

Engineering Graduate & Scholarly Talks: Academic Careers

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Overview

"Typical" academic path

Realities of academic career prospects

Necessary skills to develop

Other challenges

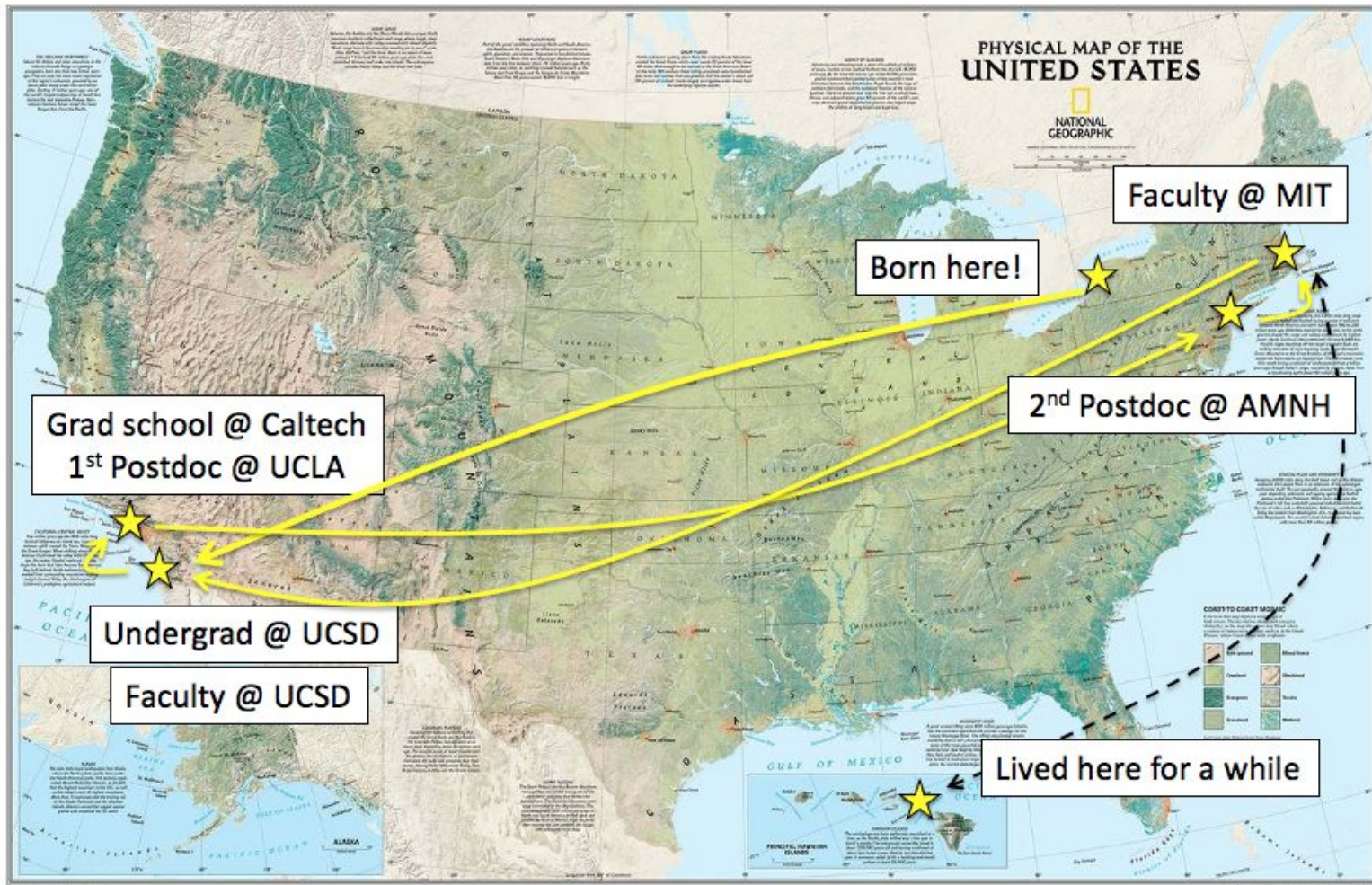
Discussion

What is the "typical" path toward an academic job?

