

# RUTGERS

THE STATE UNIVERSITY  
OF NEW JERSEY

## Rutgers iJOBS

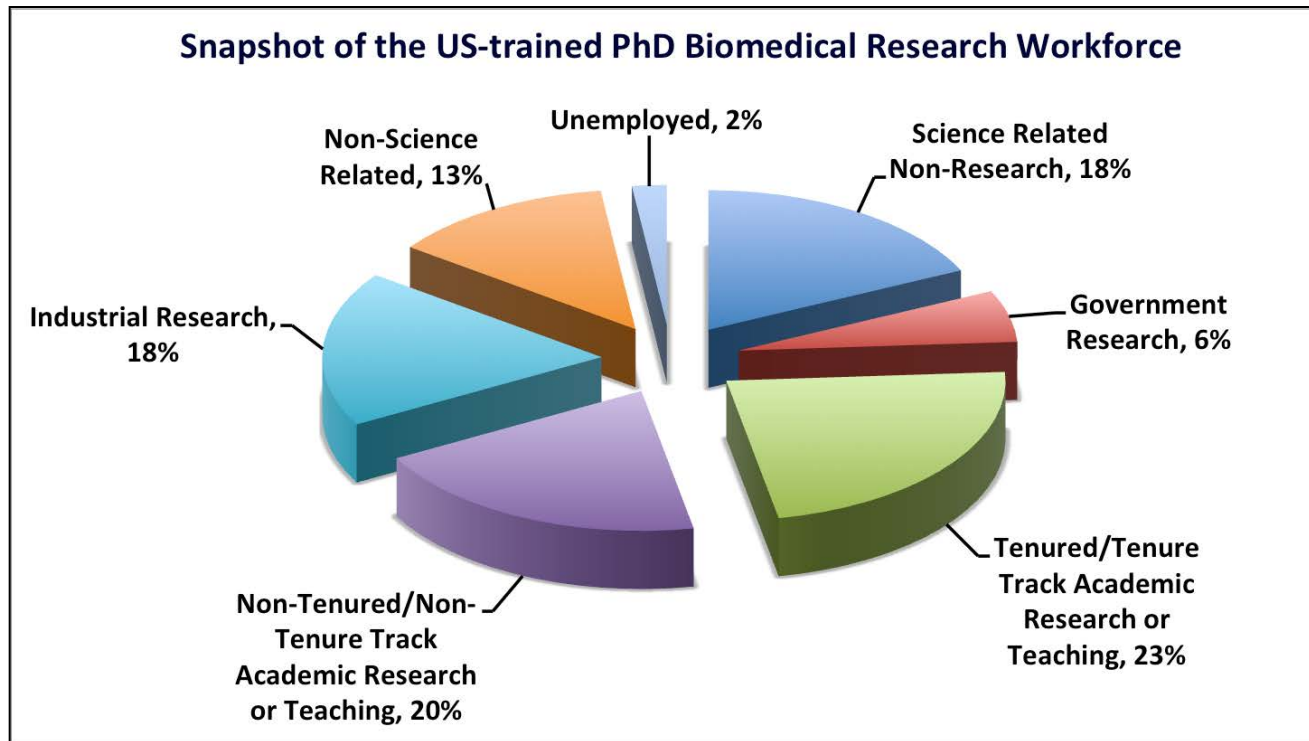
Janet Alder, PhD

March 2021



# Changing Times

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



# BEST Awardees

**17 Universities**

**\$2 million for 5 years (2014-2019)**

**Infrastructure support**

**No direct fellow funding**

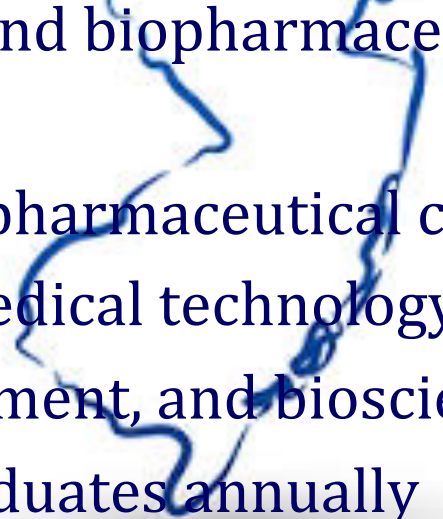
1. Cornell U
2. Emory/Georgia Tech
3. NYU
4. U Mass Worcester
5. UC Davis
6. UCSF
7. U Colorado Denver
8. Vanderbilt U
9. Virginia Polytech
10. Wayne State



