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Faculty Workshop in Mentoring Biomedical PhD Students at Rutgers

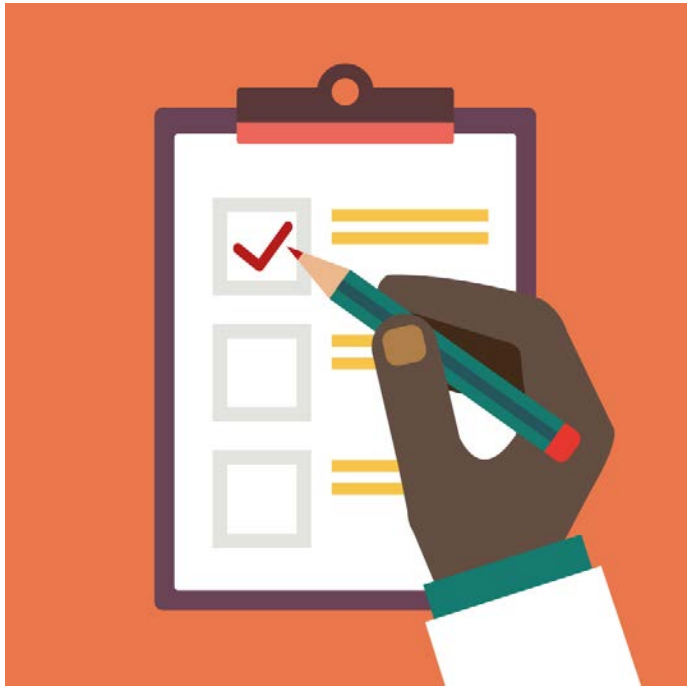
Jim Millonig, PhD - Senior Associate Dean
Janet Alder, PhD - Assistant Dean
School of Graduate Studies – New Brunswick/Piscataway

NJACTS
Biotech Training Program

September 2022

Agenda for today

- Managing student projects
- AAMC documents and principles of mentoring
- Academic resources at Rutgers
- Communication skills
- Career Exploration
- Handling student issues
- Lunch and Case Discussions



Breakout Discussion (10 min)

1. Briefly introduce yourself
2. Why do you take graduate students and what are your goals in mentoring PhD students?
3. How does your experience as a PhD student influence how you mentor (both good & bad)?

Managing Student Projects

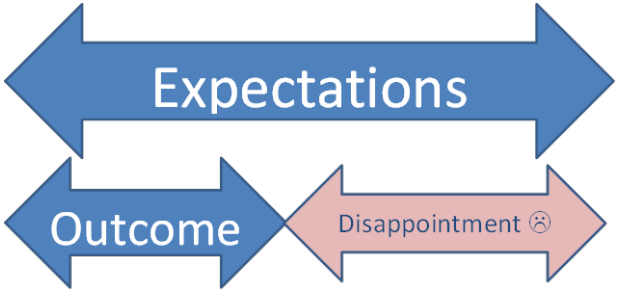
How do you define 'success' for your Ph.D. students? What are your expectations?

Examples:

- Papers published (expectations on number?)
- Conference presentations
- Ability to find funding on their own
- Types of jobs they will be prepared for
- Teaching/mentoring/communication skills that they learn
- Timelines for completion

Align Expectations

- What would success in this research experience look like for each of you?
- What are the student's short and long-term goals? How can you help them reach those?
- Does the mentor have other responsibilities that might impact the relationship?
- Does the mentee have other responsibilities that might impact the relationship?
- Do you want to share calendars?
- Who will be responsible for writing manuscripts? What is the preferred mechanism for getting edits?
- How will research topics be developed? How much should mentee contribute vs mentor?
- How will the research be funded? What does the mentor expect of the mentee regarding funding?

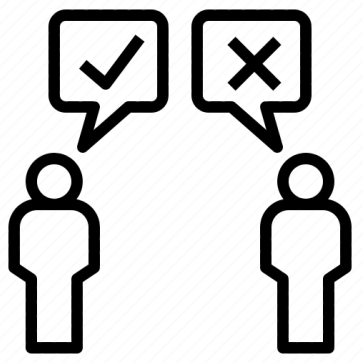


Variable structure of Ph.D. research projects

- Example 1: Student comes in on a currently funded federal grant; needs of the grant are explicit so student works on aims closely related to their PI's research
- Example 2: Student starts out on a defined chapter/project that is supported by their advisor. Remaining projects are more free form and driven by student brainstorming
- Example 3: Student arrives with a 'blank slate' – advisor encourages student to develop a thesis proposal that is novel on their own
- Example 4: Student is co-advised by two or more faculty; develops a thesis proposal that is a blend of expertise and research experience
- Other?

Every student is different

- Remember that this is your student's first dissertation - they don't know how this works
- We often forget how much our students need us to guide them through this
- Not every student will be like you
- No two students are the same. They will all need different types of mentoring
- Recognize that you may need to adjust how you communicate depending on the student

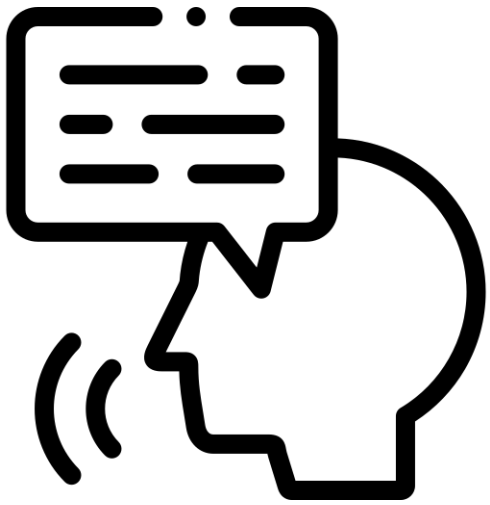


Promote Effective Communication

- Do they prefer direct feedback or a softer touch?
- How often will you meet together?
- Is there a preferred means of communication?
- Are there times when you will not be available?
- When do we need to keep conversations confidential?
- Will an agenda be developed before each meeting and will action items be developed after each meeting?
- Consider the 10/20/60 rule for structuring a meeting
  - personal check in, front burner issues, current and long-term goals and priorities
- How will these communications be recorded?
- How often will the thesis committee meet - the more frequent the better!

Assess Understanding

- Ensure that they are grasping the project by having them explain it back to you and mentor/teach others
- How will the trainee receive feedback on their performance?
- Annual Committee Meeting
- Individual Development Plan



Foster Independence

- Do they prefer micromanaging or hands-off?
- How will the mentoring relationship evolve or progress?
- Create a relationship of mutual respect.
- Encourage curiousity and some risk taking.
- Are there upcoming milestones or transitions for the mentee?
- Will other people be involved in the mentoring relationship?

Cultivate Ethical Behavior

- Course in Responsible Conduct of Research
- Rigor and Reproducibility
- Create a safe space for making mistakes
- Don’t put undue pressure to get positive results
- Resources for reporting unethical behavior

Encourage Professional Development

- Training in technical and discipline-specific skills
- Professional conferences and meetings
- Training in professional skills
- Exposure to career options
- Networking

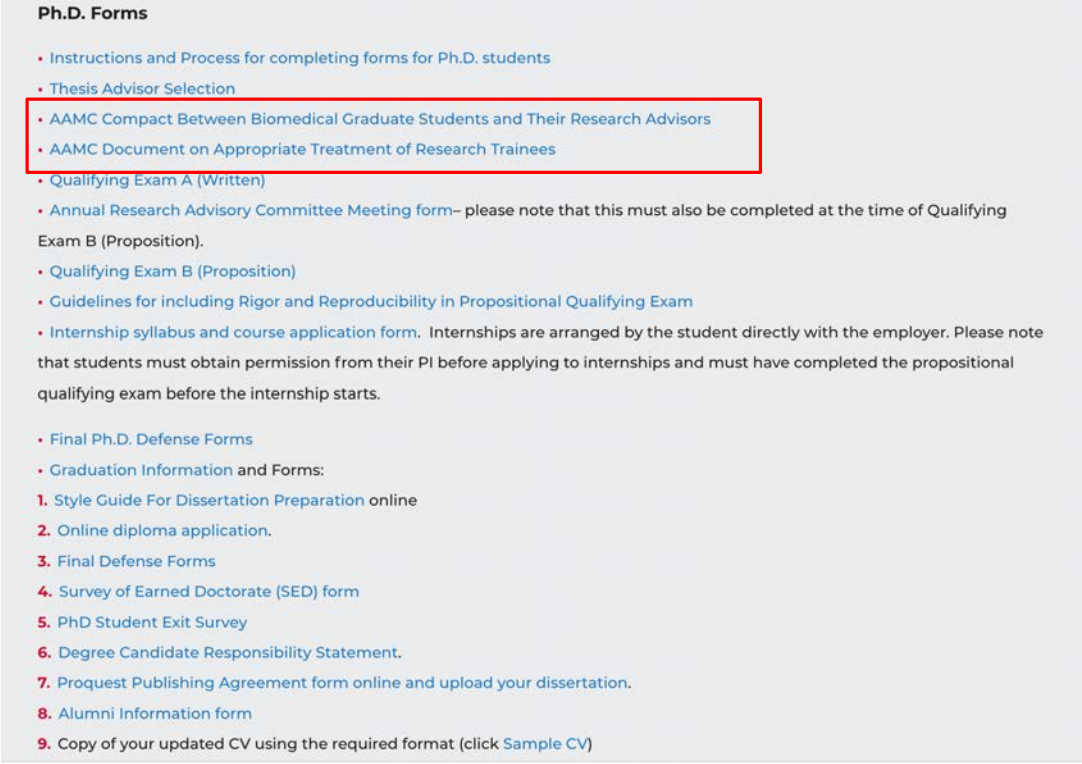
Promote Equity and Inclusion

- Create positive motivation and foster a good working environment
- Be a good listener
- Be culturally sensitive
- Be sensitive to gender identity (pronouns) and sexual orientation
- Be aware of unconscious bias
- Be aware of imposter syndrome
- Will the mentor and mentee discuss their multiple aspects of their identity? This might include race, ethnicity, gender identity, socioeconomic status, age/generational, sexual orientation, class, religion etc…
- Are there aspects of identity that should remain private?

