

@SDFLIES #BGSORIENTATION

## TODAY'S PROGRAM:

- **Career Development** — Steve, ~ 25 min
  - Theme: Capitalize on your Skills & Traits.
- **Time Management** — Julie Blendy, ~ 30 min
  - Theme: Organize; setting boundaries.
- **Student Group Social** — PennBiotech, 5PM (PBGHC)

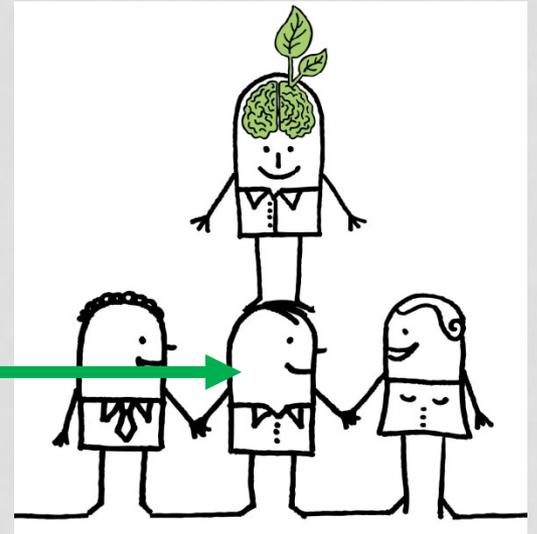
# YOUR PRIMARY GOAL:

## CREATE YOUR 'PROFESSIONAL SELF'

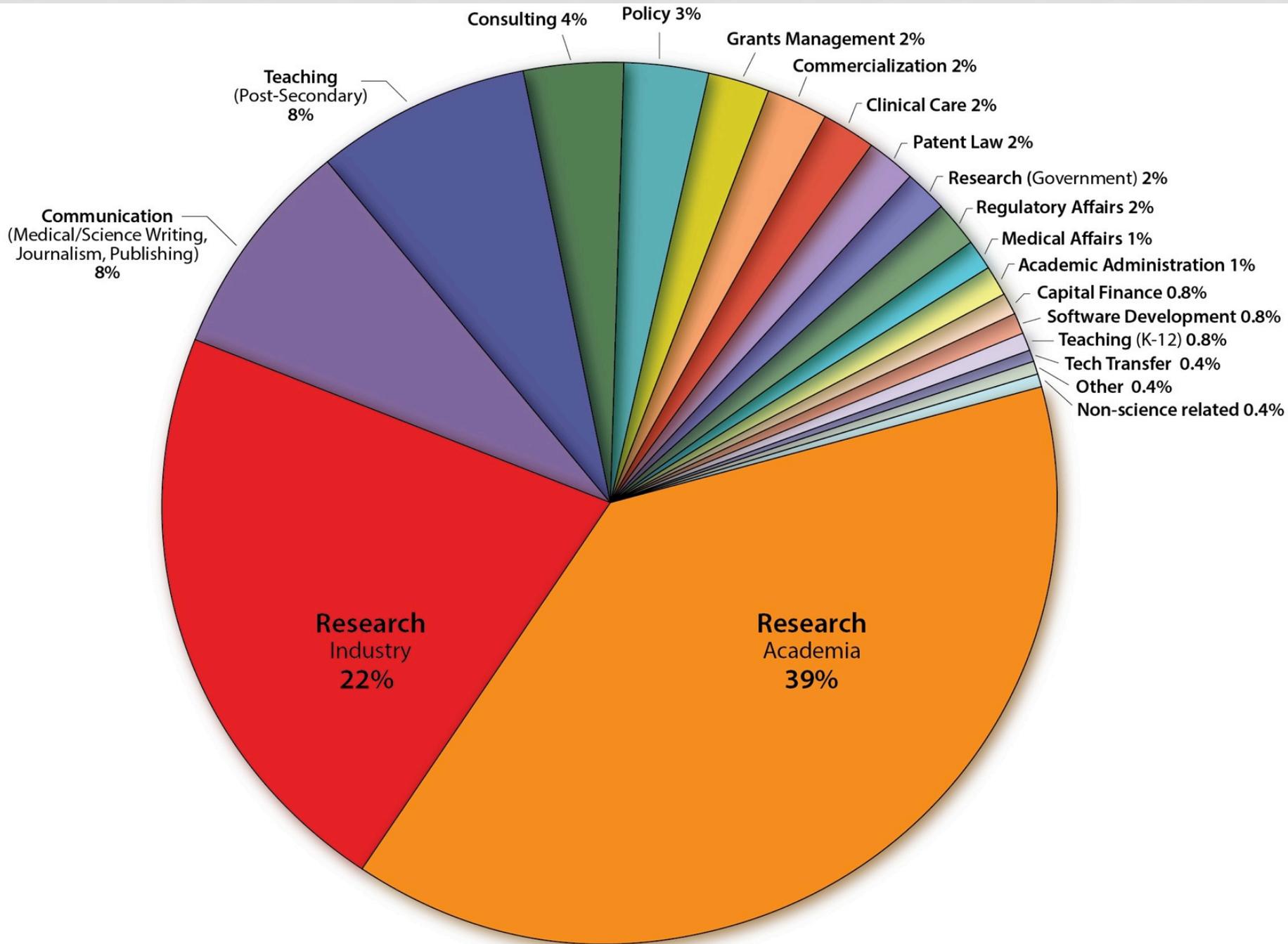
Become these shoulders to stand on.

