From Postdoc to Professor
My journey through the trenches

41st LCCC Postdoc-Faculty Research Day

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Lecture Outline

How exposure to teaching helped shape my career goals and prepared me for the job market
  • What you can do right here at UNC

The tenure track faculty interview process

The transition from mentee to mentor, and how your postdoc advisor can help

Life as a junior faculty member and the dash for tenure and promotion
Where will a biology PhD take you?

A faculty job is an “alternative” career.

At this rate, <8% of entering PhD students will become tenure-track faculty. Yet, 53% rank research professorships as their most desired career.3

Arrows represent annual fluxes. Circles are total current workforce numbers.

86,000 current US biology PhD students

1,900 to 3,900 foreign-trained PhDs start postdocs

30% do more than one postdoc1

15% of postdocs get tenure-track faculty jobs within 6 years post PhD.2

17,000 current bio PhDs doing non-science jobs

22,500 current industry researchers

25,000 current non-tenure track academic positions

24,000 current non-research, science related jobs

7,000 current gov’t researchers

37-68,000 current postdocs

29,000 current tenured and tenure track faculty

2,000 current industry researchers

10% of former postdocs (up from 2% in 2010) consider themselves unemployed.1

37% drop out

70% (5,800) Postdoc

720 Leave the US

Every year, 16,000 students start biology PhD programs

9,000 Receive PhDs

7 years average time to degree

US PhDs spend an average of 4 years, but others must spend longer to account for number of postdocs.

30% (2,500) Don’t postdoc

Sources:
3. Babiracki & Beach, 2012 PLOS ONE; DOI: 10.1371/journal.pone.0038107

Unless otherwise noted, NIBIB Biomedical Workforce Working Group (2012)
What can you do as a postdoc to make yourself a sought after faculty candidate?

• Be a productive researcher
  • Publish
  • Apply for (and receive) grants
    • F32, DOD, K awards etc.
  • Travel
    • Make connections and establish collaborations

• Mentor
  • undergraduates in the lab

• Teach
  • Gain valuable in-class experience
    • Assisting vs. instructor of record
Why mentoring undergrads is important

Shows a search committee that:
• You care about teaching/mentoring the next generation of scientists
• You are selfless enough to donate your time and talent
• You are able to communicate with someone less skilled than you
• You are able to work with and lead others
Undergraduate laboratory mentoring

- **Specific programs for undergraduates**
  - HHMI UNC BEST Program
  - For course credit (Biol. 495)
  - Honor’s student thesis

- **Informal mentoring**
  - Interview
  - Set ground rules
    - Amount of time in lab, end of year presentation etc.
    - Watch out for students who just want a CV booster

- Don’t give an undergrad a project **critical** to your work
  - Do give them a project that will help you but is still manageable for an undergrad’s time frame and knowledge/skill level
    - Good undergrads will surprise you! Challenge them, but don’t overly complicate things
So how can you gain classroom teaching experience as a postdoc?
Teaching Programs for Postdocs

• SPIRE (Seeding Postdoctoral Innovators in Research and Education)
  • Part of the Institutional Research and Academic Career Development Award (IRACDA) Program
  • Research/Teaching/Professional Development
  • Brian Rybarczyk, PhD; SPIRE Postdoctoral Fellowship Program

• ImPACT (Immersion Program to Advance Career Training)
  • provides internships for grad students and postdocs in a wide variety of career paths
  • 10 paid teaching interns over the last 2 years (UNC, Meredith, Wake Tech, Durham Tech, Peace)
  • Patrick Brandt, PhD; Director of Career Development and Training, Office of Graduate Education

• CIRTL (Center for Integration of Research Teaching and Learning)
  • Enables trainees to access online resources, courses, seminars, and local learning communities aimed at enhancing scientific teaching practices and improving training options available for STEM instructors
  • Rebekah (Beka) Layton, PhD; Program Director, Training Initiatives in Biological and Biomedical Sciences
Doing the grunt work pays off in the long run

