

RUTGERS

THE STATE UNIVERSITY
OF NEW JERSEY

Rutgers iJOBS Virtual Symposium

December 3, 2020



Agenda for today

10:00 AM – 10:30 AM **Welcome and iJOBS Program Update**

Janet Alder, Co-Director

iJOBS Program at Rutgers University

10:30 AM – 11:00 AM **Keynote Speaker**

Greg Erman

President & CEO, EmpiraMed

“How Real World Evidence is Transforming the Healthcare Industry”

11:00 AM – 11:45 PM **Networking Breakout Sessions**

Facilitated by Janet Alder, Co-Director

iJOBS Program at Rutgers University

11:45 PM – 12:00 PM **Let’s Hear from Our Phase 3 Trainees!**

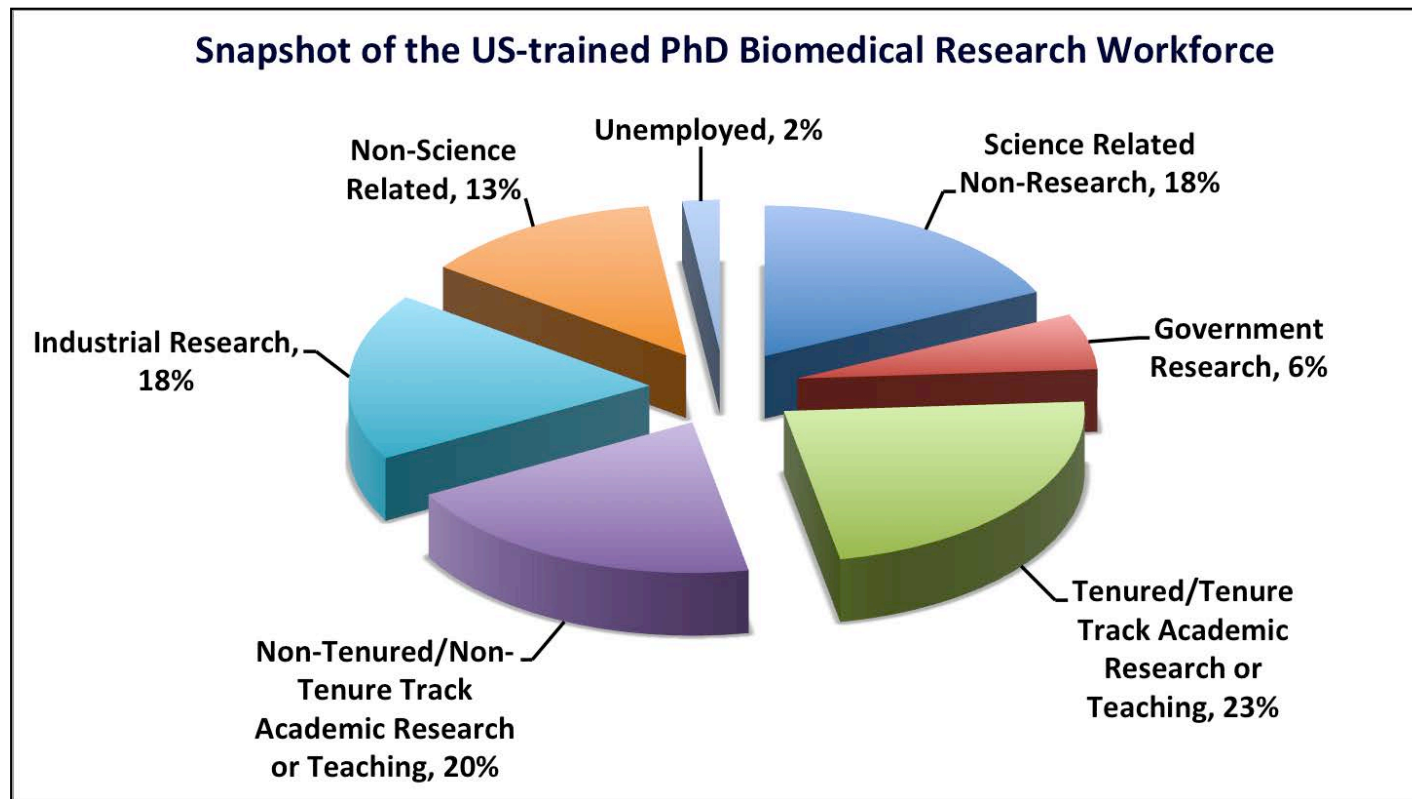
Facilitated by Doreen Badheka, Co-Director

