Physics Career Paths

Finding Success in Academia, Industry, and Beyond

Part II: Careers Outside of Academia

(code of conduct)

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(with lots of great material from Midhat Farooq & Crystal Bailey)

24 May 2021

PHENO21 Early Career Luncheon

What Does a Physics PhD Do?

- 1 year after PhD, 70% of potentially permanent jobs are in the private sector

Type of Employment of Physics by Employment Sector,
One Year After Degree, Classes of 2015 & 2016 Combined

	Initial Employment Type			
Sector of Employment	Postdoc %	Potentially Permanent %	Other Temporary %	Overall %
Academic	75	16	70	49
Private	1	73	22	34
Government	20	7	5	14
Other	4	4	3	3
	100%	100%	100%	100%

Note: Data only includes US-educated physics PhDs who remained in the US after earning their degrees. Data are based on the responses of 593 postdocs, 514 individuals working in potentially permanent positions and 93 individuals working in "other temporary positions".

AIP Statistics

aip.org/statistics

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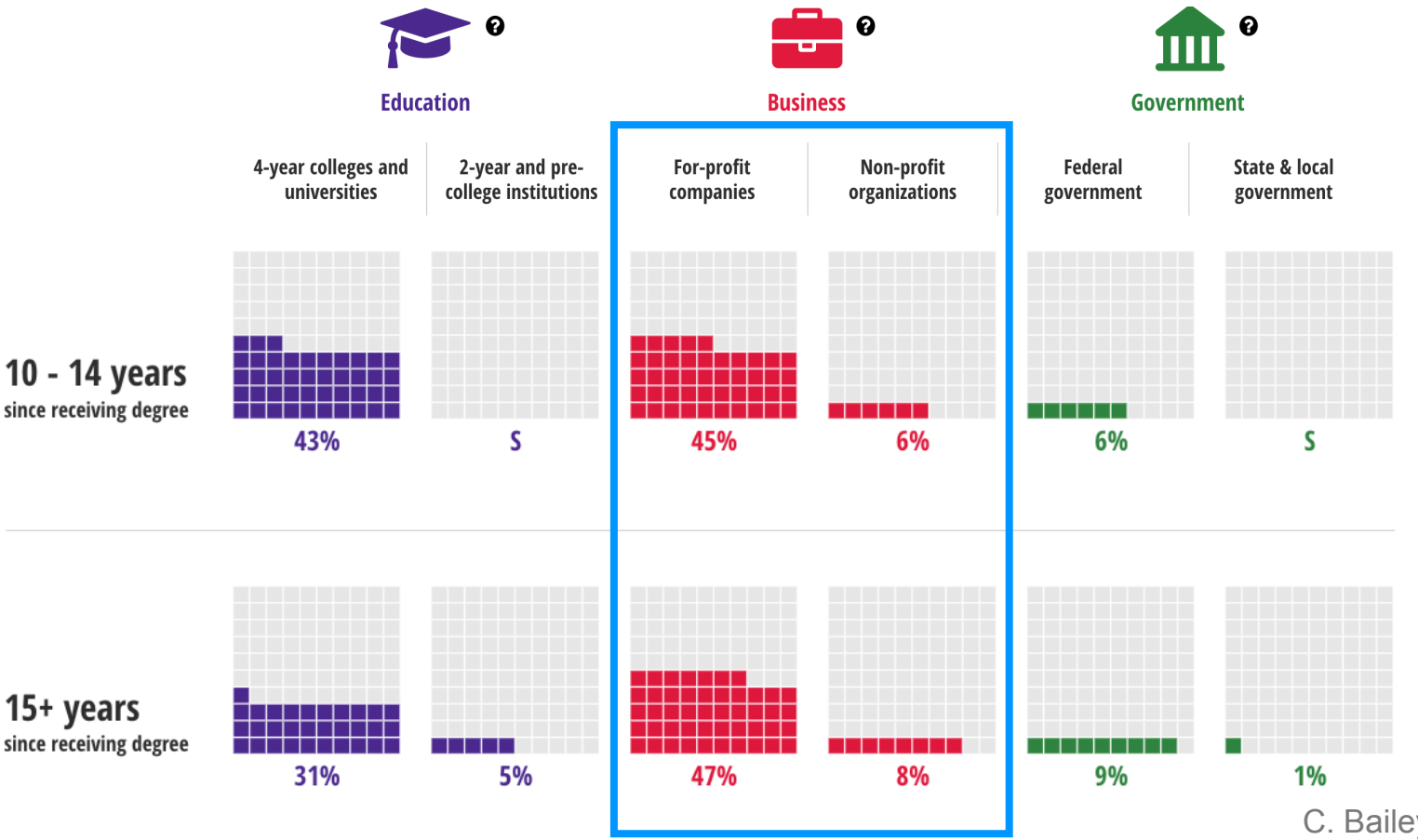
What Does a Physics PhD Do?