- Teaching assistant for Biol. 202 (Genetics and Molecular Biology)
- Scientific Ethics facilitator for UNC first year biomedical grad students
- Graduate student writing coach (Office of Graduate Education)
- Invited guest lecturer for Biol. 445 (Cancer Biology)**
- Invited guest lecturer for Biol. 632 (Advanced Molecular Biology II)

- Instructor of Record for Biol. 445 Cancer Biology (SS1)
  - This position really helped me land my job – and at the time of interview I had not even started! Taught 1 month before moving to Augusta
But I can’t find a teaching opportunity at UNC!

Ok……………try anywhere in the RTP (or the country)!

- Duke, NC State + ~18 other ‘not for profit’ institutions of higher learning within the RTP
- Teach nights at a local community college
- After some experience is gained you might even be able to get an online class
  - Very different feel and experience than traditional teaching
Why you should take professional developmental/leadership workshops now

• Once you become a faculty member you will probably begin immediately managing/leading people (undergrads, grad students, postdocs, technicians, administrative staff, residents)

• Future Faculty Fellowship Program (CFE)
• Summer Teaching Series (TIBBS)
• Effective College Teaching Workshop
  • Hosted by SPIRE
Your postdoc mentor can really help (or hurt) in your quest for a faculty position

• You need to be able to convince a search committee that you will be independent from your postdoc PI

• Is the project really yours to take with you?
  - this is a conversation that should take place in the beginning
  - can you take technology, animals, and ideas with you?
The Faculty Job Search
Most postdocs think about jobs in Doctoral Granting Universities – but there are many more options out there!
The faculty job search

• Where to apply?
  • R1, R2, R3 research institution, comprehensive university, PUI, community colleges, high schools
  • Spouse/family considerations

• What types of positions?
  • Tenure track professorship
  • Lecturer

• Plan to start looking for announcements in August – check daily
  • Some departments will hire immediately, others will wait for a pool of candidates
  • Narrow search fields, but keep an open mind

• Chronical of Higher Education
• Science Careers
• HigherEdJobs
• Announcements in journals
• Individual school postings (on their websites)
Documents you’ll need to prepare

- Online application
- Cover letter
  - Refer to the job description in the announcement to make each cover letter unique
  - This document should be perfect
- CV
  - Take a CV workshop
  - Modify for each position
- Research proposal
  - Should spell out your first grant in enough detail for hiring committee members to understand
- Teaching statement/portfolio
  - Don’t make this an afterthought
- Transcripts (all undergraduate and graduate/professional schools)
- Letters of recommendation
  - People who can explain your excellence in research, teaching/mentoring
  - Graduate and postdoc advisors, committee members, key collaborators, people who have taught with you or seen you teach
  - Follow up to make sure they were sent
- Partner Hires........
Yes! You got an interview!

Skype/phone interview

On campus interview

- Try to get an agenda before leaving so you can prepare

- Plan on meeting all faculty in department, students, postdocs, Chair, Dean(s), maybe even the president
  - You should be given the chance to meet with students, red flag if not

- Research talk
  - Formal outline of what you are currently working on and what you will do once you are hired
  - If the department is diverse (like a biology department) give enough background so that all faculty will understand your major points
  - A chalk talk may also be required (less formal meeting to discuss details about research direction)

- Teaching presentations
  - Will be given a topic and audience (ex: prepare a 50 minute lecture on cellular respiration for freshman bio majors)
  - Plan lecture as if students will be present and asking questions

- Prepare for going to lunch/dinner with students, postdocs, faculty, chair, dean
Departments are looking for a great researcher/teacher, but they are also looking for a great colleague.

Try to get a feeling about the ‘culture’ of the department/university
- Emphasis on teaching excellence?
- Research expectations?
- What are the students like?
- Internal money available for research?
- Collegiality within the department?