AAMC Documents

Biomedical PhD Academic Forms

https://grad.rutgers.edu/academics/graduate-programs/biomedical-health-sciences-masters-programs/academic-forms



Ph.D. Forms

- Instructions and Process for completing forms for Ph.D. students
- Thesis Advisor Selection
- AAMC Compact Between Biomedical Graduate Students and Their Research Advisors
- AAMC Document on Appropriate Treatment of Research Trainees
- Qualifying Exam A (Written)
- Annual Research Advisory Committee Meeting form– please note that this must also be completed at the time of Qualifying Exam B (Proposition).
- Qualifying Exam B (Proposition)
- Guidelines for including Rigor and Reproducibility in Propositional Qualifying Exam
- Internship syllabus and course application form. Internships are arranged by the student directly with the employer. Please note that students must obtain permission from their PI before applying to internships and must have completed the propositional qualifying exam before the internship starts.

- Final Ph.D. Defense Forms
- Graduation Information and Forms:

1. Style Guide For Dissertation Preparation online
2. Online diploma application.
3. Final Defense Forms
4. Survey of Earned Doctorate (SED) form
5. PhD Student Exit Survey
6. Degree Candidate Responsibility Statement.
7. Proquest Publishing Agreement form online and upload your dissertation.
8. Alumni Information form
9. Copy of your updated CV using the required format (click Sample CV)

Compact Between Biomedical Graduate Students and Their Research Advisors by The Association of American Medical Colleges (AAMC)

Consider customizing your own contract

Commitments of Research Advisors (AAMC)

- Throughout the graduate student's time in my laboratory, I will be supportive, equitable, accessible, encouraging, and respectful.
- I will be committed to meeting one-on-one with the student on a regular basis. I will regularly review the student's progress and provide timely feedback and goal-setting advice.
- I will be committed to the graduate student's research project.
- I will help the graduate student select a thesis/dissertation committee.
- I will provide an environment that is intellectually stimulating, emotionally supportive, safe, equitable and free of harassment.
- I will demonstrate respect for all graduate students as individuals without regard to gender, race, national origin, religion, disability or sexual orientation, and ID will cultivate a culture of tolerance among the entire laboratory.
- I will be committed to providing financial resources, as appropriate and according to my institution's guidelines, for the graduate student to conduct thesis/dissertation research.
- I will expect the graduate student to share common laboratory responsibilities and use resources carefully and frugally.
- I will discuss with the graduate student authorship policies regarding papers.
- I will be knowledgeable of and guide the graduate student through the requirements and deadlines of the graduate program and the institution, as well as teaching requirements, if any, and human resources guidelines.
- I will encourage the graduate student to attend and present their research at scientific/professional meetings and make an effort to secure and facilitate funding for such activities. In addition, I will provide opportunities for the student to discuss science and their research findings with colleagues and fellow scientists within the institution and broader scientific community – for example, at lab meetings, research days, and seminars.
- I will promote the training of the graduate student in professional skills needed for a successful career. These skills include but are not limited to oral and written communication, grant writing, management and leadership, collaborative research, responsible conduct of research, teaching and mentoring.
- I will create an environment in which the student can discuss and explore career opportunities and paths that match their skills, values, and interests and be supportive of their career path choices.

Commitments of Graduate Students (AAMC)

- I acknowledge that I have the primary responsibility for the successful completion of my degree.
- I will meet regularly with my research advisor and provide him/her with updates on the progress and results of my activities and experiments.
- I will work with my research advisor to provide updates on the progress and results of my course work, research, and professional and career development activities.
- I will work with my research advisor to develop a thesis/dissertation project.
- I will work with my research advisor to select a thesis/dissertation committee.
- I will be a good lab citizen.
- I will maintain detailed, organized, and accurate research records. With respect to data ownership, I acknowledge that original notebooks, digital files and tangible research materials belong to the institution and will remain in the lab when I finish my thesis/dissertation so that other individuals can reproduce and carry on related research, in accordance with institutional policy.
- I will discuss policies on work hours, medical leave, and vacation with my graduate program and research advisor.
- I will discuss policies on authorship and attendance at professional meetings with my research advisor.
- I will be knowledgeable of the policies and requirements of my graduate program, graduate school, and institution.
- I will attend actively participate in laboratory meetings, seminars, and journal clubs that are part of my educational program.
- I will be knowledgeable of all institutional research policies.
- I acknowledge that I have the primary responsibility for the development of my own career.

Appropriate Treatment of Research Trainees (AToRT) by AAMC

- The Group on Research, Education and Training (GREAT) at the AAMC developed the *AToRT* document to emphasize the importance and critical need for supportive and inclusive training environments for biomedical graduate students and postdoctoral researchers.
- AAMC believes that every graduate student and postdoctoral researcher has the right to a high-quality, learner-centered training experience that is free from inappropriate behavior.
- The AToRT document aligns with the AAMC's strategic plan for strengthening diversity, equity, and inclusion in biomedical research.

Principles of mentoring

1. Leadership
   - Encouragement
   - Communication
   - Self-improvement
2. Professionalism
   - Respect
   - Integrity
   - Compliance
3. Equity
   - Inclusivity
   - Impartiality
   - Diversity

Incompatible / Inappropriate Behavior

Focus on behavior that does not not cross legal thresholds. Behaviors may be communicated hierarchically (e.g mentor to research trainee, postdoc to student) or lateral (e.g trainee to trainee)

1. Loss of personal civility
2. Infringement on autonomy
3. Professional and career development abuses
4. Discriminatory behavior based on race, gender, religions other identities
5. Excessive pressure to meet unrealistic expectations

1. Loss of personal civility

a. Sharing sensitive information about a research trainee without their explicit permission (e.g., sexual orientation, disability status, personal information, medical/health status).

b. Ignoring a research trainee's opinions or dismissing them without consideration.

c. Intentionally singling out a research trainee for arbitrary and/or punitive treatment.

d. Using aggressive questioning under the guise of the "Socratic method" to intentionally badger or humiliate a research trainee.

e. Overt or implied threats of violence; intimidating behaviors (e.g., finger-pointing, invasion of personal space, shoving, or blocking one's path, shouting, directing anger, etc.); and/or using obscene gestures, cartoons, or jokes in the presence of a research trainee.

1. Loss of personal civility continued

f. Directing verbal abuse (e.g., obscenities/ profanities) against a research trainee to belittle or ridicule them in connection with their work, identities, attitudes, or private life. This includes any dehumanizing language based on race, culture, and/or gender. Even if not directed at the trainee, using such verbal expressions, so as to create a negative environment.

g. Via words or actions, teasing, taunting and/or being sarcastic without regard to how the research trainee perceives these behaviors or actions.

h. Disrespect for boundaries (e.g., texts at inappropriate times, critical comments regarding a research trainee's agency/personal time when outside the laboratory).

i. Refusing to use the correct pronunciation of a trainee's name, their preferred pronouns, or "deadnaming" research trainees who are transgender or transitioning.

j. Spreading gossip, allegations and/or rumors about a research trainee.

k. Displaying a hostile reaction when approached by others.

l. Not responding to requests for feedback or accommodations in a timely manner.

2. Infringement on autonomy

a. Ordering work not typical for a research trainee to perform at the institution.
b. Assigning duties to a research trainee as punishment rather than for academic or research advancement.
c. Coercing or encouraging a research trainee to disregard institutional or federal policies regarding training and/or research.
d. Coercing or encouraging a research trainee to lie or withhold the truth from a colleague or superior, or to perform a task that is unethical or illegal.
e. Coercing a research trainee by threatening to withhold research resources, reference letters, or other critical professional development support.
f. Requiring research trainees to perform personal services (e.g., run errands, personal caregiving duties, listen to personal problems).
g. Pressuring a research trainee not to claim something to which they are entitled (e.g., travel expenses, university holidays, medical leave, vacation/time-off, intellectual property).
h. Leveraging grades, authorship, or annual performance reviews as punishment or coercion rather than as an objective evaluation of competency.
i. Leveraging visas to coerce a research trainee to work more hours or perform other duties above and beyond reasonable expectations.
j. Criticizing a research trainee for cultural attire, attitudes, beliefs, and/or linguistic characteristics.