- 1 year after PhD, 70% of potentially permanent jobs are in the private sector
- 10-15 years after PhD, a majority work in the private sector



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What Does a Physics PhD Do?

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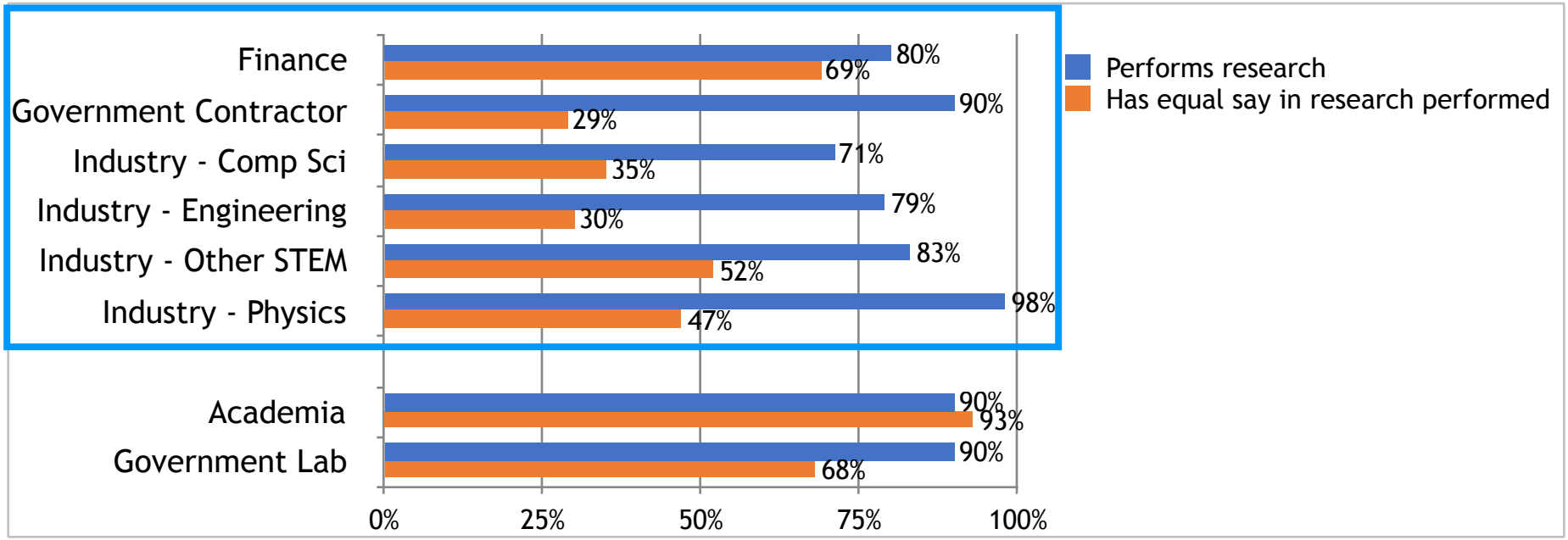
- 10-15 years after PhD, a majority work in the private sector
- And most still perform research!



Source: AIP Statistical Research Center Report Common Careers of Physics PhDs in the Private Sector, June 2015