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



# Holistic Phased Programming



# Phase 1



Phase 1  
iNQUIRE



# Representative Career Tracks

- Principal investigator
- Bench Research in Government, Pharma or Biotech
- Teaching-intensive careers in academia
- Science and Health Policy
- Patent Law
- Tech Transfer and Business Development
- Clinical Research
- Regulatory Affairs
- Health and Science Data Analysis
- Business Consulting
- Scientific Writing and Medical Communications
- Medical Affairs
- Non-profit and Foundations
- Finance and Equity Research
- Publishing
- Food safety
- Journalism
- Teaching Education Outreach
- Entrepreneur



# **SciPhD: Leadership and Business Skills for Scientists**

*Provided by Human Workflows, LLC  
Every Jan/Feb since 2015 - 35 hours*

- 
- **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**

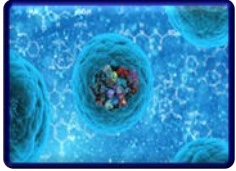
# Representative Site Visits

- McCann Health
- Wiley Publishing
- Merck (5)
- Genewiz (3)
- Bristol-Myers Squibb (4)
- 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
- Ferring Pharmaceutical
- NJ Dept. of Health (3)
- Stryker
- Colgate-Palmolive (2)
- Envigo
- Ethicon
- McCann Health
- Bayer (2)
- PTC Therapeutics
- Nanion Technologies
- Hovione
- J&J Consumer



# Representative Workshops: **Job Simulation**

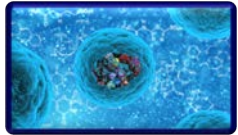
- **Health Economics and Outcomes Research – analyze a drug**
- **Technology Transfer – how to commercialize an invention**
- **Equity Research – decide if you should invest**
- **Project management – determine timeline and deliverables**
- **Entrepreneur – what is involved in starting a biotech**
-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



# Representative Workshops: **Skill Primers**



- **Negotiation Skills**
- **Project Management**



- **R with DataCarpentry - programming and how to deal with large datasets**



- **Good Laboratory Practice (GLP)**
- **Pharmokinetics and Pharmacodynamics (PK/PD)**



- **Immuno-oncology Research**



- **Communicating Science with Alan Alda - elevator pitch and improv to connect with audience**



- **Scientific Storytelling**



# Representative Workshops: **Job Search**



- Job searching during the pandemic and virtual interview
- Landing Job Referrals
- 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
- Self assessments (StrengthsFinder, Birkman)
- Emotional Intelligence and influencing others



# Networking Events

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



# BioNJ or SAPA iJOBS Career Fair

## Participating Recruiting Companies

- Accurant Biotech Inc.
- ACS Scientific Inc.
- Adlai Nortye
- Aleon Pharma International
- American International Group (AIG)
- Asychem Laboratories (Tianjin) Co., Ltd
- Aucta Pharmaceuticals
- Beijing Genomics Institute
- Bristol-Myers Squibb
- Celgene
- Endeavor Consulting Group, LLC
- ForDoz Pharma
- Frontage Laboratories, Inc.
- GenScript Biotech Corporation
- Hengrui USA
- Hodo/Yew Pharmaceutical Co. Ltd
- Kelun Pharma
- Legend Biotech
- Merck
- Nanotech Pharma Inc.
- Novartis
- Protheragen Inc.
- Regeneron
- Sanofi
- Sincere of America
- Sino Biological Inc.
- SunGen Pharma
- United Health Care
- WuXi AppTec

*Please note: You can find the detailed job and role descriptions at the career section of SAPA website.*

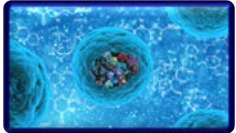


**Spring  
2015, 2016, 2017, 2018, 2019  
exclusive for life science companies**



# Representative Workshops: Science Policy with Eagleton Institute of Politics

- **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-Related Trainee Opportunities



