

Training PhD Mentors on Career & Professional Development (CPD)

Sarah Hokanson, Ph.D.
Assistant Provost, Professional
Development & Postdoctoral Affairs

Amanda Bolgioni-Smith, PhD
Assoc. Director of Evaluation, CTSI,
Assistant Professor, Medical Sciences &
Education

1

Training Landscape

- Workforce is changing – availability of faculty jobs diminishing
- Broader skills were always needed (even for faculty jobs!) but are now openly being sought after by employers and students
- Competency-based training provides a framework for students and postdocs to talk about skill development and career preparation
- Funding models at BU vary, and can limit students' or postdocs' ability to prioritize the professional development and internships that would help them broaden their skill set

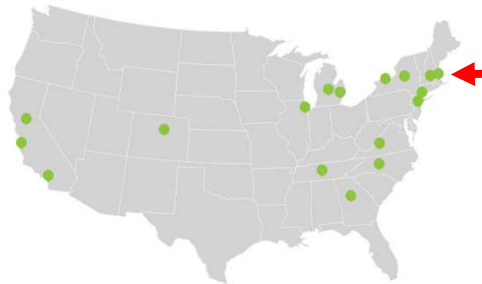
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What do national trends tell us about biomedical PhD Careers?

- Only 25% of PhD scientists will enter a tenure or tenure-track position¹⁻³
 - # of PhD graduates in US has grown ~4X over the last 50 years¹⁻³
 - Growth in employment has occurred almost entirely in industrial sectors²⁻⁵
 - Graduates are preferentially choosing careers beyond academia⁶

17 Universities Receive R01-like Grant for Broadening Experiences in Scientific Training (BEST) from **NIH Common Fund**

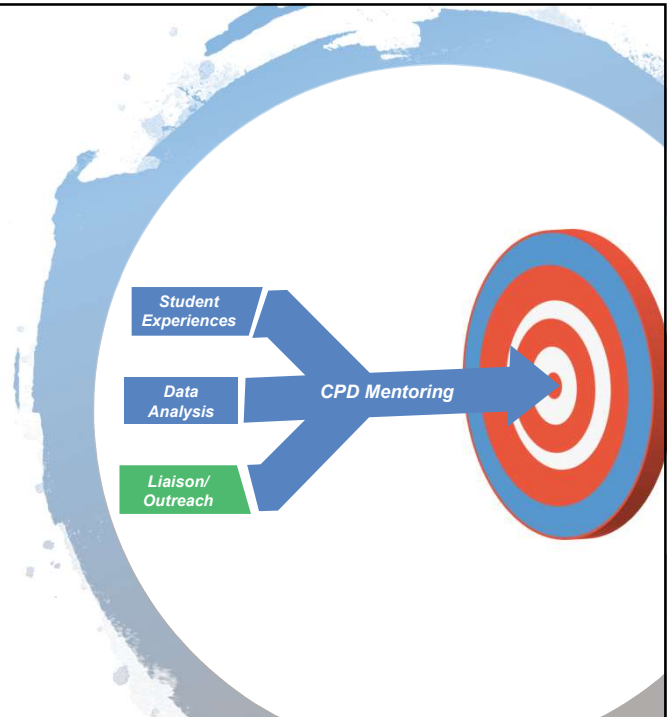
Wayne State University
UMass Medical School
Vanderbilt University
Boston University
Cornell University
U of Chicago
UC-Davis
NYU
UCSF
UC-Irvine
Virginia Tech
Emory University
Rutgers University
U of Colorado-Denver
University of Rochester
Michigan State University
U of North Carolina-Chapel Hill