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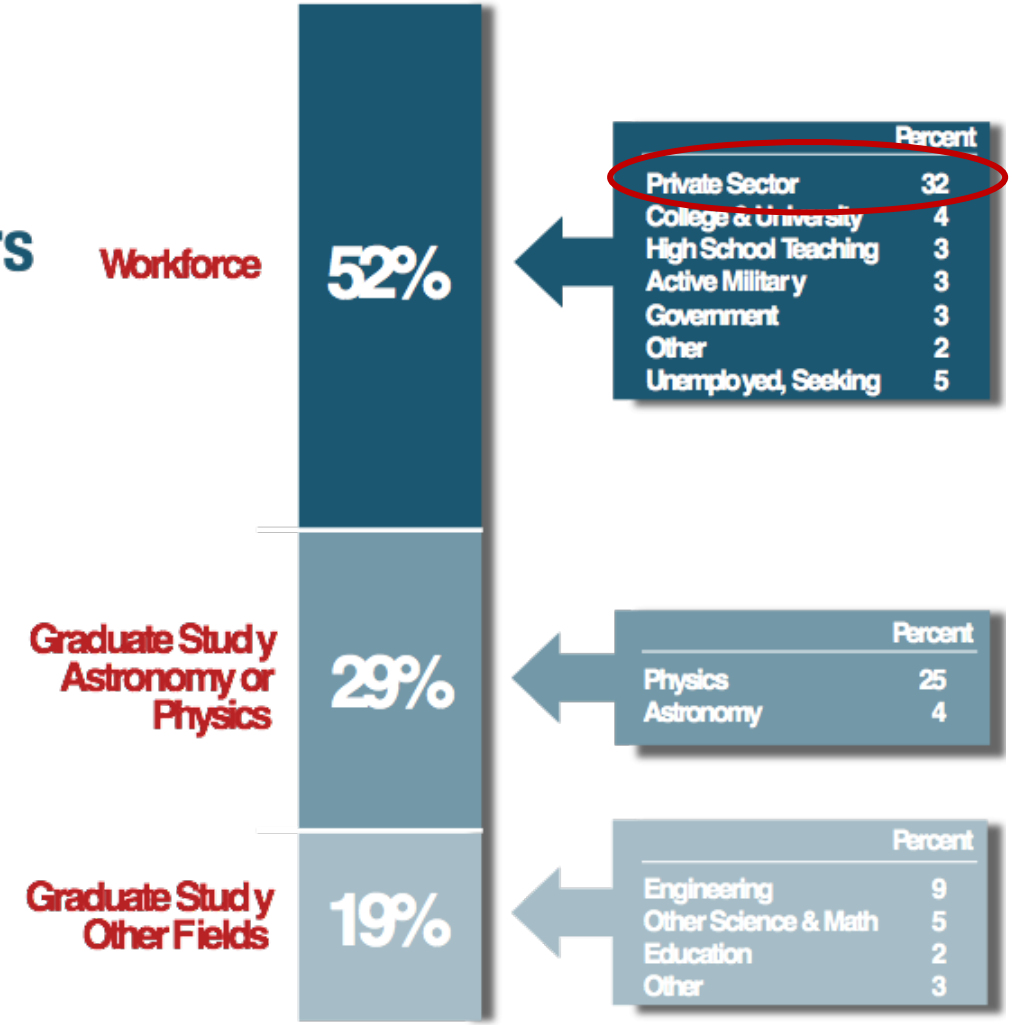
What Does a Physics Bachelors Do?

Physics Bachelors One Year Later

8,800 Recent Degree Recipients (2017 & 2018)



About half go straight into the workforce, largely finding jobs in the private sector

