RUTGERS
THE STATE UNIVERSITY
OF NEW JERSEY

Rutgers iJOBS Annual Symposium

IN PERSON

October 27, 2022

Agenda for today

9:00 AM – 9:30 AM Welcome and iJOBS Program Update

Janet Alder, Co-Director

iJOBS Program at Rutgers University

9:30 AM – 10:30 AM Workshop on Leadership and Management Skills

Juliet Chin Hart, Career Coach

Learn how to improve your influence in the work place

10:30 AM – 10:45 AM Break

10:45 AM – 11:15 AM Let's Hear from Our Phase 3 Trainees!

Facilitated by Doreen Badheka, Co-Director

iJOBS Program at Rutgers University

11:15 AM – 12:15 PM Keynote Speaker

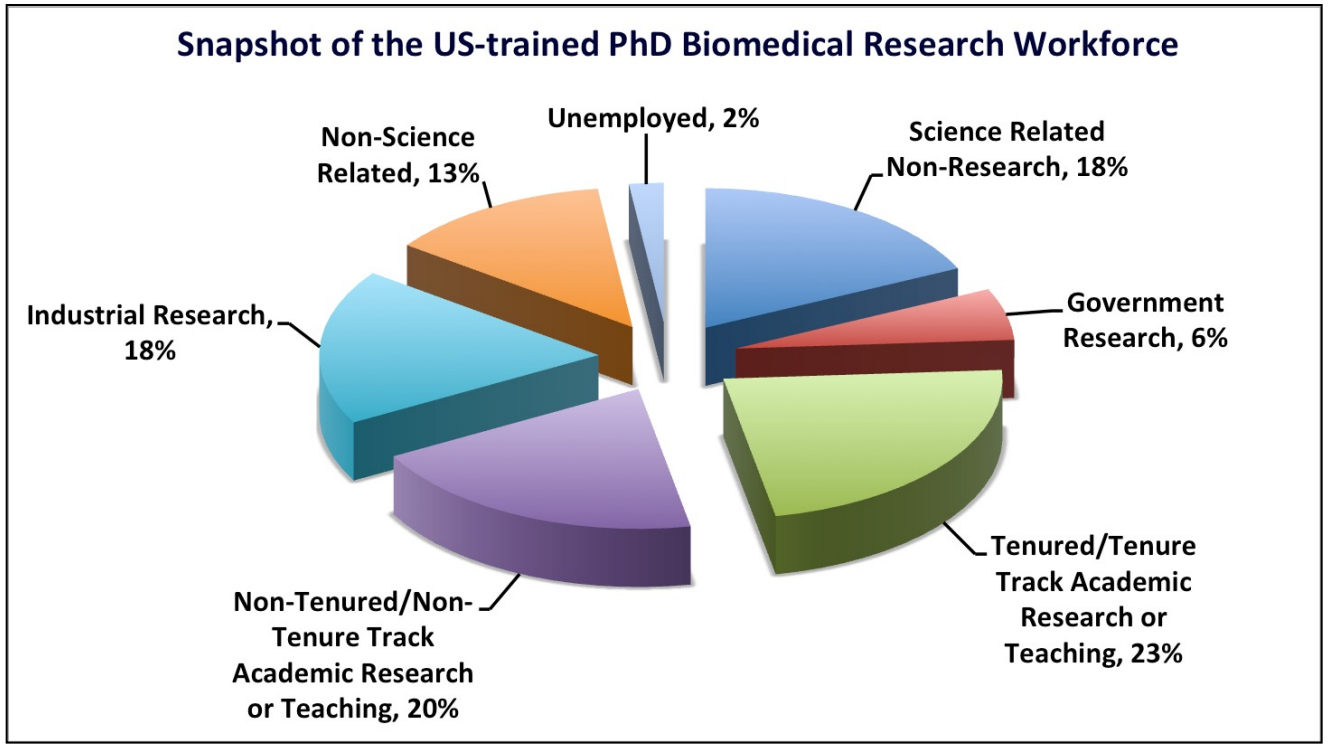
Tanya Borsuk, PhD, Executive VP of Corporate and Business Development at Congruence Therapeutics

12:15 PM – 1:00 PM Career Cluster Meetings and Networking Lunch

Industry Professionals and fellow trainees share advice during networking lunch. Food sponsored by Accreditation Council for Medical Affairs

Rationale for iJOBS

According to a report by the
NIH Biomedical Workforce Working Group, approximately
23% of PhD graduates will pursue academic positions,
while 77% will pursue other career options



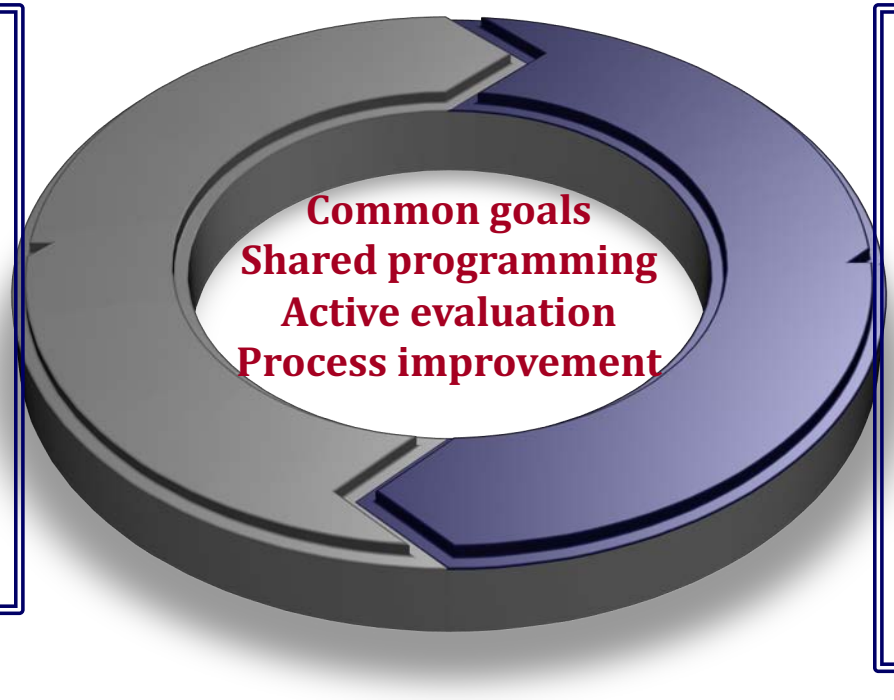
Biomedical Research Workforce Working Group Report, NIH 2012

BEST Awardees

17 Universities
$2 million for 5 years (2014-2019)
Infrastructure support
No direct fellow funding

Maish Yarmush
Jim Millonig
Susan Engelhardt
Janet Alder
Doreen Badheka

1. Cornell U
2. Emory/Georgia Tech
3. NYU
4. U Mass Worcester
5. UC Davis
6. UCSF
7. U Colorado Denver
8. Vanderbilt U
9. Virginia Polytech
10. Wayne State

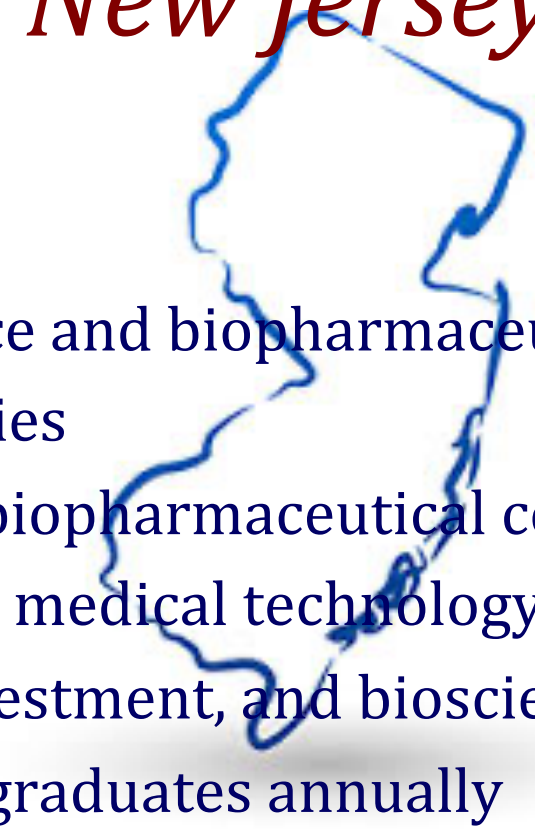


11. **Rutgers U**
12. U Chicago
13. U North Carolina
14. U Rochester
15. UC Irvine
16. Boston U
17. Michigan State

Excellent Professional Environment

The World's Cure Corridor

New Jersey



- Over 3000 life science and biopharmaceutical establishments
- 400 biotech companies
- 13 of the 20 largest biopharmaceutical companies globally
- 12 of the world's top medical technology companies
- #3 state for R&D investment, and bioscience-related patents
- 22,000 life sciences graduates annually

Professional and Trade Support Abounds

iJOBS Participants

RUTGERS

Rutgers Graduate Students

- SGS (New Brunswick/Piscataway/Newark)
- GSN (Newark)
- GSC (Camden)

Rutgers Postdocs

- RWJMS
- NJMS
- SAS New Brunswick
- SoE
- SoP
- SEBS
- SAS Newark
- SAS Camden

PRINCETON UNIVERSITY

STEVENS INSTITUTE of TECHNOLOGY
THE INNOVATION UNIVERSITY

NJIT

Rowan University

Flexible and Phased Programming

Phase 1

Representative Career Panels

- Faculty position at R1 institution
- Faculty position at Primarily Undergraduate Institution
- Bench research in Pharma and Biotech
- Medical Devices
- Postdocs in Industry
- Contract Research Organizations
- NIH
- FDA
- Computational Biology
- Data Science
- Business Consulting
- Science and Health Policy
- Patent Law
- Tech Transfer and Business Development
- Clinical Research
- Regulatory Affairs
- Scientific Writing and Medical Communications
- Medical Affairs
- Non-profit and Foundations
- Finance and Equity Research
- Publishing
- Food and Fragrance Industry
- Journalism
- Teaching Education Outreach
- Entrepreneur
- Plant and Agriculture Industry
- Non-faculty Jobs in Academia
- Tech and Sales Support

Representative Site Visits

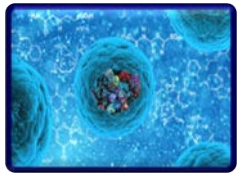
- Becton Dickinson
- Siemens Healthineers
- Stryker (2)
- McCann Health (2)
- Genewiz (4)
- Merck (6)
- Wiley Publishing (2)
- Bristol-Myers Squibb (6)
- Novartis (*3*)
- GlaxoSmithKline (2)
- Regeneron (2)
- Eli Lilly (3)
- Celgene (2)
- Janssen (2)
- Commercial Center for Innv Tech (2)
- Inst for Life Sci Entrepreneurship (2)
- Enterprise Development Center
- Sanofi Aventis
- Covance
- Kashiv
- Hovione
- NJ Dept. of Health (3)
- Ferring Pharmaceutical
- Colgate-Palmolive (2)
- Envigo
- Ethicon
- J&J Consumer
- Bayer (2)
- PTC Therapeutics
- Nanion Technologies

Practice Interviews and Resume Reviews

- Merck
- Bristol Myers Squibb
- J&J
- Novartis

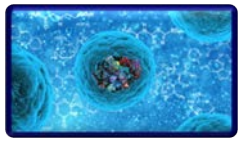
Behavioral based interview questions with PhD level employees to practice STAR responses and network

Representative Workshops: Job Simulation



- Mergers and Acquisitions – decide how much to bid on a new company
- Medical Affairs –Medical Informaticist vs MSL role play
- Consulting – recommend approach to launch new clinical trial
- Medical Writing – job application task
- Project management – determine timeline and deliverables
- Business Development – decide whether to acquire a new company
- R for Reproducible Scientific Analysis
- Health Economics and Outcomes Research – analyze a drug
- Technology Transfer – how to commercialize an invention
- Equity Research – decide if you should invest
- Science Policy – write a policy memo
- Publishing – decide whether to accept a manuscript
- Pharma Market Research Analysis – report on whether drug is worth pursuing
- Regulatory Writing – prepare an Investigative Brochure
- Medical Communications – create slide deck for physician
- Patent Law – rewrite patent to demonstrate originality
- Pharma R&D - design preclinical trial to optimize clinical success
- Entrepreneur – what is involved in starting a biotech

Representative Workshops: Skill Primers



- Primer in Drug Discovery through Pre-Clinical Development
- R with DataCarpentry - programming and how to deal with large datasets
- Agile Project Management and Microsoft Project
- Python and Genomics Data Analysis by Data Carpentry
- How to Be an Inclusive Leader
- Logic Model Concept
- Negotiation Skills
- Good Laboratory Practice (GLP)
- Pharmokinetics and Pharmodynamics (PK/PD)
- Immuno-oncology Research
- Communicating Science with Alan Alda - elevator pitch and improv to connect with audience
- Scientific Storytelling

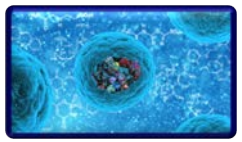
Representative Workshops: Job Search

- Self assessments (Clifton Strengths, Birkman)
- Job searching during the pandemic
- Value Proposition Statements
- Targeted resumes
- LinkedIn profiles with photo shoot
- Networking skills
- Transferrable skills
- Interviewing skills
- Informational interviews
- Job search using staffing agencies
- Finding and applying for an internship
- Goal setting and time management
- How to prepare for job fairs
- International students seeking employment in USA
- Landing Job Referrals
- Emotional Intelligence and influencing others

Networking Events

- All career panels, site visits and workshops have networking component
- Coordinate with professional societies: BioPharma Networking Group, Sino American Pharmaceutical Association, American Association of Pharmaceutical Scientists, and
- Rutgers and iJOBS alumni