3. Professional and career development abuses

a. Neglecting a research trainee's training progress or facilitating their unwarranted exclusion from reasonable learning or research opportunities.
b. Prohibiting research traineesfrom engaging in reasonable professional development activities.
c. Directing research trainees to perform an unreasonable number of general research responsibilities (e.g., excessive assignment of shared laboratory tasks), especially where performing those activities interferes with a research trainee's attendance at educational or professional development activities.
d. Taking credit for a research trainee's accomplishments without proper attribution, which may include noncompliance to ICMJE guidelines when assigning authorship.
e. Coercing/manipulating a research trainee to quit in the absence of a reasonable justification.
f. Disparaging a research trainee's choice of profession or career aspirations.
g. Knowingly withholding information that affects the research trainee's performance or career advancement.

4. Discriminatory behavior based on race, gender, religion, or other identities

a. Implying that a research trainee's capacity for a specific skill is due to an aspect of their identity (e.g., they are of a given ethnicity or gender).
b. Inquiring about a trainee's plans for starting a family based on their gender.
c. Marginalizing research trainees by invoking harmful stereotypes, making broad group generalizations, degrading a person on the basis of a personal or cultural characteristic (e.g., "you people all expect me to read your minds") that may invoke a sense of "other-ness."
d. Creating inequities in learning opportunities, teaching, feedback, performance evaluations or grading based on personal characteristics of the research trainee (e.g., giving a better grade because someone is going into a preferred career path or personal preference).

5. Excessive pressure to meet unrealistic expectations

a. Excessive monitoring and micromanagement of the work performed by a research trainee.
b. Knowingly assigning an unmanageable workload for a research trainee, or pressuring them to exceed established restrictions on work hours.
c. Pressuring a research trainee with meeting unrealistic goals and/or not providing clear work expectations; yet, holding them responsible for meeting those expectations.

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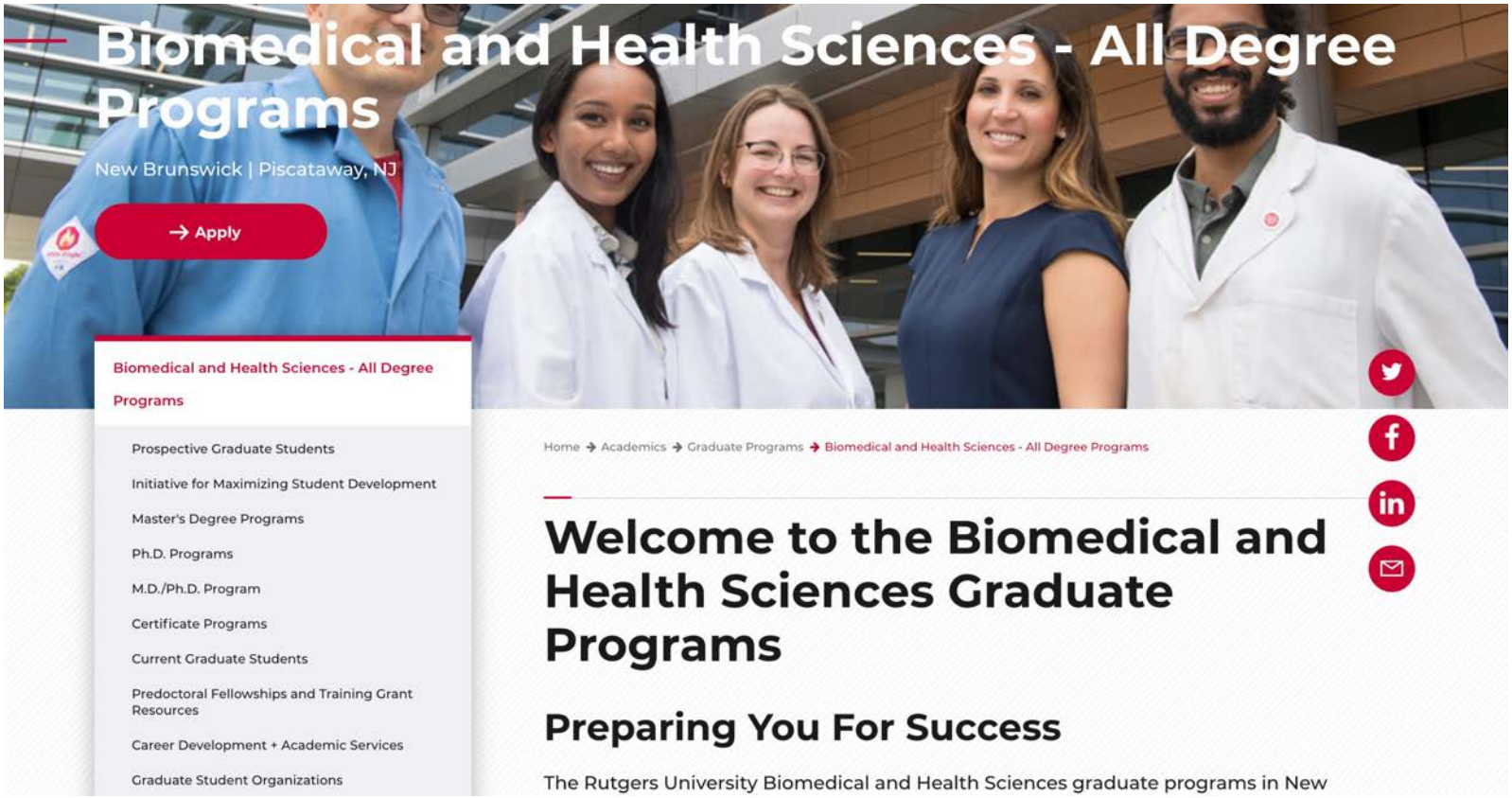
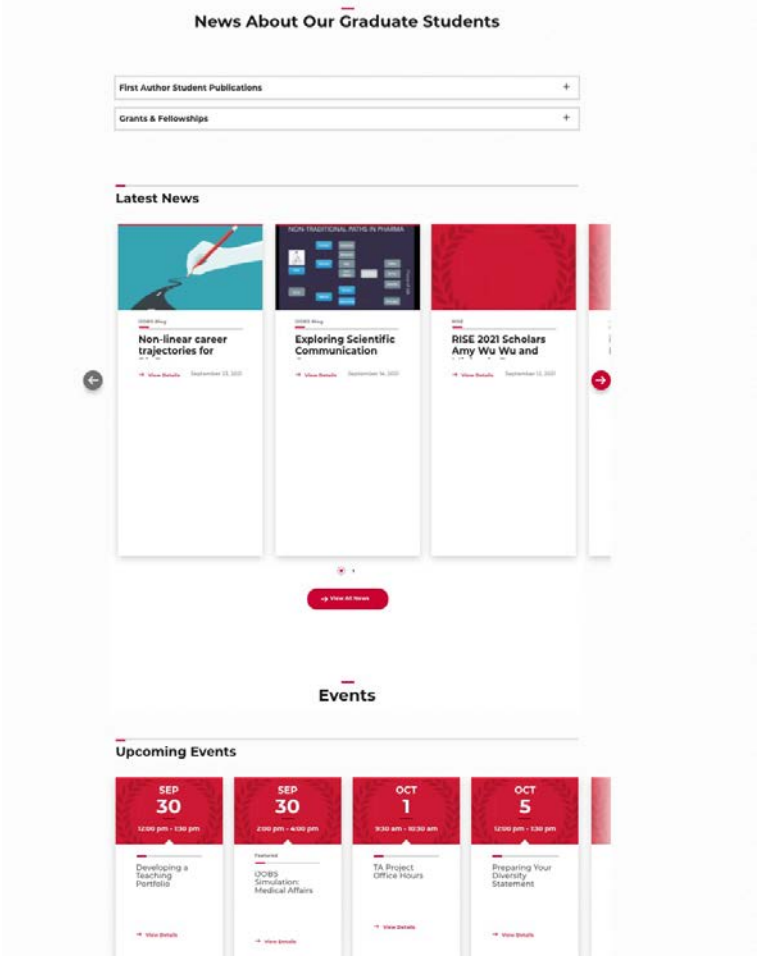
Academic Resources at Rutgers

Website for Biomedical Sciences

https://grad.rutgers.edu/biomedical/nbpisc



News and Events



GSBS Google Calendar

https://calendar.google.com/calendar/u/0?cid=Z3Nic3Bpc2NAZ21haWwuY29t

- Seminars
- Career development events
- Thesis defenses
- Workshops
- Can link to your calendar