You will be here\*

The science you do must be done:  
**Responsibly, Reproducibly  
& with Rigor.**



**Today: To what **purpose** will you put that PhD?**



# HOW TO TACKLE CAREER DEVELOPMENT?

- I. *Focus on developing and cultivating research-specific skills and traits.*
- II. Individual development plans (IDPs).
- III. How to explore?



Director, Training Support &  
Career Development



**Catherine Lee May**  
Assistant Director of  
Student-Alumni Networking



**Rebecca Lopez**  
Career Development  
Coordinator

# CAREER DEVELOPMENT

BIOMEDICAL GRADUATE STUDIES



**BGS Career Development Website**

# WHAT QUALITIES ARE INSTILLED BY YOUR PHD TRAINING ?

*PhD Training*

**Skills**

– an *absolute requirement* for any  
research-intensive scientific endeavor

# *SKILLS* FROM YOUR PHD

## ***Critical Thinking***

- Acquiring and processing of information
- Gauging evidence and arguments
- Recognizing assumptions
- Recognizing logical relationships
- Drawing warranted conclusions

## ***Competence in Mathematical and Computational Practices***

- Mathematical reasoning
- Statistical inference
- Systems-level modeling

## ***Proficiency in Experimental Design***

- Articulating a scientific premise
- Developing a hypothesis
- Testing hypotheses/Protocol design
- Reagent validation/Troubleshooting
- Data management

## ***Management***

- Time management
- Project management
- Mentorship
- Leading and motivating others
- Networking
- Conflict management
- Work ethic; work/life balance

## ***Communication***

- Clarity, precision, and intent
- Effective listening and feedback
- Manuscripts
- Grant applications
- Posters/multimedia
- Speaking to a scientific audience
- Speaking to a lay audience

# *TRAITS* FROM YOUR PHD

- Self-motivation & High-level work ethic
- Focus
- Persistence -- Resilience
- Curiosity: a desire for answers, *and* for the hunt
- Capacity to balance Receptivity with Skepticism
- Creativity -- Imagination

CONCERNING CAREER SUCCESS:  
QUALITIES THAT PHD TRAINING  
INSTILLS IN YOU

*PhD Training*

**Skills**

**Traits**

- *absolute requirements* in any form of research-intensive scientific endeavor

WITH THE RIGHT MIX OF PIECES:  
YOU CAN CHOOSE YOUR PATH!

