

“Astronomy Job Crisis”

Cooray et al. arXiv:1512.02223

Manodeep Sinha

DL Talk: Feb 8, 2016

“Astronomy Job Crisis”

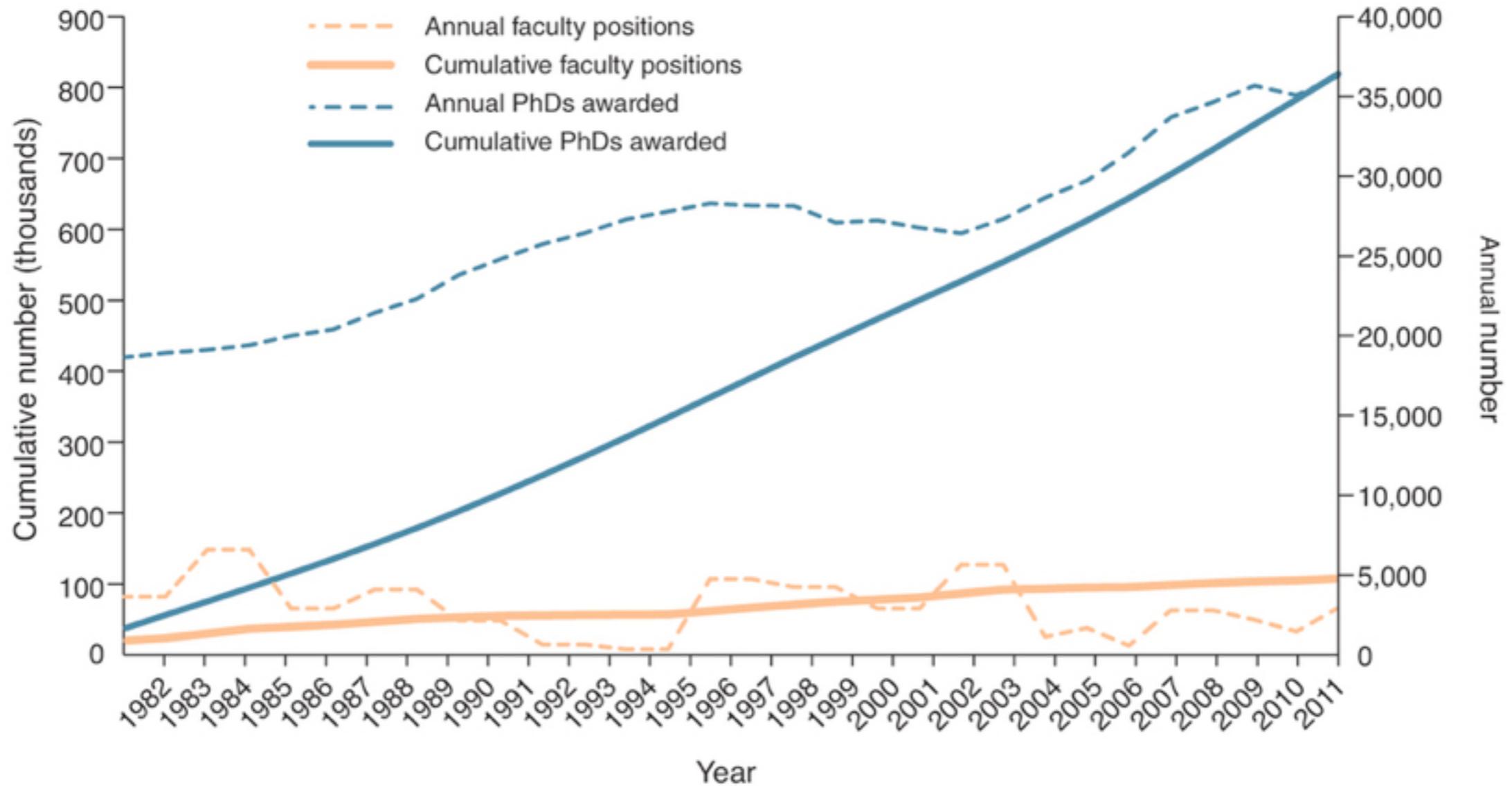
Cooray et al. arXiv:1512.02223

“the community, especially faculty and university administrators, must first acknowledge the existence of a significant academic employment issue despite the large number of PhDs that are awarded”

