

Outline

- Why academia?
- Preparing for a career in academia
- Types of positions in academia
- Postdoctoral positions
- Tenure-track positions
- Non-tenure-track positions
- Survival skills: Balancing multiple responsibilities
- Discussion

Why academia?

Statistics: A diverse profession, with options for Ph.D. recipients in

- Industry, e.g., pharmaceutical, financial, manufacturing,...
- Government, e.g., research (EPA, NIH, national labs, etc.), regulatory (FDA) item [Academia](#)

Why academia?

Each option offers its own mix of:

- Intellectual challenge
- Pressure
- Security
- Financial reward

Here: An overview of the opportunities and mix in [academia](#)

Why academia?

Attractive features of positions in academia: Variety

- Diverse set of responsibilities
- Opportunity to teach
- Opportunity to engage in research, set one's own research agenda
- No “boss” or “bottom line”
- Flexibility of schedule

Why academia?

Potential drawbacks of positions in academia: Variety

- Diverse set of responsibilities
- Opportunity to teach
- Opportunity to engage in research, set one's own research agenda
- No “boss” or “bottom line”
- Flexibility of schedule

⇒ High expectations...

...and perhaps somewhat less of a financial reward (although this is changing...)

Why academia?

For many people: These are **advantages** rather than drawbacks!

- Opportunity to be creative, contribute to the discipline and science more generally, teach and work with students, ...
- Opportunity to be “one’s own boss”

Required:

- Interest, motivation, excitement
- ... and certain skills, many of which can be **developed** while still a student

Preparing for a career in academia

For a successful and enjoyable career in an academic environment:

Coursework

- Get the best, most thorough training you can
- Don't just take "easy" courses: Challenge yourself
- Do not strive for an "A" but strive to **deserve** an "A" by true mastery of the material
- Completeness, thoroughness, precision, neatness in **all** work
- **Self-reliance** and **timeliness**
- Go the "extra mile"...

Preparing for a career in academia

For a successful and enjoyable career in an academic environment:

Computing skills

- Modern statistical research and practice are inextricably linked with computation!
- The “theoretical” statistician is a **thing of the past**
- Proficiency using statistical software
- Proficiency with a high-level computing language (e.g., C, C++, FORTRAN even!)
- **Experience!**

Preparing for a career in academia

For a successful and enjoyable career in an academic environment:

Writing and speaking skills

- Write as much as possible! Write homework solutions that could be published!
- Use projects and writing assignments as a genuine opportunity to practice and receive feedback
- Attend all seminars, observe techniques and speaking styles
- Volunteer to give presentations!
- Teach a course!

Preparing for a career in academia

For a successful and enjoyable career in an academic environment:

Dissertation research

- This is not homework; **YOU** are the researcher
- Do the results seem correct? Do not wait for your advisor to decide
- Take initiative, consider the next step, diagnose problems
- Think about journals! Write papers!
- Develop **independence**

Preparing for a career in academia

For a successful and enjoyable career in an academic environment:

Academic reputation

- Work with an advisor whose research interests are your interests, and who is well-known for his/her research
- Advisors enjoy working with students who are motivated, self-reliant, and skilled, so strive to enhance your skills and independence!
- Letters of recommendation

Preparing for a career in academia

Main message:

- Evolve out of “student mode” and into “professional mode”

Types of positions in academia

In our Department: Most faculty hold “classic” **tenure-track** positions

However: There are also other types of positions in an academic setting

- **Postdoc**
- **Non-tenure track**

Postdoctoral positions

An intermediate step:

- A postdoctoral position in academia allows one to “get one’s feet wet” without the full responsibilities of a standard faculty position
- An opportunity to hone skills, develop more independence, write/submit/resolve dissertation papers
- May involve exclusively research, possibly some teaching
- May lead to new research directions
- Typically 1–3 years

Postdoctoral positions

Other disciplines:

- Postdocs are common or a **required** step
- In some disciplines, two or three postdocs (2–3 years each) are the **norm**
- Will almost never lead to a faculty position at the same institution