Director, GMS Professional & Career Development

3

Needs Assessment in Career & Professional Development (CPD) Mentoring



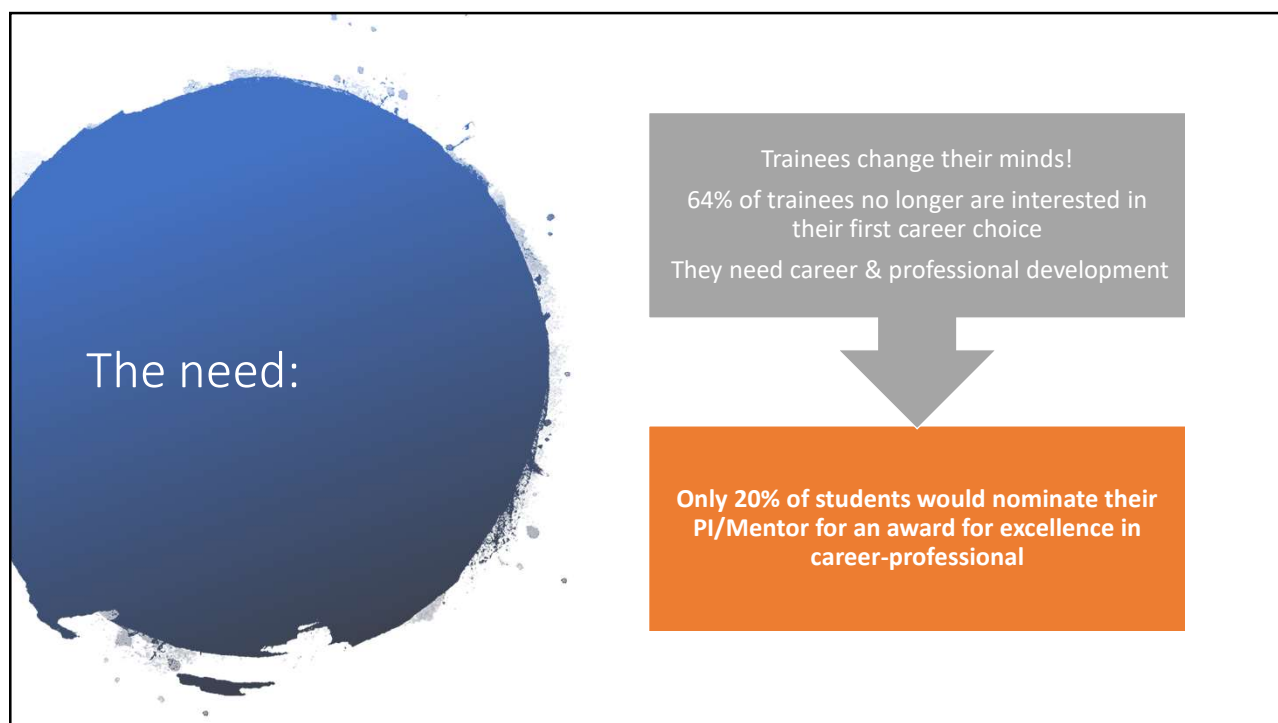
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Postdoctoral Experiences Survey

- Sent to all postdocs annually
- Six sections of the survey: resource use / evaluation; plans for postdoc & career aspirations; experiences at BU; mentoring relationships; sense of belonging and community; demographics
- n = 397 unique responses over four annual surveys (avg 39% response rate)
- 38% of survey respondents from Medical Campus
- Goals – 1) develop programs, resources, and policies to better support postdocs; 2) evaluate office

Postdoc Orientation Survey

- Sent to new postdocs that register for new postdoc orientation
- Since moving to virtual orientations during COVID-19, 90% of postdocs attend orientation and take survey
- Themes cover career aspirations for postdoc, professional development interests, and the opportunity to submit questions

