

# Physics Doctorates Initial Employment

Data from the degree recipient follow-up surveys for the classes of 2013 and 2014

Jack Pold and Patrick Mulvey

## REPORTS ON PHYSICS DOCTORATES

Physics Doctorates: One Year  
After Degree (January 2016)

Physics Doctorates: Initial  
Employment (March 2016)

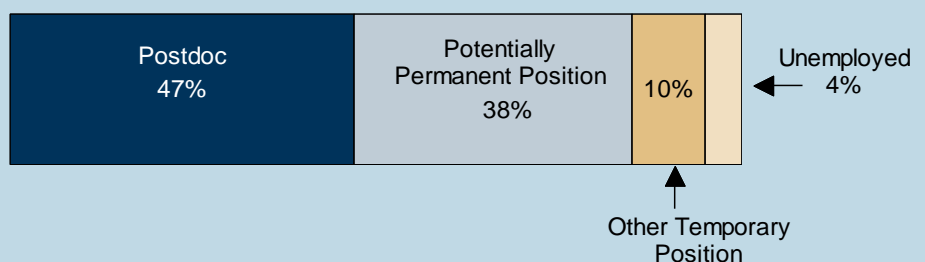
Recent Physics Doctorates:  
Skills Used and Satisfaction  
with Employment (*forthcoming*)

Positions accepted by PhD degree recipients following receipt of their degrees fall into three categories: postdoctoral fellowships, potentially permanent positions and other temporary positions. Almost half of PhD recipients from the classes of 2013 and 2014 combined were in postdoctoral fellowships after receiving their degrees (**Figure 1**). This is down from about two-thirds a decade ago (for more information, see *focus on [Physics Doctorates, One Year After Degree](#)*).

Not all PhDs remained in the US after receiving their degrees. Among the new physics PhDs for whom we had post-degree information, 8% of US citizens and 23% of non-US citizens left the US and are not included in this analysis.

**Figure 1**

### Employment Type for Physics PhDs One Year After Degree, Classes of 2013 & 2014 Combined



Note: Data only include US-educated physics PhDs who remained in the US after earning their degrees. Figure is based on the responses of 1,450 individuals.

