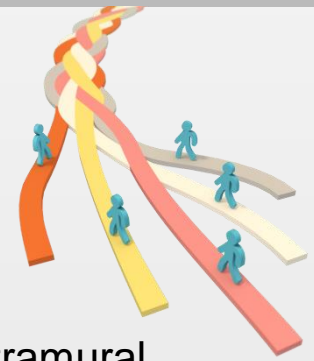
- **Environment**

- Will the scientific and training environment contribute to the goals?
- Is there a plan to take advantage of this environment and/or environments outside the training institution to enhance the educational value of the program?
- Is there tangible evidence of institutional commitment?
- Is there tangible evidence of faculty commitment?
- Where appropriate, is there evidence of collaboration and buy-in among participating programs, departments, centers, schools and institutions?

Discussed vs. Not Discussed Applications

- Depending upon the number of applications received, some may not be discussed
 - Selection will be based on preliminary Overall Impact score
- Discussed applications will be reviewed in rank order – best to worst, based on preliminary Overall Impact score

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Broadening Experiences in Scientific Training: BEST Awards

Questions Please!

Send questions to:

Workforce_Award@mail.nih.gov.

Questions will be de-identified and answered now. These slides and an audio recording of today's webinar will be available on our website: <http://commonfund.nih.gov/workforce/>.

