

# Academic Careers: Research Intensive University

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# Why go into Academia?

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- Always an exciting day. Never the same. Always a challenge. You learn new things all the time, meet new people, travel over the globe...
- Contact with students, post docs. Their enthusiasm rubs off...
- There is such a thing as “academic freedom”
- I manage my time, I manage my calendar, I travel when and where I want most of the time...I select the collaborators and students I want to work with. I select the projects I work on..
- Limitations are always there in life-need to get your research funded.....
- You often teach in your own area and expertize- can negotiate amount of teaching
- Tenure-there are no mergers or pink slips...

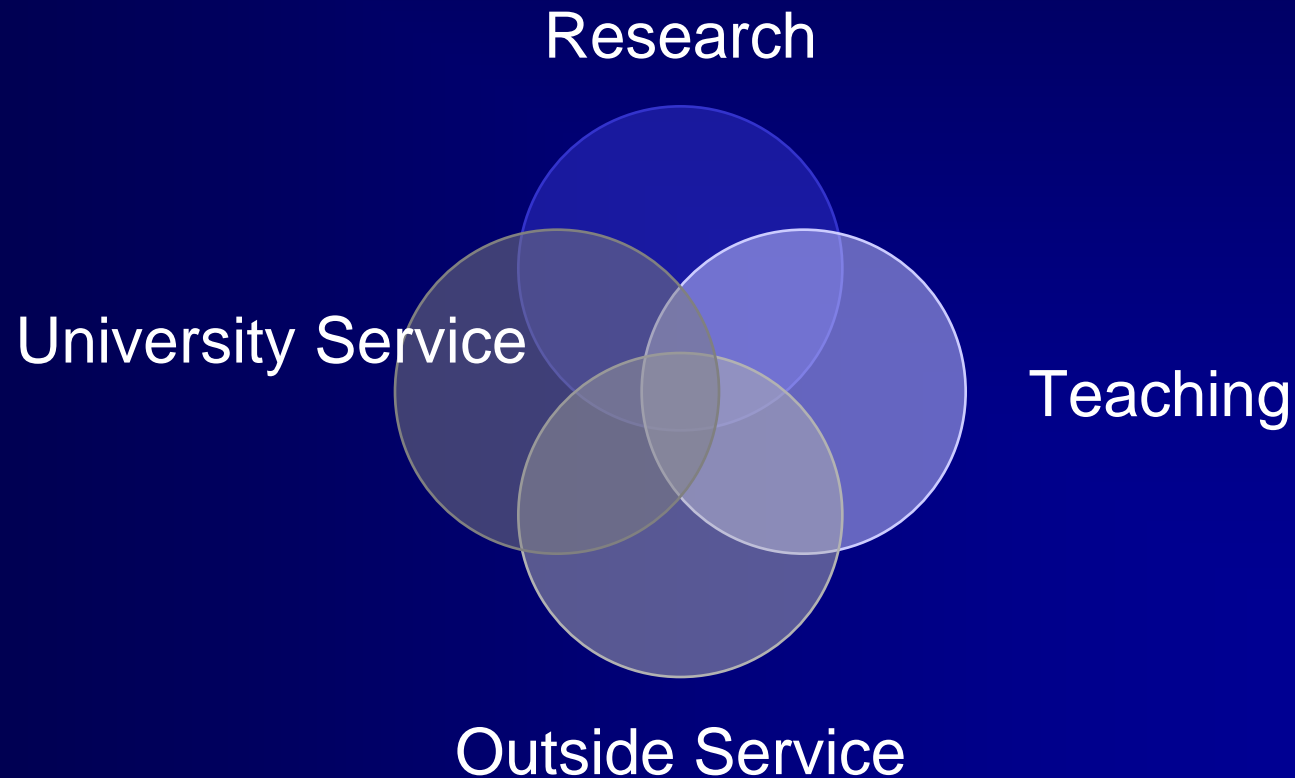
# My Path

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- Undergraduate in Pharmacy, Ph.D. in Pharmacology (U.K.)
  - Mentor was very committed to me but knew nothing about the subject area
  - Had to work on my own most of the time
- Instructor – Pharmacology Lab
  - Provided a salary
  - Had NO LOANS due to U.K. system of education
- Post doctoral experiences
  - Univ. of Florida (Medicinal Chemistry/Pharmaceutics)
  - Univ. of Bradford (U.K.) (Pharmaceutics)
- Assistant Professor (Pharmaceutics)
  - Challenges of move to U.S. school from U.K.(Univ. of South Carolina)
- Associate to Full Professor – tenure/ “Researcher of the Year”
- Move to NJ and Rutgers University via UMDNJ

# Contributions you are evaluated on for tenure and promotions

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# A Balanced Research Portfolio

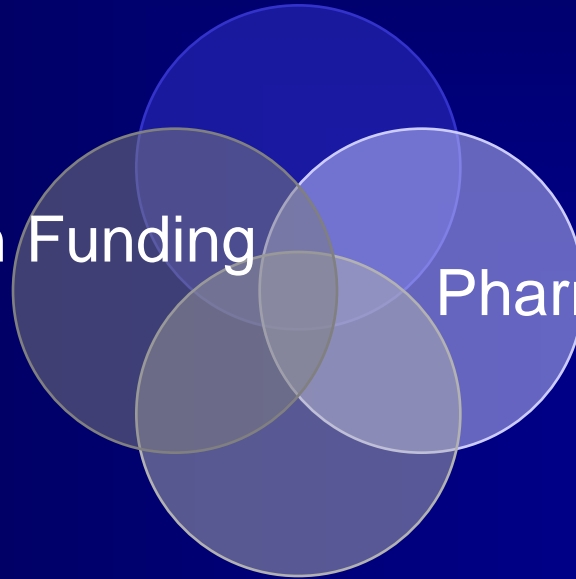
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National Institutes of Health

Other Federal/Foundation Funding

Pharmaceutical Industry

Co-investigator with others



# Sources of Funding for a Laboratory Group

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- Federally funded research (NIH, NSF): peer-reviewed. Influences ranking of college
- Industrial research : not peer-reviewed
- Industrial contract/service, often not publishable
- University funding: ex. Matches for equipment, career awards
- Gifts for research
- Fellowships for students, travel awards, etc.