Science Policy with Eagleton Institute of Politics



- **Science and Politics Fellowship**
- Scientists in state-level legislatures
- Pandemic Politics: Science, Distrust, and Division
- The Politics of Water and Lead
- The Politics of Gene Editing Technology
- Scientists in Politics - Assemblyman Zwicker, Caroline Weinberg
- Lead Toxicity and Public Policy - Communicating Risk Regarding Science and Health
- Opioid Abuse – Solutions in Science and Politics
- GMOs - Scientific Analysis in Policy Making with Stuart Shapiro
- Advocating for Science – Rush Holt
- Climate Change – Christine Todd Whitman with interactive workshop
- Zika Virus and Science Policy – Kathleen Hall Jamieson and workshop representing different constituents
- Transition to the New Administration and Science – AAAS, Rutgers, Princeton and workshop on how to lobby

iJOBS Partnerships On and Off Campus

- Board Certification in Medical Affairs
- Erdos Institute - Invitations to Industry
- I-CORPS at Rutgers
- What Can You Be with a PhD at NYU
- Nucleate - GRO Biopharma Conference with NY Schools
- Regeneron Science to Medicine Forum
- From Science to Pharma MSL Preparation
- BioNJ Inspiring Women in STEM
- Association for Women in Science
- Biogen Drug Development Conference
- Skills embedded into curriculum (communications, computational)

SciPhD: Leadership and Business Skills for Scientists

Provided by Human Workflows, LLC

Every Jan/Feb since 2015 - 35 hours

Will be ALL in person for 2023: January 4th (1-5pm), 5th (9am-5pm) and 6th (9am-5pm)

- The Business of Science
- Major Leadership Styles
- Successful Communications as a Scientist
- Developing Your People
- Networking and the Interview Process
- Team Performance Tools
- Negotiations
- Financial Literacy
- Strategic Project Management for Scientists

Phase 2

Representative Career Track Skill Classes

Drug Development from Concept to Market

Communicating Science

Principles of Finance and Accounting

Clinical Research Informatics

Python Methodologies

Practical Aspects of Clinical Trial Design

Fundamentals of Regulatory Affairs

Perspectives in Translational Pharmacology

Technology Transfer

Fundamentals of Regulatory Affairs

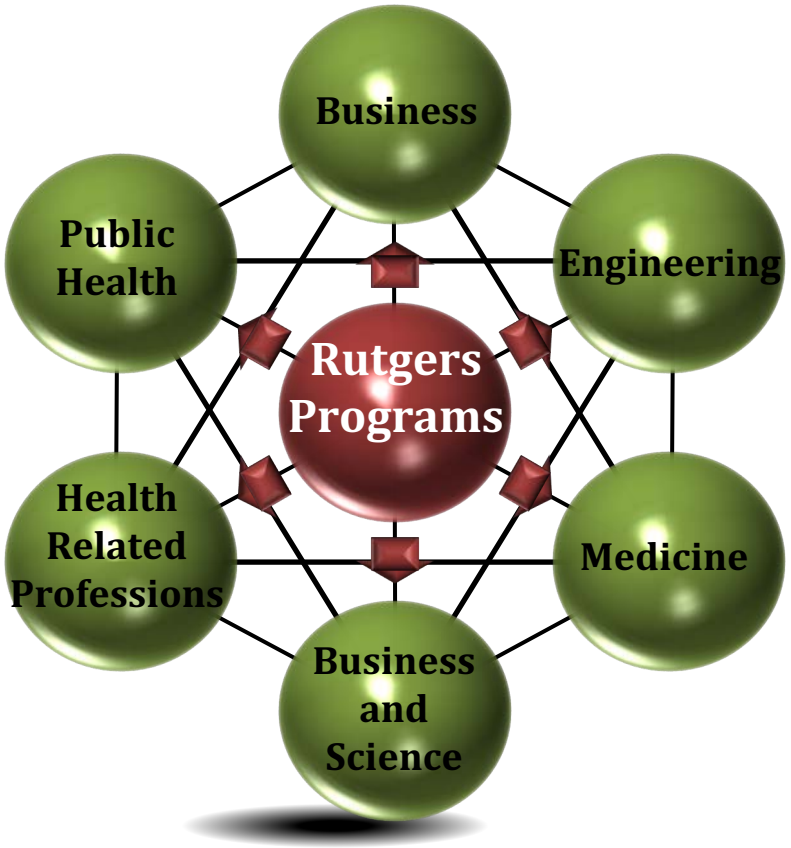
Project Management

Pharma Product Management

Organizational Behavior

Innovation and Entrepreneurship

One 40-Hour Class



Professional Shadowing and Mentoring

- Each trainee is matched to a professional for a shadowing opportunity relevant to their chosen track with industrial, institutional or governmental partners. 72 hours over a whole semester.

- Each trainee is assigned a professional mentor and uses the Individual Development Plan (IDP) as a framework for growth.

Phase 3

Job Search Preparation

- One on one mentoring sessions with Juliet Chin Hart to refine resume and cover letter
- LinkedIn Counseling with Penny Pearl at 2Actify
- Strategize on job search approach
- Prepare for interviews

HART&CHIN
EMPOWERING SCIENTISTS
AS INFLUENTIAL LEADERS

2Actify™

Ice Breaker (5 min)

- Let’s share what you motivates you to do your current project/job/position?

- Finish this sentence ”The thing that I love best about my current position is…”

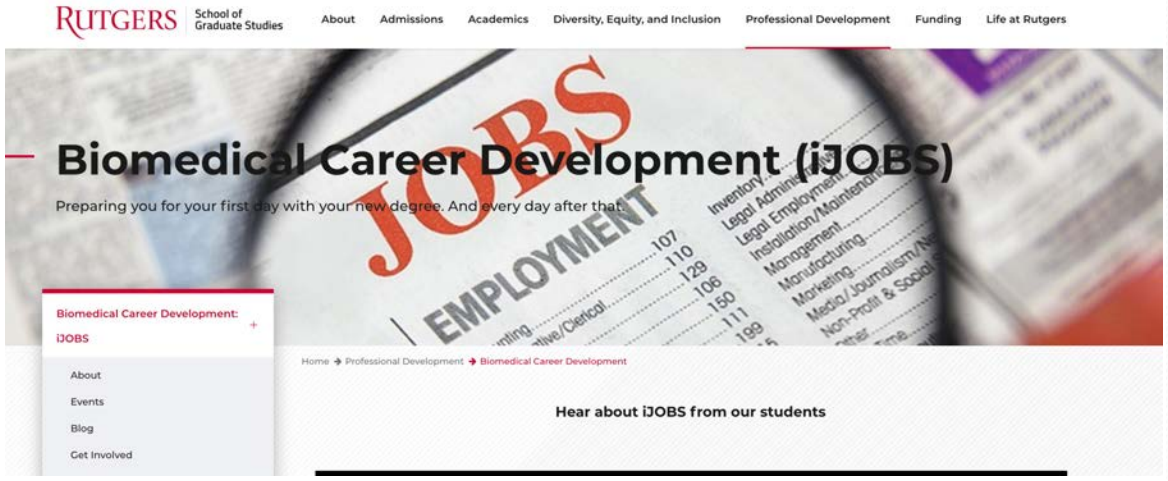
Dissemination, Evaluation and Outcomes

Communication Platforms

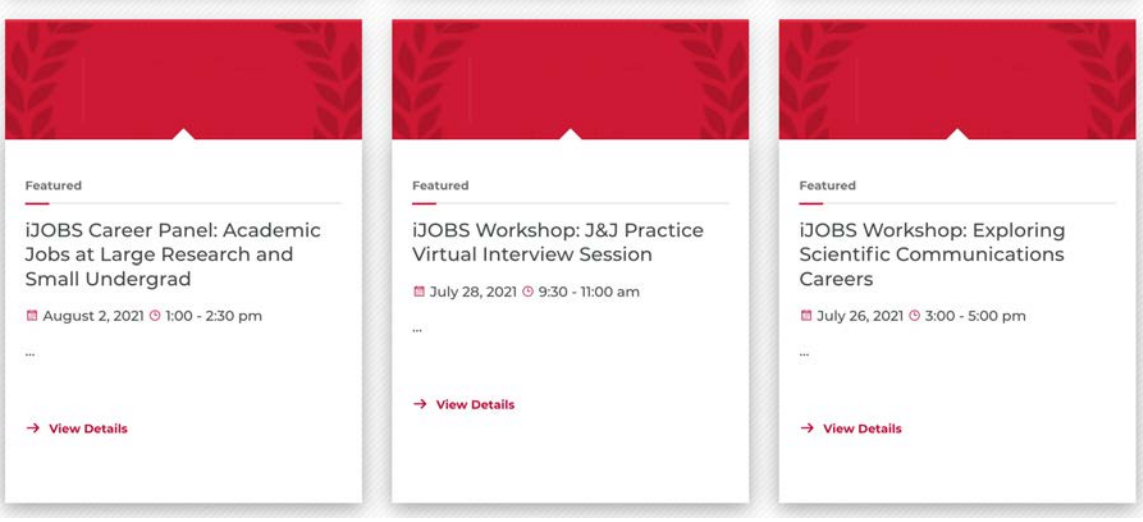
Email listserve: 1500 members

Trainee run blog:
grad.rutgers.edu/ijobs/blog

Website: ijobs.rutgers.edu



iJOBS Past Events with Recordings



iJOBS Program Registration

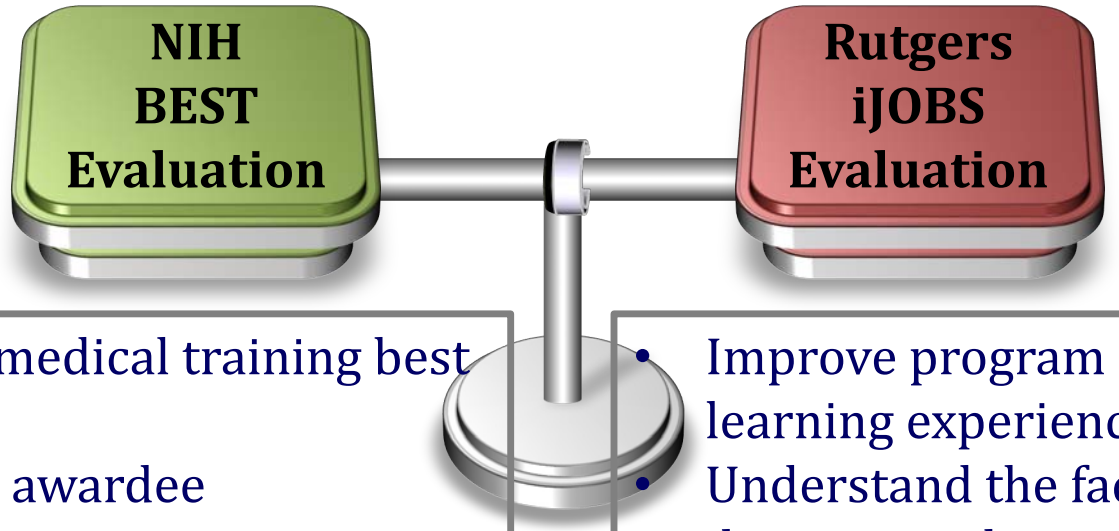
Phase 1

- iJOBS programming open to all pre and post-doctorates as well as recent alumni.
- Some events have limited capacity and open 4 weeks prior to event at 12pm.

Phase 2

- Graduate students should have completed propositional qualifying exam. Postdocs are eligible at any time.
- Trainee application approval based upon Phase 1 participation (12 hours), letter of intent, letter of recommendation. PI approval for participation is required with application.
- Applications open every April and program starts in September for 1 year

Quantitative and Qualitative Evaluations



SUNITA CHAUDHARY

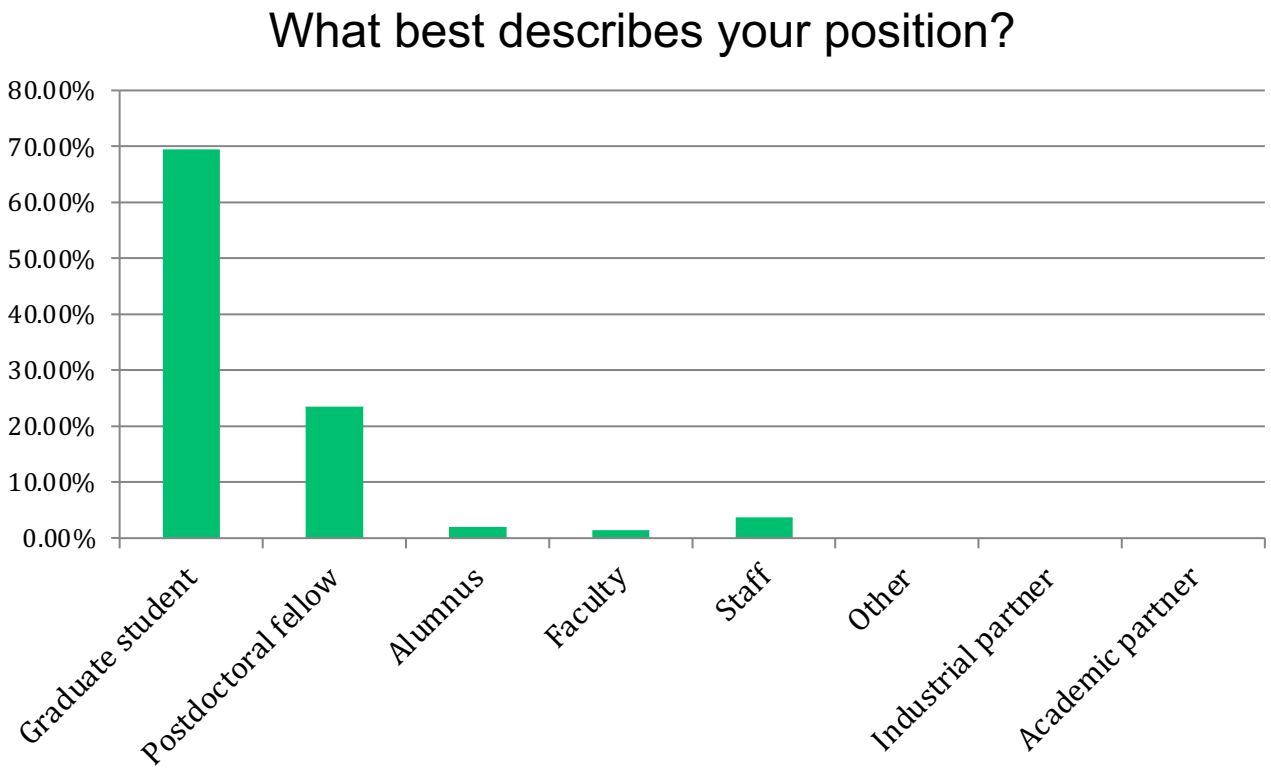
- Identify biomedical training best practices
- Trainee and awardee assessment:
  - understanding of career opportunities, confidence to make career decisions, and attitudes towards career opportunities
  - reduced time to training opportunities and time in postdoctoral positions
  - further development of BEST-like activities.