iJOBS Program at Rutgers University

12:00 PM **Closing Comments, Adjourn**

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

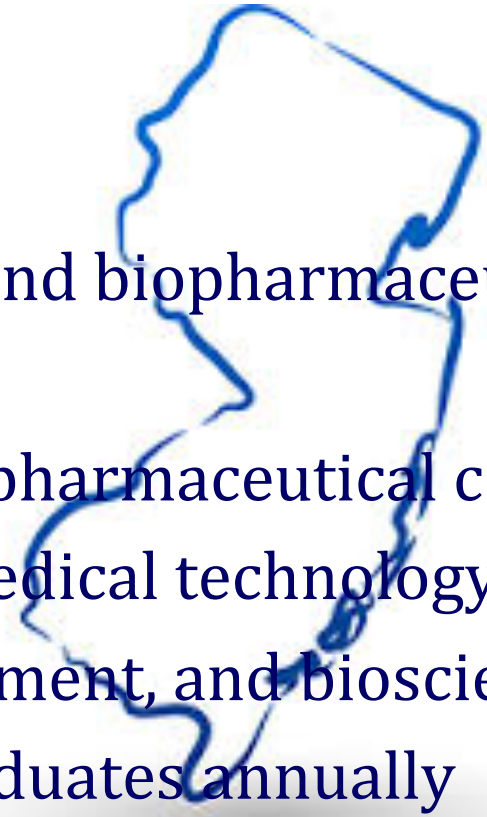


- 11. Rutgers U**
12. U Chicago
13. U North Carolina
14. U Rochester
15. UC Irvine
16. Boston U
17. Michigan State

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

GENEWIZ Solid science. Superior service.

RUTGERS Office of Research and Economic Development

DefinedHealth a CELLO HEALTH business

WILEY

BASF The Chemical Company

Logan Consulting

BAUSCH Health

BAYER Bayer HealthCare Pharmaceuticals

Forest Research Institute A Division of Forest Laboratories, Inc.

AVON FOUNDATION

Hu

CMPI Center for Medicine in the Public Interest

eda NEW JERSEY ECONOMIC DEVELOPMENT AUTHORITY

SEDOR PHARMACEUTICALS

crd CAVAROCCHI RUSCIO • DENNIS ASSOCIATES

MEMORIAL HONOR-ESTERLING CANCER CENTER ESTABLISHED 1984

Pfizer

stryker

REGENERON science to medicine®

NAVIGANT

NOVARTIS

ACCELERATOR Life Science Partners

Bristol-Myers Squibb

BIOAEGIS THERAPEUTICS

Cymreg Consultii

Milton Grannatt

MediTech Media™

integrium Clinical Research

Lilly

Daiichi-Sankyo

AeroFarms™

Kite Pharma FOCUSED ON THE CURE

Mallinckrodt Pharmaceuticals

MTF Musculoskeletal Transplant Foundation

gsk gsk ymbio Pharmaceuticals Limited

Lowenstein Sandler ATTORNEYS AT LAW

Johnson & Johnson

CAPITAL IMPACT GROUP Public Affairs and Business Development

HCG Healthcare Consultancy Group TO MAKE YOU FIRST, WE LEAD

Ashfield Healthcare Communications

INTEGRA LIMIT UNCERTAINTY

CADEX A McCANN HEALTH COMPANY

WuXi PharmaTech 药明康德

alcherabio a subsidiary of argenta

TEVA

FERRING PHARMACEUTICALS

CONLEY ROSE INTELLECTUAL PROPERTY LAW

COVANCE

MERCK

FDA **BioNJ** Advancing the State of Biotechnology

Janssen PHARMACEUTICAL COMPANIES OF Johnson & Johnson

RUTGERS New Jersey Agricultural Experiment Station

AGD Cell Cell Diagnostics

HINJ HealthCare Institute of New Jersey Advancing Science, Health, Learning, New Jersey's Economy

Department of Food Science

Visgo Therapeutics, Inc.