# Building a Research Team

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- Research Lab. support
  - Share resources: Access to someone else's group/collaborators
  - Research coordinator/Lab. manager
  - Consultant-Lab Notebook maintenance, Lab Safety monitoring
  - Technician? Manager for Tissue Culture Lab.
  - Data manager? Statistician?
  - Budget administrator & administrative support
- Mentoring of group
  - Research Professors (senior staff supervises the group)
  - Post-docs
  - Graduate students
  - Undergraduate Students-good to have mix of disciplines

# Building a Collaborative Research Investigator Team

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- You are likely to be the P.I. on most but not all funded grants (that is why we have to check % effort)
- Add collaborators in areas you are not familiar with-select the best team-leads to success
- Utilize technicians from equipment sources- negotiate non paid use if possible, ex. Confocal microscopy, EM
- Biostatistician

# Logistics for Success

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- Funding,
  - NIH, NSF, DoD
- Space
  - Always an issue
- Staff support
  - Administrative time, budget administration
- Equipment (that you cannot afford to purchase & maintain)
  - Access to confocal, electron microscopy, etc.
- Data management & storage
- Infrastructure important part of success- MIT vs. Rutgers vs. University of Kitty State
- (However, when selecting a post doc: remember it is the research group that has the reputation....as well as a school)

# Advantages of Industry-funded Research Studies

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- Time from concept to funding may be faster
- Societal impact & economic growth & job creation
- Funds are not as strictly controlled
- Can bring in several small to medium grants fairly quickly
- Publication(s) may not be restricted. May require prior approval by company but this is often not an issue
- IP position negotiated up-front on the Agreement
- May have quite a lot of scientific input-will depend on your industrial contact & working relationship
- Can charge travel and some other costs to such grants which federal funds will not cover ex. administrative assistant costs

# Disadvantages of Industry-funded Research Studies

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- Not peer-reviewed
- Therefore may not be regarded as important as NIH/NSF funding, etc.
- Rarely large \$\$ and rarely continues for more than a year
- Publication(s) may be restricted
- May have Research Agreement issues over IP
- May have less scientific input and less scientific impact

# Teaching

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- Teach in two team taught graduate courses
- Teach one graduate elective every other year
- Course Coordinator for one Pharm.D. class (Drug Delivery I) with a compounding lab
- Mentor Pharmacy Honors course students
- Mentor Pharm.D., BME & other students in research lab

# Service

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- University Committees
- Departmental Committees
- NIH Study Sections
- Reviewer for journals/ proposals (in addition to NIH)
- Invited speaker at conferences/  
workshops/panels/industry meetings
- Organizer of meetings/workshops/conference  
sessions

# Day in the Life of one Rutgers Faculty member...

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- Day at office/lab begins at home with check of email
- Short commute/reserved parking-start day by 8.30am
- Will have several meetings-not all on campus, one class (3 hour for graduate or 2 x 75 mins for Pharm.D.per week). Labs taught by TAs (need to supervise TA plans). Pharm.D. class 280 students....
- Meetings: individual research meetings with lab members/collaborators. Have about 22 lab members excluding faculty collaborators.
- Some proposal writing-try to get as much done at home if possible
- Travel (usually twice per month)
- Email, email email.....
- Go home 7pm, eat and then back to work in home office until about midnight-in between feed the cats....
- Work several hours (depends) at weekend but always check email

# Some Facts Not on My CV & additional Comments

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- Traveled to all continents by now
- Have two step daughters, one graduates from Wisconsin in Dec., the other is an M.D./Ph.D. in Rochester
- Husband is Professor at Rutgers, Director of a Center with funding level of \$15 M /year
- How can we find any time to play golf???
- **HAVE to ORGANIZE WELL and PRIORITIZE TIME**
- **If you are to fail at something, fail fast and move on...**
- **Learn to MULTITASK... but know when to say “no”**
- **Learn to be a GOOD COMMUNICATOR...**
- **Learn from others, especially the successful scientists..**
- **Focus on your goals. Avoid distractions.**

# The Ten Top Things To Remember in Life

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- #10 - You should plan to reach all your goals in life, but remember that you can't do everything
- #9 - You should have a life beyond work-find time to play golf & sit at the beach...
- #8 - You should enjoy being with your family
- #7 - There are many childcare options
- #6 - Have work stay at work

# The Ten Top Things To Remember in Life

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- #5 - Keep your private life private
- #4 - Participate in family gatherings
- #3 - Share your work & goals with the family
- #2 - Organize the work at home with your spouse

# The Ten Top Things To Remember in Life

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- #1 - Your gravestone should not read “Here lies XXX who sacrificed his /her life for Work”

# Conclusions

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- Working in pharmaceutical science/ science/medicine in general is a true privilege
- Academics provide opportunities for moving science forward, aiding in economic growth, mentoring students and trainees, & pursuing scientific questions
- Success is that winding path of finding good mentors, lots of hard work, a good vision & realistic goals, and finding a balance between work and home
- Most importantly of all, enjoy what you are doing!!!