Manodeep Sinha

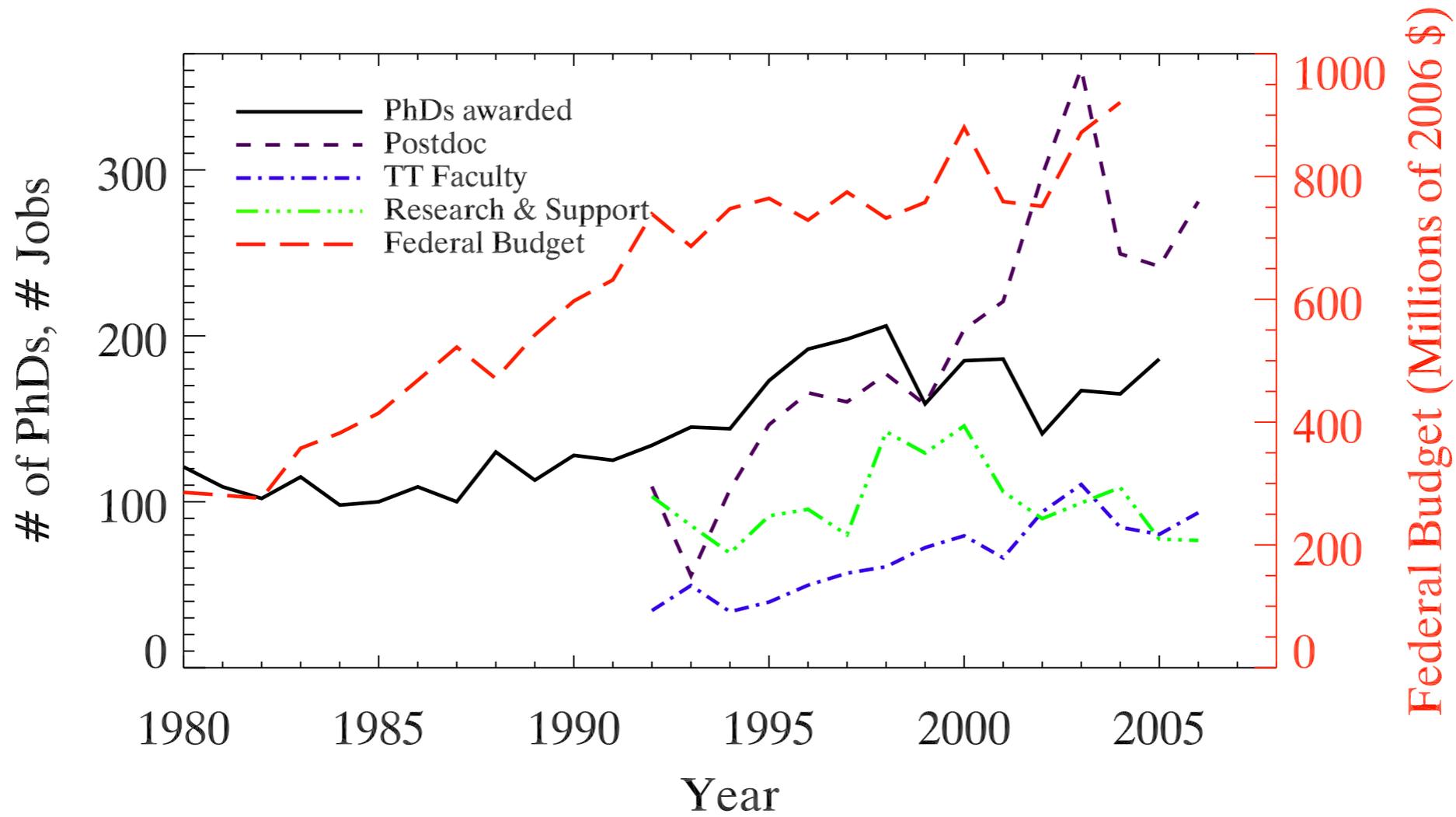
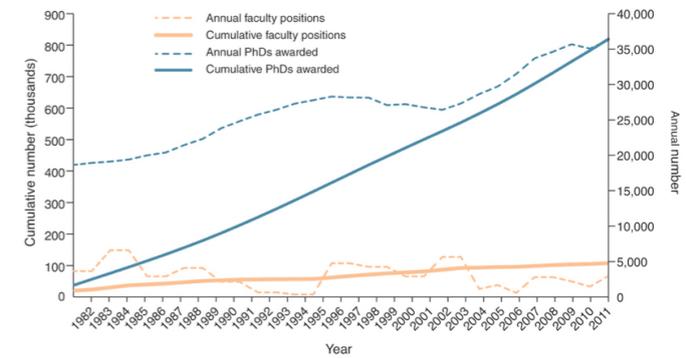
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The Academic Job Crisis