LinkedIn

https://www.linkedin.com/groups/3679494/

Competencies to be learned in graduate school – transferrable skills

- **Broad conceptual knowledge** - core courses
- **Deep knowledge of a specific field** - upper level courses, thesis work, and journal clubs
- **Critical thinking** - reading papers, planning experiments, reviewing grants and manuscripts. Manuscript and grant writing workshops
- **Experimental skills** - rotations and thesis lab, collaborations
- **Responsible conduct of research** – Ethical Scientific Conduct initial and refresher
- **Rigor and reproducibility -** Biostatistics classes
- **Computational skills** – Computational Certificate
- **Collaboration/Teamwork** – working with other labs and within lab, student organizations
- **Management and emotional intelligence skills** - manage your own project, supervise undergraduates, interact with faculty and peers
- **Leadership and professionalism** – join student organizations, volunteer for events, iJOBS
- **Communication skills** - presentations in lab, university, and national meetings, writing manuscripts and fellowships, 3 Minute Thesis Competition, Communicating science class

Individual Development Plans (IDP)

- Educational research has shown that IDPs increase productivity
- NIH is now requiring IDPs for all training grants and NIH Office of Management and Budget sent notice that grad students have dual roles and must engage in both training and career development.
- First and third year graduate students will do the AAAS online IDP (http://myidp.sciencecareers.org/) and upload to Canvas by May 31.
- Second and fourth year graduate students will complete Rutgers Biomedical IDP modeled from the ones at Scripps and UCSF. Faculty complete a section and review IDP with student by May 31. Student then meets with Graduate Program Director (2nd and 4th years) and with someone in their potential career area (4th years) by August 31.

myIDP ScienceCareers
INDIVIDUAL DEVELOPMENT PLAN

Suggested Annual Goals in Rutgers Biomedical IDP (pages 2-5)

https://grad.rutgers.edu/academics/academic-enrichment-programs/individual-development-plans

Specific, Measurable, Achievable, Relevant, Timebound (SMART) Goals for years 1&2, 3, 4, and 5

- Learning
- Scientific research skills
- Participation in the scientific community
- Communication skills
- Career development

Recommend laying out a general framework for all 5 years when a student joins your lab.

Responsible Conduct of Research

Ethical Scientific Conduct Course No. 16:115:556

https://grad.rutgers.edu/academics/academic-enrichment-programs/responsible-conduct-research-training

- This course is required for Biomedical PhD students and Masters of Science Biomedical students.
- The course complies with NIH guidelines for RCR training.
- Students will receive 1 credit for successfully completing the course. Pass/Fail
- Postdoctoral fellows as well as F33 and K award recipients are invited to participate in the course and will receive a certificate of completion after attendance at a minimum of eleven one-hour weekly meetings.
- Format is lecture by content expert for 30 min followed by small group case discussions for 30 min led by faculty from all joint graduate programs
  (ALL FACULTY SHOULD TEACH THIS ONE TIME FOR TRAINING GRANTS and RCR COMPLIANCE).
- Weekly written assignments.
- Students in their 5th year graduate school must take a refresher training course (16:115:558) that is four 2 hour sessions of case study discussion.

Rigor and Reproducibility

Biostatistics Classes

- As per NIH requirement to increase training for rigor and reproducibility of science
- New criteria for NIH grants: sample size power analysis, rigorous statistical analysis, blinding, randomization, inclusion and exclusion criteria, biological variables (sex), authenticate biological and chemical resources
- Require these sections on propositional qualifying exam
- Several classes to satisfy biostats requirement
  https://grad.rutgers.edu/academics/academic-enrichment-programs/rigor-reproducibility-training

Computational Biology

- Data Carpentry workshop through iJOBS every January (0 credit)
- Python course 16:137:552 (3 credits)
- Python for researchers mini course 16:695:621 (1 credit)
- Designing new Computational Biology Concentration

https://grad.rutgers.edu/academics/graduate-programs/biomedical-and-health-sciences-all-degree-programs/computational

Clinical and Translational Opportunities

NIH Clinical and Translational Award (CTSA)

NJ Alliance for Clinical and Translational Science (NJ ACTS) (PI: Rey Panettieri MD)

Goal: $25M award to improve clinical and translational research across NJ

Institutions: Rutgers, Princeton and NJIT

Training Grant support: Kathy Scotto PhD

Educational Goal: to provide the curriculum and the resources so teams of researchers (PhD students, post-docs), physician scientists (MD-PhD students) and clinicians (MD students and clinical fellows) can tackle large medical issues

New educational initiatives (Clinical and Translational Sciences Certificate):
Grant writing, Computational courses, Biostatistics, Communication, Team Science, Human Body 101, Clinical shadowing opportunities, Capstone Project

Teaching, Mentoring and Leadership Opportunities

TAProject

https://grad.rutgers.edu/professional-development/teaching-skills/ta-project

Rutgers Academy for the Scholarship of Teaching and Learning

https://grad.rutgers.edu/professional-development/rutgers-academy-scholarship-teaching-and-learning

STEM GRADS GIVING BACK

Upward Bound Math-Science

Rutgers graduate students - you can be the person who inspires a high school student to pursue college and the study of science!

SGS is partnering with Rutgers Upward Bound Math-Science a pre-college program designed to assist and motivate first generation and low-income students to successfully graduate from high school, prepare for college admission, and complete their baccalaureate degree in STEM.

https://grad.rutgers.edu/academics/graduate-programs/career-development-academic-services/biomedical-professional-development-and-workshops

Mentoring Resources & Training

EXCELLENCE IN MENTORSHIP FELLOWS PROGRAM

https://grad.rutgers.edu/professional-development/leadership-and-mentoring-skills

PreDoctoral Leadership Development Academy

https://ol.rutgers.edu/programs/plda/

RUTGERS School of Graduate Studies

MENTORING RESEARCH UNDERGRADUATES

https://grad.rutgers.edu/professional-development/leadership-and-mentoring-skills

Communication Skills

GradFund http://gradfund.rutgers.edu/

- $100 million in external fellowships and awards since founding 2000
- Help identifying funding sources
- Virtual Office hours
- Help with application logistics
- Feedback, editing, and revising
- ~17% of current students have external fellowships
- Meeting every September with students and mentors who have been successful obtaining funding and faculty from study section

RUTGERS School of Graduate Studies

GradFund

Fellowship Application Workshop for Biomedical PhD Students

Tuesday September 13, 2022
3:00 – 5:00pm

Register via EventBrite
https://fellowshipapplication2022.eventbrite.com

Join Via Zoom
https://rutgers.zoom.us/my/alderja Passcode: Janet

This workshop will include presentations by:

1) GradFund on how to use their resources at Rutgers for identifying fellowship opportunities and applying for them.
2) A faculty member who serves on NIH study section and reviews fellowship applications with pointers on what reviewers are looking for.
3) A panel of graduate students and their mentors who have successfully obtained funding in the past few years from various organizations.

For more information contact Dr. Janet Alder janet.alder@rutgers.edu

Courses for fellowship writing

https://grad.rutgers.edu/academics/graduate-programs/biomedical-and-health-sciences-all-degree-programs/predoctoral-fellowships-training-grant-resources

Fellowship Writing Group – Organized by Lauren Aleksunes every fall

Grant Writing Basics spring course
Guidance and practice in writing a biological research grant proposal focusing on Specific Aims. 16:681:601

Advanced Studies in Neuroscience or Psychology to write an NRSA F31 Grant Proposal
The purpose of the course is to facilitate each student's submission of an F31 application for the December deadline. 16:830:504

RUTGERS
School of Graduate Studies

Grantwriting Fundamentals for Biomedical PhD Students

This workshop covers the basics of converting your highly complex project ideas into a compelling story. The focus is on the creation of a flawless "Specific Aims" page as the foundation of any well-engineered grant. This workshop will be useful for those writing **Pre-doctoral fellowships** as well as their **Propositional Qualifying Exams**

Thursday April 14, 2022
12-1:30pm

Register by clicking here
https://grantwritingfundamentals22.eventbrite.com

Join Zoom Meeting
https://rutgers.zoom.us/my/alderja Passcode: Janet
Phone only dial +1 646 558 8656 Meeting ID: 419 868 7830

The workshop will be run by Paul Copeland, PhD who Faculty Director of University Core Research Facilities and a Professor in the Department of Biochemistry and Molecular Biology. Dr. Copeland teaches a course every spring on grant writing and is offering this workshop based on the techniques used in his course.

Boiler plate paragraphs for fellowship writing

https://grad.rutgers.edu/academics/graduate-programs/biomedical-and-health-sciences-all-degree-programs/predoctoral-fellowships-training-grant-resources

See below for some materials and please contact Janet Alder (janet.alder@rutgers.edu) for additional help if needed.

- RCR training
- Rigor and Reproducibility training
- iJOBS career development program
- Individual Development Plans
- Description of Institutional Environment and Commitment to Training and Additional Educational Information
- Sample successful NIH F applications, NSF, EPA, AHA, NJ state fellowships as well as diversity supplements upon request.

Courses for writing

https://grad.rutgers.edu/professional-development/writing-and-communication-skills

16:355:506 Writing for Publication
Focuses on overall organization of published work as well as writing and editing at the level appropriate for a journal submission in the student's graduate field.

16:355:508 Writing the Dissertation
Focuses on writing at the level appropriate for a dissertation in the student's respective field.