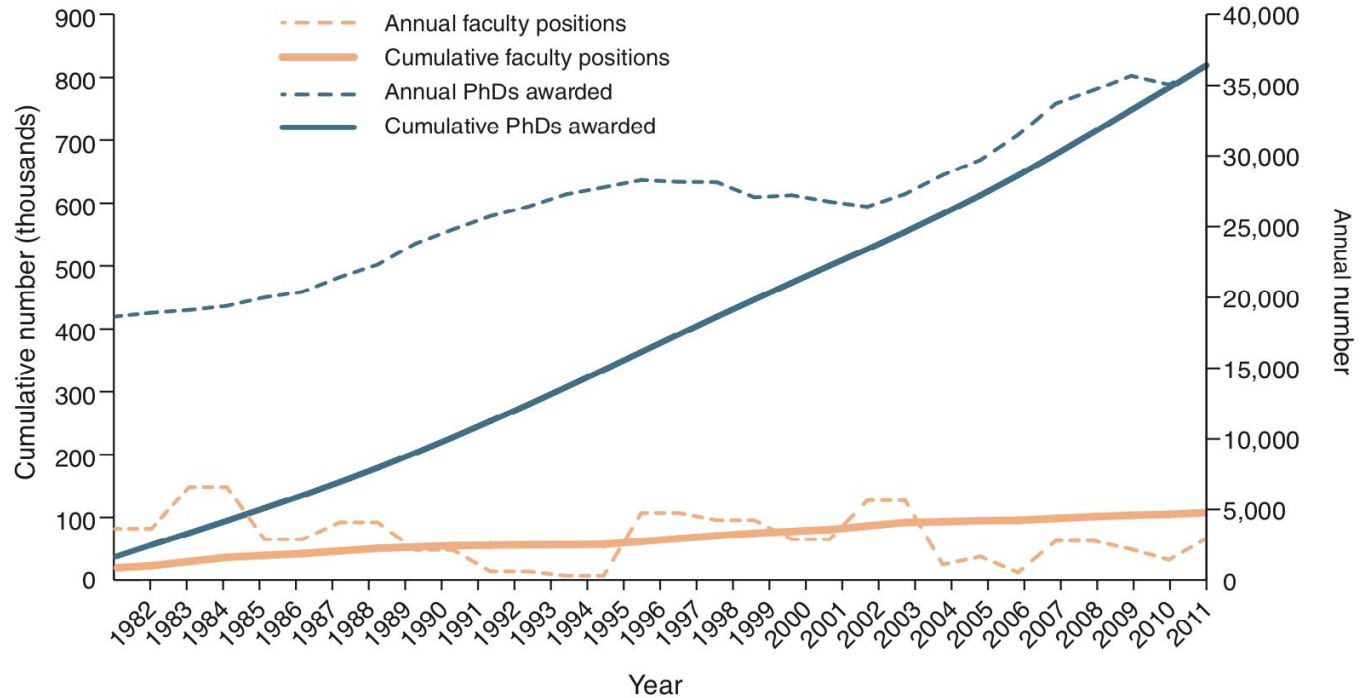
- Complete your PhD (4-7 yr)
- 1-3 temporary postdoc positions (3-9 yr)
- Untenured faculty/teaching/research scientist (3-6 yr)
- Tenured faculty/teaching/research scientist (hooray!)

This varies considerably for different fields and research areas!

Academic (physical) path



The reality of academic job availability



Schillebeeckz & Lewis 2013, Nature Biotechnology 31, 938

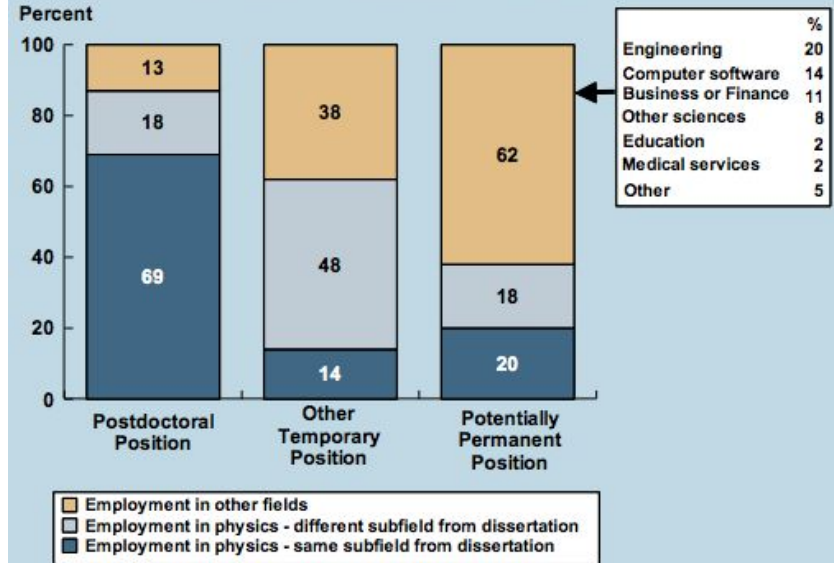
<https://www.nature.com/articles/nbt.2706>

