

TABLE 9-1

Science and engineering research doctorate recipients, postgraduation plans by sex and broad field of doctorate: 2023

(Number and percent)

Characteristic	All fields	Science and engineering											
		Total	Agricultural sciences and natural resources	Biological and biomedical sciences	Computer and information sciences	Engineering	Geosciences, atmospheric, and ocean sciences	Health sciences	Mathematics and statistics	Multidisciplinary/ interdisciplinary sciences	Physical sciences	Psychology	Social sciences
Doctorate recipients reporting postgraduation status (number)	52,109	41,671	1,135	9,035	2,037	9,654	1,119	2,413	1,881	1,555	4,983	3,254	4,605
Definite postdoctoral training plans	26.9	30.9	31.5	40.0	16.0	22.2	50.4	22.6	33.4	23.2	34.8	48.1	22.4
Definite employment plans	46.6	43.0	41.5	28.2	62.0	51.1	27.5	51.8	44.1	54.1	38.4	32.6	53.8
Seeking employment or study	23.5	23.3	24.8	26.1	20.2	24.6	20.9	22.6	20.4	21.0	25.2	16.8	21.2
Other status ^a	2.8	2.8	1.9	5.5	1.8	2.0	1.2	2.9	1.9	1.8	1.6	2.3	2.6
Definite postdoctoral training plans (%) ^b													
Postdoc fellowship or research associateship	94.5	94.6	95.8	94.6	95.4	95.9	98.0	89.0	97.0	95.8	98.3	86.1	96.6
Other training or unknown ^c	5.5	5.4	4.2	5.4	4.6	4.1	2.0	11.0	3.0	4.2	1.7	13.9	3.4
Definite employment plans (%) ^d													
Academe	35.8	26.4	33.3	23.1	22.3	11.8	27.3	47.6	29.4	27.3	11.9	39.1	53.2
In tenure track faculty position (%)	44.5	44.0	41.4	23.3	62.1	43.9	21.4	42.0	43.4	51.3	19.7	42.5	55.5
Not in tenure track position (%)	53.0	53.0	55.4	74.9	35.1	52.8	78.6	52.6	53.7	45.7	75.0	54.6	42.2
Government	7.0	7.8	14.4	7.2	2.9	6.5	22.1	8.7	5.2	3.8	5.1	13.4	12.4
Industry or business ^e	45.1	57.3	41.6	60.6	69.5	76.9	41.6	28.6	60.8	61.2	78.8	30.0	20.7
Nonprofit organization	6.4	5.8	6.6	7.2	3.3	3.3	5.8	11.9	2.4	5.0	2.7	9.2	10.0
Other or unknown ^f	5.6	2.6	4.0	1.9	2.0	1.5	3.2	3.1	2.2	2.6	1.5	8.4	3.8
Primary activity ^g													
Research and development	47.5	57.6	53.2	59.0	73.3	67.2	53.0	32.7	51.4	65.6	72.6	30.0	42.1
Teaching	24.9	16.5	D	11.9	12.4	6.7	15.8	33.9	D	16.6	8.5	22.2	34.7
Management or administration	5.3	2.7	D	3.7	1.1	1.6	3.7	7.0	D	1.7	0.7	4.1	3.9
Professional services and other	22.3	23.2	20.8	25.4	13.2	24.5	27.5	26.4	23.4	16.1	18.2	43.7	19.3
Secondary activity ^g													
Research and development	23.4	19.9	25.3	14.4	16.4	16.0	25.2	31.7	24.8	19.7	9.1	23.4	33.1
Teaching	8.8	6.2	5.5	3.1	6.8	3.4	4.0	11.8	3.6	7.7	1.2	11.7	14.5
Management or administration	13.7	14.3	25.1	18.4	7.5	13.9	16.1	16.6	5.0	11.0	16.5	13.8	13.8
Professional services and other	9.6	10.5	11.1	8.6	12.1	12.5	10.1	9.9	11.1	13.1	8.8	9.3	8.8
No secondary activity	44.5	49.0	33.0	55.5	57.3	54.3	44.6	29.9	55.5	48.6	64.4	41.8	29.8
Activity unknown	3.7	3.5	4.2	3.3	3.6	3.4	3.2	4.2	3.4	3.8	3.4	4.8	3.1
Postgraduation location (%) ^h													
United States ⁱ	92.0	92.3	93.1	95.3	91.2	92.8	92.8	92.5	87.9	92.8	91.7	97.6	84.1
Midwest	16.1	15.1	27.1	15.6	9.0	14.3	8.4	17.7	14.7	11.5	14.3	20.0	15.0
Northeast	22.0	22.9	13.4	28.5	20.9	19.5	16.1	23.1	23.3	21.6	24.1	24.5	22.2
South	27.3	25.5	31.0	25.6	20.4	24.8	29.6	33.0	23.7	22.8	20.4	28.5	27.9
West	26.1	28.3	21.3	25.1	40.3	34.0	38.5	18.2	25.7	36.1	32.4	24.0	18.4