16:355:502 Graduate Writing
Focuses on writing for abstracts, reviews, conferences

Rutgers English Language Institute (RELI)

https://reli.rutgers.edu/

The Rutgers English Language Institute (RELI) supports multilingual English language learners in all stages of their academic careers.

- Intensive English
- English for Academic Purposes
- Graduate English Language Learners Program

RUTGERS
School of Graduate Studies

How to Write a Manuscript that Reviewers Will Love

Learn best practices in experimental design, manuscript preparation, and submission to help you get your papers published.

Wednesday March 16, 2022
3:30 - 5:00 pm

Registration link:
https://manuscriptworkshop.eventbrite.com

Zoom link:
https://rutgers.zoom.us/my/alderja Passcode: Janet
Phone only dial +1 646 558 8656 Meeting ID: 419 868 7830

Nidhi Bansal, PhD
Editor-in-Chief, Cancer Reports
John Wiley and Sons Publishing

This event is open to graduate students, postdocs, faculty and staff

Course in Communicating Science

https://grad.rutgers.edu/academics/academic-enrichment-programs/communicating-science-course

- Response to input from industry and academia
- Grant from Burroughs Wellcome Fund (Ponzio PI)
- Techniques from Alan Alda Center. Faculty from Mason Gross and Sciences
- Capstone project with mentor in field of interest
- 3 Minute Thesis Competition

Graduate School Factlets

- General orientation for all graduate students plus biomedical orientation plus program specific orientation.
- Forms for each milestone including Annual Committee meetings – make sure they are the current forms and use DocuSign
- Electronic Thesis/Dissertation (ETD) can be embargoed for up to 2 years. Responsibility lies with student. Can use lay abstract before manuscripts are published.
- ORCIDs (unique identifier for researchers) are required of grad students and for NIH training grants https://www.libraries.rutgers.edu/research-tools-and-services/research-impact/orcid
- SOAR (open access) for manuscripts. https://soar.libraries.rutgers.edu/
- Plagiarism is an issue –Create a Sandbox course in Canvas, then create assignment with TurnItIn check and submit paper. Be alert!

International Students

Rutgers Global–International Student and Scholar Services provides immigration services and advising to help international students maintain legal status throughout their time at Rutgers, and offers programs with an international focus for all members of the university community.

The center provides:

- Personal advising sessions on immigration, cross-cultural, and other personal matters
- Workshops on F-1 and J-1 immigration-related matters for international students, and university partners
- An enjoyable, informative orientation program for incoming international students
- A regular series of cross-cultural social programs to help you acclimate to U.S. and Rutgers culture, called the International Friendship Program (IFP)
- Academic support specific to international student

Services at 30 College Avenue, New Brunswick are available 8:30am-5:00pm, five days a week, except on Wednesdays, when the office is not open to student walk-in visits.
https://global.rutgers.edu

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Career Exploration for Graduate Students

Rutgers - iJOBS

NIH Broadening Experiences in Scientific Training (**BEST**) Awards
$2 million for 5 years to create infrastructure (2014-2019)

Rutgers U
Boston U
UC Davis
UC Irvine
UC San Francisco
U Chicago
U Colorado Denver
Cornell
U Mass Worcester

Michigan State
New York U
U North Carolina
U Rochester
Vanderbilt
Virginia Polytech
Wayne State
Emory/Georgia Tech

iJOBS Participation

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

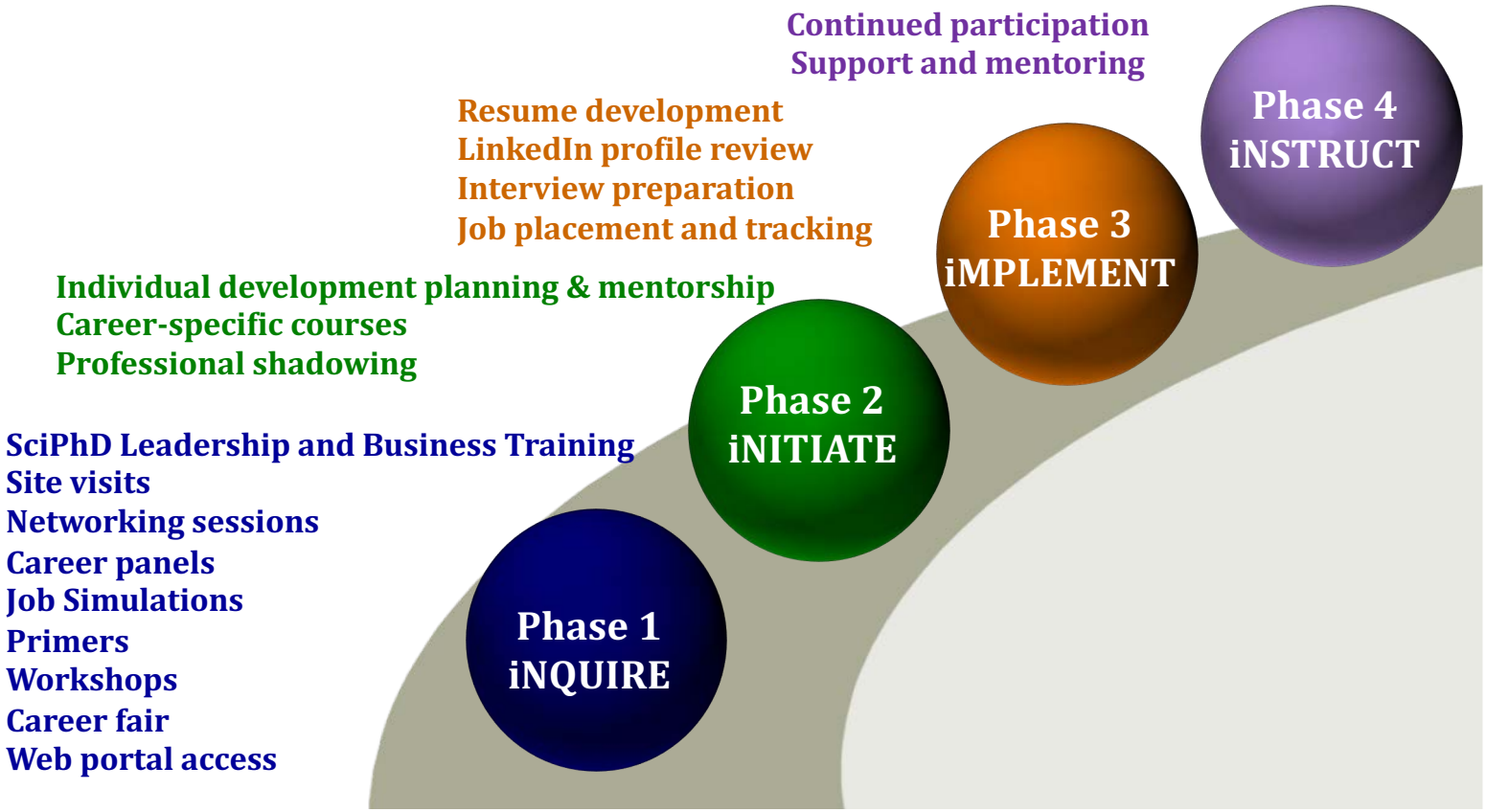
PRINCETON UNIVERSITY

STEVENS INSTITUTE of TECHNOLOGY
THE INNOVATION UNIVERSITY

NJIT

Rowan University

iJOBS Phased Programming



Phase 1
iNQUIRE

Examples of Career Panels

- Principal investigator at R1 university
- Faculty at Primarily Undergraduate Institution
- Bench research Pharma or Biotech
- Government positions, (FDA, CDC, NIH)
- Entrepreneur
- 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

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


Phase 2
iNITIATE

Career Track Example Skill Classes
One 40-Hour Class

Programming Methodologies for Numerical Computing

Drug Discovery through Preclinical Development

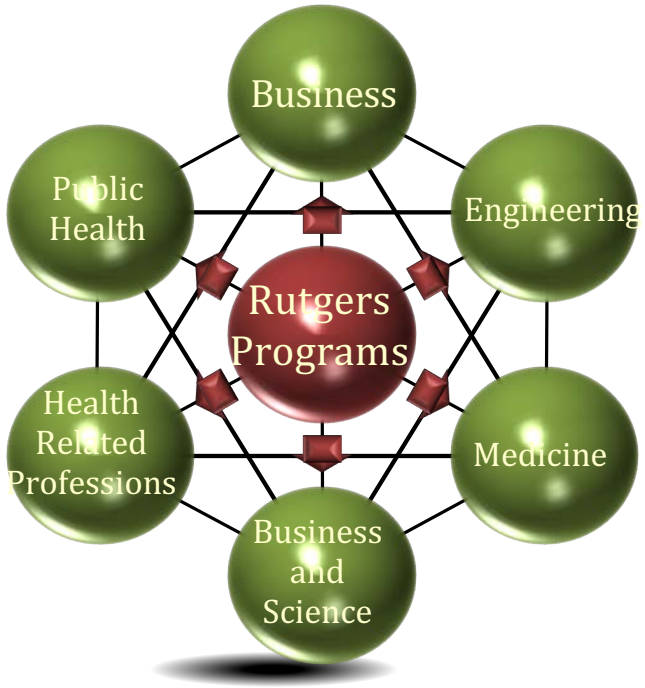
Introduction to Public Administration; Public Policy Formation