- **Eagleton Science and Politics Fellow in NJ**
- **Board Certification in Medical Affairs**
- **From Science to Pharma MSL Preparation**
- **What Can You Be with a PhD at NYU**
- **GRO Biopharma Conference with NY Schools**
- **BioNJ Inspiring Women in STEM**
- **Association for Women in Science**
- **Regeneron Science to Medicine Forum**
- **Biogen Drug Development Conference**
- **Skills embedded into curriculum (communications, computational)**

# Phase 2



# Representative Career Track Skill Classes

Drug Development from  
Concept to Market

Perspectives in  
Translational  
Pharmacology

Principles of  
Communication and  
Leadership

## One 40-Hour Class

Clinical Trials Overview:  
Methods and Practices

Principles of Finance  
and Accounting

Fundamentals of  
Regulatory Affairs

Clinical Research  
Informatics

Project Management

Python Methodologies

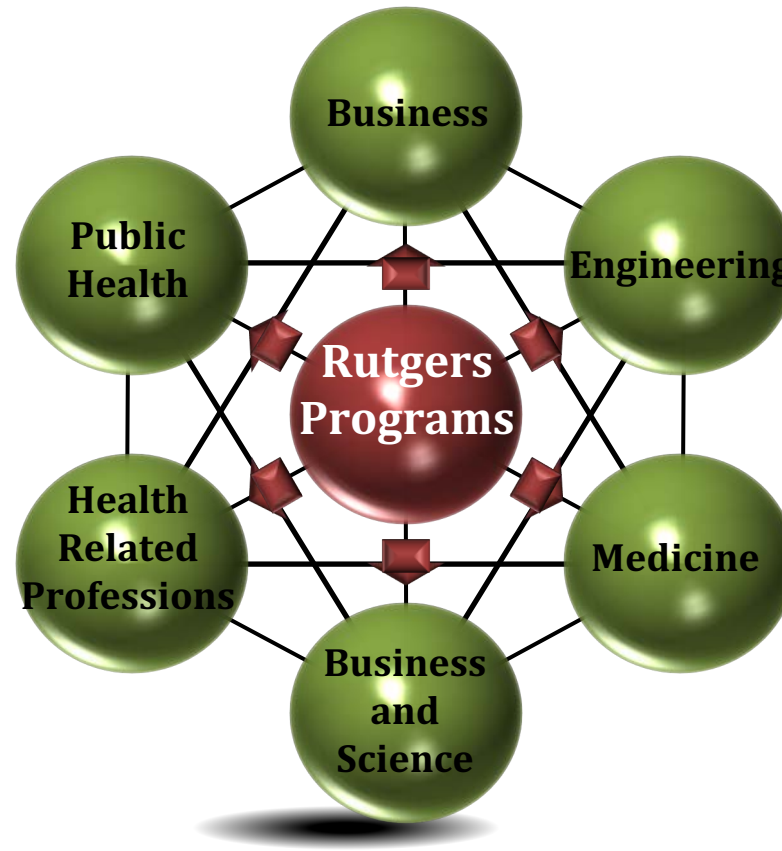
Pharma Product  
Management

Clinical Trials Overview:  
Methods and Practices

Organizational Behavior

Fundamentals of  
Regulatory Affairs

Innovation and  
Entrepreneurship





# Professional Shadowing and Mentoring



- Each trainee is matched to a shadowing opportunity relevant to their chosen track with industrial, institutional or governmental partners. 72 hours over several months
- Each trainee is assigned a professional mentor and uses the Individual Development Plan (IDP) as a framework for growth.