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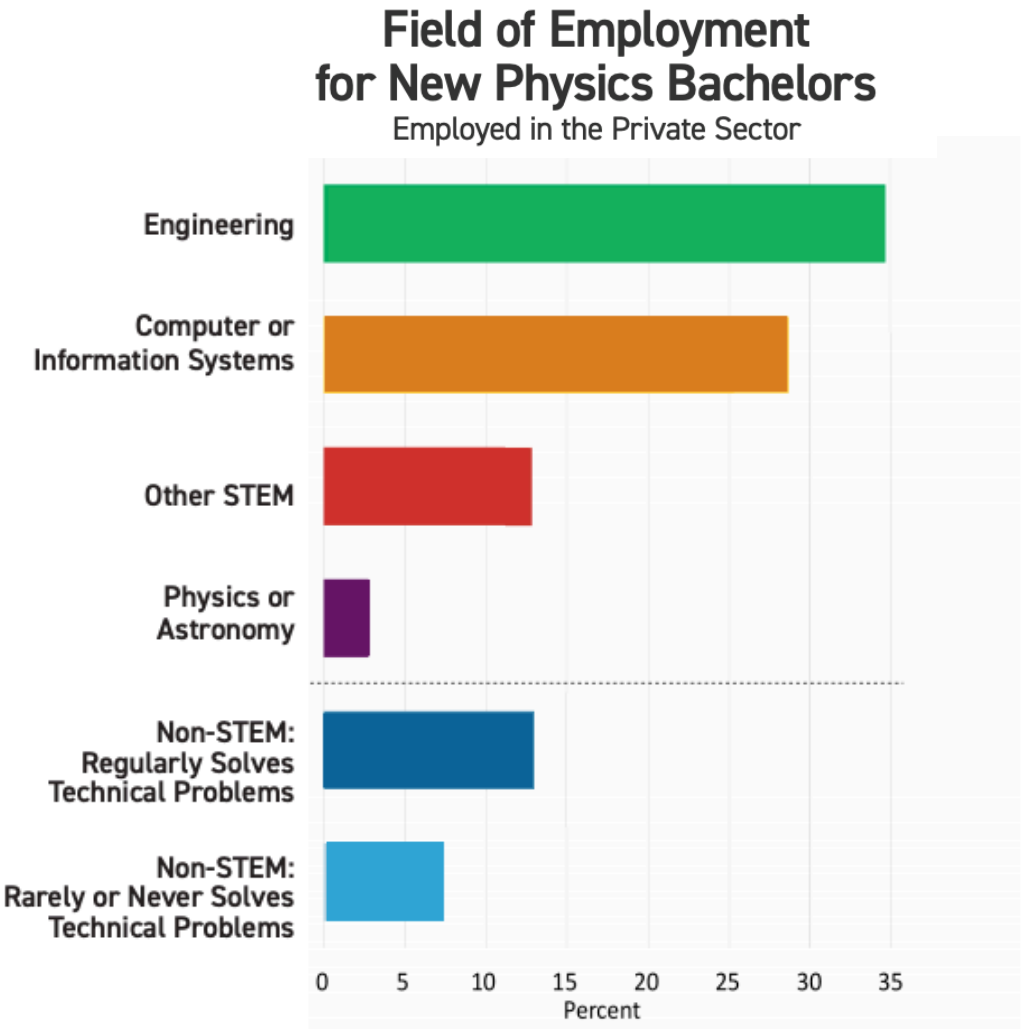
What Does a Physics Bachelors Do?



- 2/3 of those who entered the workforce found jobs in the private sector
- Majority working in STEM-related jobs

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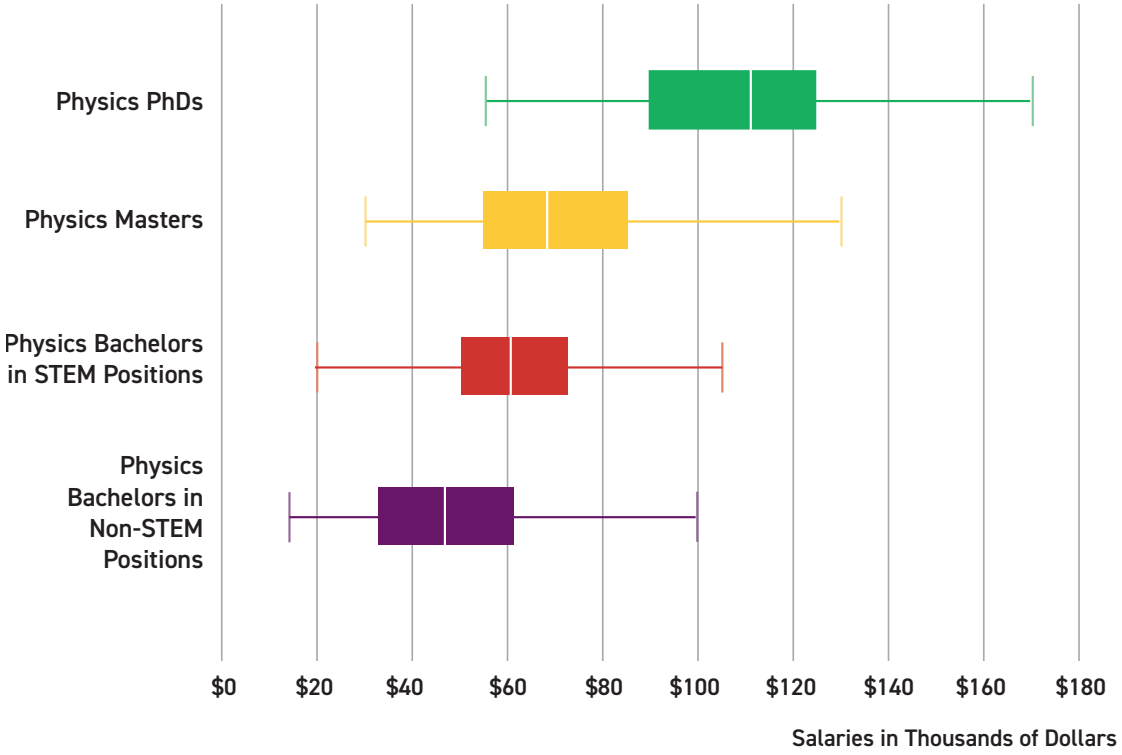
Starting Salaries in the Private Sector

Physics Degree Recipients, Classes of 2017 & 2018



The full starting salary range, excluding outliers, is represented by the lines extending to each side of the box. The box represents the middle 50% (25th to 75th percentile) of the salaries. The vertical line within the box represents the median starting salary. STEM refers to positions in science, technology, engineering, and math.