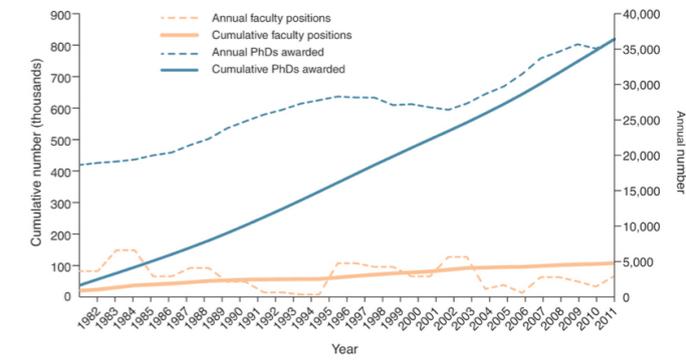
Schillebeeckx et al, 2013, Nature

The Astronomy Job Crisis



Seth 2010, Decadal Survey

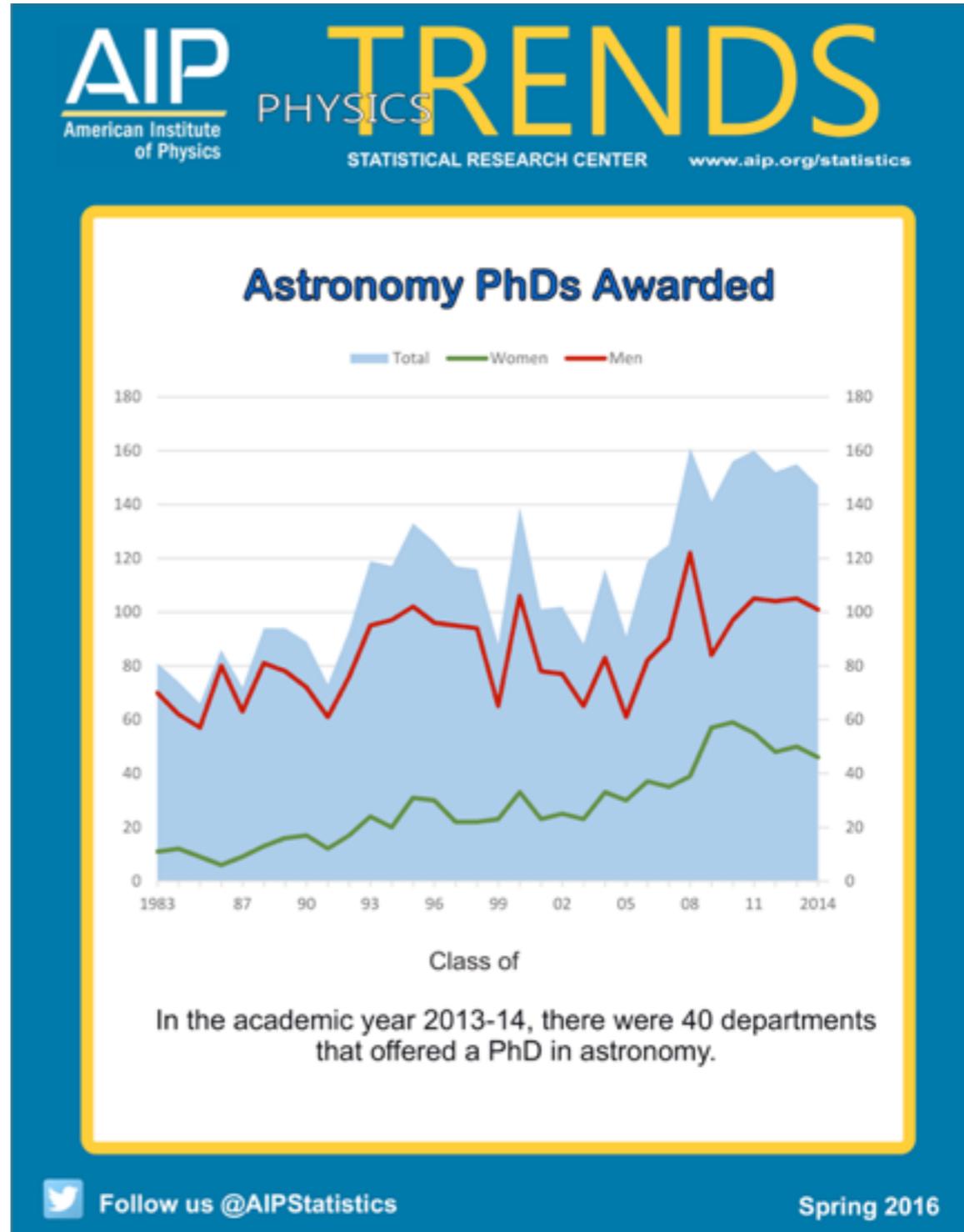
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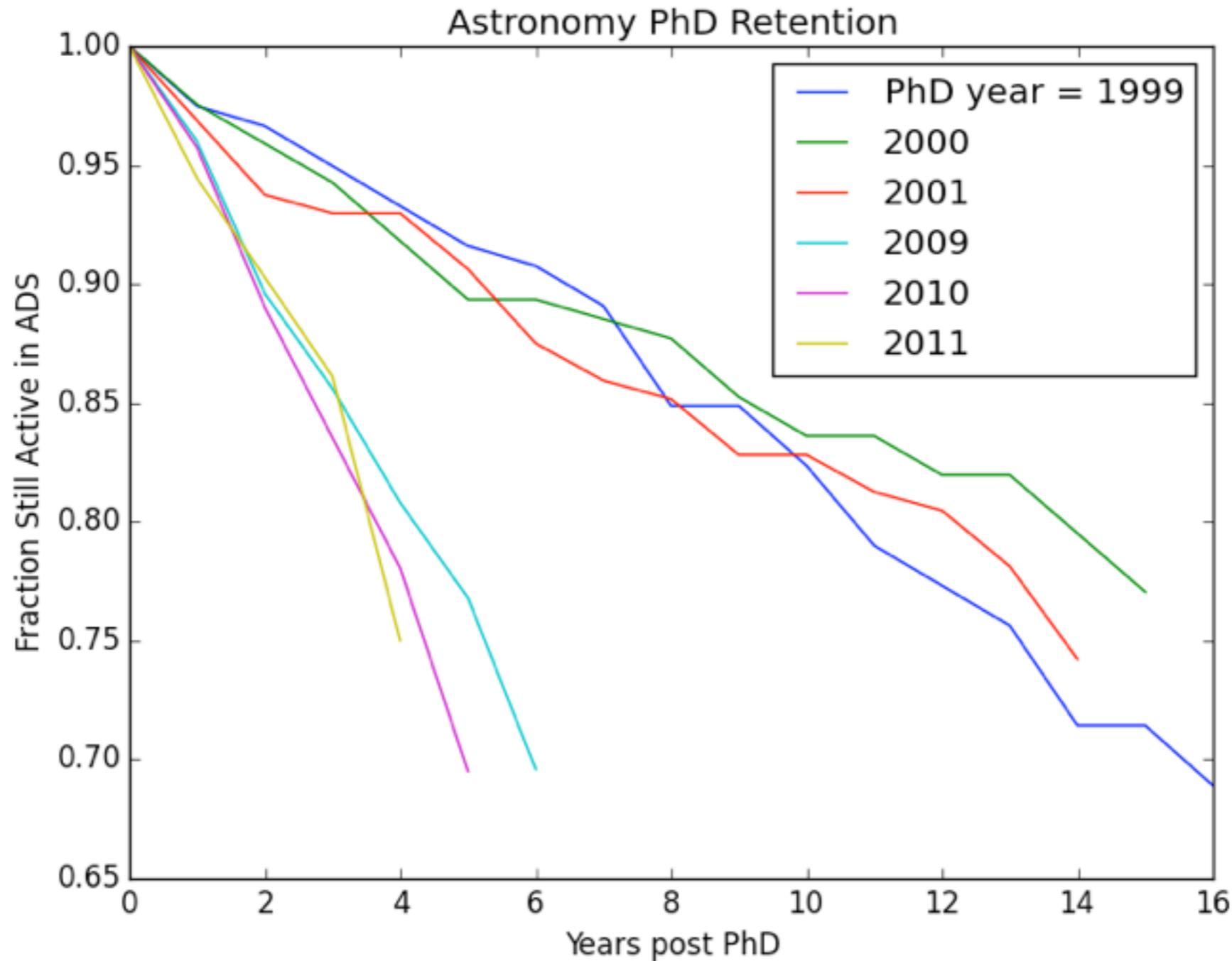
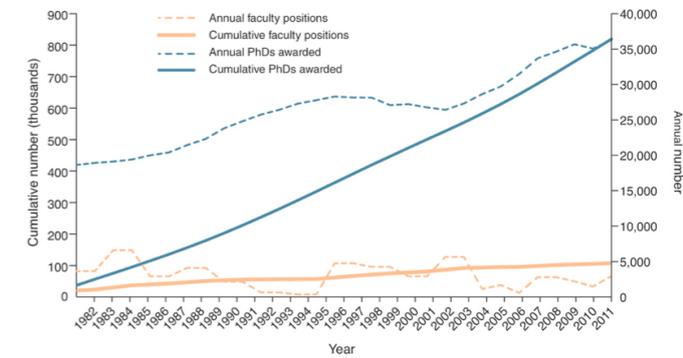
~ 150 PhDs/yr