# Phase 3



Phase 3  
IMPLEMENT

# 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™**

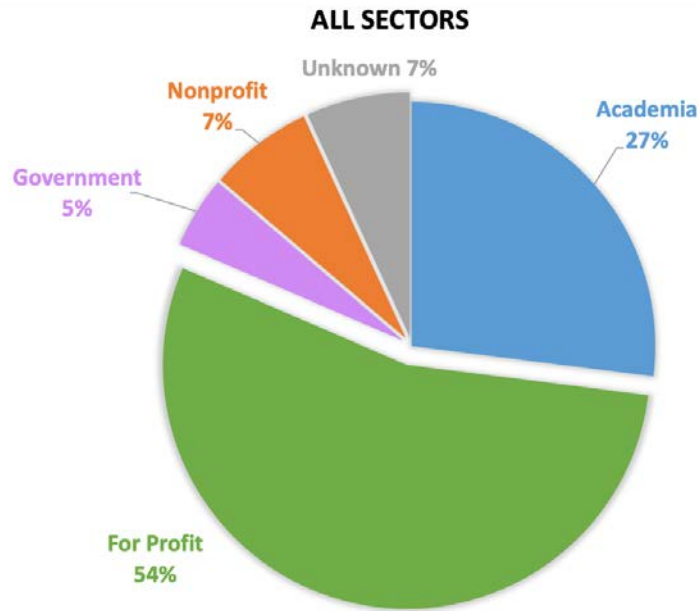


# **Dissemination, Evaluation and Outcomes**

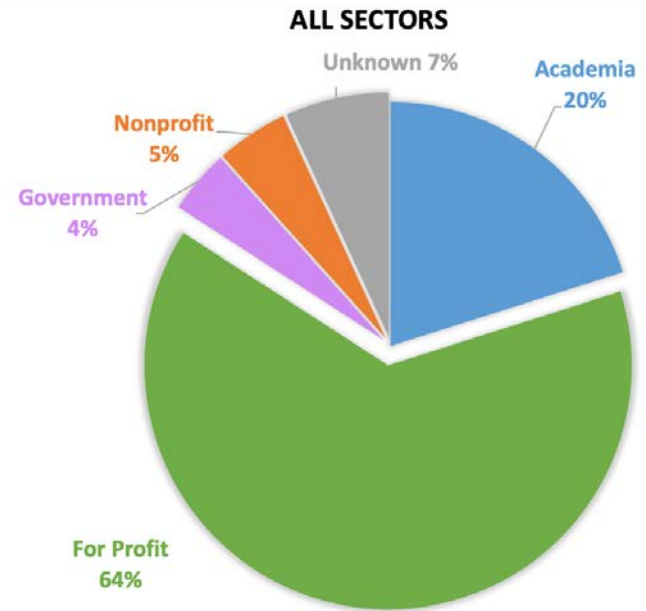


# Positions of SciPhD Participants (n = 189)

## First Position



## Current Position



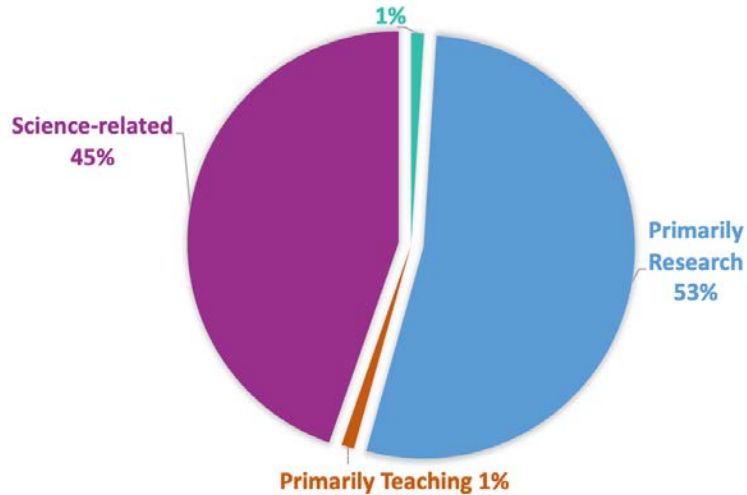


# For-Profit – Research vs Science-Related

## First Position

FOR PROFIT >> ALL CAREER TYPES

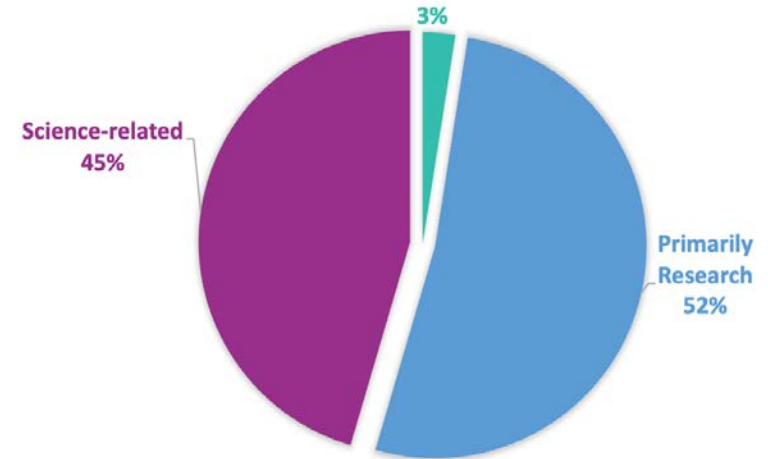
Not Related to Science



## Current Position

FOR PROFIT >> ALL CAREER TYPES

Not Related to Science

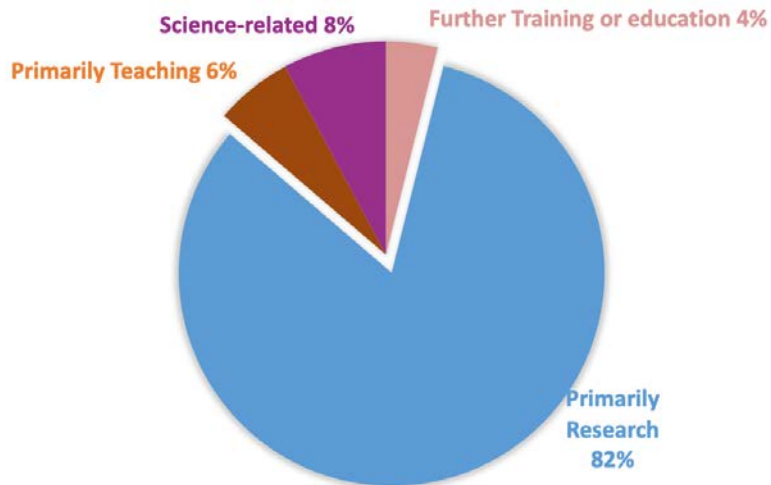


