

Table 9-11

Physical sciences research doctorate recipients, postgraduation plans by sex and major field of doctorate: 2022

(Number and percent)

Characteristic	All physical sciences fields	Astronomy and astrophysics	Chemistry	Materials sciences	Physics
Doctorate recipients reporting postgraduation status (number)	5,012	279	2,533	368	1,832
Definite postdoctoral training plans	37.5	58.4	33.8	30.2	41.0
Definite employment plans	36.2	18.6	40.9	42.9	31.1
Seeking employment or study	23.9	20.8	23.0	25.0	25.4
Other status ^a	2.3	2.2	2.3	1.9	2.4
Definite postdoctoral training plans (%) ^b					
Postdoc fellowship or research associateship	98.0	98.2	98.1	98.2	97.9
Other training or unknown ^c	2.0	1.8	1.9	1.8	2.1
Definite employment plans (%) ^d					
Academe	11.2	25.0	10.2	7.6	12.6
In tenure track faculty position (%)	26.1	38.5	24.5	D	D
Not in tenure track position (%)	67.5	61.5	71.7	66.7	62.5
Government	4.0	D	2.9	D	6.1
Industry or business ^e	79.7	61.5	82.7	85.4	74.2
Nonprofit organization	3.3	D	2.3	D	4.4
Other or unknown ^f	1.9	0.0	1.8	0.6	2.6
Primary activity ^g					
Research and development	70.5	40.0	74.0	69.3	67.1
Teaching	9.3	D	9.3	D	D
Management or administration	1.6	D	2.1	D	D
Professional services and other	18.6	34.0	14.6	22.7	23.4
Secondary activity ^g					
Research and development	12.7	36.0	9.8	13.3	15.6
Teaching	2.0	D	D	D	2.8
Management or administration	15.0	0.0	18.5	15.3	9.9
Professional services and other	12.3	D	D	D	17.8
No secondary activity	58.1	46.0	61.7	52.7	53.9
Activity unknown	3.9	3.8	2.7	5.1	5.6
Postgraduation location (%) ^h					
United States ⁱ	91.3	88.4	94.6	92.6	86.7
Midwest	14.4	12.1	15.4	13.0	13.7
Northeast	24.2	22.3	27.8	17.1	20.9
South	19.2	21.4	19.4	16.0	19.3
West	32.9	32.6	31.5	46.1	32.3
Outside the United States	8.6	11.6	5.3	7.4	13.2
Location unknown	0.1	0.0	0.1	0.0	0.2
Postgraduation location in same state as doctorate institution (%)	31.3	19.5	31.1	35.3	32.7
Male doctorate recipients reporting postgraduation status (number)	3,379	180	1,495	242	1,462
Definite postdoctoral training plans	38.9	57.2	36.7	28.5	40.7
Definite employment plans	35.8	17.8	40.4	45.0	31.7
Seeking employment or study	23.3	22.2	21.1	25.2	25.4
Other status ^a	2.0	2.8	1.8	1.2	2.1
Definite postdoctoral training plans (%) ^b					
Postdoc fellowship or research associateship	97.7	97.1	98.2	98.6	97.3
Other training or unknown ^c	2.3	2.9	1.8	1.4	2.7
Definite employment plans (%) ^d					

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Physical sciences research doctorate recipients, postgraduation plans by sex and major field of doctorate: 2022

(Number and percent)