- Improve program curriculum and learning experiences
- Understand the factors and decision-making processes in pursuit of biomedical research or research-related careers
- Assess trainee satisfaction with program components
- Explore:
  - faculty attitudes
  - influence of race, gender and immigration status on career paths
  - effect of iJOBS on career paths

iJOBS Cohort Participation

From Sept 2020- Oct 2022, we have hosted 86 events with 1,980 attendees

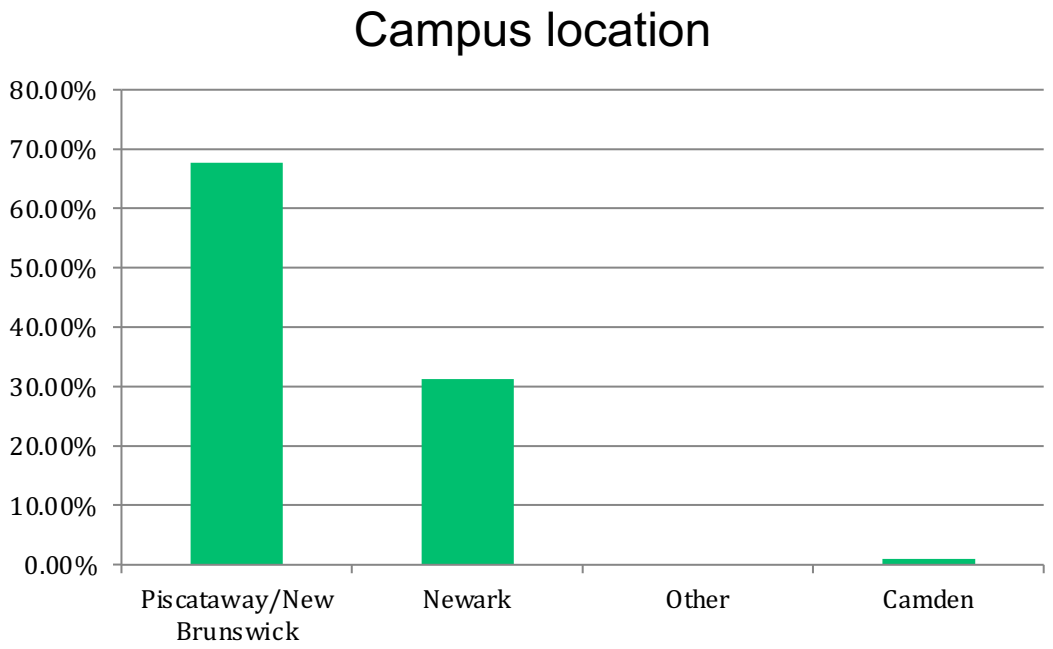
Trainee Academic Standing
n = 1230



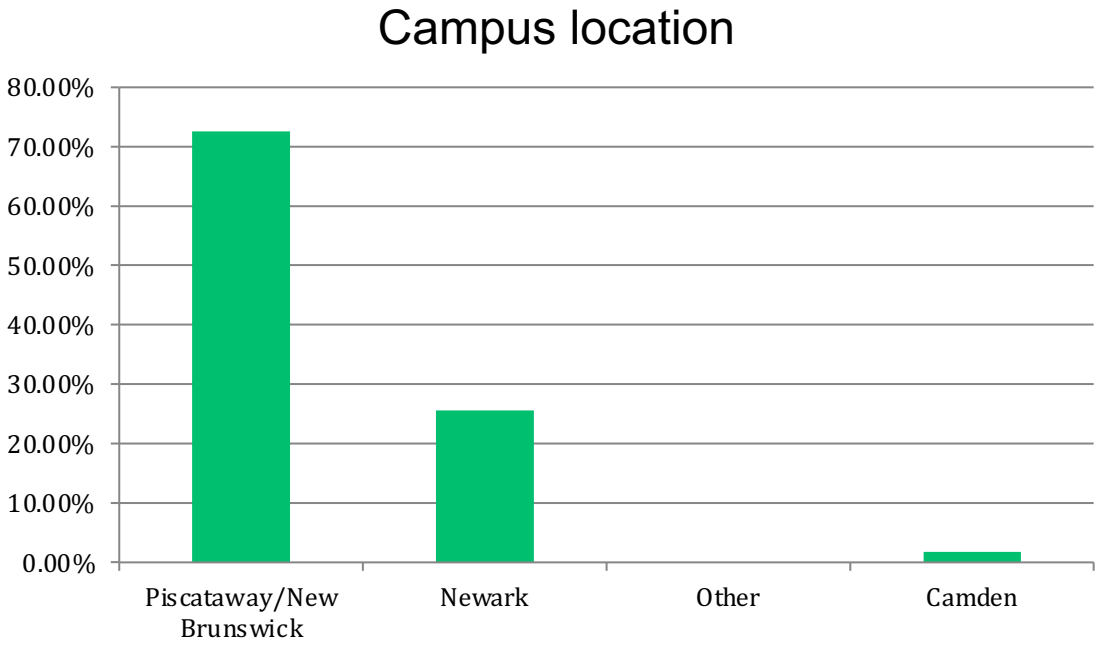
Total pool
68% predoc
32% postdoc

Participation by Campus Location

Predoctoral Students



Postdoctoral Fellows



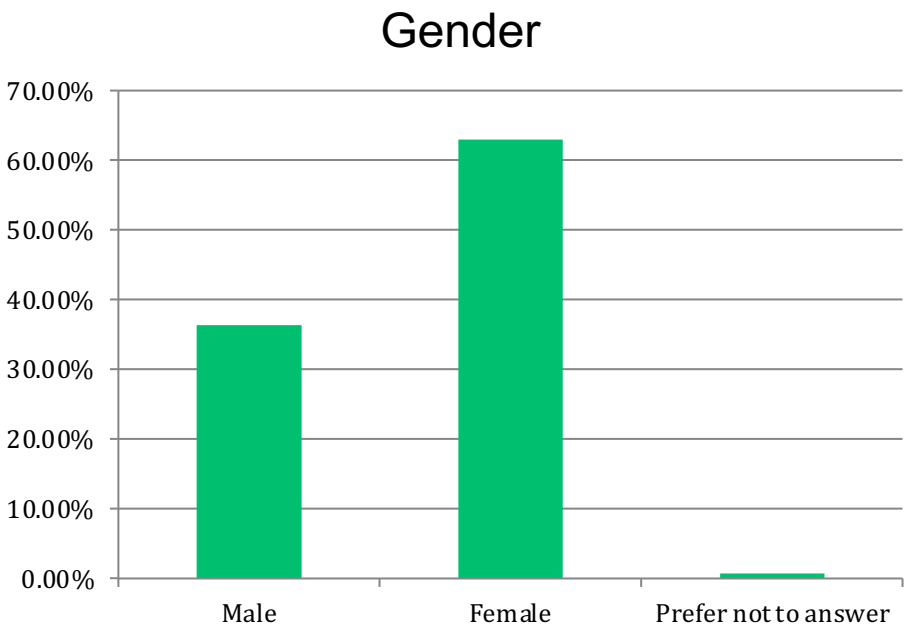
Total pool

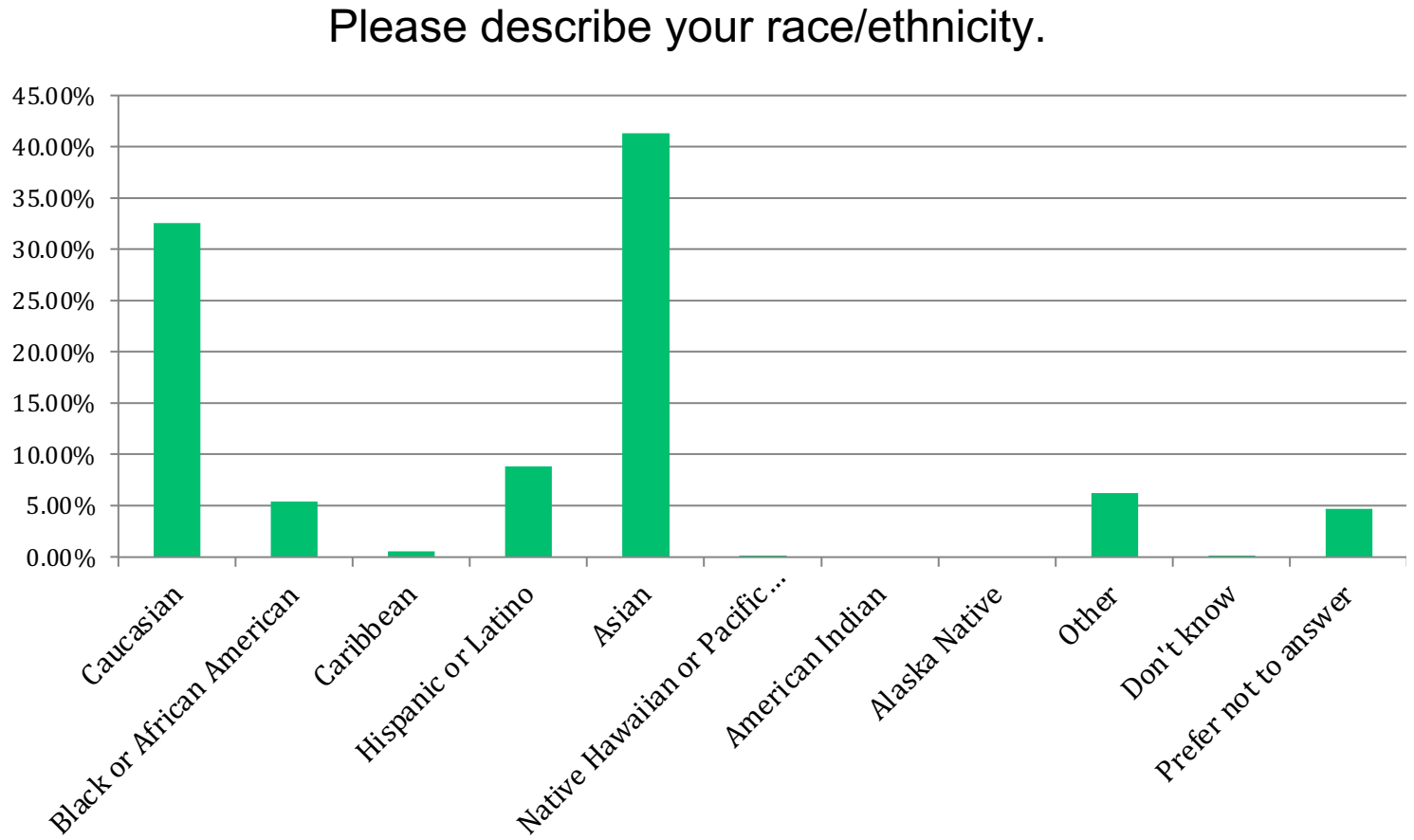
New Brunswick/Pisc 68%

Newark 31%

Camden 1%

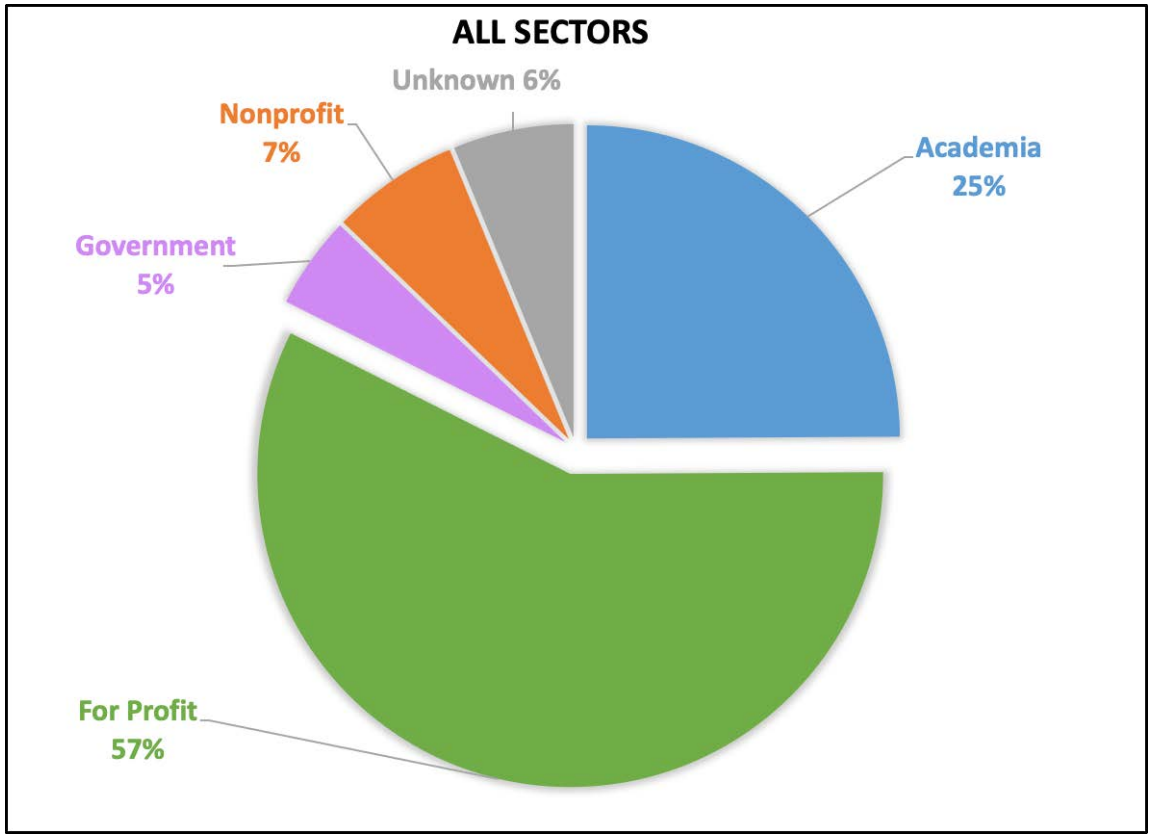
Gender and Ethnicity Data



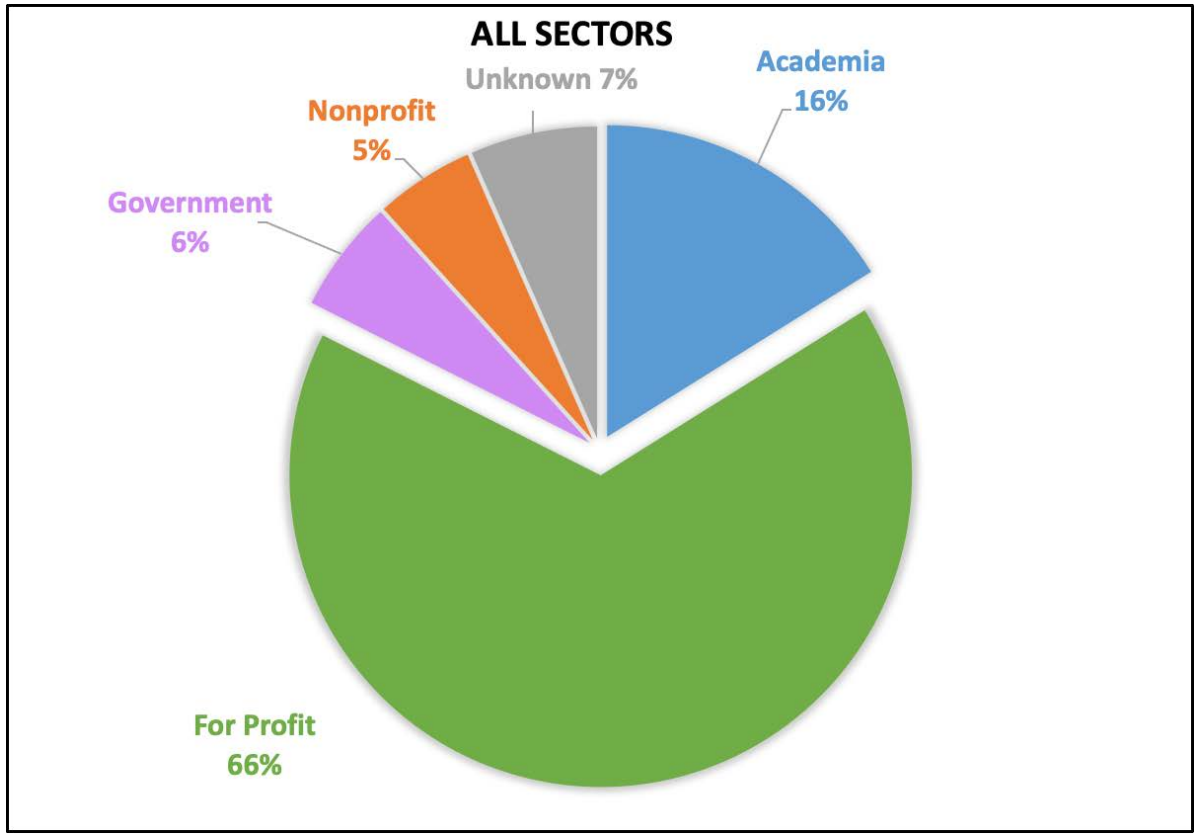


Positions of SciPhD Participants (n = 273)