+ Postdocs (1/2/3 terms)

~ 60-75 perm. posts/yr

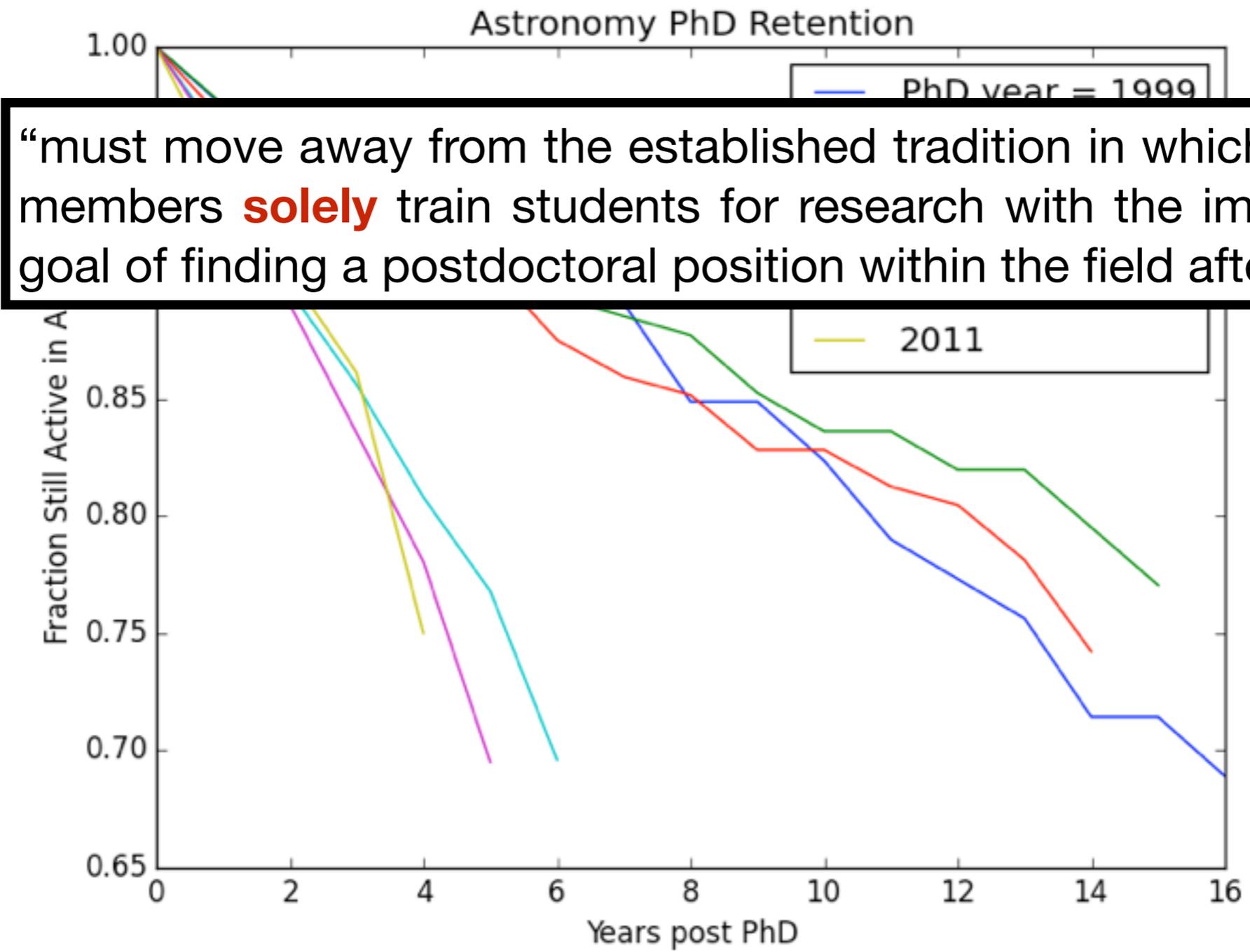
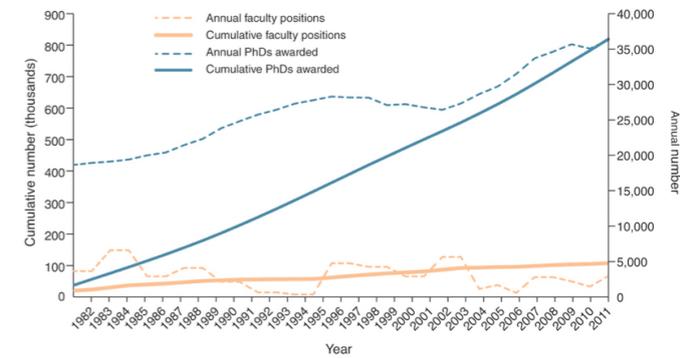