abbvie

Allergan

Reckitt Benckiser

Abbott

HEALTHLOGIX

npr

DU PONT Nutrition & Biosciences

Huron CONSULTING GROUP

APOTHEKER GROUP THE FUTURE OF MEDICAL AFFAIRS

Celgene

RUTGERS UNIVERSITY FOUNDATION

GT GreenbergTraurig

COLGATE-PALMOLIVE

ETHICON a Johnson & Johnson company

Nestlé Health Science

stryker

ADVANTEST

McCANN COMPLETE MEDICAL

Eisai

RESEARCH AMERICA AN ALLIANCE FOR DISCOVERIES IN HEALTH

PA Consulting Group

biogen idec

Intra-Cellular THERAPEUTICS

BD

LEONARD LANCE CONGRESSMAN Saving NEW JERSEY'S 7TH DISTRICT

CSL Behring Biotherapies for life™

CHUGAI

NIH National Institutes of Health Turning Discovery Into Health

celularity

HealthLogix

accenture

SIEMENS

LIFESCAN a Johnson & Johnson company

Department of Health

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



Experienced Program Leadership

**Martin
Yarmush**



**Distinguished
Professor of
Biomedical
Engineering**
School of
Engineering

Co-PI

**James
Millonig**



**Senior
Associate Dean**
School of
Graduate Studies

Co-PI

**Janet
Alder**



**Assistant Dean
for Academic &
Student Affairs**
School of
Graduate Studies

Co-PD

**Susan
Engelhardt**



**Executive
Director**
Center for
Innovative
Ventures of
Emerging
Technologies

Co-PD

**Doreen
Badheka**



**Program
Director**
School of
Graduate Studies

Co-PD

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*

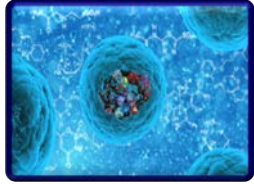
- 
- **The Business of Science**
 - **Major Leadership Styles**
 - **Successful Communications as a Scientist**
 - **Developing Your People**
 - **Networking and the Interview Process**
 - **Team Performance Tools**
 - **Negotiations**
 - **Financial Literacy**
 - **Strategic Project Management for Scientists**

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**

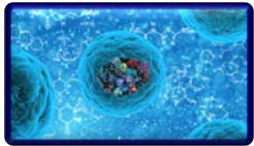


- **Health Economics and Outcomes Research** – analyze a drug
- **Technology Transfer** – how to commercialize an invention
- **Equity Research** – decide if you should invest
- **Project management** – determine timeline and deliverables
- **Entrepreneur** – what is involved in starting a biotech
- **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
- Simcere 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.

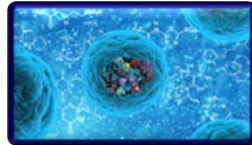


Spring
2015, 2016, 2017, 2018, 2019
exclusive for life science companies



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 Sponsored Trainee Opportunities