Characteristic	All physical sciences fields	Astronomy and astrophysics	Chemistry	Materials sciences	Physics
Academe	10.1	18.8	8.8	5.5	12.3
In tenure track faculty position (%)	25.4	D	18.9	D	28.1
Not in tenure track position (%)	68.0	D	77.4	D	61.4
Government	3.9	D	2.6	4.6	D
Industry or business ^e	81.0	D	84.6	D	75.6
Nonprofit organization	3.1	D	2.0	D	D
Other or unknown ^f	2.0	0.0	2.0	0.9	2.4
Primary activity ^g					
Research and development	72.2	50.0	75.6	73.3	69.0
Teaching	7.6	16.7	7.9	D	D
Management or administration	1.5	0.0	2.2	D	D
Professional services and other	18.6	33.3	14.2	20.8	23.0
Secondary activity ^g					
Research and development	12.7	26.7	9.9	14.9	14.8
Teaching	2.1	D	1.5	D	D
Management or administration	16.0	0.0	21.6	14.9	9.8
Professional services and other	14.0	23.3	9.1	D	D
No secondary activity	55.3	46.7	57.8	49.5	54.0
Activity unknown	4.6	6.3	3.5	7.3	5.4
Postgraduation location (%) ^h					
United States ⁱ	90.4	85.9	93.8	92.7	87.0
Midwest	14.0	11.9	14.2	14.0	14.1
Northeast	23.5	23.0	26.8	16.3	21.2
South	18.9	23.0	19.0	14.0	19.2
West	33.5	28.1	33.1	48.3	32.2
Outside the United States	9.5	14.1	6.2	7.3	12.8
Location unknown	0.1	0.0	0.1	0.0	0.2
Postgraduation location in same state as doctorate institution (%)	31.7	17.8	31.3	36.0	33.1
Female doctorate recipients reporting postgraduation status (number)	1,633	99	1,038	126	370
Definite postdoctoral training plans	34.7	60.6	29.7	33.3	42.4
Definite employment plans	37.1	20.2	41.5	38.9	28.6
Seeking employment or study	25.2	18.2	25.8	24.6	25.4
Other status ^a	2.9	1.0	2.9	3.2	3.5
Definite postdoctoral training plans (%) ^b					
Postdoc fellowship or research associateship	98.8	100.0	98.1	97.6	100.0
Other training or unknown ^c	1.2	0.0	1.9	2.4	0.0
Definite employment plans (%) ^d					
Academe	13.4	35.0	12.3	12.2	14.2
In tenure track faculty position (%)	27.2	D	30.2	D	D
Not in tenure track position (%)	66.7	D	66.0	D	66.7
Government	4.1	0.0	3.2	D	D
Industry or business ^e	77.1	D	80.0	D	67.9
Nonprofit organization	3.6	D	2.8	D	D
Other or unknown ^f	1.8	0.0	1.6	0.0	3.8
Primary activity ^g					
Research and development	67.1	25.0	71.7	61.2	58.6
Teaching	12.7	D	11.3	D	D

Table 9-11**Physical sciences research doctorate recipients, postgraduation plans by sex and major field of doctorate: 2022**

(Number and percent)

Characteristic	All physical sciences fields	Astronomy and astrophysics	Chemistry	Materials sciences	Physics
Management or administration	1.9	D	1.9	D	D
Professional services and other	18.4	35.0	15.1	26.5	25.3
Secondary activity ^g					
Research and development	12.7	50.0	9.7	10.2	19.2
Teaching	1.9	0.0	D	D	D
Management or administration	13.2	0.0	14.2	16.3	10.1
Professional services and other	9.0	D	D	12.2	D
No secondary activity	63.3	45.0	67.0	59.2	53.5
Activity unknown	2.3	0.0	1.6	0.0	6.6
Postgraduation location (%) ^h					
United States ⁱ	93.1	92.5	95.9	92.3	85.6
Midwest	15.3	12.5	17.2	11.0	12.2
Northeast	25.7	21.3	29.2	18.7	19.8
South	19.8	18.8	19.9	19.8	19.8
West	31.6	40.0	29.1	41.8	32.7
Outside the United States	6.8	7.5	3.9	7.7	14.4
Location unknown	0.1	0.0	0.1	0.0	0.0
Postgraduation location in same state as doctorate institution (%)	30.5	22.5	30.9	34.1	30.8

D = suppressed to avoid disclosure of confidential information.

^a Includes doctorate recipients reporting: no plans to work or study, some other type of postgraduation plans, or definite plans for other full-time degree program.^b Excludes doctorate recipients reporting plans for other full-time degree program. Percentages based on number of doctorate recipients reporting definite postdoctoral plans for study.^c Other includes doctorate recipients who reported definite postdoctoral plans for traineeship, internship or clinical residency, or other study.^d Percentages based on number of doctorate recipients reporting definite postgraduation plans for employment.^e Includes doctorate recipients reporting self-employment.^f Other is mainly composed of elementary and secondary schools.^g Percentages based on number of doctorate recipients reporting definite postgraduation plans for employment and primary or secondary work activity.^h Percentages based on number of doctorate recipients reporting definite postgraduation plans and type of plans.ⁱ Includes doctorate recipients with an unknown U.S. region of employment after doctorate, thus the percentages by regions will not sum to the value for United States; see the "Technical Notes" for states or territories included in regions.**Note(s):**

A definite postgraduation commitment includes accepting new employment or a postdoctoral study (postdoc) position or returning to predoctoral employment, while postgraduation employment includes accepting new employment or returning to predoctoral employment that is not a postdoctoral study (postdoc) position. Beginning in 2021, a modified version of the 2020 Classification of Instructional Programs (CIP) codes was used in the survey data collection, and new broad, major, and detailed fields are used in tables reporting data from 2021 to the present; see the field list in table A-4. Therefore, the field of doctorate data prior to 2021 may not be comparable to subsequent years. For more information, see the "Technical Notes" and the SED 2021 Taxonomy Changes Working Paper (available at <https://nces.nsf.gov/pubs/nces23200>).

Source(s):

National Center for Science and Engineering Statistics, Survey of Earned Doctorates.