The Astronomy Job Crisis



@peteryoachim:AAS Hack Day, 2016

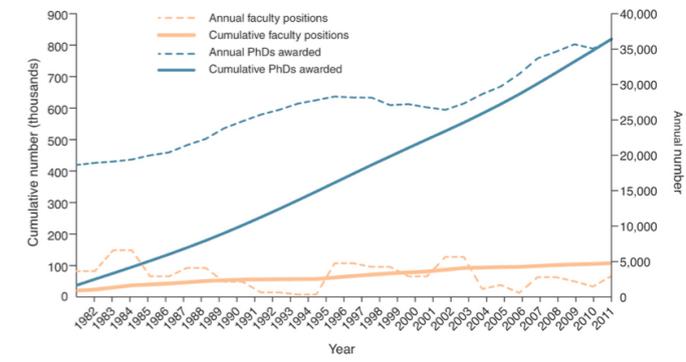
The Astronomy Job Crisis



“must move away from the established tradition in which faculty members **solely** train students for research with the immediate goal of finding a postdoctoral position within the field after PhD”

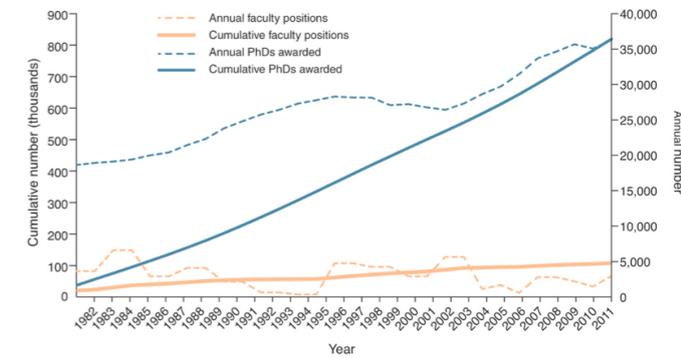
@petyoachim:AAS Hack Day, 2016

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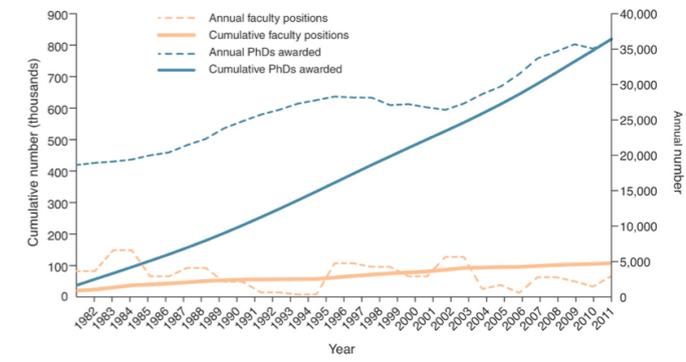
Cooray 2015

The Astronomy Job Crisis



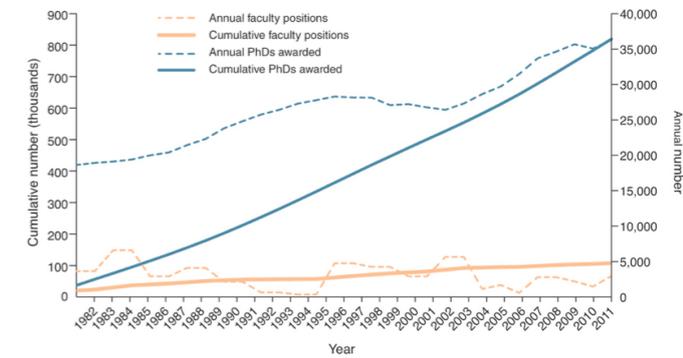
“students who enter the PhD programs in astronomy should not pursue scientific research with the only goal of finding permanent academic or research employment. The situation is such that academic employment is no longer the first option or just one of many equal options. The PhD should be pursued with employment outside of academia as the main priority, with training in research methods and techniques as the top desirable aspect of that intended career.”

The Astronomy Job Crisis



Cooray 2015

The Astronomy Job Crisis



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The Astronomy Job Crisis: What Can We Do?

- **Large Collaborations:**

- Mentoring by former researchers in industry (#funding policy)
- (Rotate students for broader skills)

- **Universities:**

- Put emphasis on desirable jobs rather than “academic clones”
- Directly focus on ~50% PhDs joining industry

- **National Societies:**

- Organize junior faculty workshops — adopt innovative tech.
- Maintain a database of past + current members in industry

- **Funding Agencies:**

- Encourage student training for industry jobs; train reviewers
- Require mentoring plan between junior astronomers and industry

The Astronomy Job Crisis: What Can We Do?