First Position



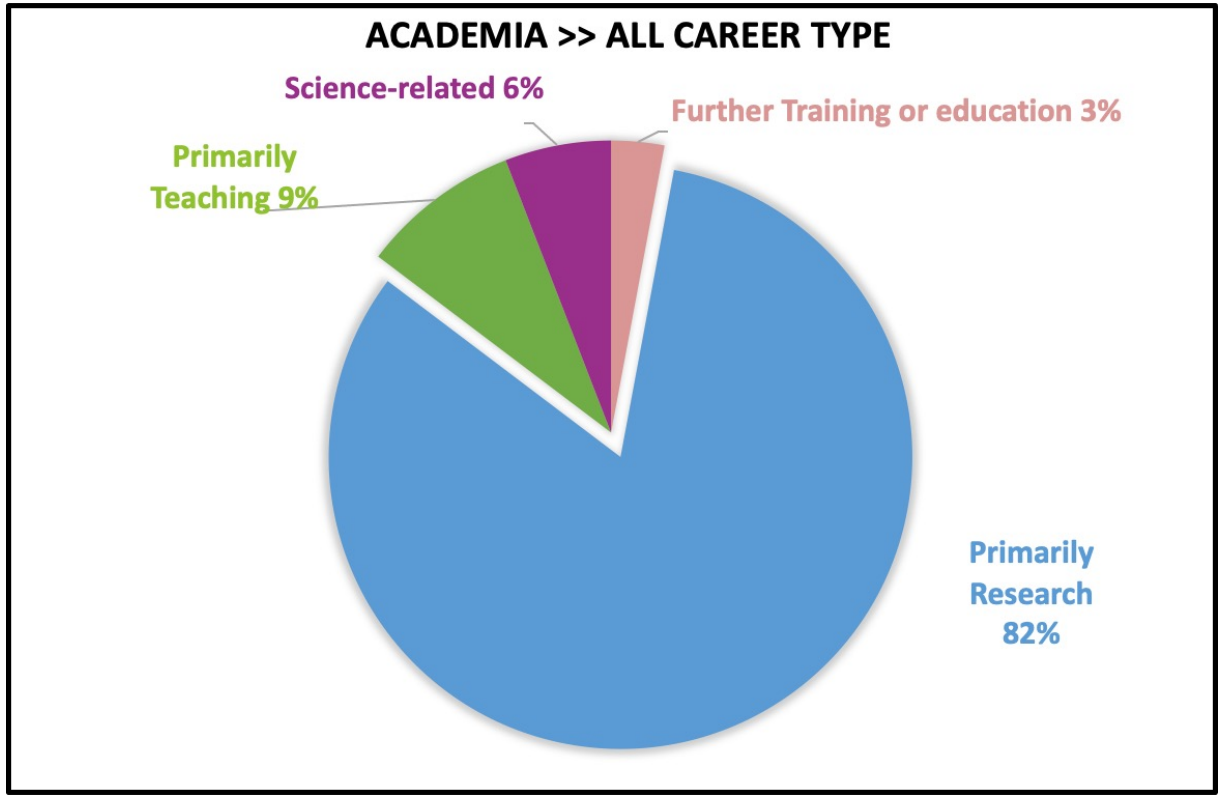
Current Position



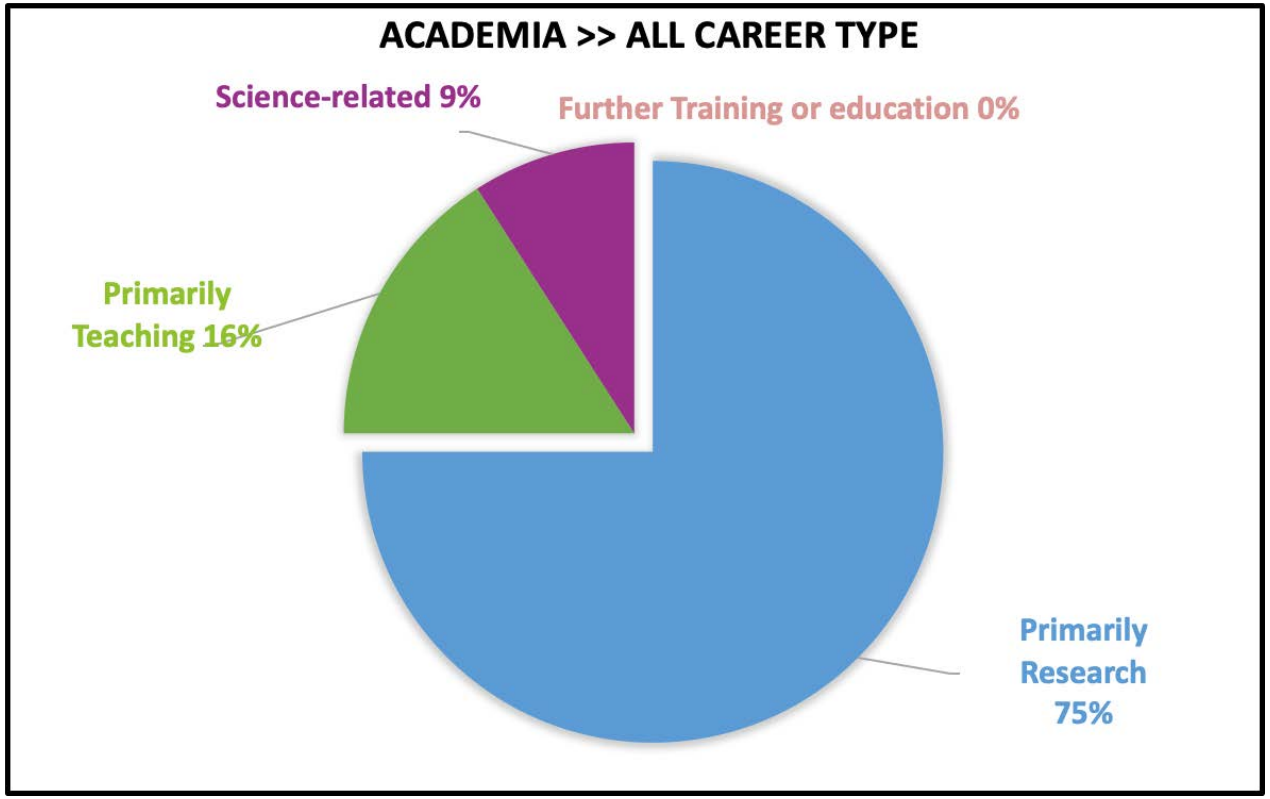
Data analyzed by Tracy Scott

Academia – All Career Types

First Position



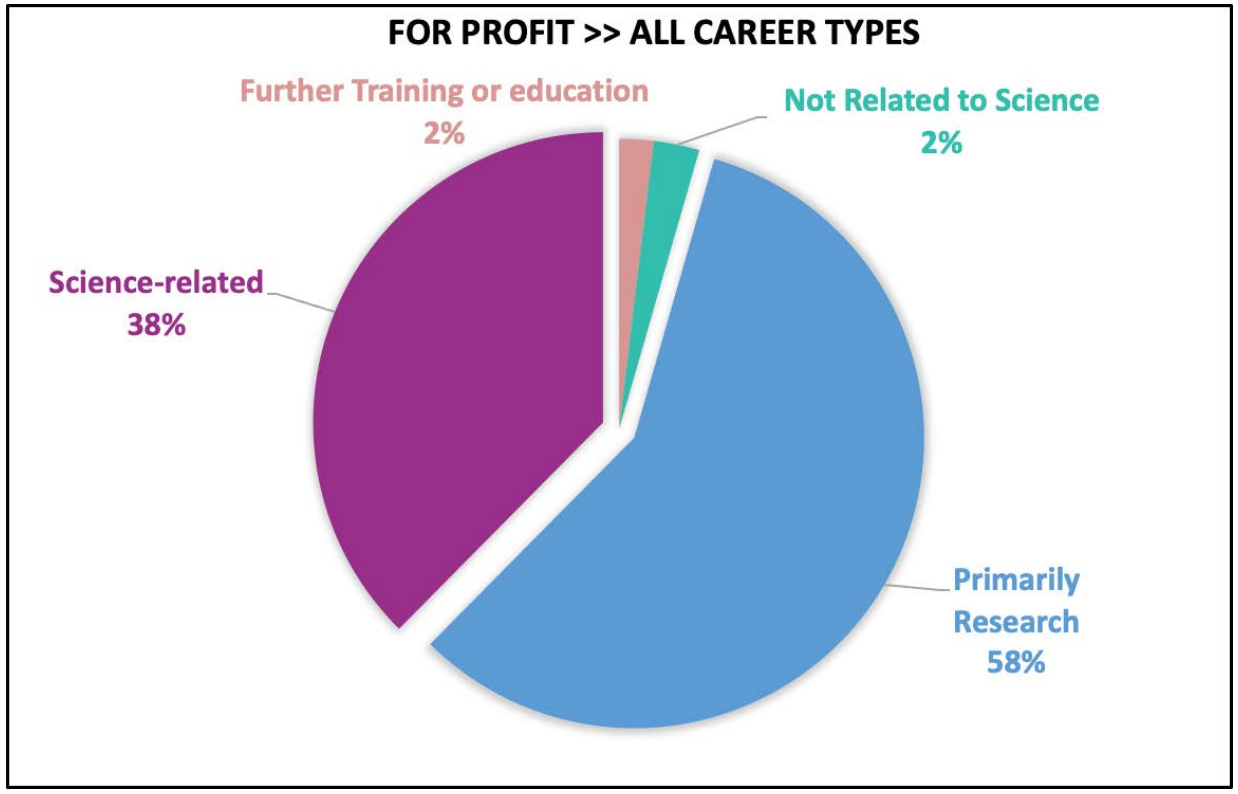
Current Position



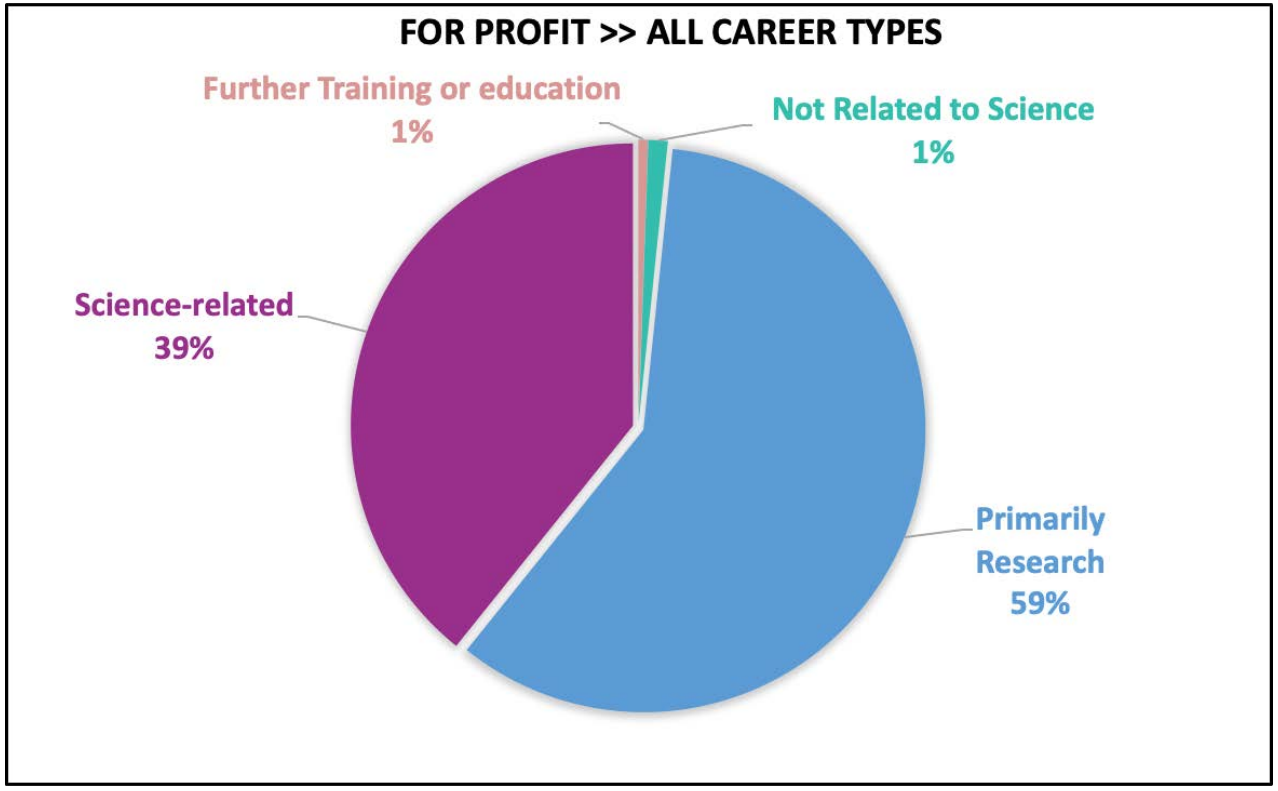
Data analyzed by Tracy Scott

For-Profit – Research vs Science-Related

First Position



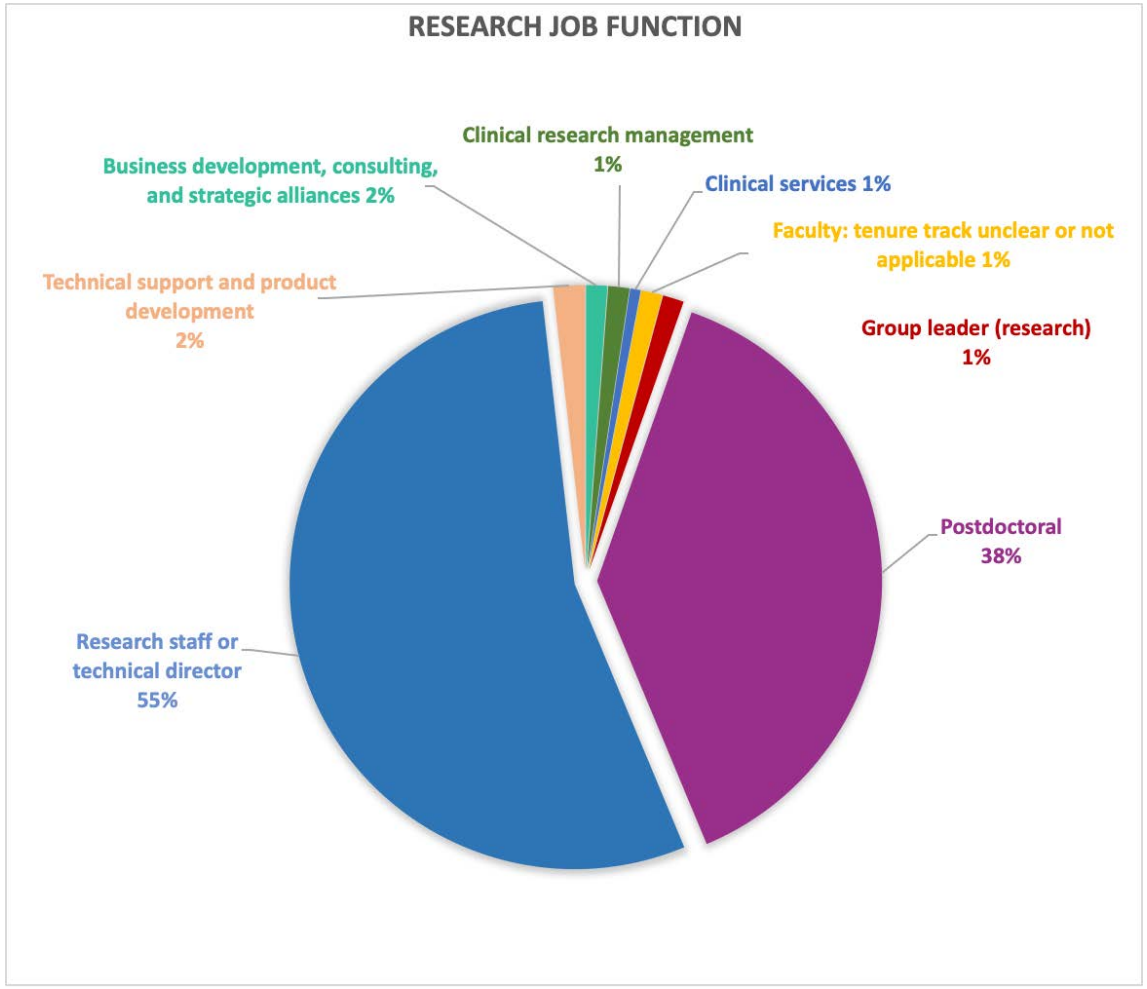
Current Position



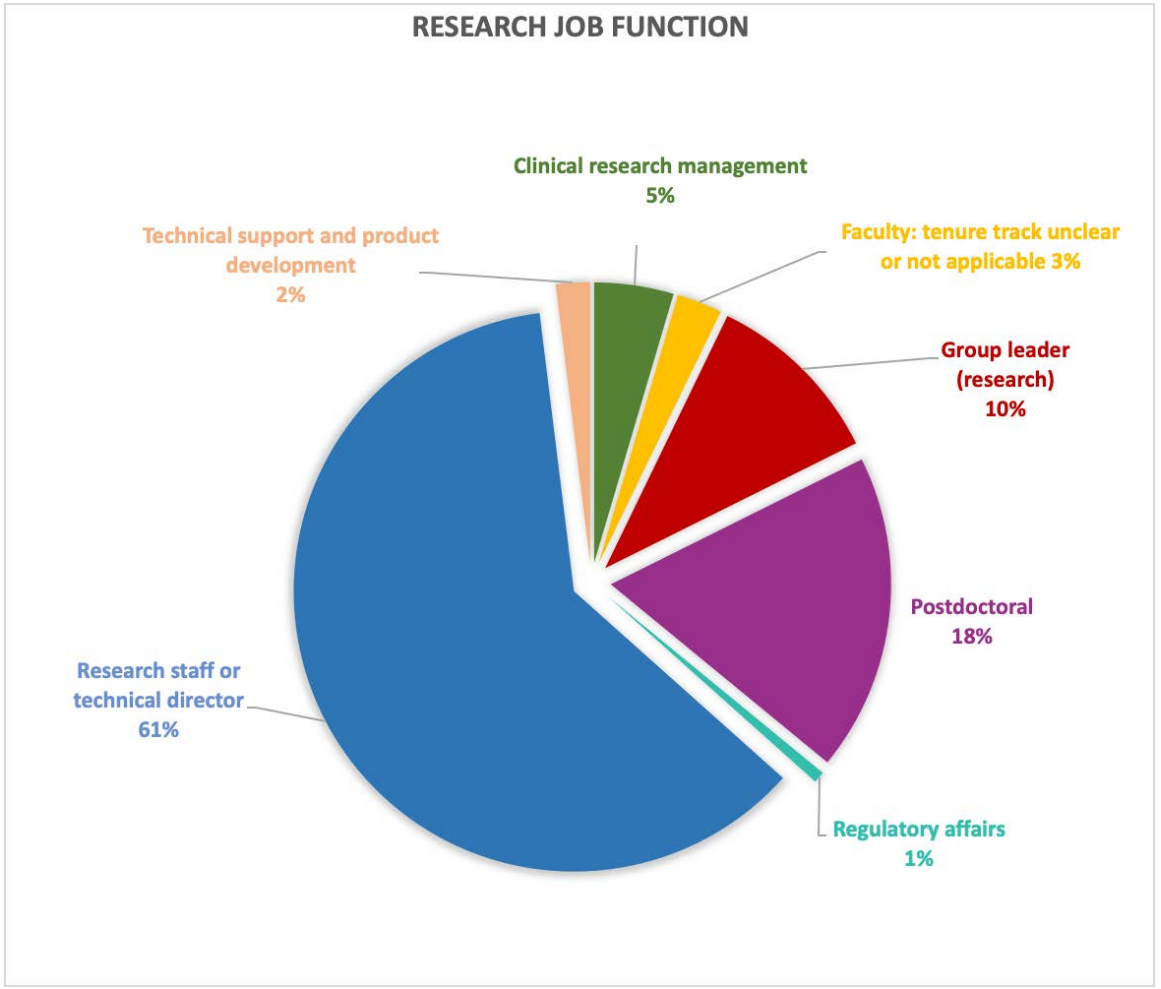
Data analyzed by Tracy Scott

Research Job Functions

First Position



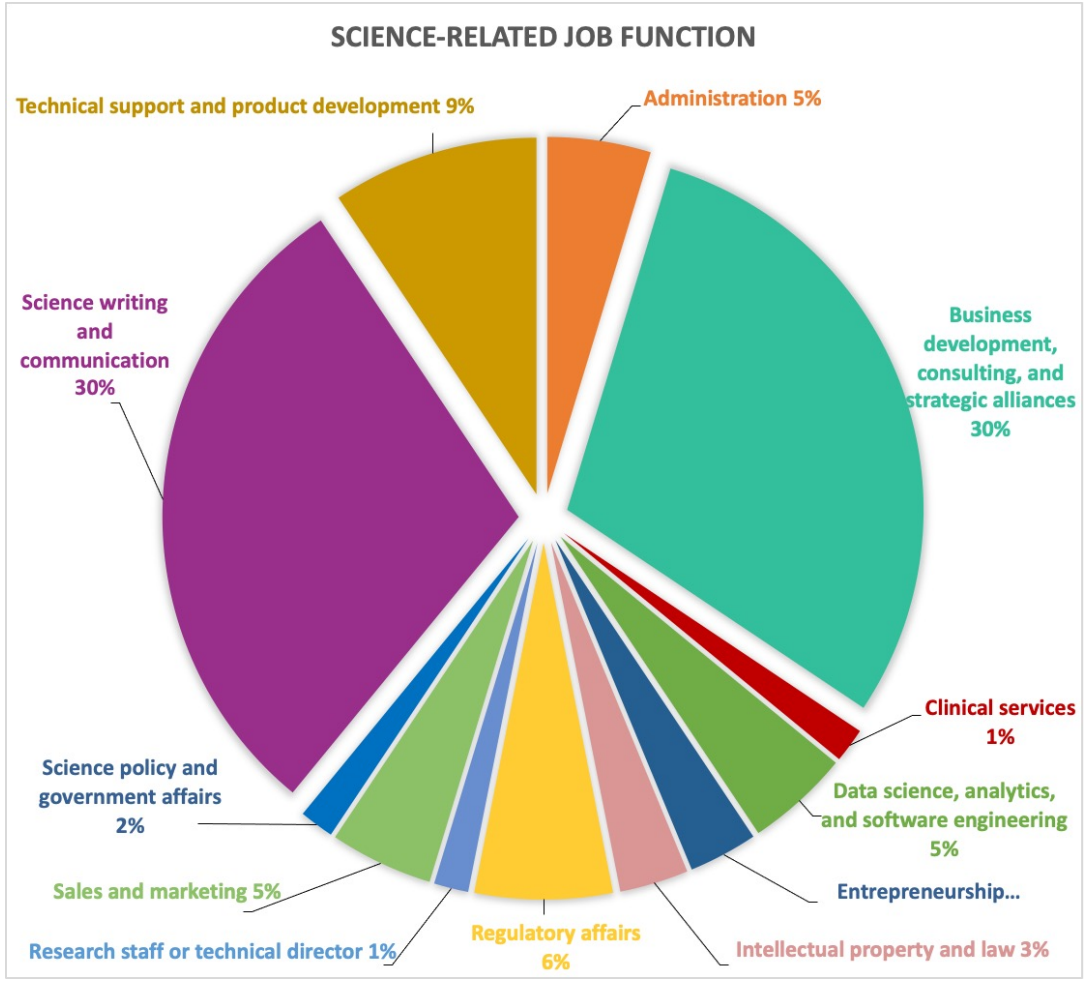
Current Position



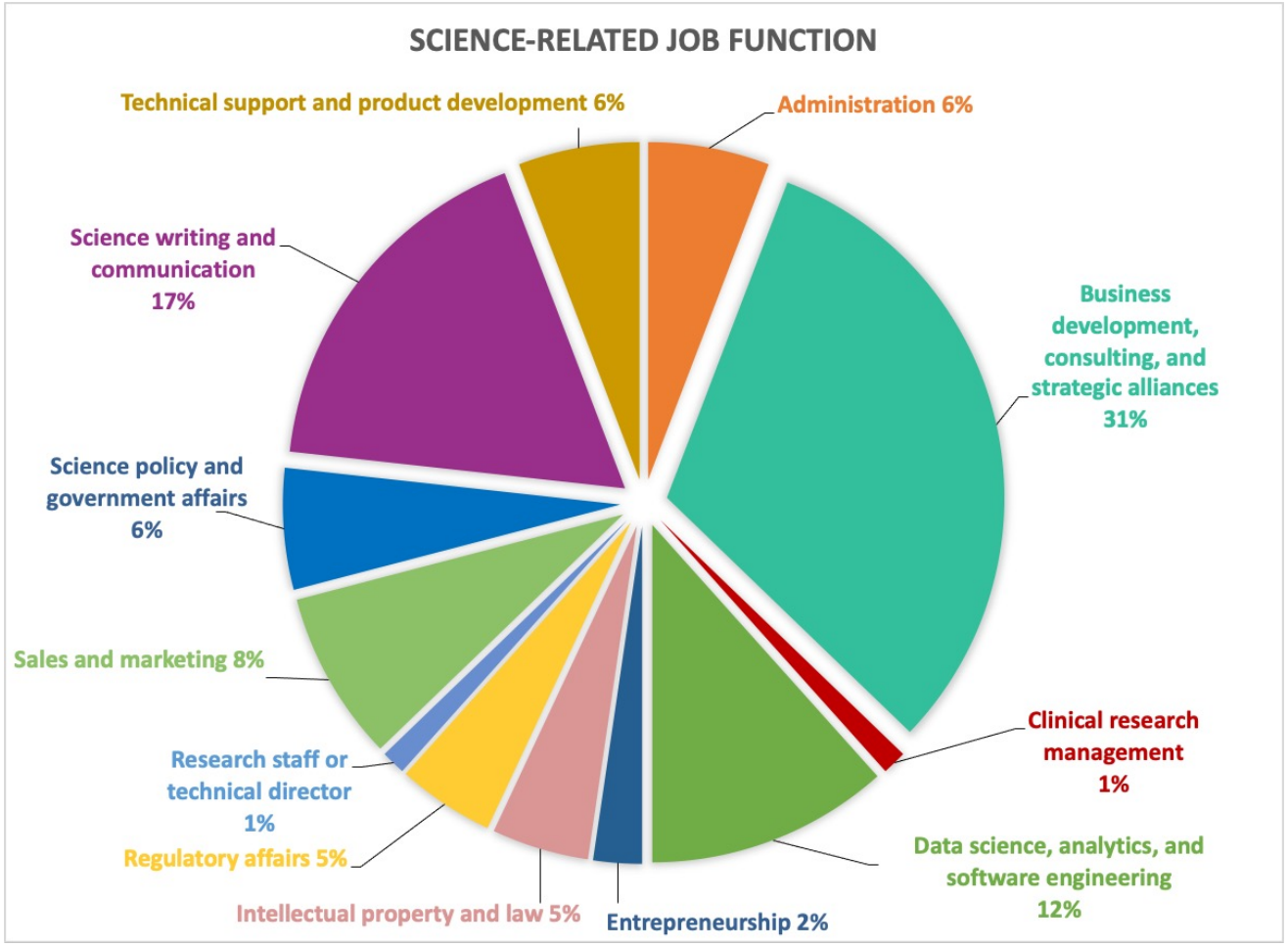
Data analyzed by Tracy Scott

Science-Related Job Functions

First Position



Current Position



Data analyzed by Tracy Scott

Representative Job Placement

AMGEN Senior Associate Scientist	Post-Doctoral Fellow	janssen Contract Scientist	celularity Research Scientist	Bristol-Myers Squibb Mgr. Global Regulatory Affairs Immuno-Oncology	Edelman Account Executive	Arbutus BIOPHARMA Scientist	Pepper Hamilton LLP Patent Technical Specialist	Biology Science Writer
Post-Doctoral Fellow	Medical Writer	Celgene QC Scientist	evotec Senior Scientist	Takeda Sr. Upstream Dev. Engineer	BIOAEGIS THERAPEUTICS Scientist	Post-Doctoral Fellow	Celgene Translational Scientist	SeattleGenetics Clinical Regulatory Specialist
KASHIV BIOSCIENCES Associate Bioprocess Dev. Scientist	FULBRIGHT SWITZERLAND Post-Doctoral Fellow	GENEWIZ Technical Application Scientist	Post-Doctoral Fellow	WuXi AppTec Scientist II	freyr Regulatory Affairs	USDA Research Fellow	LEO Sr. Mgr., Health Economics and Outcomes Research	insmed Post-Doctoral Fellow/Scientist
