“Getting What You Need Out of Your Postdoctoral Training: It’s Not a Job … It’s an Adventure!”

Institute for Broadening Participation
April 30, 2013

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Associate Dean for Postdoctoral Affairs
Graduate school trains you how to effectively *address a scientific problem*.

Postdoctoral training will help you *identify and address critical “gaps” in current knowledge* – i.e. learn how to “fish” for greater understanding and … funding.
NIH & NSF Definition of a Postdoctoral Researcher

“An individual who has received a doctoral degree (or equivalent) and is engaged in a \textit{temporary and defined period of mentored advanced training} to enhance the \textit{professional skills and research independence} needed to pursue his or her chosen career path.”
Different institutions view a “postdoc” differently

**Benefits**
- >500 postdocs: 55% do have different benefits
- 200-500 postdocs: 29% do have different benefits
- <200 postdocs: 45% do have different benefits

**Time Limits on PD Training**
- >500 postdocs: 78% do have time limits
- 200-500 postdocs: 50% do have time limits
- <200 postdocs: 40% do have time limits

**Professional Development**
- >500 postdocs: 78% do provide services
- 200-500 postdocs: 50% do provide services
- <200 postdocs: 40% do provide services

http://www.cic.uiuc.edu/groups/WISEPanel/archive/Presentation/postdocs.ppt
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The National Postdoctoral Association is an amazing resource for professional development tools and building communities!

http://www.nationalpostdoc.org/

Talk to your potential new mentor about opportunities for training in the Core Competencies developed by the NPA

1. Discipline-specific conceptual knowledge
2. Research skill development
3. Communication skills
4. Professionalism
5. Leadership and management skills
6. Responsible conduct of research

Is your intended institution a member of NPA?
Are you a member of NPA?
“Transferrable” skills help you prepare for a variety of careers

e.g. Which of the following skills have you acquired or improved upon during your postdoc training?

- Grant writing
- Manuscript review
- Giving oral presentations
- Experimental design
- Proficiency in new research technologies
- Teaching
- Networking
- Lab management
- Supervising others
- Conflict resolution
- I have not acquired new or improved skills

US

Int'l

Transferrable skills help you prepare for a variety of careers.
Sigma Xi Survey Correlated Involvement in Teaching Activities with Greater Satisfaction in Postdoctoral Training

“Professional development is the strongest predictor of subjective success and of good advisor relations…”

- Teaching experience highest indicator of subjective success for postdocs
- Teaching experience also correlated positively with number of manuscripts submitted

Yet...
- Only 5% of postdocs receive formal training in teaching
- 64% of postdocs receive no formal training in teaching

G. Davis (2009) http://www.nber.org/chapters/c11619
The NIGMS IRACDA Program promotes both postdoctoral career development and STEM diversity

- University of Alabama at Birmingham (Oakwood University/Stillman College)
- University of Arizona, Tucson (Pima Community College)
- Stanford University (San Jose State University)
- University of California, San Diego (San Diego State University)
- University of California, San Francisco (San Francisco State University)
- Emory University School of Medicine (Clark Atlanta/Morehouse College/Morehouse School Medicine/Spelman College)
- Northwestern University (Northeastern Illinois University)
- University of Kansas, Lawrence (Haskell Indian Nations University)
- Tufts University (Bunker Hill Community College/Pine Manor College/University of Massachusetts, Boston)
- University of Minnesota, Duluth (Fond du Lac Tribal and Community College/Lake Superior College)
- University of Medicine & Dentistry of New Jersey (Long Island University, Brooklyn/Medgar Evers CUNY/New Jersey City University)

- University of New Mexico (Central New Mexico Community College/New Mexico State/Southwestern Indian Polytechnic)
- University of North Carolina, Chapel Hill (North Carolina A&T State/North Carolina Central/Fayetteville State/Johnson C. Smith)
- University of Pennsylvania (Delaware County Community College/Lincoln/Rutgers at Camden)
- Medical University of South Carolina (Claflin University)
- Baylor College of Medicine (Prairie View A&M/St. Thomas/University of Houston Downtown)
- Virginia Commonwealth (Elizabeth City State/Virginia State/Virginia Union)