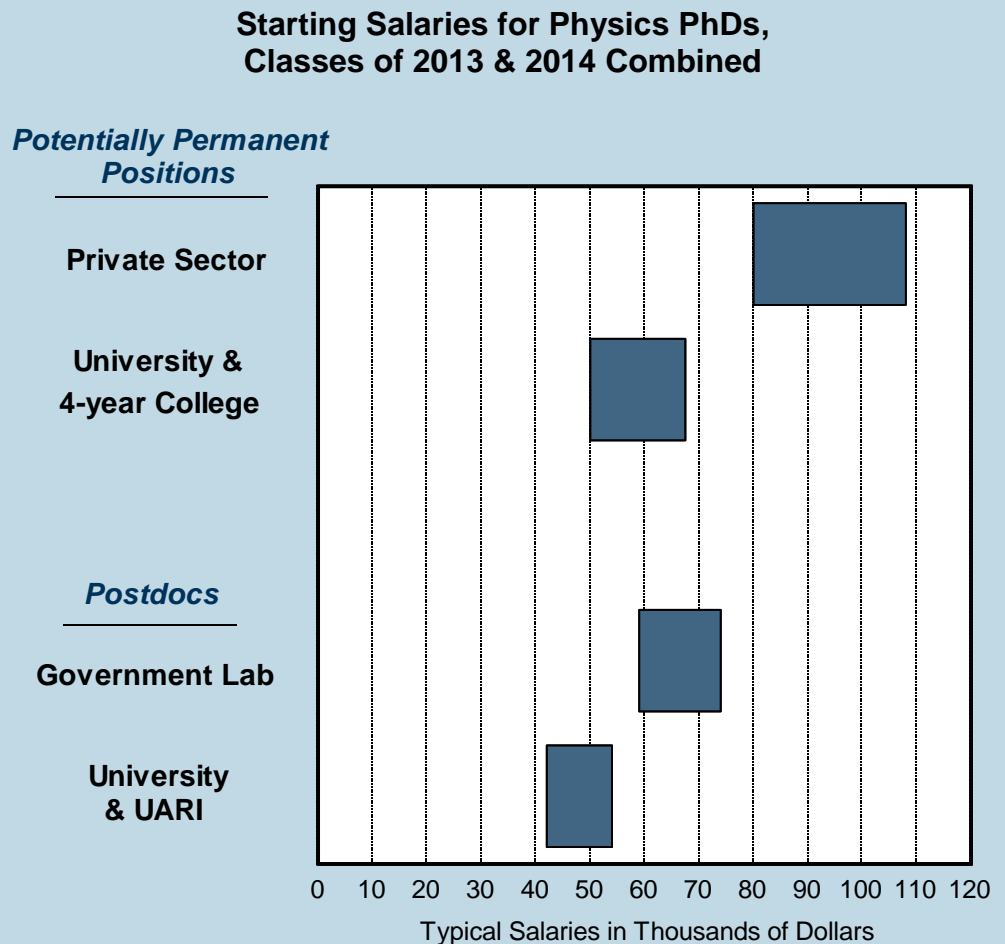
<http://www.aip.org/statistics>

Almost half of new  
physics PhDs accepted  
postdoctoral  
fellowships.

## THE 2013 AND 2014 FOLLOW-UP SURVEYS OF PHYSICS DOCTORATES

Physics doctorate recipients were contacted in the winter following the academic year in which they received their degrees.

Figure 2



The median starting salary for physics PhDs employed in potentially permanent positions in the private sector was \$99,000.

Postdocs at government labs typically had higher starting salaries than postdocs in academia, with medians of \$65,500 and \$48,000 respectively.

Data only include US-educated PhDs who remained in the US after earning their degrees. The ranges of salaries represent the middle 50%, i.e. between the 25<sup>th</sup> and 75<sup>th</sup> percentiles. Government Lab includes Federally Funded Research and Development Centers, e.g. Los Alamos National Laboratory. UARI is University Affiliated Research Institute. The data for PhDs holding potentially permanent positions in academia include salaries based on 9-10 and 11-12 month commitments. Data are based on respondents holding potentially permanent positions in the private sector (158) and in universities and 4-year colleges (36) and on postdocs in government labs (65) and in universities and UARIs (291).

<http://www.aip.org/statistics>

Starting salaries for physics PhD recipients varied based on both the type of employment they accepted and their employment sectors. Postdocs working in government labs had higher median starting salaries (\$66,000) than their counterparts holding postdocs at universities and UARIs (\$48,000) (**Figure 2**). Physics PhD recipients holding potentially permanent positions at government labs historically have the highest starting salary range, but the number of respondents in this sector was too low to reliably report a salary range.

The type of employment accepted by physics PhD recipients was related to the employment sector in which they worked. The majority of new PhDs holding postdocs or other temporary positions were employed in academic settings. Common job titles for PhDs holding other temporary positions in academia included “visiting professor” and “guest lecturer”. In contrast, the majority of PhDs holding potentially permanent positions were not in academia, but in the private sector (**Table 1**). Five percent of PhDs in potentially permanent jobs were in positions they held for six or more months prior to receiving their degrees. The “Other” sector is made up of jobs at a variety of places, primarily at nonprofit organizations and medical facilities.