Orthobond Director of R&D/Product Development	CAMBRIDGE Post-Doctoral Fellow	McCANN HEALTH Scientific Strategist	NIH Post-Doctoral Fellow	stryker Staff Microbiologist	Bristol-Myers Squibb Research Scientist	Memorial Sloan Kettering Cancer Center Research Scholar	MERCK Post-Doctoral Fellow	Celgene Research Scientist
SVBLEERINK Biotechnology Equity Research Intern	Lilly Senior Post-Doctoral Fellow	Kite Pharma Regulatory Strategy/Liaising	AeroFarms Senior Scientist	L2 Research Scientist	MERCK Quantitative Pharma Senior Scientist	Post-Doctoral Fellow	ICarbonX Bioinformatics Analysis Engineer	CELLO HEALTH CONSULTING Consultant
CELLO HEALTH CONSULTING Associate Consultant	gsk Global Medical Affairs, Oncology	NIH Legislative and Reporting Program Analyst	Post-Doctoral Fellow	janssen Exploratory Biology Scientist	Celgene Research Scientist	hwp Health & Wellness PARTNERS Associate Medical Writer	GSW Associate Medical Strategist	3D Biotek Consultant
ACD Technical Support Scientist	GENEWIZ NextGen Sequencing Study Manager	BCG BOSTON CONSULTING GROUP Consultant	FLYWHEEL Research Analyst	HealthXLogix Medical Writer	Target Health LLC Clinical Operations Specialist	GAMA-1 Scientific Software Engineer	agios Scientist, Drug Metabolism And Pharmacokinetics	CAUDEX Medical Writer
MERCK Scientist, Clinical Development	Gartner Data Scientist	CELLO HEALTH CONSULTING Freelance Associate Consultant	Johnson & Johnson Senior Scientist, Global Raw Material Center	NIH NATIONAL CANCER INSTITUTE Post-Doctorate Fellow	NUCLEUS GLOBAL Associate Scientific Director	m MediTech Media Medical Writer	FDA Center for Biologics Evaluation and Research Biomedical Engineer	

PLOS BIOLOGY

META-RESEARCH ARTICLE