- Skills
  - Traits
    - Interests
      - Values

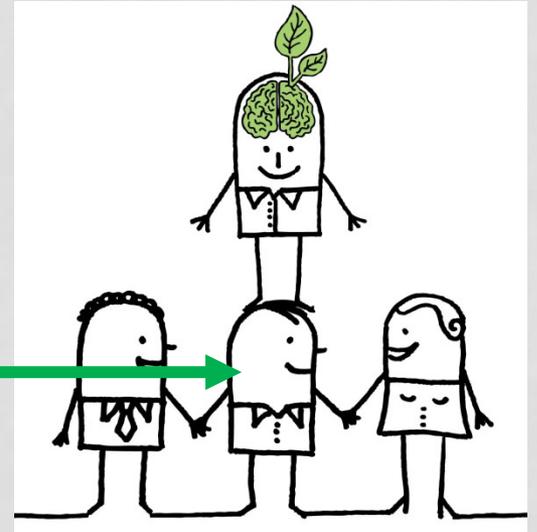


So ...  
what careers?

# HOW TO TACKLE CAREER DEVELOPMENT?

## CREATE YOUR 'PROFESSIONAL SELF'

You will be here\*



I. Do good ***SCIENCE!***

Focus on cultivating the essential skills and traits

# HOW TO TACKLE CAREER DEVELOPMENT?

- I. *Focus on developing and cultivating research-specific skills and traits.*
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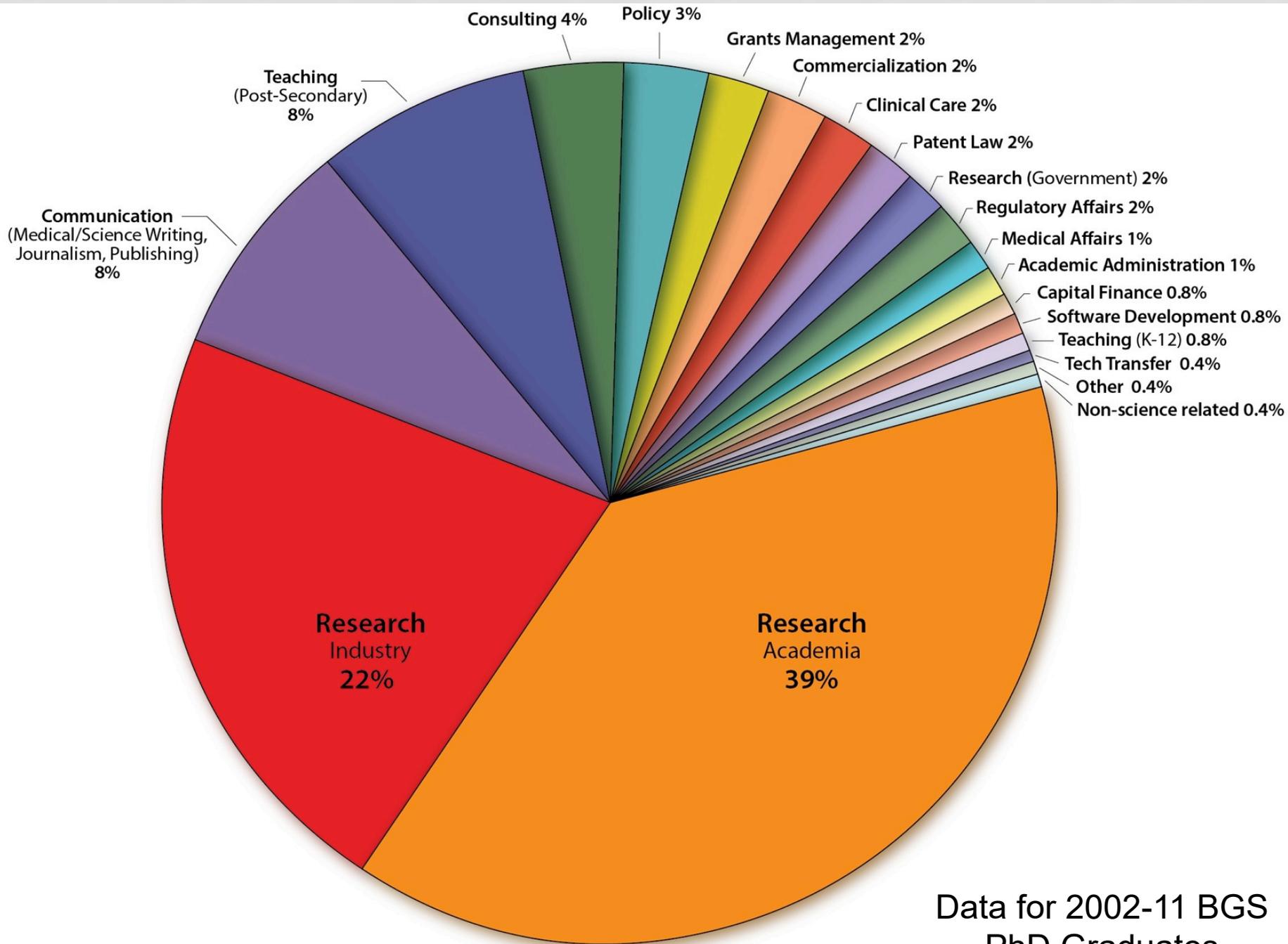
# INDIVIDUAL DEVELOPMENT PLAN A COLLABORATIVE VENTURE