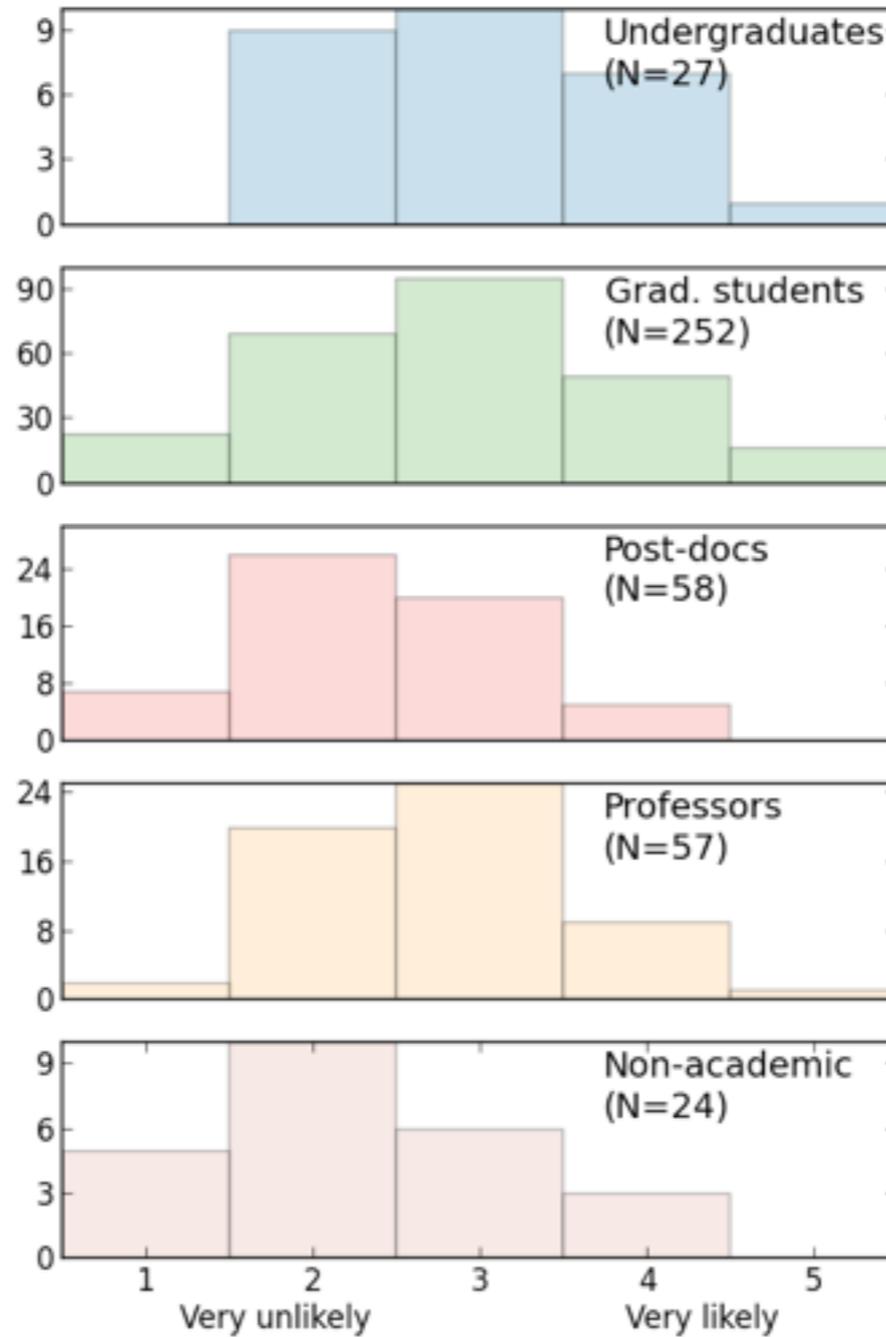
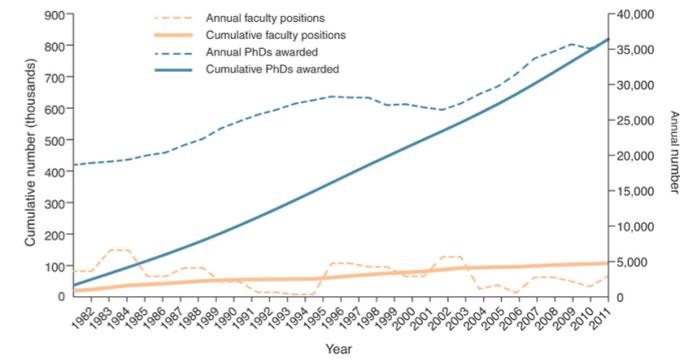
- **Current tech industry “Big Data” trends are well-suited for astronomers**
 - **emphasize statistics, machine learning, databases**
- **Network - email friends/friends-of-friends for positions**
- **Check astrobetter career profiles**

The Astronomy Job Crisis: What Can We Do?

- Current tech industry “Big Data” trends are well-suited for astronomers
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Astronomers: 100 % employment (just not necessarily in the field of Astronomy)