A cross-institutional analysis of the effects of broadening trainee professional development on research productivity

Patrick D. Brandt[1]*, Susi Sturzenegger Varvayanis[2], Tracey Baas[3¤a], Amanda F. Bolgioni[4¤b], Janet Alder[5], Kimberly A. Petrie[6], Isabel Dominguez[4], Abigail M. Brown[6], C. Abigail Stayart[7], Harinder Singh[8], Audra Van Wart[9¤c], Christine S. Chow[10], Ambika Mathur[10¤a], Barbara M. Schreiber[4], David A. Fruman[8], Brent Bowden[9], Christopher A. Wiesen[1], Yvonne M. Golightly[1], Chris E. Holmquist[1], Daniel Arneman[1], Joshua D. Hall[1], Linda E. Hyman[4¤d], Kathleen L. Gould[6], Roger Chalkley[6], Patrick J. Brennwald[1☯]*, Rebekah L. Layton[1☯]*

1 University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, United States of America, **2** Cornell University, Ithaca, New York, United States of America, **3** University of Rochester, Rochester, New York, United States of America, **4** Boston University, Boston, Massachusetts, United States of America, **5** Rutgers University, New Brunswick, New Jersey, United States of America, **6** Vanderbilt University, Nashville, Tennessee, United States of America, **7** University of Chicago, Chicago, Illinois, United States of America, **8** University of California-Irvine, Irvine, California, United States of America, **9** Virginia Polytechnic Institute and State University, Blacksburg, Virginia, United States of America, **10** Wayne State University, Detroit, Michigan, United States of America

July 2021

Professional Development Participation is not Associated with Increased Time to Degree

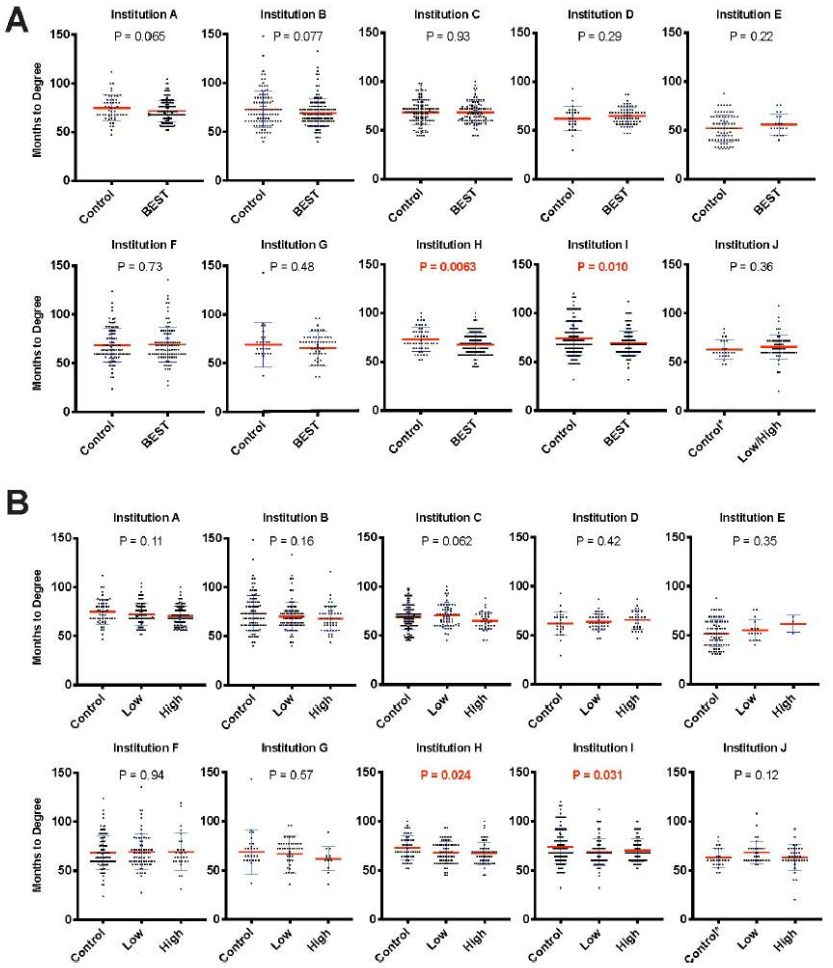
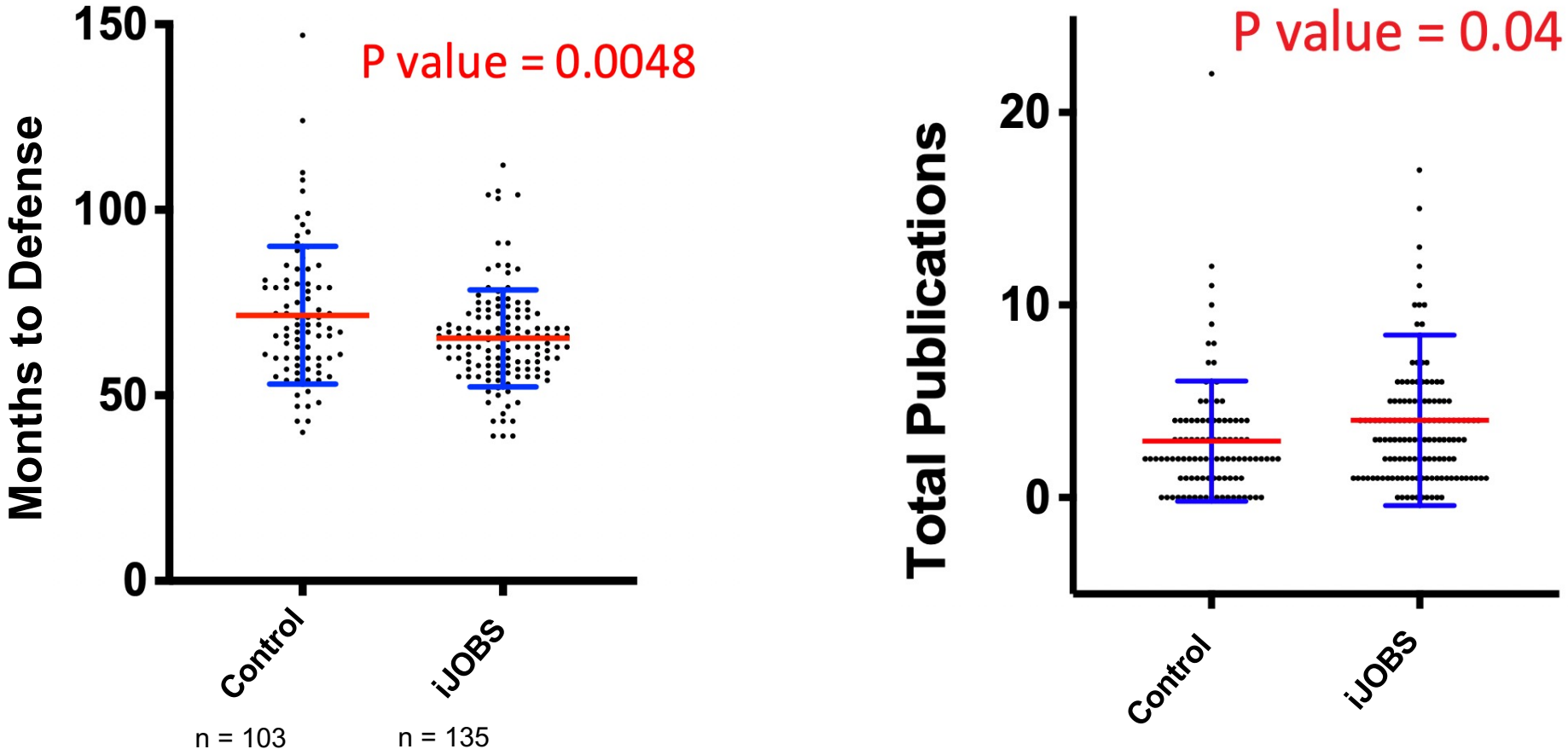