Postdoctoral positions

Statistics:

- Not required
- Not common, but more and more available
- A good choice if one wants more time to gain experience, improve skills, broaden background
- **Not** an extension of graduate school
- Can lead (for strong candidates) to faculty position at same institution

Postdoctoral positions

Harvard School of Public Health postdoctoral fellowships (2004):

“Postdoctoral Fellowships, Department of Biostatistics, Harvard School of Public Health. Fellows will engage in methodological research and participate in collaborative research in AIDS, the environment, cancer, chronic disease epidemiology, or statistical genetics. Some positions require U.S. citizenship or permanent residency. Send CV and names of three references to...”

Tenure-track positions

What is tenure? From the NCSU Policies, Regulations, and Rules

“The purpose of academic tenure is to promote and protect the academic freedom of the faculty. It also assists the University in attracting and retaining faculty members of high quality.

Academic tenure refers to the conditions and guarantees that apply to a faculty member’s employment, in particular the protection from involuntary discharge from, or termination of, employment, and from imposition of serious sanctions, except upon grounds and in accordance with procedures set forth in sections 7 and 8 of this policy.”

Tenure-track positions

Tenure provides:

- Job security
- Freedom to pursue one's interests, creativity

Tenure-track positions

Getting tenure requires: Excellence in

- Research – publications and grants!
- Teaching – innovations, evaluations
- Consulting/Collaboration
- Service – meaningful contributions to department administration and profession (e.g., serving on admissions, exam committees; organizing sessions at conferences; participating in department initiatives)

Tenure-track positions

In most US universities:

- Assistant \Rightarrow Associate \Rightarrow Full Professor
- Assistant professor is a **non-tenured** position
- Evaluation takes place in sixth year: “Promotion package”
- Personal statement, letters from researchers in one’s area (**critical**), teaching evaluation, grant activity
- **Not automatic**

Tenure-track positions

In most US universities: 11 month basis

- Typical position is 9 months (academic year), no salary in summer
- Summer salary: Grants, summer school, outside consulting
- NCSU: Some faculty still have 11 month positions
- Biostatistics: Typical position may be 50% supported; remainder from grants, projects

Tenure-track positions

The road to tenure: Starting **any** professional job is hard; added pressures

- Six-year horizon to promotion
- Multiple responsibilities, finite time!
- First-time teaching; lots of time
- Balancing research/teaching/service

Tenure-track positions

The road to tenure: Benefits in first few years

- Reduced teaching responsibility
- Summer salary
- Mentorship

Tenure-track positions

Rewards:

- Flexibility
- Chance to be creative, effect change
- Chance to work with students
- Personal satisfaction

Non-tenure-track positions

In addition: There are many positions in academia that **do not** accrue tenure

- Contract basis
- Lecturer, instructor: renewable position focused on teaching
- Clinical/Research track: renewable appointments with primary focus on teaching or collaboration

Survival skills: Balancing multiple responsibilities

The hardest part: For new assistant professors, **time management** is key – mentors, colleagues can help

- Get a clear understanding of expectations for one's time
- Get a clear understanding of relative importance of activities
- Get a clear understanding of evaluation process for promotion
- Learn that one can say **no**

Survival skills: Balancing multiple responsibilities

The hardest part: Doing what one **should** do rather than **can** do

- Easy to focus on teaching – deadlines, student expectations, it's fun!
- Easy to put research “on the back burner” – no deadlines, outcome not guaranteed, temporary setbacks can be frustrating

Survival skills: Balancing multiple responsibilities

Some tips:

- Set off time for one's own interests and guard it!
- Work at home if distractions are too tempting
- Do not procrastinate; you will feel overwhelmed later
- Seek advice from senior colleagues
- Relax and have fun!

Discussion

- A career in academia can be rewarding, fascinating, challenging
- Chance to [make a difference](#) with students, direction of the discipline
- [Required](#): Motivation, independence, willingness to work hard
- [Advice](#): Start preparing now!