



# Employment opportunities for PhD's outside astronomy

Current Astronomical Topics

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What do you want  
to do if you won't  
stay in astronomy?

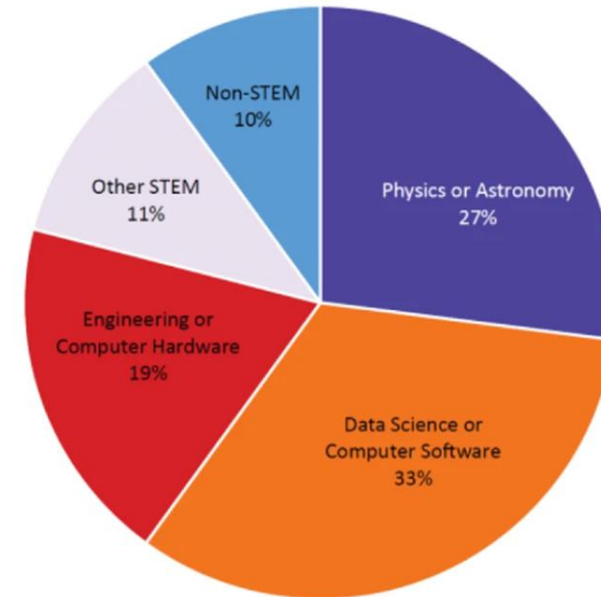


slido.com  
#2844 415

# Permanent position for new astronomy Ph.D.

- 27% : Physics or Astronomy
- 63% : STEM
- 10% : Non-STEM

Employment Fields for New Astronomy PhDs in Potentially Permanent Positions, Classes of 2018, 2019, and 2020 Combined



STEM refers to positions in science, technology, engineering, and mathematics.

# Satisfaction, Skills, and Salaries

- 12% : Underemployed
- 90% : Satisfied with position

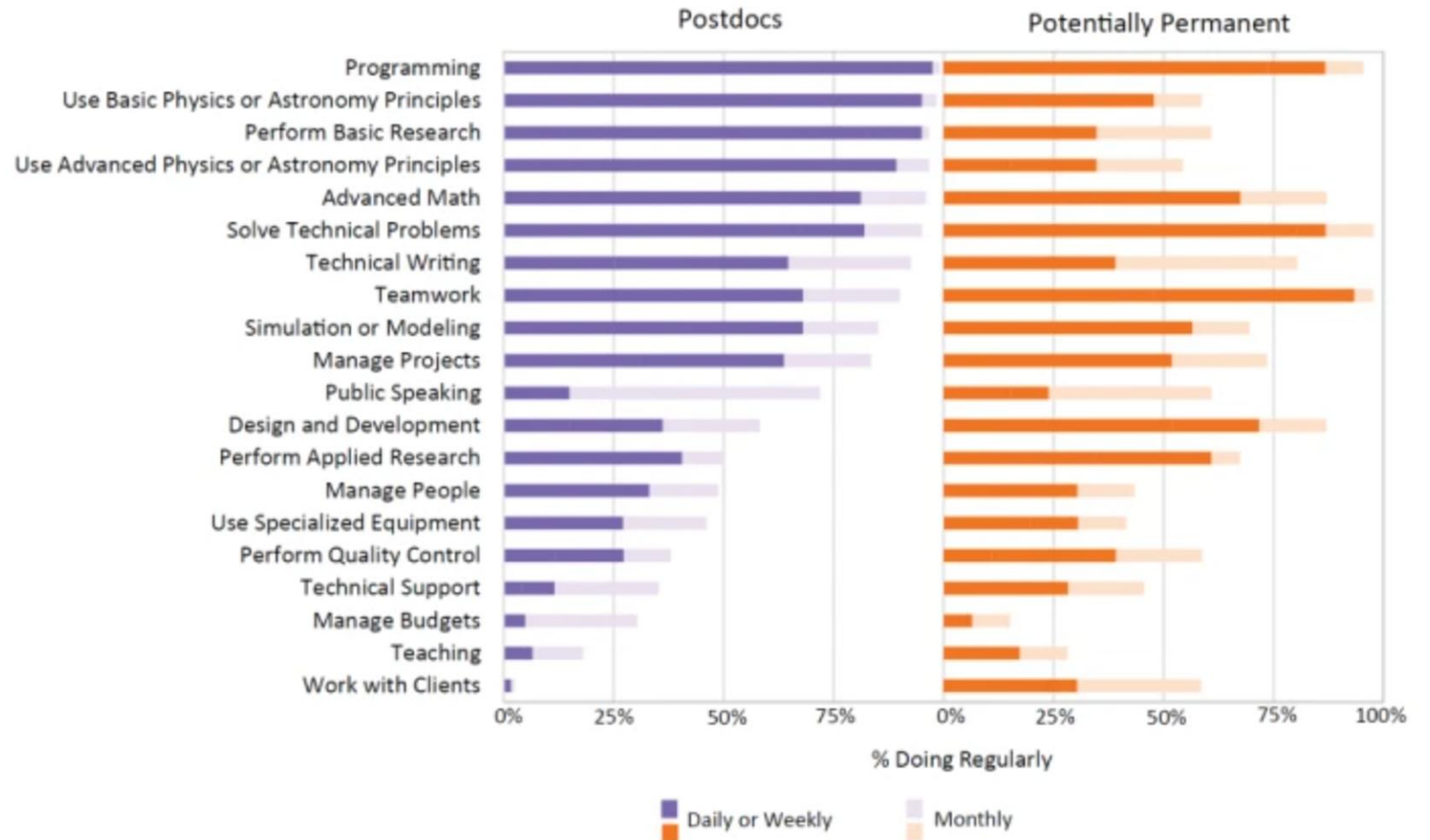
Measurements of Position Satisfaction by Employment Type for Astronomy PhDs, Classes of 2018, 2019, and 2020 Combined