Fig 1. Professional development participation is not associated with an increase in time to degree. (**A**) Months to degree vs. binary professional development participation. Blue error bars represent standard deviation of the mean. Mean is denoted by a red line. Independent samples *t* tests (see Table F in S1 Text for statistical test results) were used to compare control (nonparticipants) vs. participant time to degree (significant values of $p < 0.05$ noted in red). Control* for institution J indicates that the control individuals were approximated based on available participation data (see Material and methods). (**B**) Months to degree vs. dosage of professional development participation. Blue error bars represent standard deviation of the mean. Mean is denoted by a red line. ANOVA was used to compare the impact of control, low-, and high-dose participation on time to degree (significant values of $p < 0.05$ noted in red). Control* for institution J indicates that the control individuals were approximated based on participation data (see Material and methods). The remaining participants were divided into low- and high-participation groups. All data sets are available at https://osf.io/qy3pa/ (permanent DOI: 10.17605/OSF.IO/QY3PA; see also [33]). ANOVA, analysis of variance; BEST, Broadening Experiences in Scientific Training.

iJOBS Participants Have Decreased Time to Defense and Increased Total Publications



Measuring Effects of Trainee Professional Development on Research Productivity: A Cross-institutional Meta-analysis, Brandt et al., PLOS Biology, 2021

Applying Experiential Learning to Career Development Training for Biomedical Graduate Students and Postdocs: Perspectives on Program Development and Design

Audra Van Wart,[†‡§] Theresa C. O'Brien,[‡§‖*] Susi Varvayanis,[¶] Janet Alder,[#] Jennifer Greenier,[@] Rebekah L. Layton,[**] C. Abigail Stayart,[††] Inge Wefes,[‡‡] and Ashley E. Brady[§§]

[†]Fralin Biomedical Research Institute and Virginia Tech Carilion School of Medicine, Virginia Tech, Roanoke, VA 24016; [‖]University of California San Francisco, San Francisco, CA 94143; [¶]Cornell University, Ithaca, NY 14853; [#]Rutgers University, Rutgers, NJ 08854; [@]University of California Davis, Davis, CA 95616; [**]University of North Carolina, Chapel Hill, Chapel Hill, NC 27599; [††]University of Chicago, Chicago, IL 60618; [‡‡]University of Colorado Denver–Anschutz Medical Campus, Aurora, CO 80045; [§§]Vanderbilt University School of Medicine, Nashville, TN 37232

Common Learning Objectives for Experiential Learning Activities Across Institutions

TABLE 2. Common learning objectives for experiential learning activities across institutions [a]

Learning objective	Job simulation or project	Employer site visit	Job shadowing	Internship
Experiential				
Describe the workplace structure and environment.		•	••	•••
Summarize key job tasks and daily workflow.	•	•	••	•••
Explain job expectations and standards for the profession.	•	•	••	•••
Develop a new vocabulary for the job.	•	•	••	•••
Demonstrate new skills for résumé building and future job prospects.	•		••	•••
Apply new knowledge or skills to produce a deliverable.	•		•	•
Execute job tasks with proficiency.				•
Explain key challenges and decision making needed for the job/industry.	•		••	•••
Compare/contrast multiple different professional environments.	•	•	•	•
Compare pathways for pursuing careers in a given area.	•	•	•	••
Reflective				
Confidently explain one's transferable skill sets.	•	•	••	•••
Relate professional responsibilities and expectations of employees in a specific industry to one's personal values.	•	•	••	•••
Rate one's interest in the problems and tools of a specific industry.	•	•	••	•••
Determine whether one's skills and interests align with the career/job.	•		••	•••
Identify one's skills gap for achieving success in a particular work sector.	•	•	•	•••
Prospective				
Assess and revise career development plan.	•	•	•	•••
Expand network with individuals in an industry sector of interest.	•	•	•	•••
Produce a deliverable that can described or shared.	•			•••
Identify most relevant professional organizations to become involved with.	•	•	••	•••
Identify most appropriate training opportunities for addressing deficiencies or expanding skill sets.	•	•	••	•••

[a]This table contains examples of key learning objectives that were shared across institutions for their experiential learning activities in career and professional development. Learning objectives are categorized as experiential (met directly through the hands-on experience of the activity), reflective (requiring self-reflection and higher-level thinking), and prospective (relating to decisions on future plans and application of new knowledge). The capacity of each experiential learning activity for meeting these learning objectives will vary and has been scored qualitatively as low (•), medium (••), or high (•••) for each objective based on the authors' experiences.

Evaluation Methods Used for Assessment of Experiential Learning Activities and Programs

TABLE 3. Evaluation methods used for assessment of experiential learning activities and programs[a]

Method	Description	Examples	Common uses and measures
Survey	A series of questions designed to gather opinions and insight about program activities and experiences (usually using an online tool)	• Skill survey pre- and postexperiential learning event • Retrospective survey on perceived value of specific activity (workshop, career trek, etc.) or entire program	• Measure self-reports on select learning objectives and satisfaction with activity • Indirectly measure longitudinal impact of an activity (pre/post)
Assignment	An assigned task designed to assess (and potentially develop) skills, such as written products, visual demonstrations, projects, or presentations	• Science policy brief (or science communication blog) • Completion of a consulting project • Construction of a museum display • Reflection essay describing an informational interview	• Directly measure whether a skill has been attained • Ensure an action item has been performed or a deliverable produced
Performance assessment	Review submitted by an expert in the field who has thorough knowledge of trainee's performance in an experiential learning activity (e.g., internship supervisor)	• Letter of reference from supervisor of internship or other experiential learning activity • Completion of an evaluation rubric	• Directly assess the extent to which an objective has been met • Define areas for individual improvement • Assess efficacy of activity in meeting standards of an expert
Interview	Structured discussion or questioning of individual trainees or a focus group to gain qualitative input at the program level	• Focus group with standardized questions about the experiential learning activities facilitated by the program • Exit interviews	• Identify unexpected benefits of activity and areas for improvement • Identify new learning objectives
Outcome tracking	First job placement in career- field of choice; subsequent career outcomes	• Matching of LinkedIn job titles of former trainees with their career interests (defined by a standard career taxonomy)	• Measure long-term impact of activity on career decisions • Relate results of other evaluation methods (e.g., surveys) to career outcomes

[a]This table contains examples of the methods used to evaluate experiential learning activities and programs at the authors' institutions. The methods vary in terms of their applicability to specific assessment goals (e.g., presenting to stakeholders, scholarly publication, internal program adjustments, individual feedback) and the tailored resources required to deploy them for a given activity or program.

RESEARCH ARTICLE

Using stakeholder insights to enhance engagement in PhD professional development

Deepti Ramadoss[1☯*], Amanda F. Bolgioni[2☯], Rebekah L. Layton[3], Janet Alder[4], Natalie Lundsteen[5], C. Abigail Stayart[6], Jodi B. Yellin[7], Conrad L. Smart[8], Susi S. Varvayanis[9]

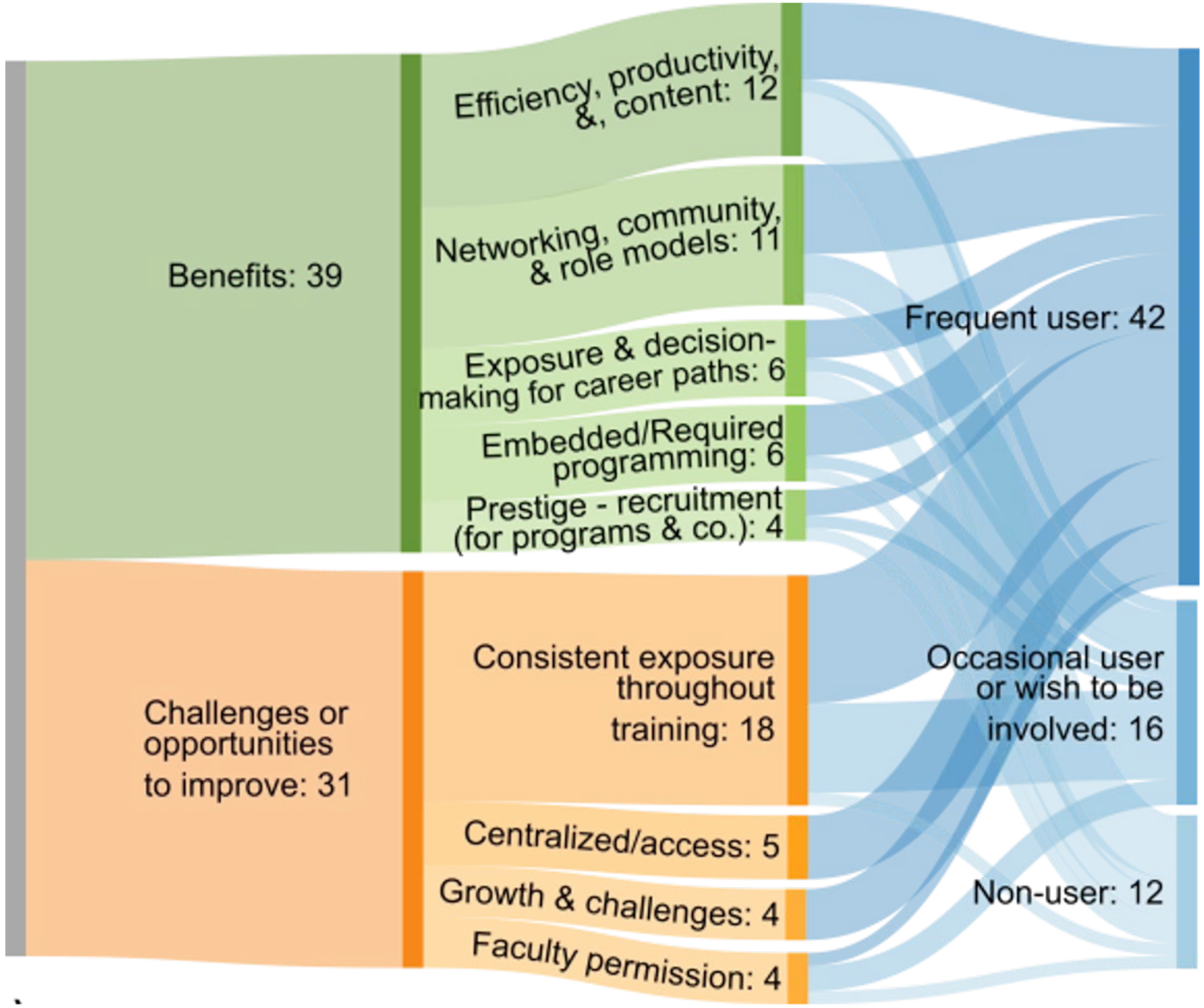
1 School of Medicine Office of Graduate Studies, University of Pittsburgh, Pittsburgh, PA, United States of America, **2** Department of Medical Sciences & Education, Boston University, Boston, MA, United States of America, **3** Office of Graduate Education, University of North Carolina, Chapel Hill, NC, United States of America, **4** Department of Neuroscience and Cell Biology and School of Graduate Studies, Rutgers University, Piscataway, NJ, United States of America, **5** Graduate School of Biomedical Sciences, UT Southwestern Medical Center, Dallas, TX, United States of America, **6** Office of Graduate and Postdoctoral Affairs, University of Chicago, Chicago, IL, United States of America, **7** Association of American Medical Colleges, Washington, D.C., United States of America, **8** Laboratory of Atomic and Solid State Physics, Cornell University, Ithaca, NY, United States of America, **9** Graduate School, Cornell University, Ithaca, NY, United States of America

Study Design and Implementation

1. Define stakeholders
2. One-on-one semi-structured interviews with stakeholders using standardized questions
3. Coding of responses and binning into themes in iterative process as group
4. Simultaneous creation and refinement of stakeholder engagement tool