Clinical Trials, Adverse Event Reporting, Post-Marketing

Practical Aspects of Clinical Trial Design

Bioengineering in Biotech and Pharma Industries

Fundamentals of Regulatory Affairs



Project Management; Perspectives in Drug Development

US Healthcare System ad Pharma Managed Markets

Drug Development: From Concept to Market

Project Management

Pharma Product Management

Organizational Behavior

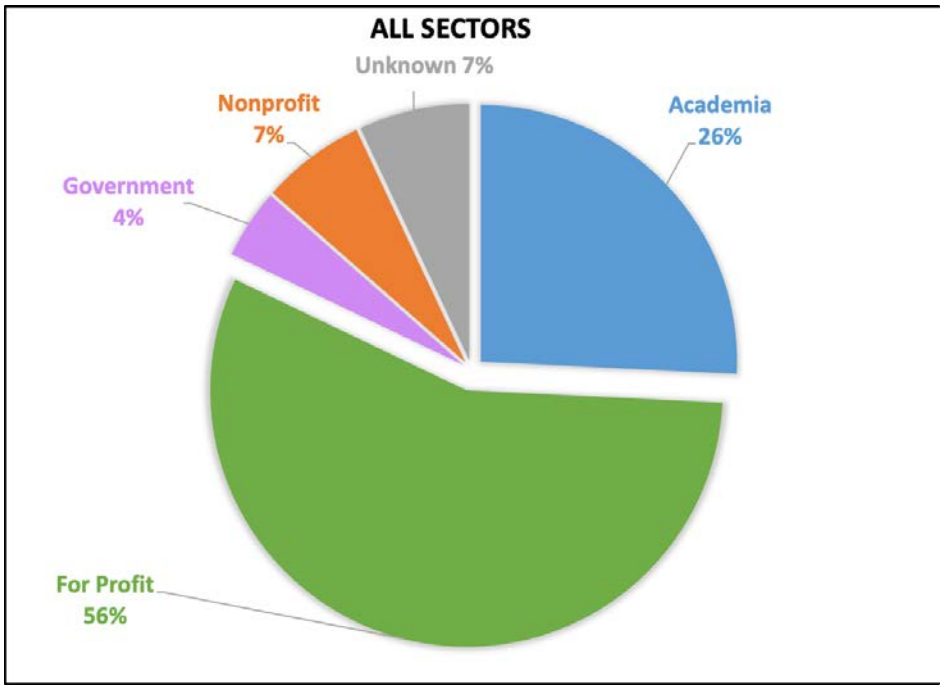
Innovation and Entrepreneurship

Professional Shadowing and Mentoring

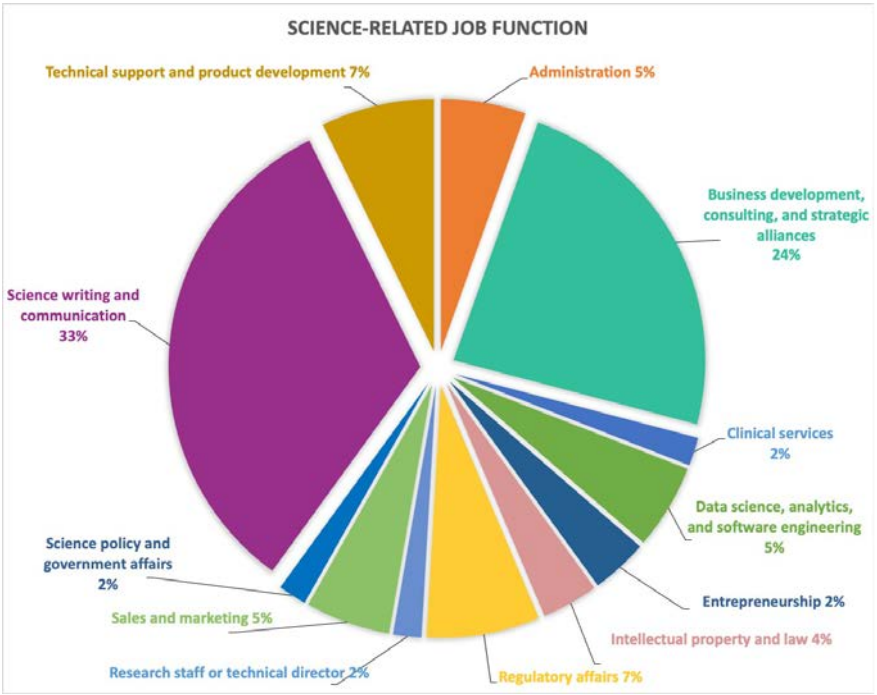
- Each trainee is matched to a shadowing opportunity relevant to their chosen track with industrial, institutional or governmental partners. 72 hours over a whole semester.

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

First Position of SciPhD Participants (n = 229)

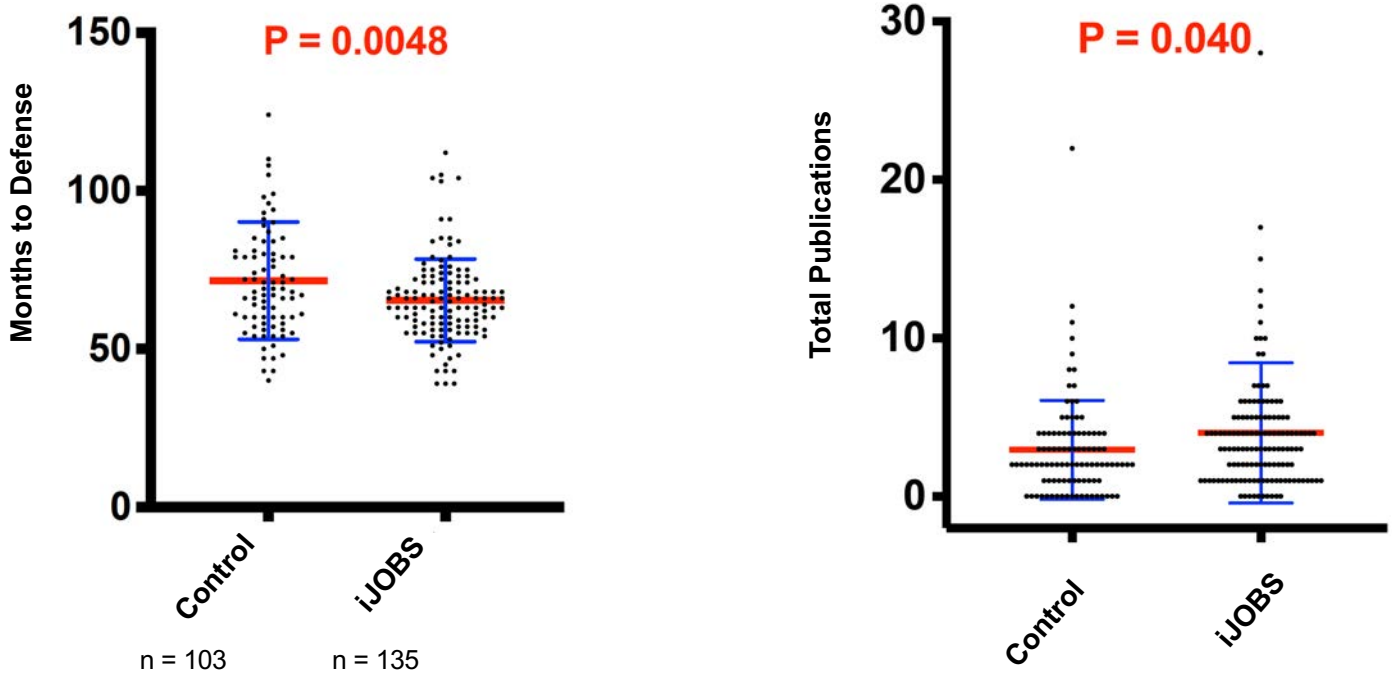


Current For-Profit Non-Research Positions



Data analyzed by Tracy Scott

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

How iJOBS Benefits Rutgers

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

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Student Issues

Mental Health Issues in PhD Students

Metanalysis of studies prior to 2019 yielded a pooled estimate of "clinically significant symptoms of depression" in 24% of PhD students and of anxiety in 17% of PhD students - notably higher rates than among young adults in the general population.

Effects of Pandemic - A 2020 survey of more than 15,000 graduate students at nine US research universities found that anxiety symptoms rose 50% compared with 2019. 32% of graduate students screened positive for symptoms of depression, and 39% screened positive for anxiety.