# Academia - All Career Types

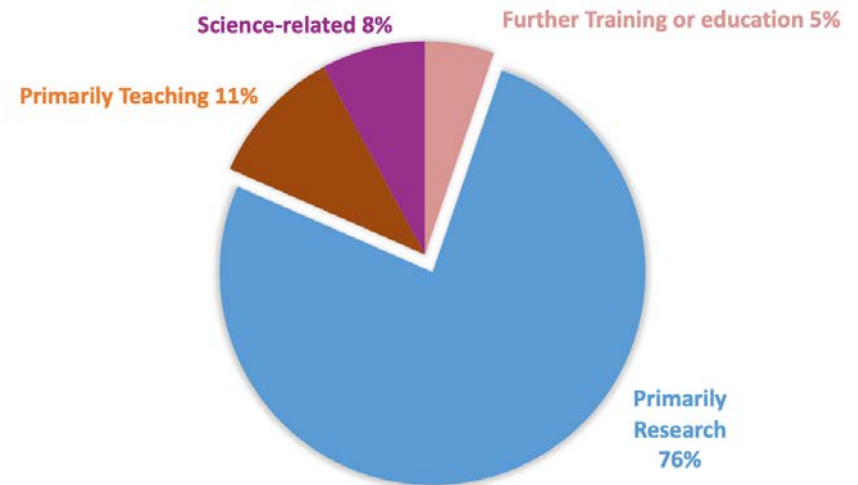
## First Position

## Current Position

ACADEMIA >> ALL CAREER TYPE

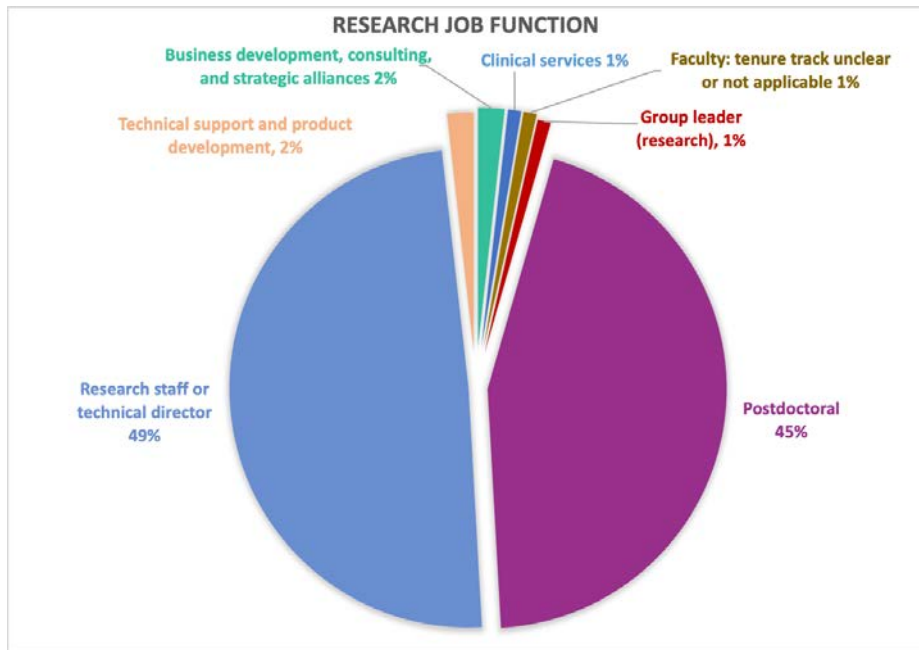


ACADEMIA >> ALL CAREER TYPE

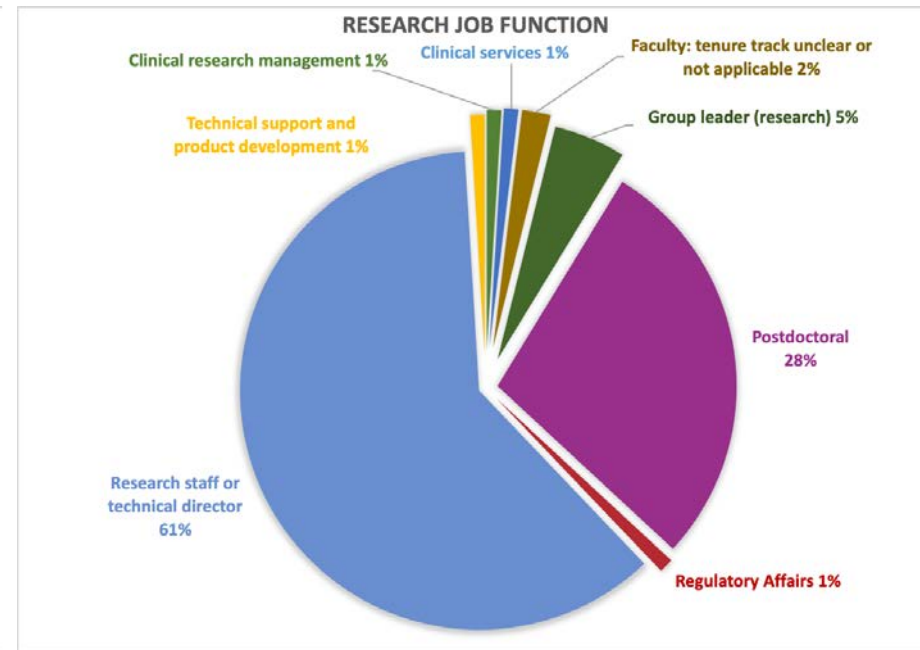


# Research Job Functions

## First Position



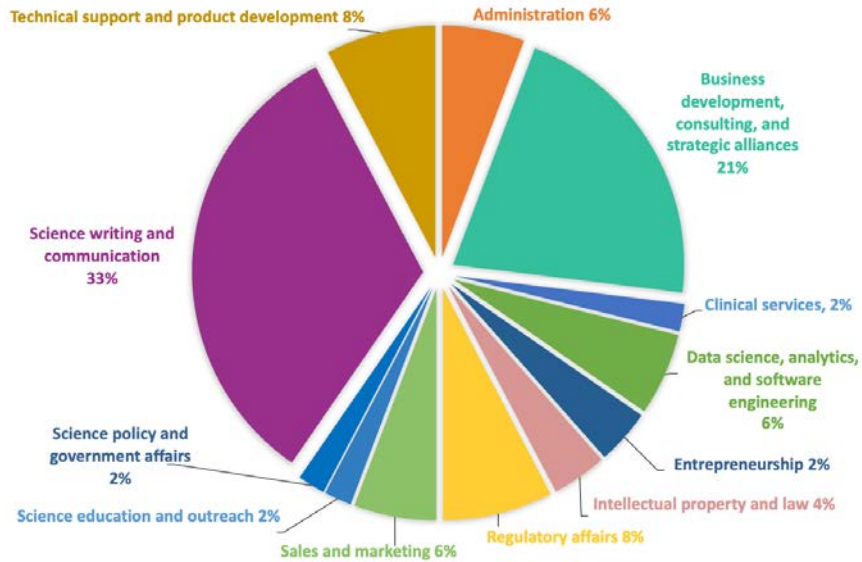
## Current Position



# Science-Related Job Functions

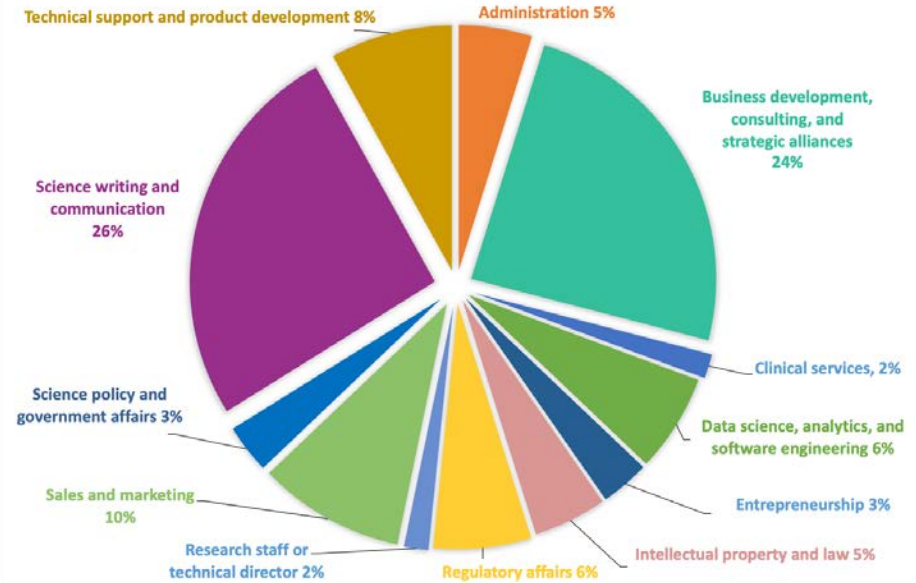
## First Position

SCIENCE-RELATED JOB FUNCTION



## Current Position

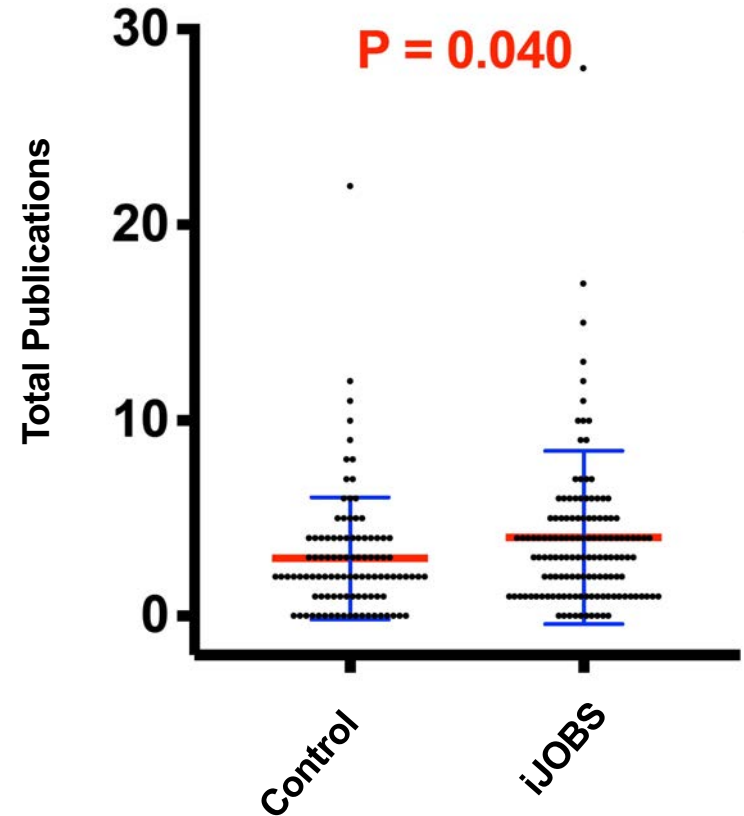
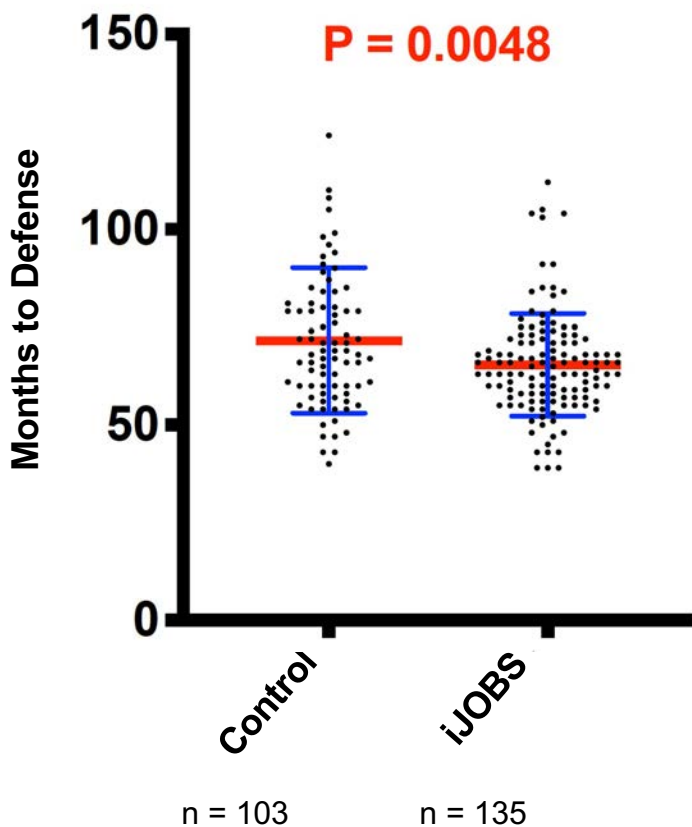
SCIENCE-RELATED JOB FUNCTION