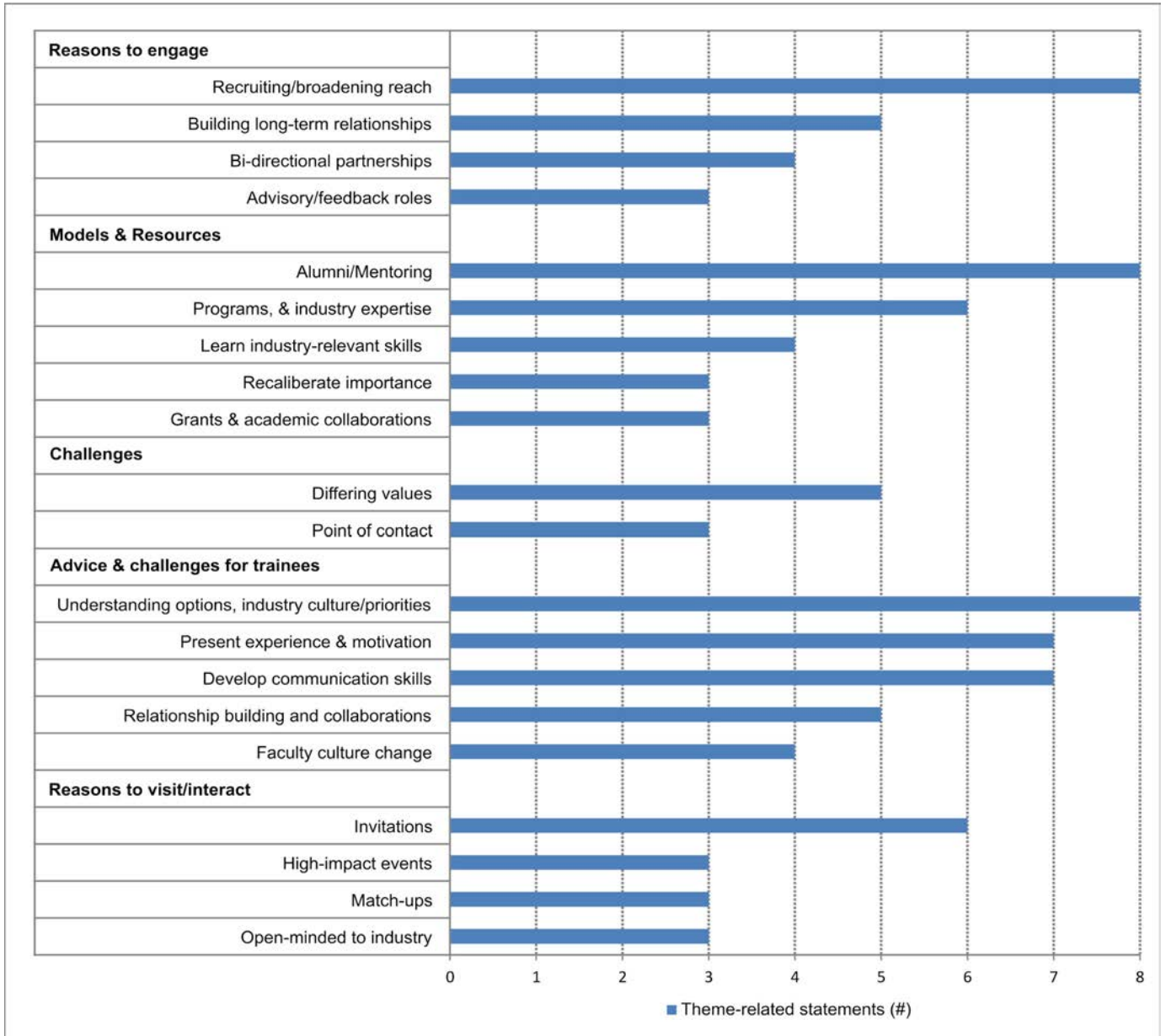
Stakeholder Group	Sub-Group Interviewed		N = 45	Examples
Internal Stakeholders	1)	Pre- and postdoctoral Researchers	9	Predoctoral students, Postdoctoral researchers
	2)	Faculty/Admin	8	Assistant, Associate, Full Professors, Chairs of Department, Directors of Research Centers
	3)	External-Facing Staff	12	Staff administrators with roles in career services, industry / government relations, technology transfer / licensing, communications
External Stakeholders	4)	Non-profit/society Partners	8	Trade organizations, professional societies, non-profits, business associations
	5)	Industry Employers	8	Small and large companies, intellectual property firms, consultancies, accelerators

Stakeholder 1 Themes: Predoctoral Students and Postdoctoral Researchers



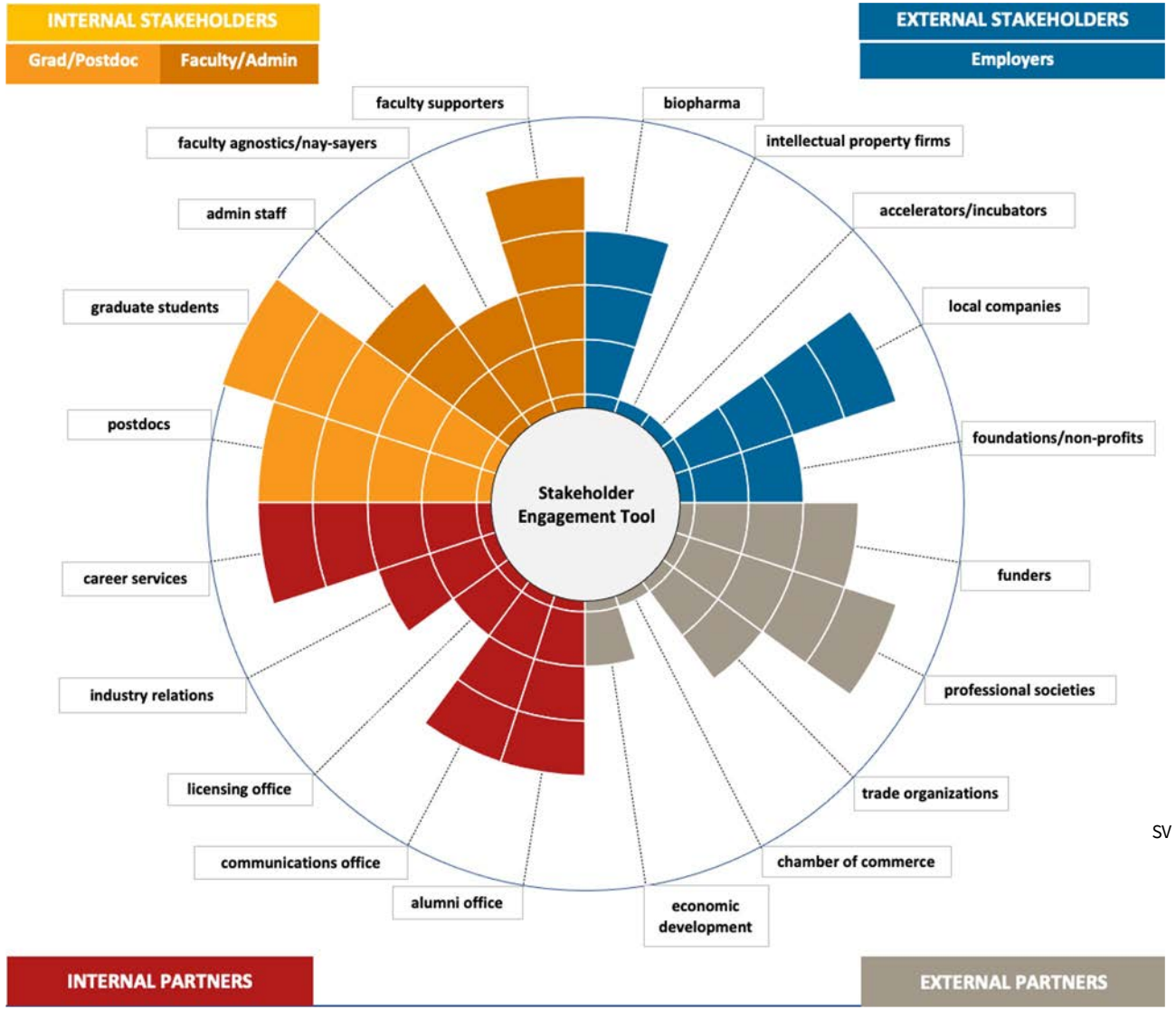
Number of interviews = 9

Stakeholder 5 Themes: Employers – Small and large companies, intellectual property firms, consultancies, accelerators



Number of interviews = 8

Stakeholder Engagement Tool



SV

Peer Communication and Benchmarking

- **Susan Engelhardt**
- Provides an instructional guide for institutions wanting to create or supplement their career and professional development offerings
- Contains perspectives from administrators from the 17 Broadening Experiences in Scientific Training (BEST) institutions
- Addresses what graduate students and postdoctoral populations can implement now to help broaden career outcomes

www.elsevier.com/books/BEST/9780128207598

Editors: Lorena Infante Lara, Laura Daniel, Roger Chalkley
Paperback ISBN: 9780128207598
Imprint: Academic Press
Published Date: 1st February 2020
Page Count: 308

iJOBS Benefits

Rutgers University

- Recruiting of graduate students
- Takes burden off of faculty for advising towards careers with which they are not familiar
- Student mental health, motivation, productivity
- NIH Training grants require career development component
- Increased interaction between Rutgers and industry

Industry Partners

- Access to highly trained local talent pipeline
- Ability to influence curriculum
- Vet potential hires through shadowing/externship
- Promotion of company brand
- Interactions with academia
- Community and education outreach/service

Teaches leadership, business, teamwork, and communication skills necessary for ALL careers.

Agenda for today

9:00 AM – 9:30 AM Welcome and iJOBS Program Update

Janet Alder, Co-Director

iJOBS Program at Rutgers University

9:30 AM – 10:30 AM Workshop on Leadership and Management Skills

Juliet Chin Hart, Career Coach

Learn how to improve your influence in the work place

10:30 AM – 10:45 AM Break

10:45 AM – 11:15 AM Let's Hear from Our Phase 3 Trainees!

Facilitated by Doreen Badheka, Co-Director

iJOBS Program at Rutgers University

11:15 AM – 12:15 PM Keynote Speaker

Tanya Borsuk, PhD, Executive VP of Corporate and Business Development at Congruence Therapeutics

12:15 PM – 1:00 PM Career Cluster Meetings and Networking Lunch

Industry Professionals and fellow trainees share advice during networking lunch. Food sponsored by Accreditation Council for Medical Affairs

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Congratulations to Our Current Phase 3 Trainees!

- Gina Castellano
- Nydia Chang
- Juliana Correa-Velloso
- Sonal Gahlawat
- Stephania Guzman
- Fernando Janczur Velloso
- Natalie Losada
- Sierra Swords

Stephania Guzman, PhD, Cellular and Molecular Pharmacology 2022

Medicines Innovation Hub, Leadership Development Program (LDP) at Eli Lilly

iJOBS Phase II: Class
Practical Aspects of Clinical Trial Design and Conduct

- Asynchronous
- All of the work is done in groups except for quizzes
- Gained insights into how clinical trials are developed and conducted
- You get what you put in

iJOBS Phase II: Shadowing
GSK Medical Affairs with Richard Petruschke

- Provided background research for a Medical Advisory Board
- Assisted in medical innovation sector with background on new medical claims for natural ingredients
- Met with several GSK employees in different sectors to discuss their experience
- Was able to go on site for half a day every two weeks

iJOBS does an excellent job of connecting you with those in industry and providing you with the tools to make a successful transition into industry

Natalie Losada

Course:

- *Drug Development from Concept to Market*
  - Clinical trials, toxicology studies
  - Best practices and FDA involvement and regulation
  - Drug market effects over time/people/available treatments

Shadowing:

- Global Medical Affairs Publication Operations at Janssen:
  - First an Associate Director and Medical Writer
  - Later moved to Publication Strategy
- Learned:
  - Publications, abstract submissions, independent research, team coordination
  - New experience of publishing preliminary clinical results

Mentoring:

- FDA regulatory
- Moved to medium-sized Biotech, Denali Therapeutics

Informational interviews:

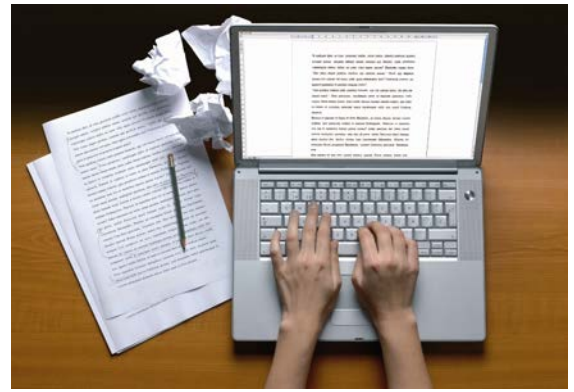
- Health communication at FDA
- Various medical writers and directors

Phase 3 Trainee

Chemistry and Chemical Biology Department

Career of interest:

Science Communication



Nydia Chang – iJOBS Phase 2 Experience

- **Course: Drug Development from Concept to Market (MBS, 16:137:510)**
  - Learned about the process of drug discovery and development
  - Guest lecturers from experts in different fields
  - Team projects to meet classmates with different background and gained experience in team presentations
- **Shadowing – PsychoGenics**
  - Preclinical CRO with expertise in CNS and orphan disorders
  - Shadowed and met scientists across various functional roles (*in vivo* study, biochemistry, project management etc.)
  - Learned about industry culture and how people transitioned from academia
- **Mentoring**
  - Helped me set goals for the Individual Development Plan (IDP)
  - Helped me improve CV writing
  - Monthly meetings to check in progress toward achieving career goals

Sonal Gahlawat - iJOBS Phase II Experience

5th-year Ph.D. Candidate, Biomedical Engineering

iJOBS Phase II: Class

- Had already taken “Drug development from Concept to Market” – Business School class.
- Communicating Science – Spring 2022.
  - The most fun class! So many games..
  - Learned and applied the principles of drama/theater to practice communication skills.
  - PRACTICE!! (Mostly ignored)
- Learned how to engage a diverse audience (not an easy task)
- Capstone Project Leader: Michael Johnson, Visikol

iJOBS Phase II: Shadowing

- Interested in the medical device industry: stents, vascular grafts, valves.
- svelte medical systems
- Diana Williamson, Vice President, R&D.
- Opportunity to use my technical skills in an industry setting.
- Developed project management skills (lots and lots of checklists for *in vitro* testing), FDA submissions, and importance of cross-functional teams.

✓ **Confident in Networking** (esp. LinkedIn) – Boston Scientific, Medtronic, Abbott, Edward Lifesciences.

✓ **Confident in my technical and leadership skills**

✓ **Believe in yourself !**

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Coordinators:
Sonal Gahlawat, 5th-year Ph.D. Candidate, Biomedical Engineering (sg1389@scarletmail.rutgers.edu)
Briana Bivens, Postdoctoral Research Associate, SGS (bb770@grad.rutgers.edu)
Ramazan Güngör, Assistant Dean for Professional Development, SGS (rg835@grad.rutgers.edu)

RUTGERS
THE STATE UNIVERSITY OF NEW JERSEY

Attestation of Completion

is hereby granted to

Trainee Name

to certify that he/she has completed to satisfaction

iJOBS

interdisciplinary Job Opportunities for Biomedical Scientists

iJOBS training involves exposure to academic and non-academic career options with a PhD in life sciences as well as training in leadership, business, and communication skills.
Practical experience includes company externships, case studies and coursework in the area of interest.

Granted: October 27, 2022

Janet Alder D. K. Badheka

iJOBS Co-directors:
Janet Alder, Doreen Badheka

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Career Cluster Meetings and Networking

Questions to prompt discussion:

1) What sparked your interest in this career path?

2) If I could do take one concrete action prior to my job search to help me get into this field specifically, what would that be (e.g. practice case studies, get teaching experience, get a certification, build a writing portfolio, learn a specific lab technique that is in high demand)?

3) What do you think is one challenge or negative aspect of this career path?

4) What personal attributes and transferrable skills are most essential for success in this career path?