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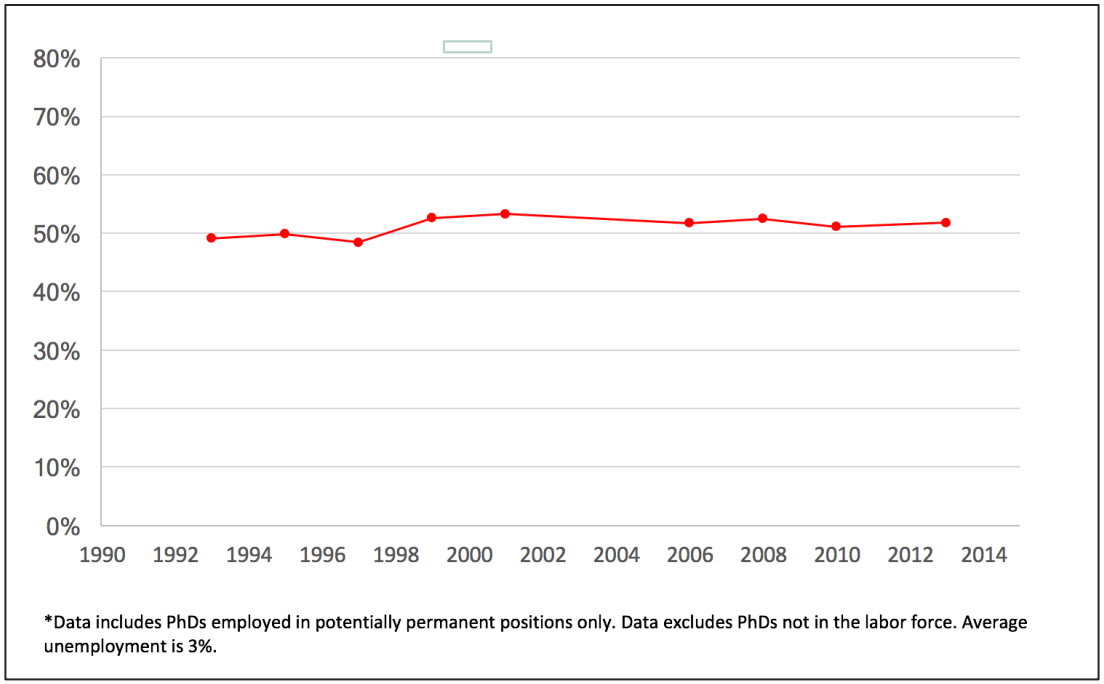
Industry Demand Over Time

- Industry has been the largest employment base for physics PhDs for decades.