Percent who felt:	Postdoc	Potentially Permanent	Overall
A PhD was an appropriate background for my position	100%	78%	94%
My position is professionally challenging	93%	83%	90%
I consider myself underemployed in my position	6%	22%	12%
Overall, I am satisfied with this position	93%	80%	90%

Respondents were asked to indicate their level of agreement with each statement using a five-point scale that included options such as "very satisfied," "satisfied," "somewhat satisfied," and "not at all satisfied." Response option wording varied slightly by statement.

# Skills Postdocs

Skills and Knowledge Used by New Astronomy PhDs,  
Classes of 2018, 2019, and 2020 Combined



Respondents were asked to indicate how regularly they perform or use each skill or type of knowledge on a scale that included "daily," "weekly," "monthly," and "rarely or never."

# Skills

## Permanent job

- Teamwork
- Solve problem
- Design
- Programming

Skills and Knowledge Used by New Astronomy PhDs,  
Classes of 2018, 2019, and 2020 Combined



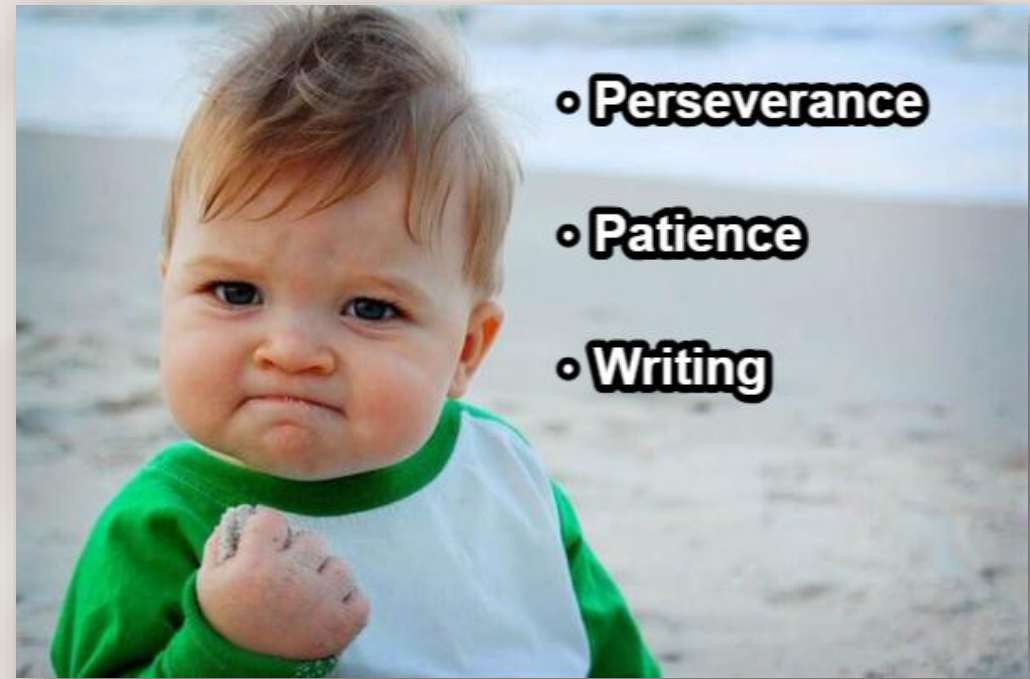
Respondents were asked to indicate how regularly they perform or use each skill or type of knowledge on a scale that included "daily," "weekly," "monthly," and "rarely or never."

**Do we learn  
those skills?**



# Case study 1

- Submitting proposal every cycle until it was accepted.



• **Perseverance**

• **Patience**

• **Writing**



• **Data analysis**

• **Coding**

• **Directing skill**

# Case study 2

- Visualizing your beautiful simulation results.

# Case study3

- Using limited stipend to feed yourself.