- **Goals of an IDP:**
  - Pause & thoughtfully evaluate research progress
  - Assess your career objectives
    - Both short & long term
  - Collaboratively design a plan to achieve those objectives
- **IDPs are required yearly (filed with BGS).**
  - Meant to be a living document that changes as your progress and aspirations change

# HOW TO TACKLE CAREER DEVELOPMENT?

- I. *Focus on developing and cultivating research-specific skills and traits.*
- II. Individual development plans (IDPs).
- III. How to explore?

What can I explore?



Data for 2002-11 BGS  
PhD Graduates

# BGS CAREER DEVELOPMENT WEBSITE

(Manning, Lopez, Jackson & May)



[Core Competencies](#)

[Career Paths](#)

[Career Blog](#)

[Alumni Outcomes](#)

## Making It Cour



### Core Competencies

Descriptions of the skills acquired and cultivated through PhD training in the biomedical sciences and their role in a variety of professions.

[Learn More →](#)

### Career Paths

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A current schedule of seminars, workshops, and other events relevant to career exploration and development.

[Learn More →](#)

[Resources →](#)

[Alumni Outcomes →](#)

# CAREER DEVELOPMENT WEBSITE

## Career Paths

Consulting 

Entrepreneurship 

Financial Analyst

Grants Management

Medical Science

Liaison

Medical Writing 

Nonacademic Pursuits  
in

Academia

Nonprofit

Patent Law 

Policy 

Public Health

# CAREER DEVELOPMENT WEBSITE

## Videos:



## Informative video shorts

- by Alums



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## Science Writing

**Description:** Science writing is a specialized form of journalism whose primary intent is to communicate to the public in general, or sometimes to professional audiences in particular, advances in science and medicine. The markets are newsprint, broadcasting, periodical and specialist magazines, and trade press. The [Council for the Advancement of Science Writing \(CASW\)](#) makes a distinction between 'science journalists' and 'science public information officers'. The latter, employed by universities, private research foundations, corporations, etc., are discussed in '[Public Relations](#)'. Many science writers work as freelancers. They submit to editors ideas for articles, referred to as queries, and if a good working relationship has been established with editors they can be tapped on a more or less regular basis for assignments as needs arise. Some science writers work, of course, within the context of a traditional employment, especially within the trade press.