- **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**

Phase 2



Phase 2
iNITIA TE

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

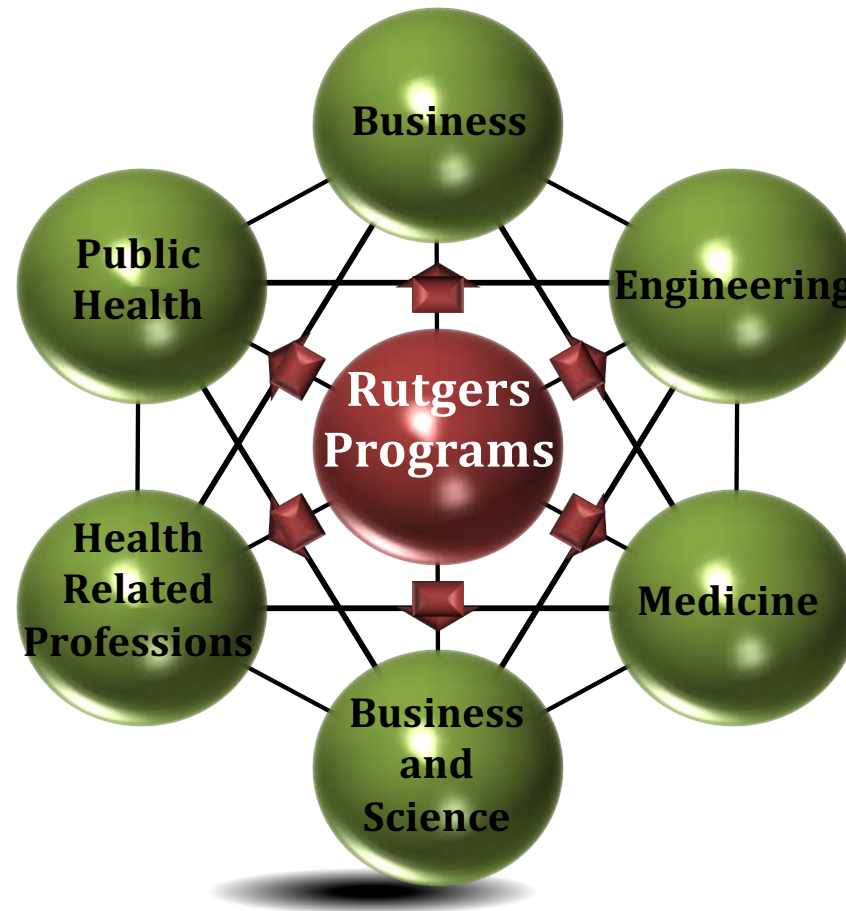
Pharma Product
Management


Clinical Trials Overview:
Methods and Practices

Organizational Behavior

Fundamentals of
Regulatory Affairs

Innovation and
Entrepreneurship





**"One fact, well understood by observation,
and **well guided development**, is worth a
thousand times more than a thousand
words."**

-The American Journal of Education, 1858.

Professional Shadowing and Mentoring



- Each trainee is matched to a mentor and 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.

It's a Win-Win Program

iJOBS Trainee

*"I got to talk with many people across various functions and now **understand what such a career entails.**"*

*"I gained insights to importance of work ethic and collaborative teaming and **how the corporate environment differs from [that in] academia.**"*

Shadow Host

*"I have a better appreciation of how I am able to **positively influence someone interested in starting out in industry.** Those of us who have been in industry for a some time, **take for granted the knowledge base and relationships we've developed.** It's nice to stop, take a breather, and **pay attention to the details of our every day work and relationships.** It's also important to give back to those starting out and **offer opportunities to those interested in entering the industry.**"*

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

Communication Platforms

Email listserve: 1500 members



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



Website: ijobs.rutgers.edu

iJOBS Past Events and Resources

RUTGERS
Interdisciplinary Job Opportunities
for Biomedical Scientists

Home What's New Sign Up Contact Us
About Get Involved Events News FAQ Resources

JOBS EMPLOYMENT

Accounting	107
Administrative/Office	110
Autobiography	129
Banking	156
Business Development	111
Marketing	159
Management	111
Micro/Biotechnology	118
Neuroscience/Social	122
Pharmaceutical	156
Public Health	111
Inventory	107
Legal Employment	110
Industrial/Manufacturing	129
Information Management	156
Marketing	111
Micro/Biotechnology	118
Neuroscience/Social	122
Pharmaceutical	156
Public Health	111

The Rutgers University iJOBS Program, funded by the National Institutes of Health, prepares biomedical scientists for a range of careers in **five professional tracks**: i) science and health policy, ii) business management, iii) intellectual property management, iv) clinical and regulatory sciences, and v) health and science data analysis. The program is designed to complement time spent outside of lab and to maintain research as the primary trainee focus, while offering programming to broaden trainee's perspectives, experiences and knowledge to facilitate pursuit of non-academic careers. Elements include core professional skills training, site visits to partnering companies, didactic courses relevant to the five career tracks, shadowing experiences and career placement support. [Click to learn more about iJOBS.](#)

[Get involved...](#)

7 September 2016

iJOBS Workshop: Job Search Using Staffing Agencies

Hear from representatives from companies such as Aerotek, Hays and Pridestaff to learn how staffing agencies work and how to best utilize them in your job search at different phases in your career. There will be an opportunity to meet with the representatives after their presentations to get general feedback.

Click [here](#) to view the speaker bios for this event.

PODCAST

22 June 2016

iJOBS Career Panel: Identifying and Protecting Emerging Technology/New Business for Pharma

Hear from two Rutgers alum who now work as a Senior Manager of Global Business Insights and Competitive Intelligence at Celgene and an Associate in Life Sciences for IP Group, Inc. To view the agenda and speaker bios, please [click here](#).