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Below is a summary of your self-assessment for interests. This assessment will be used to recommend career paths that may be a good fit for you. **Remember, this step will be most helpful if you used the entire range of scores.**

<table>
<thead>
<tr>
<th>1</th>
<th>I would like to never do this in my career</th>
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<tbody>
<tr>
<td>• Building new devices or developing/refining techniques</td>
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<tr>
<td>• Using quantitative methods in understanding science (e.g., statistics, mathematical modeling)</td>
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<td>• Performing research with animal subjects</td>
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<td>• Performing research with human subjects</td>
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<tbody>
<tr>
<td>• Writing project reports or other business-related correspondence</td>
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<tr>
<td>• Giving presentations about science</td>
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<tr>
<td>• Learning about other fields</td>
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<td>• Keeping up with current events in science</td>
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<td>• Learning how to use new equipment or techniques</td>
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<td>• Writing about science to non-scientists</td>
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<td>• Speaking about science to non-scientists</td>
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<td>• Analyzing financial data or budgets</td>
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<td>• Assessing business trends and strategies, entrepreneurial ideas</td>
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<td>• Planning or organizing events</td>
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<td>• Leading or supervising others</td>
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<tr>
<td>• Designing experiments</td>
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<td>• Performing experiments</td>
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<td>• Writing scientific manuscripts</td>
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<td>• Writing position papers or policy papers</td>
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<td>• Creating presentations</td>
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<td>• Reading papers in your field</td>
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<td>• Discussing science with others</td>
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<td>• Teaching in a classroom setting</td>
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<td>• Negotiating agreements</td>
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<td>• Serving on committees</td>
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<td>• Organizing things, creating systems in the workplace</td>
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<tr>
<td>• Planning new scientific projects or developing new research directions</td>
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<td>• Writing grant proposals</td>
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<tr>
<td>• Representing data in figures/illustrations</td>
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<td>• Thinking about science</td>
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<td>• Attending conferences or scientific meetings</td>
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<tr>
<td>• Using qualitative methods in understanding science (e.g., focus groups, in-depth interviews, field observations)</td>
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<td>• Developing collaborations</td>
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<td>• Working in a team</td>
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<td>• Networking with others</td>
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<td>• Work-related travel</td>
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<th>5</th>
<th>I would like to do this often in my career</th>
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<tr>
<td>• Developing curricula</td>
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<tr>
<td>• Mentoring or teaching one-on-one</td>
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Publications are the *currency of academic professionals*... and the #1 issue of conflict between a postdoc and mentor

The International Committee of Medical Journal Editors *suggests* that authorship credit should be based on:

- *Substantial contributions* to conception and design, or acquisition of data, or analysis and interpretation of data;
- Drafting the article or *revising it critically for important intellectual content*; and
- *Final approval* of the version to be published.
- Authors must *meet all three conditions*
The **BEST** time to discuss authorship policies is before joining the lab.

A **GOOD** time to discuss authorship is when starting a project - knowing it might change as the research proceeds.

The **WORST** time to discuss authorship is after the manuscript is complete.
Mentors are essential in career development - there is no “bad” mentor … just those that are not “mentors”

Areas for mentoring:

- Personnel issues
- Conflict resolution
- Career counseling
- Budget and planning
- Training of trainees
- Grants and contracts
- Establishing expectations
- Curriculum and pedagogy

- Facilities
- Administrative operations
- Personal development
- Collaborations
- The “first 100 days”

Compact Between Postdoctoral Appointees and Their Mentors

http://www.hhmi.org/resources/labmanagement/
The key to successful postdoctoral training is having a mentoring community!

BOTTOM LINE:


http://clevermarketer.com/2011/03/accountability/

http://www.teamscience.net/