# Representative Job Placement

 Senior Associate Scientist	 Post-Doctoral Fellow	 Contract Scientist	 Research Scientist	 Mgr. Global Regulatory Affairs Immuno-Oncology	 Account Executive	 Scientist	 Patent Technical Specialist	 Biology Science Writer
 Post-Doctoral Fellow	 Medical Writer	 QC Scientist	 Senior Scientist	 Sr. Upstream Dev. Engineer	 Scientist	 Post-Doctoral Fellow	 Translational Scientist	 Clinical Regulatory Specialist
 Associate Bioprocess Dev. Scientist	 Post-Doctoral Fellow	 Technical Application Scientist	 Post-Doctoral Fellow	 Scientist II	 Regulatory Affairs	 Research Fellow	 Sr. Mgr., Health Economics and Outcomes Research	 Post-Doctoral Fellow/Scientist
 Director of R&D/Product Development	 Post-Doctoral Fellow	 Scientific Strategist	 Post-Doctoral Fellow	 Staff Microbiologist	 Research Scientist	 Research Scholar	 Post-Doctoral Fellow	 Research Scientist
 Biotechnology Equity Research Intern	 Senior Post-Doctoral Fellow	 Regulatory Strategy/Liaising	 Senior Scientist	 Research Scientist	 Quantitative Pharma Senior Scientist	 Post-Doctoral Fellow	 Bioinformatics Analysis Engineer	 Consultant
 Associate Consultant	 Global Medical Affairs, Oncology	 Legislative and Reporting Program Analyst	 Post-Doctoral Fellow	 Exploratory Biology Scientist	 Research Scientist	 Associate Medical Writer	 Associate Medical Strategist	 Consultant
 Technical Support Scientist	 NextGen Sequencing Study Manager	 Consultant	 Research Analyst	 Medical Writer	 Clinical Operations Specialist	 Scientific Software Engineer	 Scientist, Drug Metabolism And Pharmacokinetics	 Medical Writer
 Scientist, Clinical Development	 Data Scientist	 Freelance Associate Consultant	 Senior Scientist, Global Raw Material Center	 Post-Doctorate Fellow	 Associate Scientific Director	 Medical Writer	 Biomedical Engineer	

# 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., submitted PLOS Biology



# 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.**



**Questions?**

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