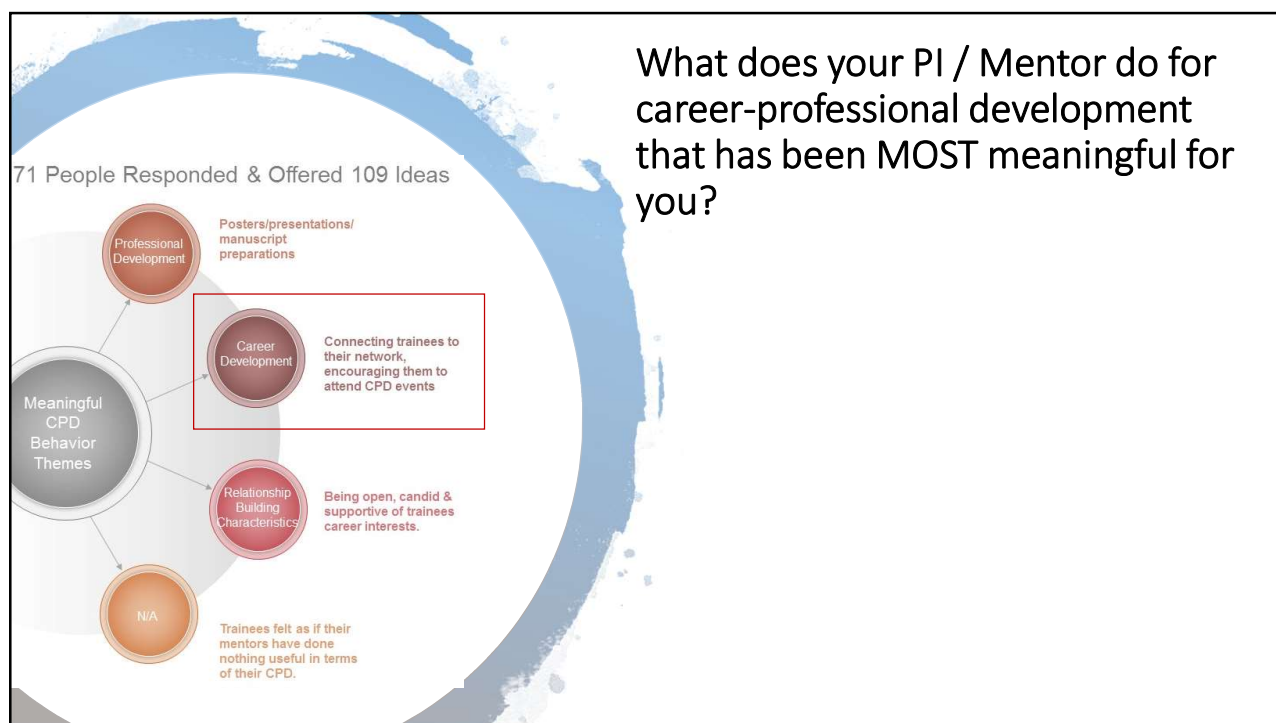


7

Career planning and aspirations

- 89% of orientation survey respondents rank faculty careers as their first choice
- On average, 21% ranked faculty careers as their first choice in the annual survey
- 65% of postdocs do not have an IDP, only 20% discuss with research supervisor / PI

8



9

Key outcomes related to mentoring

- Half of postdocs reported satisfaction in their mentoring relationships with their primary PI / supervisor
- *"If you could recommend one action or behavior..."*
 - Open minded about non-academic careers
 - Career planning (e.g. talk about IDP)
 - Support postdocs' developing autonomy / independence
 - Spending more time together
 - Increased casual interactions / informal conversations
 - Mindful of postdoc needs as much as their own

10

Low-Hanging Fruit to Improve Career & Prof Mentoring

- Initiate conversation with trainees about their career and professional development



- Offer dedicated time, space, and opportunity for trainees to explore careers

11

Breakout group conversation

Prompt: You have been invited to share the results of the Postdoctoral Experiences Survey at Research and Scholarly Activities Committee.

Based on the data, you want to persuade them to create a policy that would require postdocs and mentors to jointly complete an annual career plan / expectations template, submitted to PDPA.

- 1) How would you frame the problem?
- 2) What data would you describe?
- 3) What questions would you want them to reflect on?

12

References

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2. NSF, Doctorate Recipients from U.S. Universities | NCSES | NSF. Available at <https://www.nsf.gov/statistics/doctorates/>. (July 10, 2020).
3. K. Langin Mar. 12, 2019, 5:45 Pm, In a first, U.S. private sector employs nearly as many Ph.D.s as schools do. *Sci. AAAS* (2019) (July 10, 2020).
4. C. N. Fuhrmann, Enhancing Graduate and Postdoctoral Education To Create a Sustainable Biomedical Workforce. *Hum. Gene Ther.* **27**, 871–879 (2016).
5. R. N. Lenzi, S. J. Korn, M. Wallace, N. L. Desmond, P. A. Labosky, The NIH “BEST” programs: Institutional programs, the program evaluation, and early data. *FASEB J.* **34**, 3570–3582 (2020).
6. A. I. Leshner, Student-centered, modernized graduate STEM education. *Science* **360**, 969–970 (2018).