Percentage of Physics PhDs* Employed in the Private Sector



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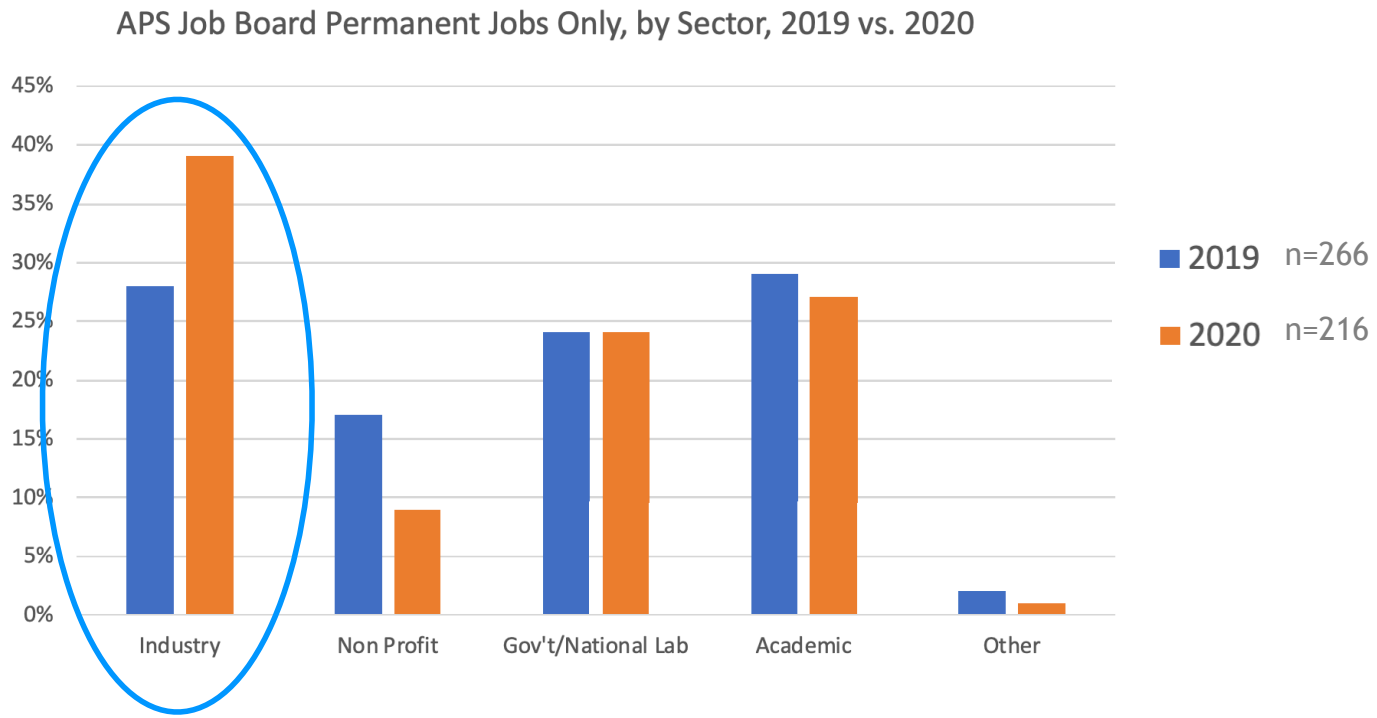
The Impact of COVID on Job Market

- Industry has seen an **increased proportion** of permanent position recruitments
- Government//national labs and academia have seen an **increased proportion** of temporary position recruitments
- Number of 4-year college recruitments has fallen ~64% in 2020



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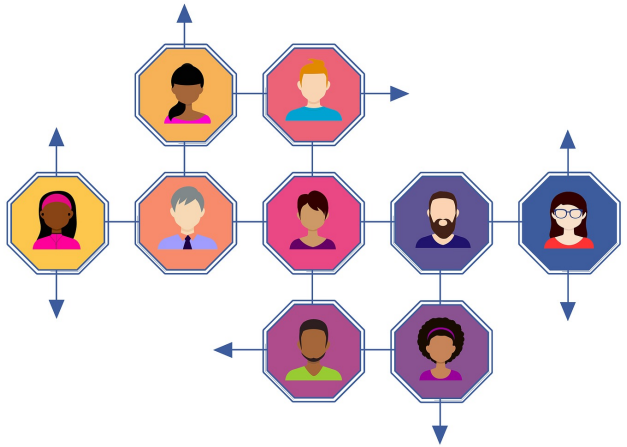
How can you start preparing?

Build Your Network

- Join LinkedIn
- Attend alumni mixers, career fairs, conferences, etc.
- Volunteer or Job Shadow



APS physics IMPACT

Industry Mentoring for Physicists

Find Career Mentors

- Join the APS IMPact program to find industry mentors: impact.aps.org
- Ask faculty mentors to connect you to industry professionals/past students

Attend Informational Interviews

- Reach out to contacts and ask for a 20-minute chat
- Here, *you* get to ask the questions!
  - Ask about their career path, their typical work day
  - Ask what aspects of work they like or dislike
- Don't ask for a job!

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Conclusions

- If you enjoy physics & research, academia is NOT the only option!
  - Over half of physic bachelors and PhD earners end up in industry positions
  - Many options available, from private research companies to the finance industry and the federal government
  - Physics skills are a valuable & monetizable asset no matter where you go
- Many resources are available to help make the transition into the private sector
  - Can transition at any point!

Resources

- APS (www.aps.org/careers)
  - Careers 2020 Guide: go.aps.org/careers2020
  - Profiles of successful physicists' careers: aps.org/careers/physicists/profiles
  - Webinars on professional development, specific non-academic career paths eg. data science, science policy (info.aps.org/careers/webinars)

- SPS Careers Toolbox (spsnational.org/sites/all/careerstoolbox)

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