Statistics on Academic Careers - Physics

Type of Employment of Physics PhDs by Employment Sector One Year After Degree, Classes of 2013 & 2014 Combined

Sector of Employment	Initial Employment Type			Overall %
	Postdoc %	Potentially Permanent %	Other Temporary %	
Academic*	75	20	71	52
Private	1	70	18	31
Government	21	8	3	14
Other	3	2	8	3
	100%	100%	100%	100%

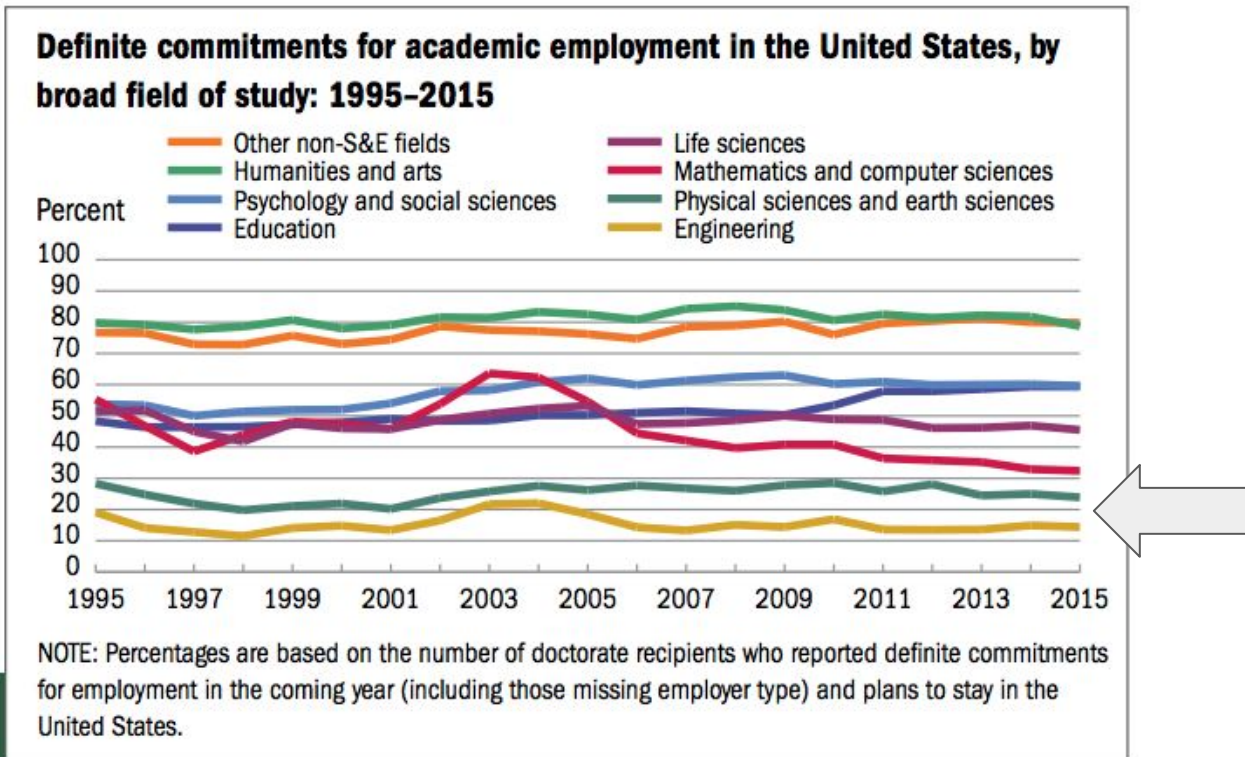
Employment Field of Physics PhDs One Year After Degree, Classes of 2013 & 2014 Combined