PODCAST

14 June 2016

iJOBS Site Visit: Celgene

Visit the manufacturing site for the cellular therapeutics branch of Celgene. Hear from Greg Russotti, PhD Vice President of Tech Ops and hear from other Celgene employees. To view the agenda and speaker bios, please [click here](#).

Peer Communication and Benchmarking



- 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

Quantitative and Qualitative Evaluations



SUNITA CHAUDHARY

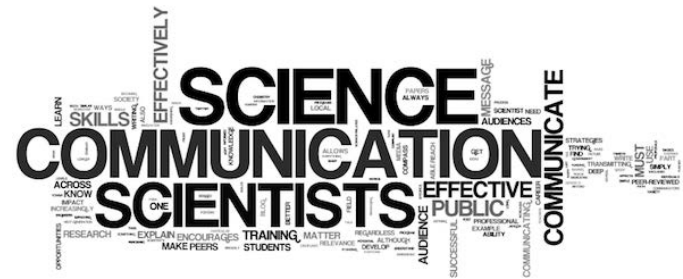
- Identify biomedical training best practices
- Trainee and awardee assessment:
 - understanding of career opportunities, confidence to make career decisions, and attitudes towards career opportunities
 - reduced time to training opportunities and time in postdoctoral positions
 - further development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

How to respond to feedback from industry regarding skills gap?

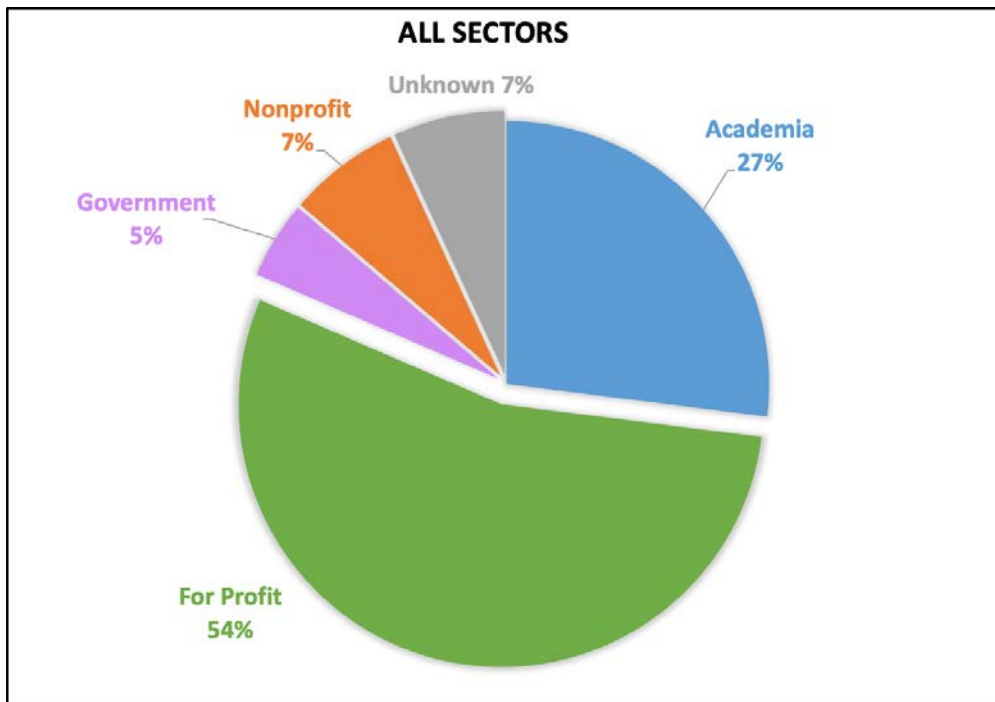
Embed skills into curriculum with new courses

- Gap in **science communication skills** resulted in Burroughs Wellcome Foundation grant to build tailored course (Spring 2017-present).
- **Quantitative skills** class in experimental design, statistics and data analysis. Also fulfills NIH Rigor and Reproducibility requirements.
- **Computational classes** for programming in R and Python
- Course on **professional preparedness** stressing financial literacy, project/process management, quality assurance and teamwork.