Factors related to how the graduate students view their lives:

- Career prospects
- Overall health
- Living conditions
- Academic engagement
- Social support
- Financial confidence
- Academic progress and preparation
- Sleep
- Feeling valued and included
- Adviser relationship
- International students and under-represented groups

Satinsky et al. Sci Rep 2021, Woolsten et al. Nature2021

General Warning Signs for Depression (American Psychiatric Association)

- Depressed mood most of the day, nearly every day
- Loss of interest or pleasure in fun activities
- Weight loss or gain
- Decrease or increase in appetite
- Insomnia or hypersomnia
- Feeling fatigue or low energy
- Feelings of worthlessness
- Excessive guilt
- Difficulty with thinking, concentrating, indecisiveness
- Thoughts of death or suicidal ideation

General Warning Signs for Anxiety (American Psychiatric Association)

- Excessive worry with no specific source
- Exaggerated startle reflex
- Inability to sleep due to worry
- Difficulty concentrating
- Trouble controlling worry thoughts
- Fatigue
- Muscle tension
- Feeling that things will always end badly
- Avoiding social situations

What to Do If a Student Shows Signs of Depression or Anxiety

Be direct with your concerns. Tell them what you are seeing that has you worried

Helpful responses:

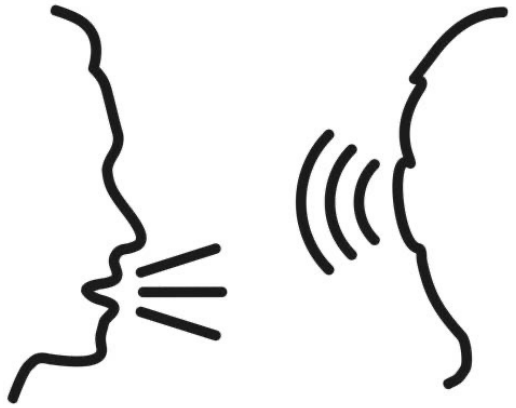
- Listening
- Conveying an understanding
- Expressing that you care
- Normalizing what they are feeling
- Validate the student's experiences and talk to them about helpful resources such as CAPS or the Student Wellness Program

  "Everyone needs help sometimes."

  "It sounds like you are dealing with a lot, it might be helpful to have someone to talk with."

Unhelpful responses:

- Judging
- Minimizing
- Implying what they are feeling is their fault



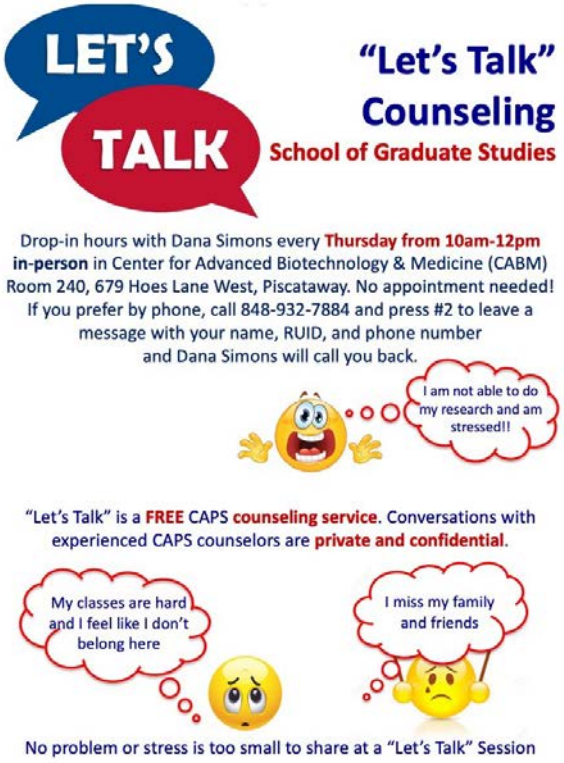
"Let's Talk" Drop in Counseling for the School of Graduate Studies

"Let's Talk" is a service that provides easy access to informal, confidential consultations with Rutgers Counseling and Psychiatric Services (CAPS).

Our own grad school community-based counselor will be around for 30 min drop in sessions. No appointment is necessary! There may be a wait if the counselor is currently meeting with another student but every effort will be made to meet with all students who wish to meet that day.

School of Graduate Studies "Let's Talk"
Thursdays 10am-12pm
CAPS Counselor: Dana Simons

If this date and time frame don't work for you, you may go to any of the other "Let's Talk" sessions which you can see here http://rhscaps.rutgers.edu/dropin/
848-932-7884 and press 2
For an emergency, call 855-515-5700 or 911



For a complete list of Counseling and Psychological Services
http://health.rutgers.edu/medical-counseling-services/counseling/

Virtual Workshops for Biomedical Graduate Students by Dana Simons and CAPS

- Staying Connected in a Virtual World
- Stigma Reduction: Myths and Facts about Mental Health
- Building Resilience: Falling Forward and Learning to Manage Expectations
- Time Management and Life Balance Workshops
- Stress and Anxiety Reduction “Say Yes to No Stress” Workshops
- Working through Anger, Resentment and Conflict
- Self-Acceptance: Learning to Love Yourself
- Mindfulness Meditation Workshop

RUTGERS
School of Graduate Studies / Biotech Training Program / NJ ACTS

Mentoring Biomedical PhD Students and Dealing with Students in Distress

- Janet Alder and Jim Millonig from the School of Graduate Studies will present a new document from the AAMC on Appropriate Treatment of Research Trainees for faculty to learn about best practices in mentoring
- This will be followed by an interactive session run by CAPS counselors for faculty to learn about approaches and resources for dealing with students in distress.
- Finally we will discuss a case study and share experiences and advice in mentoring biomedical PhD students

Wednesday February 2, 2022
12 – 1:30pm

RSVP by EventBrite

https://mentoringworkshop2022.eventbrite.com

Join via Zoom:
https://rutgers.zoom.us/my/alderja Passcode: Janet

Policy Prohibiting Harassment

- Covers
  - Faculty
  - Staff
  - Student Employees
  - Vendors
  - Contractors
  - Subcontractors
  - Volunteers
- Basis
  - Sex/Gender
  - Religion
  - Color
  - National origin
  - Ancestry
  - Age
  - Race
  - Sexual orientation
  - Disability
  - Marital/veteran status
  - Domestic partnership/civil union status
  - Gender identity and expression
  - Atypical hereditary cellular or blood trait

Office of Employment Equity

Administrators, supervisors, and faculty members …

- have an affirmative obligation to report complaints of discrimination and harassment to the Office of Employment Equity
- should cooperate in any investigation
- should respect and protect the confidentiality of the parties and witnesses
- Avoid actions that may be interpreted as retaliation by complainants or witnesses

57 Highway 1, Cook Campus (ASB II)

848-932-3973

https://uhr.rutgers.edu/oee/home

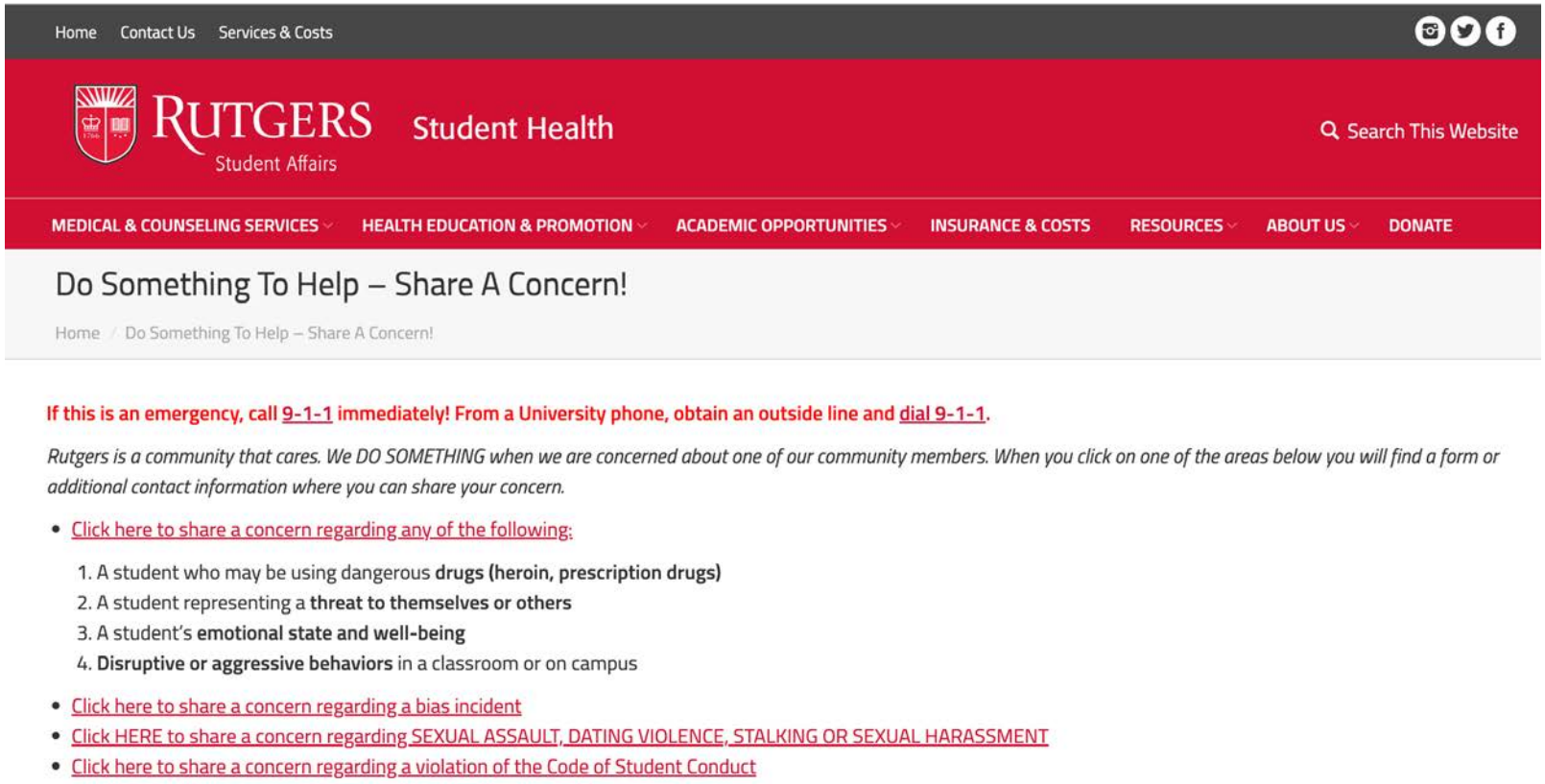
Employmentequity@hr.rutgers.edu

Lisa Grosskreutz, Director

Lisa.grosskreutz@rutgers.edu

DO SOMETHING TO HELP for concerns about mental health. discrimination and harassment Issues