**Table 1**

**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%

---

**The majority of new PhDs in potentially permanent positions were employed in the private sector.**

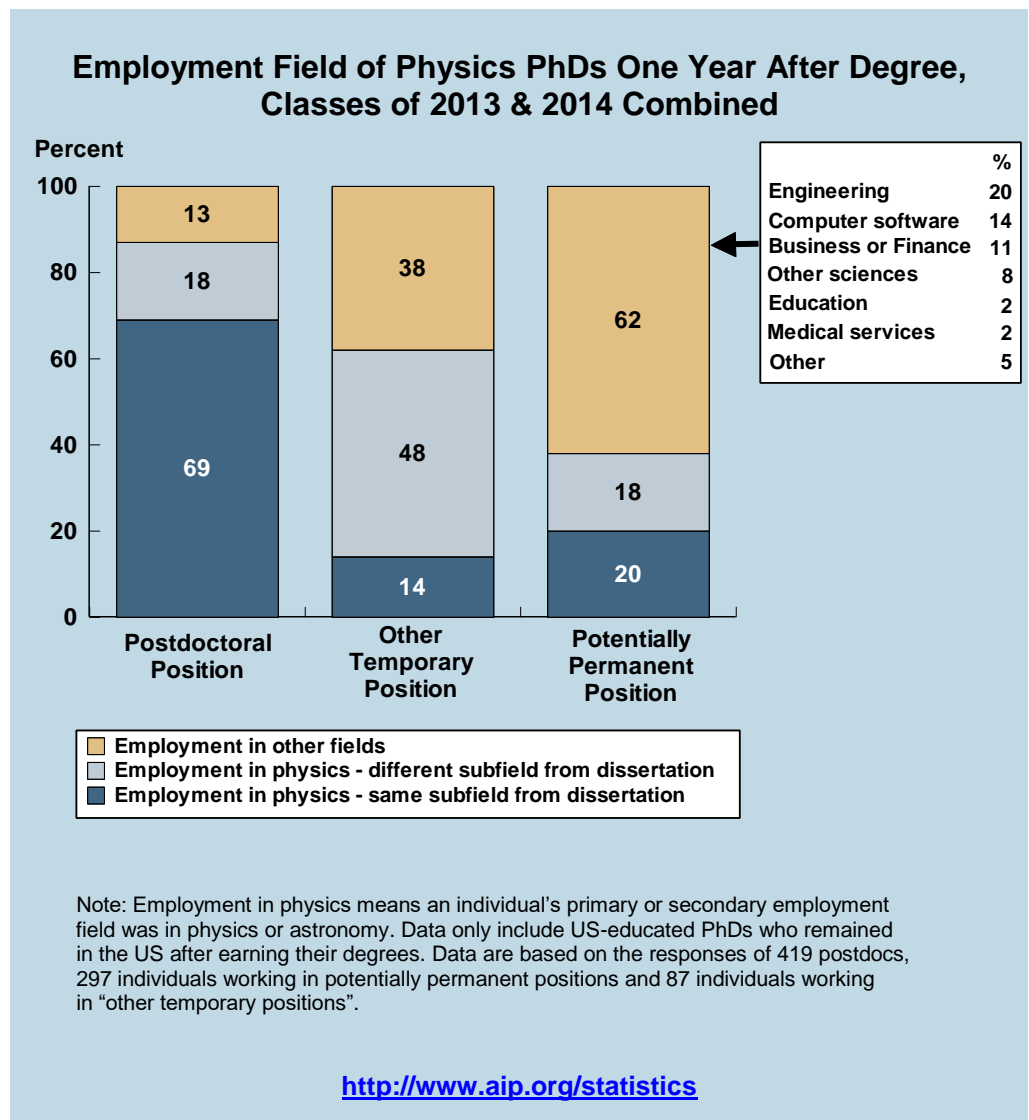
---

Note: Data only include US-educated physics PhDs who remained in the US after earning their degrees. Data are based on the responses of 655 postdocs, 523 individuals working in potentially permanent positions and 126 individuals working in “other temporary positions.”

\*The academic sector includes two- and four-year colleges, universities, and university affiliated research institutes.