### Career Paths

Consulting

Entrepreneurship

Financial Analyst

Grants Management

Medical Science

Liaison

Medical Writing

# HOW TO TACKLE CAREER DEVELOPMENT?

- I. Focus on developing and/or cultivating research-specific skills and traits.
- II. Individual development plans (IDPs).
- **III. *How to explore?***
  - BGS certificate programs
  - \* Student groups (you've met!!)

# CERTIFICATE PROGRAMS

## Certificate Programs

Students enrolled in BGS doctoral programs have the option of applying to any of a variety of certificate programs. These programs provide a valuable opportunity to pursue specialized scientific and professional interests.

Several of the programs are closely affiliated with BGS, for example, they receive various forms of support from BGS and provide courses and other forms of programming commensurate with BGS standards and objectives. Students generally apply for admission to these programs at the time of their doctoral application, however exceptions exist.



- [Graduate Training in Medical Science \(GTMS\) Certificate](#)
- [Public Health Certificate](#)
- [Environmental Health Sciences](#)

Other programs are not as closely linked to BGS but are of potential benefit nonetheless.

- [Certificate in Biomedical Informatics](#)
- [Certificate in Language and Communication Sciences](#)
- [Certificate in Public Health and Cognitive Aging](#)
- [Certificate in Social, Cognitive and Affective Neuroscience](#)
- [Certificate of Study in Law](#)
- [Certificate Program in Translational, Entrepreneurial, or Regulatory Science](#)

Students interested in a certificate program should review '[Policies Governing Participation of BGS Students in Certificate Programs](#)'.

# STUDENT GROUPS

## Biomedical Graduate Studies

[BGS Home](#) » [Current Students](#) » Graduate Student Groups

### Graduate Student Groups

#### BGS Student Groups

- [Biomedical Graduate Student Association](#)
- [EE Just Biomedical Society](#)
- [UPenn SACNAS Chapter](#)

#### University Student Groups

- [Graduate & Professional Student Assembly \(GAPSA\)](#)
- [Fontaine Society](#)
- [Penn Biotech Group](#)
- [Penn Graduate Women in Science and Engineering \(PGWISE\)](#)
- [Penn Science Policy and Diplomacy Group](#)
- [Penn Graduate Consulting Group \(PGCG\)](#)

Affinity groups

Career groups



Penn Biotech Group

# EXPLORATION OPTIONS

- **Career Services:** Workshops, Biomed Career Fair.
  - **Job search support:**
    - Biomedical job list-serve
    - Workshops in résumé preparation and interview advice
    - One-on-one career advising
    - Network of alumnae willing to discuss opportunities
- **Center for Teaching and Learning:** CTL Teaching Certificate
- **Penn Center for Innovation:** PCI Fellows Program

# EXPLORATION OPTIONS

- ***BGS Career Development networking events***
  - ***The Professional Skills series***

## **Meet Lindsey Pujanandez**

Associate Editor at *Science Translational Medicine*

A discussion of emerging science, the editorial process, the role of scientific journals in rigor and reproducibility, and career paths outside of academia.

# EXPLORATION OPTIONS

- ***BGS Career Development networking events***
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?

!

## The Attractions of a Career in Academic Bench Science

BGS Career Development Session

Faye Mourkioti, PhD  
Assistant Professor

Ken Zaret, PhD  
Professor

# EXPLORATION OPTIONS

- ***BGS Career Development networking events***
  - ***The Professional Skills series***



## CONVERSATIONS WITH FACULTY

*Origin Stories is a series that is not about science, but about the person within the scientist. Listen as faculty share their unique stories and relate experiences shaping how they embrace the multiple roles they hold today.*

# EXPLORATION OPTIONS

- ***BGS Career Development networking events***
  - ***The Professional Skills series***
- ***Graduate group-specific workshops***
- ***Training grant-specific workshops***
- ***Interactions with mentors: Peers, thesis advisor, thesis committee; graduate group faculty***

## THE BOTTOM LINE:

Leverage your PhD training to make the greatest possible impact on society.

Whatever path YOU choose, you will have the Skills and Traits to succeed.

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