Pold & Mulvey: Physics Doctorates Initial Employment, AIP Statistical Resource Center (2016)

<https://www.aps.org/careers/statistics/upload/phdinitemp-0316.pdf>

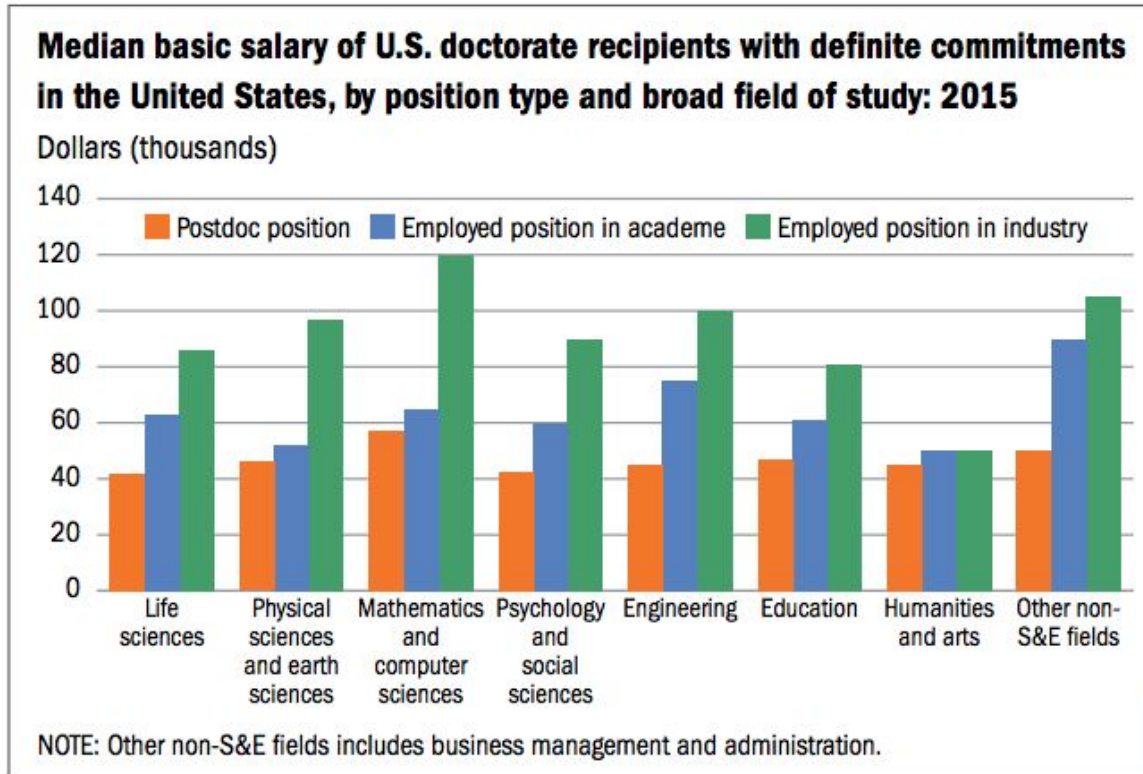
Academic employment across fields



2015 NSF Report: Doctorate Recipients from US Universities

<https://www.nsf.gov/statistics/2017/nsf17306/report/about-this-report.cfm>

Salaries across fields



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Make sure you have a back up plan!

What other opportunities are there in industry, government labs, private research institutions, etc. to have a fulfilling (and possibly better paying) career?

Critical skills to prepare for academic position

Strong research portfolio = publications (esp. independent of PhD work/advisor)

Teaching experience & skills: TAing, guest lecturer, teaching training (e.g., CAE workshops)

Networking: Conferences & Talks; also, do you have an up-to-date professional webpage? An up-to-date LinkedIn page?

A vision for your academic career: what do you want to do as an academic?
Pure research (research scientist), pure teaching (instructor/teaching faculty), both (traditional faculty) - also determines WHERE you apply for jobs

Mentors: identify multiple people who can advise you on career work, navigate academic politics, etc.

Other considerations

Diversity portfolio: increasingly important component of academic careers; get involved in outreach and equity initiatives, learn more about equity issues in your field

2-body problem: this can be a challenge - and an opportunity; seek advice on how to navigate dual hires, discuss with hiring AFTER an offer has been made

Academia → Industry, Industry → Academia: ease of these transitions depends greatly on the field; again, mentors are important for this

Questions?