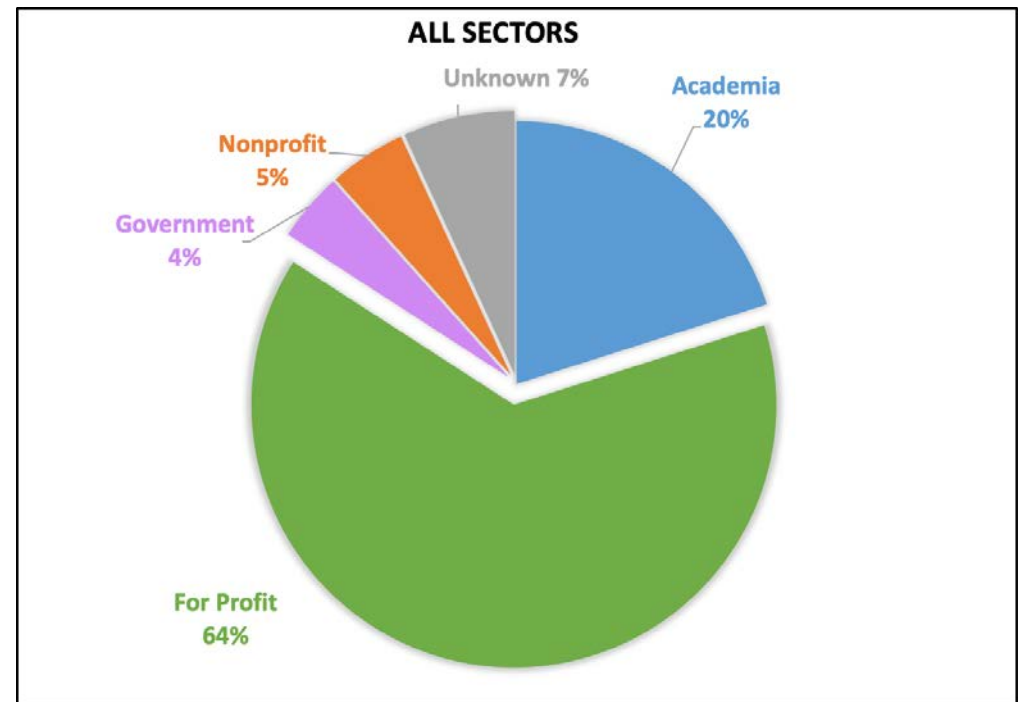


Positions of SciPhD Participants (n = 189)