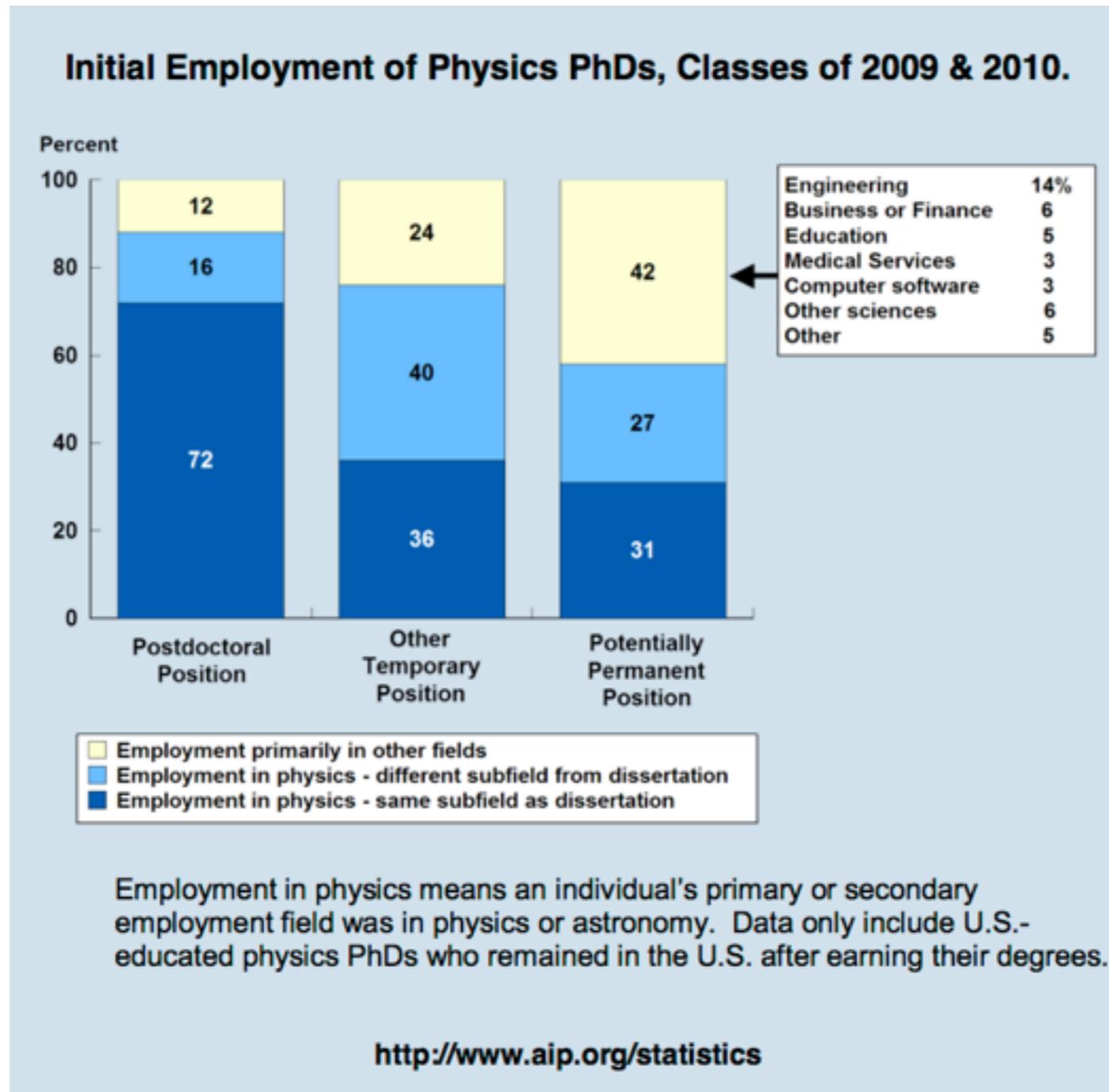
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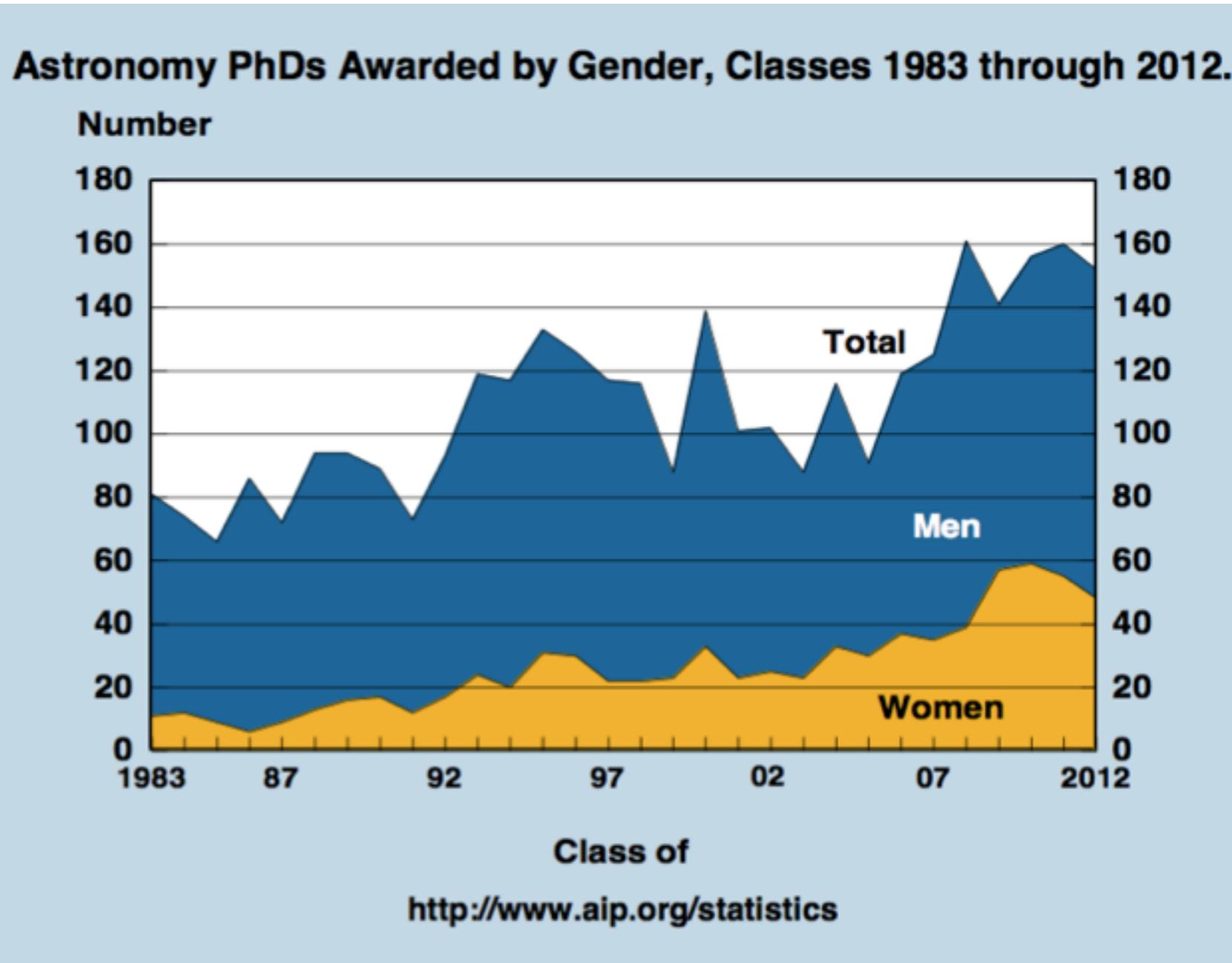
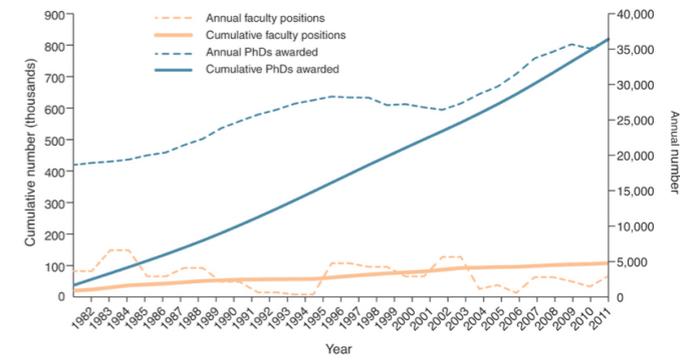
astrobiters survey