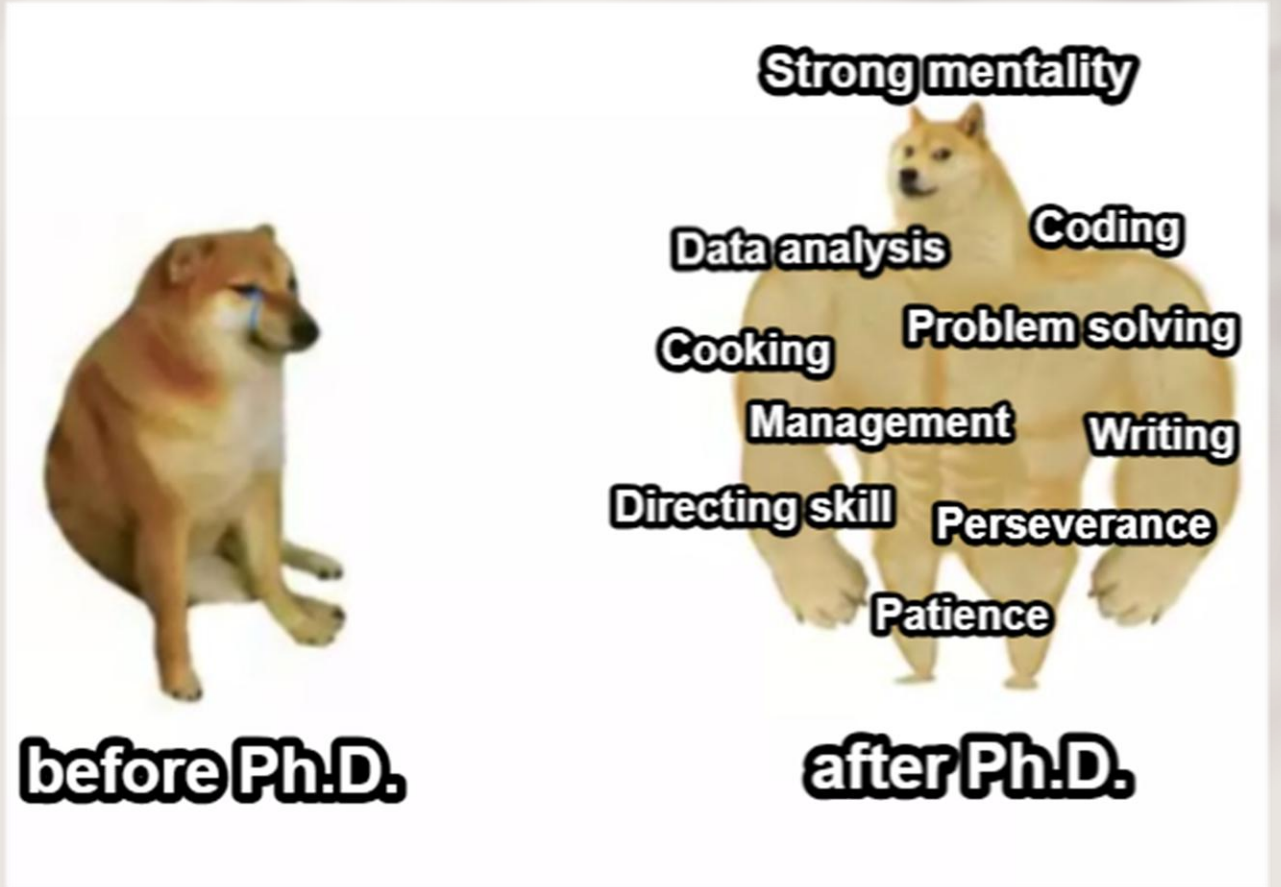
# Case study4

- Watching your undergrad friends getting rich in industry

We learn  
a lot!



How this skill  
can be used  
in our career?



# What can Astro Ph.D. do?



## Musician

Dr. Brian May (lead guitarist of Queen)

Ph.D. thesis :

A survey of radial velocities in the zodiacal dust cloud



# What can Astro Ph.D. do?

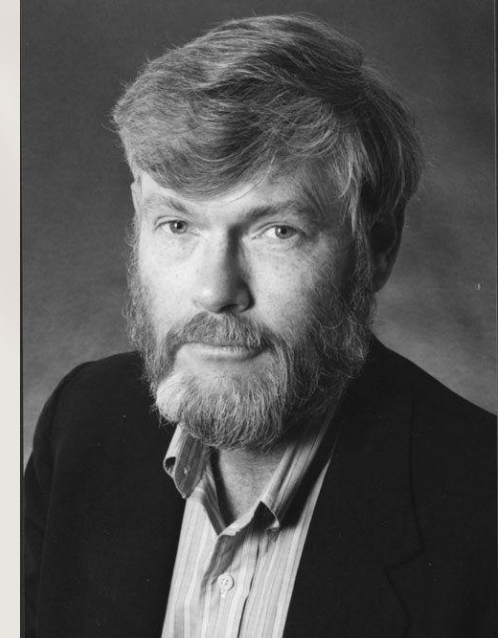


## Science fiction writer

Dr. Gregory Benford

Ph.D. thesis :

Transport and Radiation Processes in Strongly Turbulent  
Plasmas



Takeaway...

“Philosophy” : Love of wisdom

Astro Ph.D. have lots of skills and wisdom



# Reference

- <https://www.aip.org/statistics/new-astronomy-phds-what-comes-next>
- <https://encrypted-tbn0.gstatic.com/licensed-image?q=tbn:ANd9GcTP1KeyALrJwqu8uZ12bFMBY5n3TmLbSar6tveeGvuW0InomnRpKJ9xHZp2XmtlaUp9o-vcUmrHOFr-qTkup9HoUo39mtotKH6H1PXX-iPzhbVuEtsuKwPB4nr5i-QDTNoHc0yhNkbILZQNYyc-youfMINORfArgTnxMA&s=19&ec=121657068>
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