Establishing a National Center for Advancing the Career Development of Scientists

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Who?
Basic scientists and clinician scientists
Graduate students and postdocs
All career paths

Scientific writing:
- Getting published
- Getting funded

Presentation skills:
- Research talk
- Poster
- Presenting to the public
- Talking with the media

Teaching skills

Innovation / creativity

Career-specific skills
- Business skills
- Drug development process
- Policy and advocacy

People management:
- Self-assessment (working/personality styles)
- Working in a research team
- Hiring/leading people
  - “Mentoring up”

Networking

Designing & creating figures

Project management:
- Setting goals
- Time management
- Work-life balance

Professional skills development

Career planning:
Individual Development Plan

Career exploration:
- Self-assessment
- Learning about career options
- Informational interviewing
- Define appropriate career transitions

Job Search:
- Finding jobs, connecting with employers
- Application (CV, resume, cover letter, research/teaching statements)
- Interviewing (job talk, chalk talk, 1-on-1 interviews)
- Negotiation
ASBMB Summit on Sustaining the Biomedical Research Enterprise

• How do we make broad, high quality graduate and postdoctoral training universal?

• What are the barriers for universities in implementing professional development programs? How might we reduce those barriers?

• How can we promote research and the dissemination of evidence-based practices, making way for innovation rather than re-inventing the wheel?

• What stakeholders contribute to the professional development of scientists, and how might all join efforts for mutual benefit?
What is the landscape, and how has it changed in the last 5 years?

(est. 1987)
What is the landscape, and how has it changed in the last 5 years?

GCC
GRADUATE CAREER CONSORTIUM
(est. 1987)

NIH
IDP T32

BEST

2012  2013  2014  2015  2016  2017
What is the landscape, and how has it changed in the last 5 years?

Career Guidance for Trainees Award
What is the landscape, and how has it changed in the last 5 years?
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Rapid expansion of career development has created a thirst for models

- Universities and other stakeholders rapidly embracing career development as part of the academic mission
- Programs launching or expanding
- PhD scientists moving into career development
- Opportunities and interest in rigorous evaluation & dissemination

~50% members in the field 0-4 years
30% GCC members come from a life sciences background
62% GCC members are PhD degree-holders

* 2017 GCC Member Survey (n=242; 73% response rate)
No central practice of dissemination or evaluation

- Career development professionals disseminate by word-of-mouth and rarely publish
- What is available is difficult to find
- Replication is inefficient. Sharing slides or syllabus leaves out implementation strategies key to success
- Neither scientists nor career development professionals have training in evaluation or education research
Stakeholders have complementary expertise but work within different networks & cultures

- Scientific societies
- Professional associations with an emphasis on sharing practices in career development
- Advocacy organizations
- Policy-focused groups or organizations
- Universities or organizations representing universities
- University staff or administrators overseeing career development programs
- Faculty
- Graduate students or graduate student organizations
- Postdocs or postdoctoral associations
- Employers
- Researchers who study theories of student development, career decision making, and other related fields
- Private funders
- Government funding agencies
- Businesses or resources for PhD career development
- Science or science education journals
**Our goals**

<table>
<thead>
<tr>
<th>Support <strong>local and national efforts</strong> to enhance career development programs</th>
<th>Develop communities and networks across stakeholders to draw on diverse areas of expertise</th>
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<tbody>
<tr>
<td><strong>Develop and sustain a culture</strong> supportive of all career outcomes and proactive preparation for careers</td>
<td><strong>Drive innovation and research</strong> in the field of PhD career development</td>
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National Center for Advancing the Career Development of Scientists

Support local and national efforts to enhance career development programs.

- Curated repository of annotated lesson plans & toolkits
- Train-the-trainer workshops, certified training advisors

Develop communities and networks across stakeholders to draw on diverse areas of expertise.

- Advisory board representing stakeholders

Develop and sustain a culture supportive of all career outcomes and proactive preparation for careers.

- Ambassadors and supporting resources

Drive innovation and research in the field of PhD career development.

- Resources or training in evaluation, research, grantsmanship, dissemination
## Existing models

<table>
<thead>
<tr>
<th>Provider</th>
<th>Repository</th>
<th>Train-the-Trainer Workshops</th>
<th>Training Advisors</th>
<th>Ambassadors</th>
<th>Administration and Funding Models</th>
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<tbody>
<tr>
<td>CBE-Life Sciences Education</td>
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<td>Alan Alda Center for Communicating Science</td>
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<td><strong>Survival Skills and Ethics Course Train-the-Trainers</strong></td>
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<tr>
<td>Graduate Career Consortium (GCC) Train-the-Trainers Preconference workshop</td>
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<td>NIH Office of Intramural Training and Education</td>
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<tr>
<td><strong>Course Source</strong></td>
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<td>MedEd Portal</td>
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<td><strong>SENCER</strong></td>
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<td>Council on Undergraduate Research (CUR)</td>
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<td>POGIL Project (process oriented guided inquiry learning)</td>
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<td>Genomics Education Partnership (GEP)</td>
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<td>DOE faculty training</td>
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<td>Versatile PhD</td>
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<td>ASAP Bio</td>
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Repository of Annotated Lesson Plans

- **Annotated**, complete lesson plans & materials
- **Standardized format** for annotation
- **Curated but inclusive**: both open solicitation and invitation
- **Community** postings
- Published by **collection**
- Editor-developed **guide** to collection
- **Flexible, modular**
- Intentional **diversity** (approaches used, type of setting, learner population, etc.)
- Paired with deep-dive **train-the-trainer workshop** & certified **training advisors**
Additional resources

- List of speakers (by topic, geographic region)
- Models for funding, structuring career development programs
- Resources to fuel innovation
- Resources for enhancing culture
- Links to key resources for trainees

*These must ultimately be shaped by stakeholder needs and interests!*
Ambassadors

- **Prominent leaders** in science, across stakeholder groups
- **Advocate for core principles** of the National Center
- **Build prestige and credibility** of the National Center
- **Leverage networks, connections, resources** to build new opportunities and collaborations for the National Center
- **Role for community advocates**
Advisory Board and Committees

• Representation across stakeholder groups
• **Leverage expertise** of stakeholder groups
  – In developing and leading the National Center
  – For National Center projects
    • Defining standards
    • Developing resources
    • Staying current
    • Policy and advocacy
• **Maintain credibility, sustainability** of the National Center
• **Leverage networks, connections, resources** to build new opportunities and collaborations for the National Center
Next step:
Planning & Pilot Phase
(18 months)

• Develop and initiate business plan for long-term sustainability
  – “Go public”
  – Broaden and deepen connections with stakeholders
  – Recruit and empower ambassadors and advocates
  – Establish an advisory board and committees
  – Define a blended funding model

• Develop and pilot core functions
National Center Transition Team

- Ryan Bixenmann, Michigan State University
- Cynthia Fuhrmann, UMass Medical School
- Louis Justement, Univ. Alabama Birmingham
- Bill Lindstaedt, UCSF
- Mary O'Riordan, University of Michigan
- Erica Siebrasse, Van Andel Institute
- Melanie Sinche, Jackson Labs
- Wes Sundquist, University of Utah
- Bruce Alberts, UCSF (advisor)

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