How likely do you think it is that an intelligent and productive graduate student in astronomy can become a university professor, if they so desire?

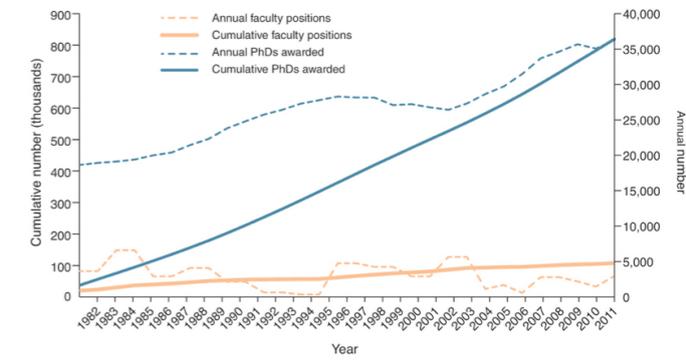
The Astronomy Job Crisis: What Can We Do?



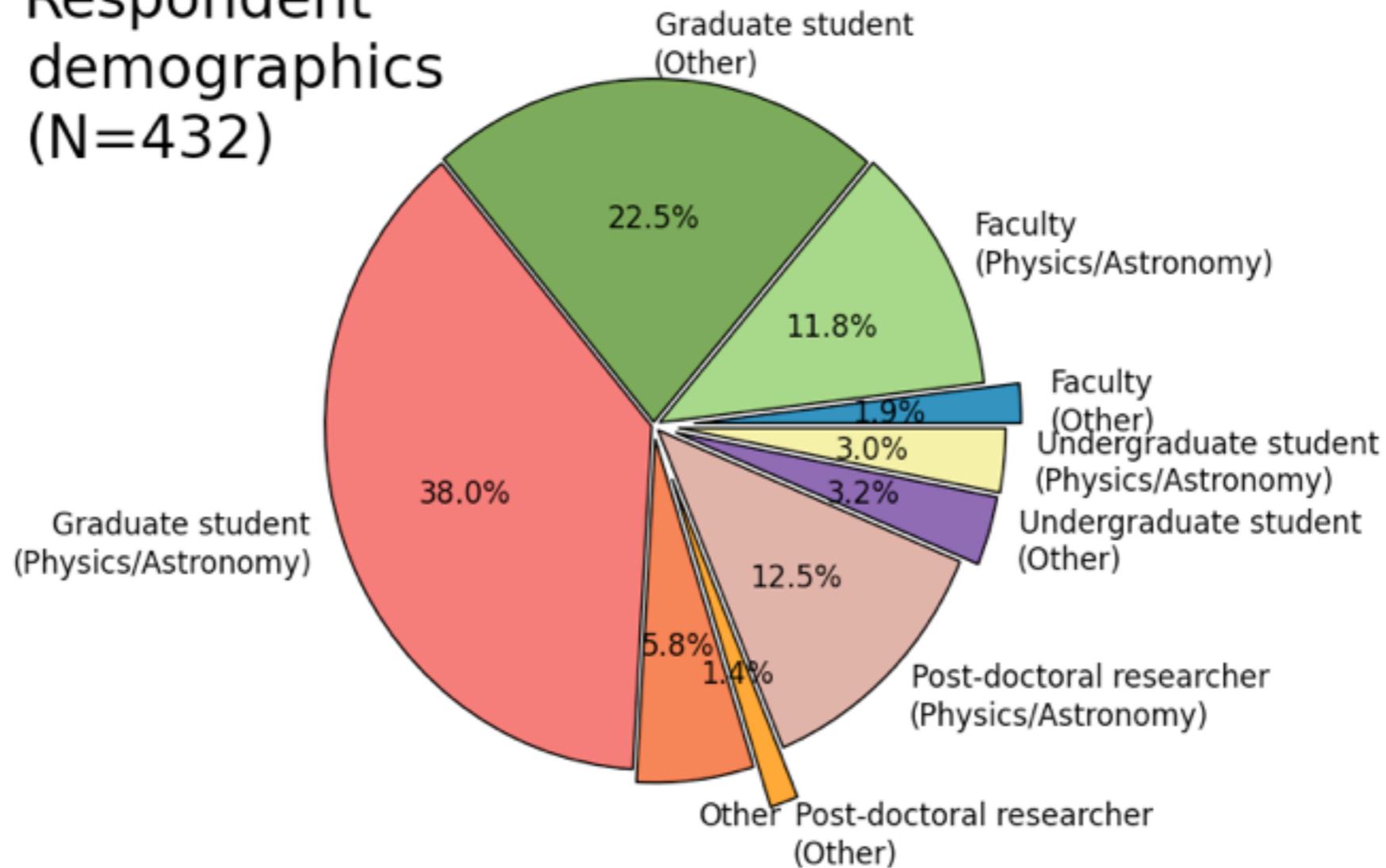
The Astronomy Job Crisis



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Respondent demographics (N=432)



<http://astrobites.org/2012/10/29/what-do-we-want-school-to-be/>

The Astronomy Job Crisis: What Can We Do?