<http://www.aip.org/statistics>

Figure 3

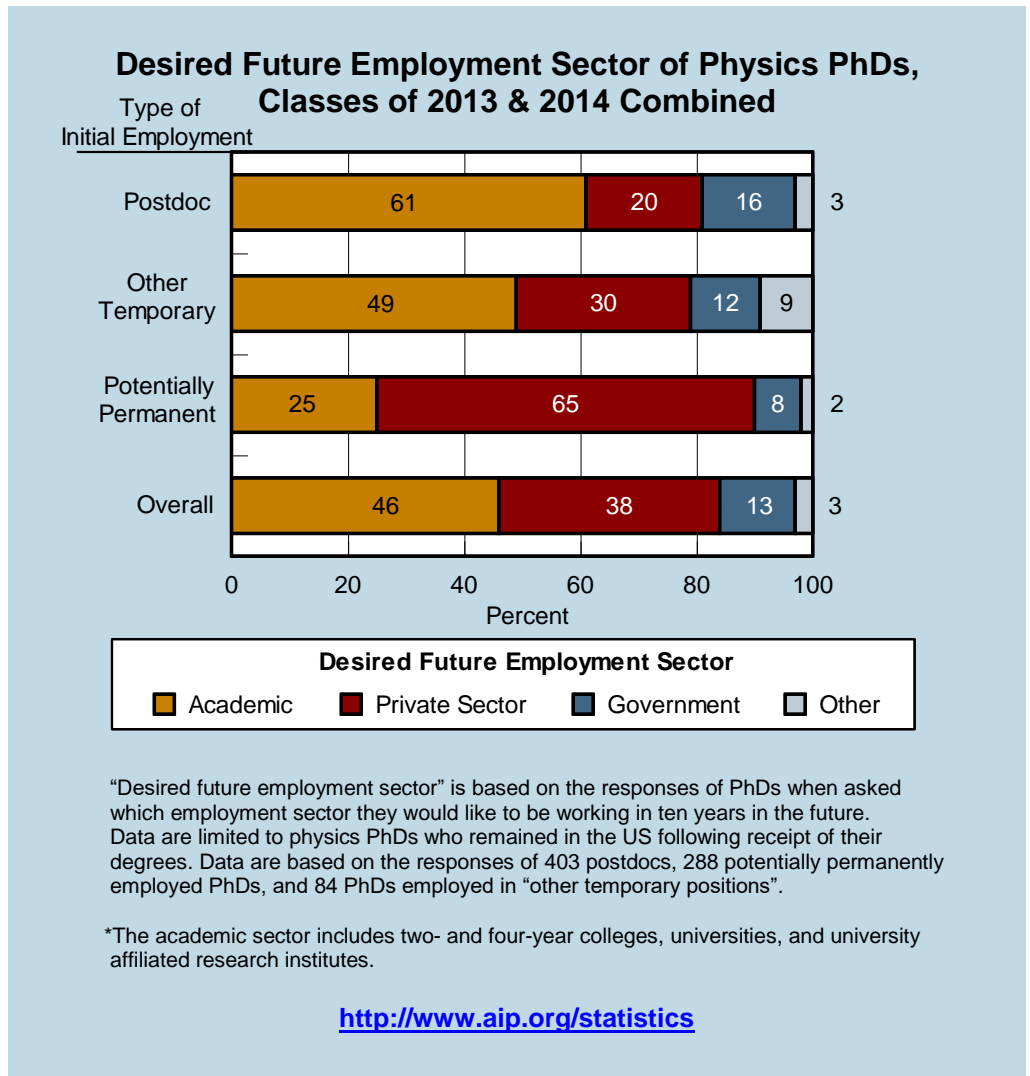


The majority of potentially permanent positions accepted by physics PhDs were in fields other than physics.

The type of initial employment that physics PhDs accepted had an impact on whether or not they would be working in the field of physics. Thirty-eight percent of physics PhDs who accepted potentially permanent positions were working in the field of physics, with the remainder employed in fields outside of physics. The most common fields for physics PhDs with potentially permanent employment outside of the field of physics were engineering, computer software, and business or finance (**Figure 3**).

The vast majority of physics PhDs who accepted postdoctoral fellowships were working in the field of physics, with most continuing in the field of their dissertations. Eighty-six percent of physics PhDs employed in other temporary positions were employed either in physics but outside of the field of their dissertations, or in different fields entirely. About half of this group were employed in the field of education (**Figure 3**).

Figure 4



Overall, 46% of new physics PhDs hoped to be employed in academia in 10 years.

Almost half (46%) of physics PhD recipients from the classes of 2013 and 2014 combined were hoping to be working in academia in ten years. As seen in **Table 1**, the majority of postdocs were already employed in academia, and many were hoping to use their positions as stepping stones to future employment in academia (**Figure 4**). Non-US citizens were more likely to want to work in academia than their US citizen counterparts. Almost two-thirds of PhD recipients who were in potentially permanent positions were hoping to work in the private sector in the future.

## Survey Methodology

Each fall the Statistical Research Center conducts its Survey of Enrollments and Degrees, which asks all degree-granting physics and astronomy departments in the US to provide information concerning the number of students they have enrolled and the counts of recent degree recipients. In connection with this survey, we ask for the names and contact information for their recent degree recipients. The degree recipient information is used to conduct our follow-up survey in the winter following the academic year in which they received their degrees. The data in this *focus on* comes from that follow-up survey.

Recent degree recipients can be very difficult to reach because they tend to move after receiving their degrees. Additionally, many departments do not provide or don't have accurate contact information for their alumni. To assist us in determining outcome information and to help obtain updated contact information, we contact the advisors of non-responding degree recipients when possible.

The follow-up surveys for the classes of 2013 and 2014 were administered in a web-based format. Non-responding doctorates were contacted up to four times with invitations to participate in the survey. The physics PhD classes of 2013 and 2014 consisted of 1,743 and 1,803 people respectively. We received post-degree information on about 48% of these degree recipients. About 54% of these responses came from PhD recipients themselves, while the other 46% came from advisors. The information obtained from advisors is limited to subfield of dissertation, US citizenship, gender, employment status, sector of employment, and location (in or out of the US). PhDs who left the US after receiving their degrees were not included in the analysis.

We thank the many physics and astronomy departments, degree recipients, and faculty advisors who made this publication possible.

### e-Updates

You can sign up to receive an e-mail alert when we post a new report. Visit [http://www.aip.org/statistics/e\\_updates](http://www.aip.org/statistics/e_updates) to register and indicate your area(s) of interest. We will send you an e-Update only when we post a new report that includes data of interest to you. If you sign up for every possible notification, you should receive no more than 20 messages in a year.



[Follow us on Twitter](#)