http://health.rutgers.edu/do-something-to-help/



Home Contact Us Services & Costs

RUTGERS Student Affairs Student Health

Search This Website

MEDICAL & COUNSELING SERVICES | HEALTH EDUCATION & PROMOTION | ACADEMIC OPPORTUNITIES | INSURANCE & COSTS | RESOURCES | ABOUT US | DONATE

Do Something To Help – Share A Concern!

Home / Do Something To Help – Share A Concern!

If this is an emergency, call 9-1-1 immediately! From a University phone, obtain an outside line and dial 9-1-1.

Rutgers is a community that cares. We DO SOMETHING when we are concerned about one of our community members. When you click on one of the areas below you will find a form or additional contact information where you can share your concern.

- Click here to share a concern regarding any of the following:
  1. A student who may be using dangerous **drugs (heroin, prescription drugs)**
  2. A student representing a **threat to themselves or others**
  3. A student's **emotional state and well-being**
  4. **Disruptive or aggressive behaviors** in a classroom or on campus
- Click here to share a concern regarding a bias incident
- Click HERE to share a concern regarding SEXUAL ASSAULT, DATING VIOLENCE, STALKING OR SEXUAL HARASSMENT
- Click here to share a concern regarding a violation of the Code of Student Conduct

Diversity, Inclusion and Community Engagement (DICE)

Rutgers is currently engaged in university-wide strategic planning to promote and develop diversity and inclusion. The process is being led by the office of Diversity, Inclusion and Community Engagement (DICE) who note that: *"Diversity strategic planning is the process through which we will assess and align our efforts across the Chancellor-led units and the central administration recognizing that diversity, equity, and inclusion lead us to excellence."* (See: DICE's website). DICE has developed a format and set of priorities to be used by the units in producing their strategic plan.

The School of Graduate Studies has established parallel committees of faculty and students who are working on the SGS plan, following the priorities and format established by DICE.

DICE's five strategic priorities:

1. Recruit, Retain, and Develop a Diverse Community
2. Promote Inclusive Scholarship and Teaching
3. Define Sustainable and Substantive Community Engagement
4. Build the Capacity of Leaders to Create Inclusive Climates
5. Develop an Institutional Infrastructure to Drive Change

Definition of a Learning Disability

- A permanent disorder which affects the manner in which an individual with average, or above average, intelligence takes in, retains and expresses information

- There are specific learning disabilities in reading, writing and math and sometimes may be comorbid with other conditions such as ADHD, depression, anxiety, etc.

Possible signs you might notice for a learning disability

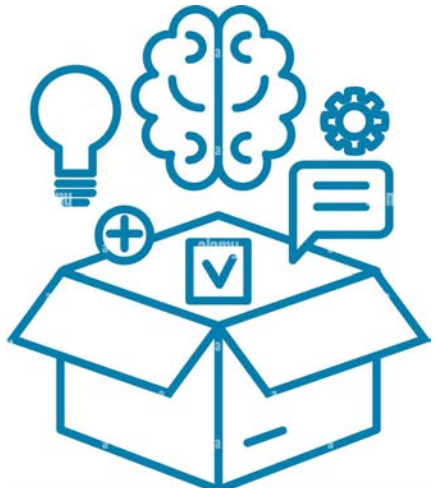
- Slow, labored reading- automaticity is never achieved
- Reading comprehension difficulties- inability to grasp the meaning of words, phrases or paragraphs
- Grasps the main idea more than the details
- Very poor handwriting and/ or difficulty organizing thoughts on paper
- Student knows the material but performs poorly on tests
- Displays memory skill deficits and/or poor organizational skills
- Overlooks multiple steps in projects and papers

Resources to Assist a Student with a Learning Disability

If a student has disclosed they have, or think they might have a disability of any kind here are some resources:

- Office of Disability Services: https://ods.rutgers.edu
  - Focuses on providing academic accommodations- works with both graduate and undergraduate students

- Graduate School for Applied and Professional Psychology (GSAPP): https://ods.rutgers.edu/students/gsapp-screening-eval-main
  - Provides low cost (free with student health insurance) testing to those who may suspect they have a learning disability or ADHD or would like updated testing



Suggestions for dealing with a student with learning disability

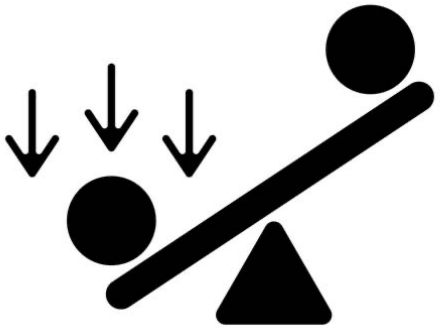
- STRUCTURE- Structure your meeting so that the student understands the purpose of your meeting, what will be discussed and what the expected outcome will be.
  - Be aware of the environment in which you are meeting, and try to reduce outside distractions

- Present information in as many modalities as possible- if you are having a verbal conversation, follow up with an email

- If you suspect a disability, but are unsure how to proceed, consider the "bundle" approach
  - Bundle the resources you are referring the student to (Learning Center, Office of Disability Services & Writing Support)

Unconscious Bias

- Refers to a bias that we are *unaware of*, and which happens outside of our control. It is a bias that happens automatically and is triggered by our brain making quick judgments and assessments of people and situations, influenced by our **background**, **cultural environment** and **personal experiences**



Impact Association Test

- https://implicit.harvard.edu/implicit/takeatest.html

The sorting test you just took is called the Implicit Association Test (IAT). You categorized Male and Female words with Career and Family.

Here is your result:

Your data suggest a moderate automatic association for Male with Career and Female with Family.

Your result is described as an "Automatic association for Male with Career and Female with Family" if you were faster responding when *Career* and *Male* are assigned to the same response key than when *Career* and *Female* were classified with the same key. Your score is described as an "Automatic association for Female with Career and Male with Family if the opposite occurred.

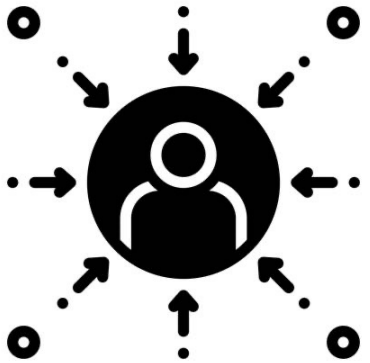
Your automatic preference may be described as "slight", "moderate", "strong", or "no preference". This indicates the *strength* of your automatic preference.

The IAT requires a certain number of correct responses in order to get results. If you made too many errors while completing the test you will get the feedback that there were too many errors to determine a result.

Note that your IAT result is based only on the categorization task and not on the questions that you answered.

How to Avoid Unconscious Bias

- Be aware/conscious
- Challenge stereotypes and counter stereotypical information (be anti-racist)
- Use context to explain a situation
- Reduce levels of bias – males & females on panels, cultural diversity on interview/selection panels, have criteria & use them
- Diversity of guest speakers & lecturers
- Inclusion in meetings
- Training at Rutgers in how to avoid unconscious bias.



Case Discussions

- Spend 10 min per case

https://docs.google.com/document/d/1kMiq7WWvuUQkotgMPFF48FNh5174BhWW31eb2lB4acc/edit?usp=sharing

- Be prepared to share your thoughts about the cases
- Case #1
- Case #2
- Case #3

What do you plan to do? Self reflection

1. How will you provide support (financial, intellectual, emotional, logistic) support for your Ph.D. students?
2. Will you help prepare Ph.D. students for careers in academia, industry, policy, other (i.e. reconcile your goals with your student's goals)?
3. Think about something you will now change in your behavior or approach when mentoring graduate students.

We Are Here for You

Janet Alder: janet.alder@rutgers.edu

Jim Millonig: millonig@cabm.rutgers.edu