Learn something about the town/city
- Where do most people live?
- Public schools good?
- 1 stop light town or will you have a horrendous commute?
- Cost of living?
- Can your spouse find work?
Can they give you what you need to be successful?

• Space available?
• Money available?
• Common resources/equipment available?
• Students available?
After the on campus interview......

• Send follow up thank you emails to the people you spent the most time with
  • Especially hiring committee, chair, dean
• Inquire again as to when you should expect to hear more information about the selection progress

• Requesting updated information
  • Some search committees take forever
  • Some search committees send rejection notifications, others will not
Great!! You got an offer! Now what....?

Negotiations

- Salary (hard or soft money?), startup, benefits,
  - (10 or 12 month)
- Teaching load, TA support, teaching deferment?
- Lab space/equipment, technical/administrative support, graduate student stipends, protected research time?
- Tenure guidelines?
- Moving and other expenses?
- Sabbatical?

- Pick your battles!
  - Know your needs vs. wants
- Your negotiations should be clearly spelled out in the official offer letter
  - This letter is your contract!

- If you have multiple offers, only ask an institution to match an offer if you plan to accept the offer
  - Accept an offer before declining other offers!
Time to pack up your postdoc life and head to junior faculty life........

• Discuss with your PI what you can and cannot take with you from the lab

• Establish how any unfinished work will be completed

• End your postdoc work with enough time to move, set up your lab, start recruiting, and prepare for teaching responsibilities before officially starting
AU: A 4 year old school with a 188 year history....
What’s my life like as Junior faculty?

• Teaching
  • Preparing for and teaching lectures and labs
    • (Good) lecture prep takes a lot of time!
  • Designing new courses/programs
    • Cancer Biology
    • MS of Biomolecular Science
  • Learning and implementing new pedagogy techniques

• Research
  • Securing funding
  • Recruiting and mentoring in the lab
  • Publishing
  • Establishing collaborations
  • Travel to conferences

• Service
  • Community Service (University)
  • Institutional Biosafety Committee (University)
  • Biomolecular Sciences Master Degree curriculum planning Committee (College)
  • BIOL 1107 Laboratory Redesign Committee (Department)
  • Faculty Search Committee (Department)
What’s life like as Junior faculty?

The ‘other stuff’ you may or may not think about when starting.............

• Student advising

• Handling student problems/classroom management
  • Know who your students are
    • Traditional vs. Returning students? Veterans? First generation college students?
      • All groups come with their own unique situations
    • Academic dishonesty
    • Anxiety, depression, suicide

• Endless training
  • Suicide prevention and sexual misconduct training
  • HIPAA, all lab training.....
  • FERPA
  • Continued development training
Tenure and promotion to Associate Professor

• Guidelines should be clearly spelled out in your offer letter/contract

• Probationary period of usually 5-7 years
  • May have a pre-tenure review in the 4th year
  • Are you on track to gaining promotion and tenure?

• Apply for promotion and tenure after 5th+ year of employment
  • Items needed:
    • Statement and evidence of: scholarship, teaching, service; annual performance evaluations; CV, external letters of recommendation
    • Must pass department, college, university, and presidential levels

• Post tenure review and promotion to full professor
The hardest part of my job thus far has been balancing teaching, research, and service responsibilities.
From Mentee to Mentor

- Smooth transition due to previous experience as postdoc
- Recruiting great students
- Managing undergraduate schedules
Making the Right Moves

Great resource when starting to think about applying for faculty jobs all the way through navigating your first years as junior faculty

(PDF is online)
Current Research Interests

• NF-κB and the tumor microenvironment
  • macrophages
  • Breast cancer and glioma

• Collaboration is key for me
  • Sharing resources and expertise, writing joint grants

• Research must be accessible to undergraduates

• Master Degree Program in Biomolecular Sciences being developed
Using a conditional p65 KO animal to study role of TAMs in cancer

*pDr. Baldwin let me take these mice to AU – major source of collaboration*
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Questions??