

Beyond Boulder 1/27/14
Jobs in Research outside of Academia

Wendy: PhD Astro, NIST – Chemical research group, computer modeling

Emily: Post-doc CU Astro

Travis: PhD Astro, Space Science Institute, soft money research (writing grants for salary)

First off: If you are interested in a research position either in or out of academia start applying to REU programs (google: NFS REU)

Q: How to pick and REU if you are accepted to more than one?

W: Ask your professors about the programs

E: They are usually 10 weeks over the summer and there are more REUs than the ones listed on the NSF website, Department of Energy, Department of Defense...

E: There is this thought process about research where there is one path masters/PhD and then academia

Q: So why not academia?

W: I hated my post-doc 1st yr, now I am a prep-post-doc at NIST. I have training for a couple years then I will be a full time researcher.

T: 40% of PhDs go to academia, I weighed the relative merits of research vs professorship. As a post-doc: everyone I worked with hated their jobs (pay/happiness/workload), I talked to people all over the country to see what others were doing, campus is biased toward professorship, you need to go out for another perspective

Q: why research over post-doc?

W: There is one very specific track: postdoc-> postdoc-> postdoc... it was plan vs reality. Now I have more options, I make products that are actually useful to someone instead of just an intellectual exercise

T: I didn't want to be like my professors, Profs have a 9 month salary and supplement the other months with grants, I can get 12 month grants from the NSF. There is a trade off with research with teaching loads

W: everyone hated teaching

Q: Do you need engineering?

W: I do computer modeling as research, I had no engineering background, modeling/coding skills transfers between career fields

T: I work with Kepler Space Telescope, I characterize the stars that the planets are orbiting so that they can determine the characteristics of the planets.

Q: Masters vs PhD

T: There are lots of jobs where you contribute but there is less responsibility in getting money for the group

W: There would be more lab tech type positions not so much research

Q: Jobs at small vs large universities?

T: It depends on the area of research: facilities, labs, gov't connections, teaching loads

E: It will depend on the amount of money the school has, permanent positions, resources to fill teaching positions

Q: Stress?

W: Priorities shift -> stress in different ways -> hard deadlines

T: Different stress, you just need to find something that suits your interest. I started out at NCAR and had responsibilities with outreach and community service, but I had job security

Q: What happens if you don't get grants?

W: find funding for something else

T: I have the ability to set salary levels, so I could just lower my salary and still work full time, or teach or get another job instead.

Q: How do you find positions?

W: Talk to people.... Everyone.... Just talk to everyone

T: Personal connections, a lot of people get a position there early on in their career, then leave and go back (undergrad, grad or post-doc work first)

E: Seriously, talk to everyone

Q: How to focus undergrad work toward/away from labs?

T: research experience will help no matter what, but if it is in/out of a university it doesn't matter

W: the roll of an undergrad is to be a student, then you focus on research as you go further on in school, but you also gain more responsibilities in teaching

T: Research is focused in grad school, you undergrad time should be spent on exploring different options

E: like the LA program.... Find out if you want to teach....

T: Some schools have focused masters programs you can do while in grad school, like science policy... you can explore those as well

Q: how is the culture different?

T: Profs should be able to talk about their work, they do it all the time, labs are generally in small groups

W: for me it was more of a business atmosphere, personable, it's not just researchers sitting in front of a comp screen who don't talk

T: people are more chill when they have job security, but I hardly ever see people, it is harder to get large groups (\$)

Q: Aerospace program said 60-80 hrs a week?

T: you can choose your hours when you are grant funded, grad school -> low productivity with long hours, post doc -> longer hrs

W: I knew people who did grad school 9-5 and made it work

E: people chronically overestimate the amount of time spent working-> work more efficiently if you are spending that much time on something

T: the number one ingredient for productivity is happiness

Q: research in undergrad-> multiple years on the same project?

W: keep relationships with everyone you worked with, but diversify

T: 5 yrs full time -> expertise, problems can be fascinating but don't get pulled in
E: some work can lead to leadership roles and papers, but you will be expected to have depth of knowledge on the subject

Q: can you change you focus now?

W: right now, not much, I am set for a couple years

T: I am unlikely to be anything other than a stellar astrophysicist, but I have had slight changes. Like right now I am working closely with extrasolar planets because that is where the money is

E: when you change focus moving may be challenging and actual physical moving

NEXT WEEK: TEACHING CAREERS