First Position

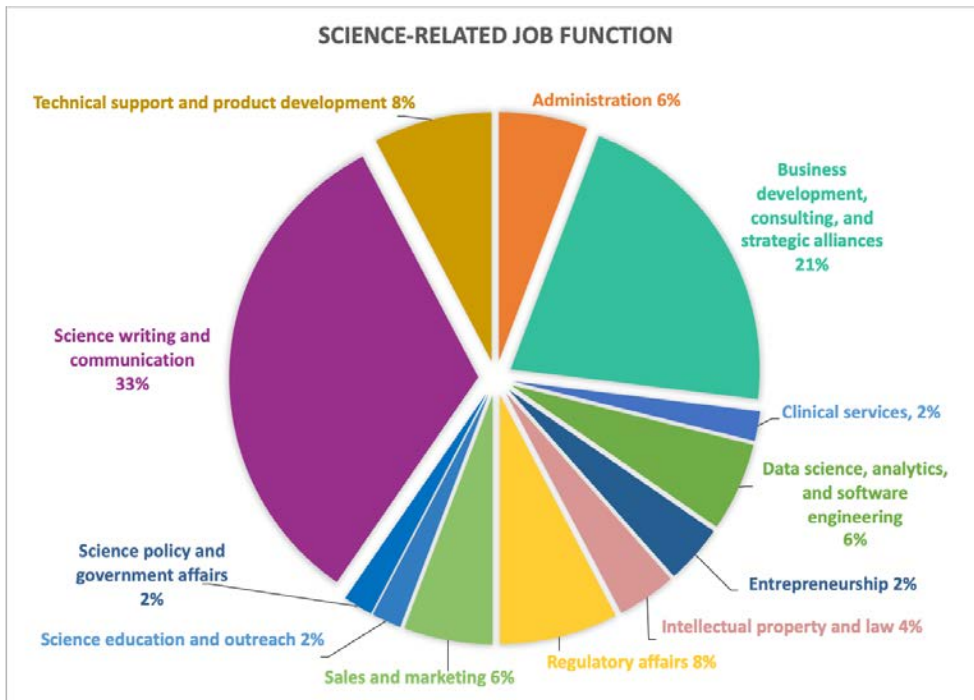


Current Position

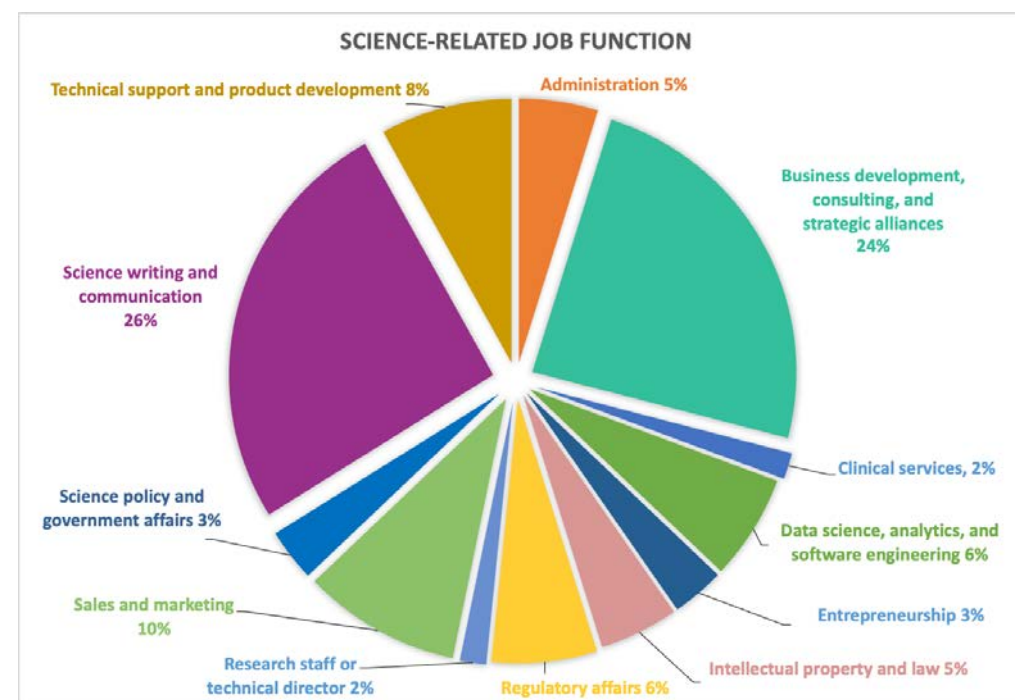


Science-Related Job Functions

First Position



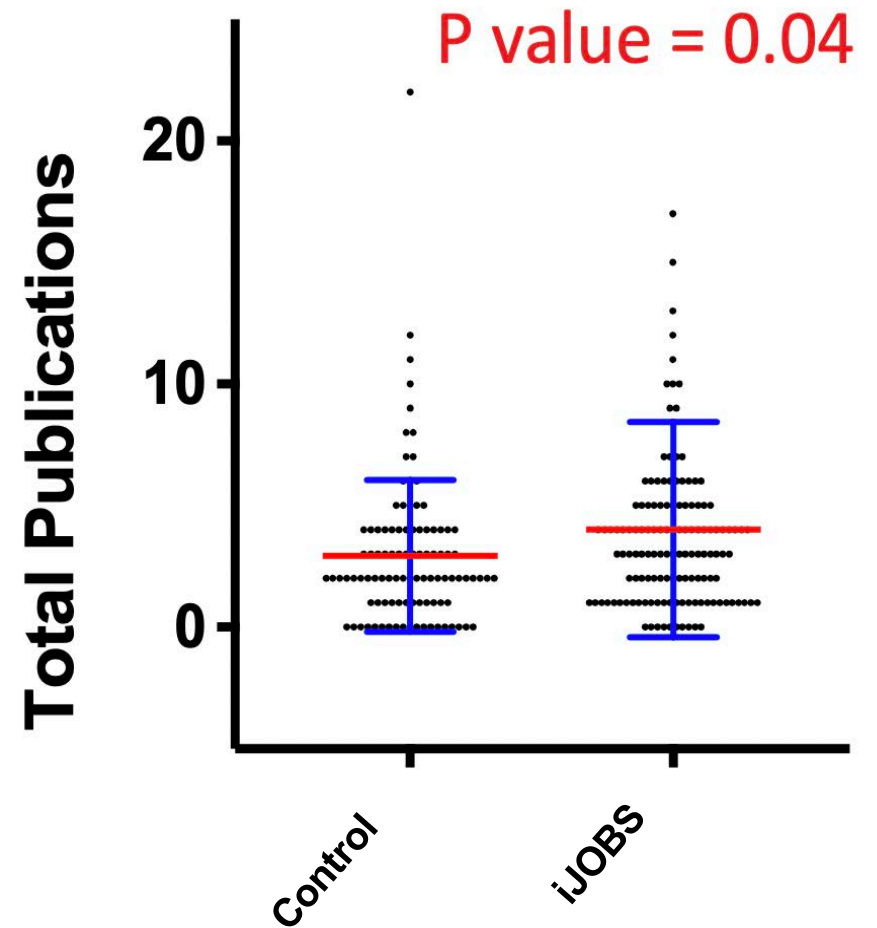
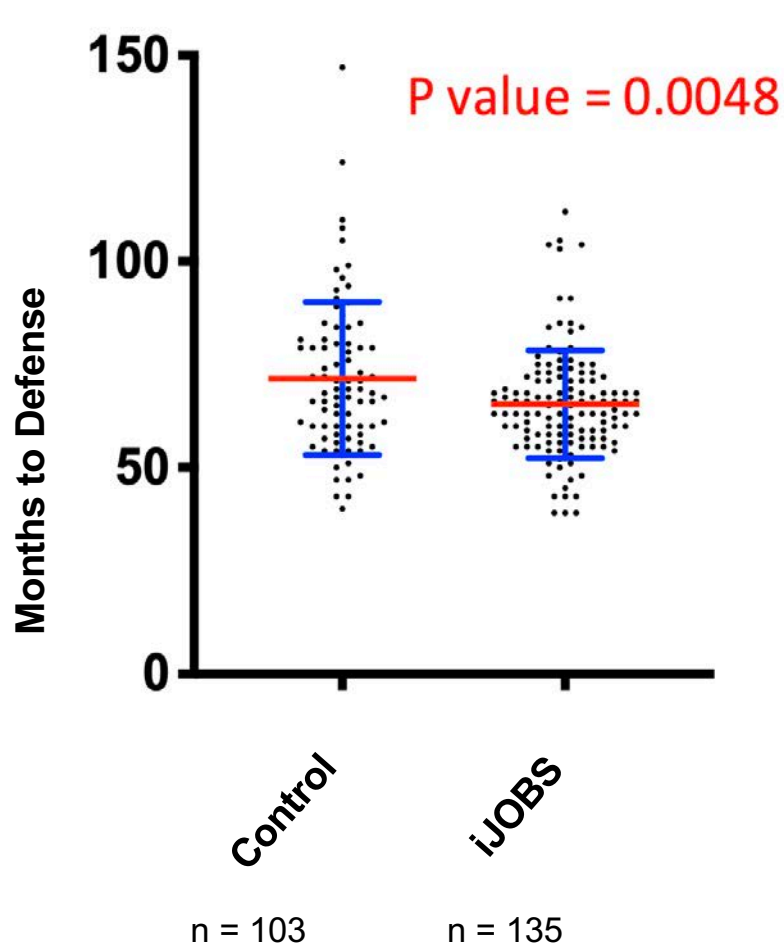
Current Position



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?

www.ijobs.rutgers.edu

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Networking Breakout Rooms

- A chance for us to get to know each other – graduate students, postdoctoral fellows, faculty, industry and biotech professionals.
- Three 15 min sessions. You will be automatically moved into the rooms.
- Introduce yourselves and what you are working on for 30 sec each.
- Find something you have in common with at least one other person in that room.



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Congratulations to Our Current Phase 3 Trainees!



- Anika Alam
- Natascha Alves
- Dina Ameen
- **Alexandra Burr**
- Kai-Ti Chang
- **Erika Davidoff**
- Suha Eleya
- **Michelle Favre**
- Courtney Grady
- Eric Himelman
- Sera Jacob
- Kubra Karagoz
- **Tomas Kasza**
- Mai Uyen Nguyen
- Vinam Puri
- Anchal Sharma
- Dan Smethurst
- Raghevandra Sridhar
- Briana Stanfeld
- Gabriele Vincelli
- Nanxia Zhao



THANK YOU FOR ATTENDING!