AN INTEGRATED CURRICULUM AND COMMUNITY-BASED APPROACH TO CAREER DEVELOPMENT

Cynthia N. Fuhrmann*, Morgan N. Thompson, Sonia Hall*, Mary Ellen Lane*, Anthony N. Imbalzano, Phillip D. Zamore, Anthony Carruthers
Graduate School of Biomedical Sciences, University of Massachusetts Medical School

* Attending FOBGAPT2 meeting. Contact: Cynthia.Fuhrmann@umassmed.edu.
Publication in preparation. Details about our approach: best.umassmed.edu

Most PhD programs are designed to develop academic researchers. Universities are increasingly offering opt-in workshops, courses, experiential opportunities, resources, and other services to prepare PhD trainees for a broader set of scientific careers. However, the demands of PhD training, and an underlying culture that devalues career development activities as a distraction from research, dissuade many graduate students from participating in such activities until close to graduation or even until they enter postdoctoral training.

To encourage early and ongoing career development actions by all students, we have taken a fundamentally different approach: to **integrate career and professional development into the required PhD curriculum**, spanning all years of PhD training. We have done so in a way designed to benefit research training, rather than detract from it.

We hypothesize that requiring career development as part of the core curriculum for all PhD students will:

- Establish a philosophy supportive of career development, by:
    - Overcoming pressures that dissuade students from taking action toward career development: participation is an expectation for all students
    - Demonstrating that career development is synchronous with research training
- Ensures awareness by all trainees for the skills necessary for success across career paths
- Increases open conversation about career interests by prompting in-class conversations
- Enhances visibility and credibility for opt-in professional development programs

Defining characteristics of our approach:
- We use a **time efficient, just-in-time strategy** to teach professional skills in the context of what trainees need to succeed at each stage of their training in order to: (a) increase trainee and faculty receptivity and (b) maximize learning outcomes by supporting opportunities to practice skills in the context of thesis research.
- We encourage openness to, and informed investigation of, **multiple career options** of all trainees to empower their adaptation during career transitions.
- We model **appreciation for all career options**, with a focus on allowing trainees to determine their own best fit.

Our curriculum spans all years of PhD training and applies a variety of modalities: workshops, practice-and-feedback sessions, engagement with scientists employed in a variety of career paths (**WORKSHOP 4**), self-assessment and career planning exercises, annual Individual Development Plans, and career-themed peer learning communities. Elements of the curriculum

stand alone, and others are directly integrated into scientific coursework or aligned with Thesis Research Advisory Committee milestones (*see ABSTRACT submitted by Mary Ellen Lane*).

A required curriculum presents challenges. A comparison of advantages and challenges for opt-in versus required career development programs is provided at http://www.nihbest.org/career-development-guides/voluntary-vs-required-curriculum/ , "Voluntary vs. Required Curriculum" authored by Erin Adams, Cynthia Fuhrmann, Liane Moneta-Koehler, Abby Stayart, Alan Thomas (alphabetical; June 6, 2016).

Short- and long-term outcomes of our approach are being tested—*see ABSTRACT submitted by Sonia Hall and Cynthia Fuhrmann (WORKSHOP 5)*.