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(Number and percent)

Characteristic	All fields	Science and engineering											
		Total	Agricultural sciences and natural resources	Biological and biomedical sciences	Computer and information sciences	Engineering	Geosciences, atmospheric, and ocean sciences	Health sciences	Mathematics and statistics	Multidisciplinary/ interdisciplinary sciences	Physical sciences	Psychology	Social sciences
Outside the United States	7.9	7.7	6.9	4.6	8.6	7.1	7.0	7.5	12.0	7.2	8.3	2.4	15.8
Location unknown	0.1	0.1	0.0	*	0.3	*	0.2	0.0	0.1	0.1	0.0	0.0	0.1
Postgraduation location in same state as doctorate institution (%)	38.7	37.5	45.9	46.9	32.2	37.0	39.4	46.4	26.1	36.4	30.7	37.0	30.2
Male doctorate recipients reporting postgraduation status (number)	27,420	23,175	511	4,110	1,537	7,113	618	693	1,351	968	3,285	757	2,232
Definite postdoctoral training plans	26.8	29.5	34.1	40.2	15.6	21.7	50.8	28.7	35.4	22.0	36.8	40.0	23.1
Definite employment plans	47.1	44.7	40.7	27.4	63.4	52.3	28.6	47.6	40.9	56.7	36.6	36.7	55.2
Seeking employment or study	23.3	23.1	23.9	25.6	19.3	24.0	19.3	20.2	22.0	19.2	25.4	20.6	19.7
Other status ^a	2.7	2.7	1.2	6.7	1.8	2.0	1.3	3.5	1.6	2.1	1.2	2.4	2.1
Definite postdoctoral training plans (%) ^b													
Postdoc fellowship or research associateship	95.3	95.3	94.8	94.0	94.6	96.1	98.4	85.4	96.4	95.8	98.6	84.5	96.7
Other training or unknown ^c	4.7	4.7	5.2	6.0	5.4	3.9	1.6	14.6	3.6	4.2	1.4	15.5	3.3
Definite employment plans (%) ^d													
Academe	29.7	21.5	35.1	20.4	20.2	10.8	24.3	38.8	28.3	23.1	11.1	39.2	50.6
In tenure track faculty position (%)	46.4	45.6	38.4	27.4	61.9	42.9	23.3	45.3	39.7	53.5	16.5	42.2	57.9
Not in tenure track position (%)	50.8	51.0	56.2	69.6	35.5	53.3	76.7	46.1	58.3	42.5	76.7	54.1	40.0
Government	7.0	7.4	11.5	6.7	2.7	6.6	19.8	10.0	5.8	3.1	4.7	14.0	15.0
Industry or business ^e	54.2	64.8	41.8	65.5	72.3	78.0	47.5	39.7	61.4	67.4	80.7	32.7	23.2
Nonprofit organization	4.9	4.1	6.3	5.3	3.0	3.1	5.6	7.6	2.0	3.8	1.7	7.2	8.0
Other or unknown ^f	4.2	2.3	5.3	2.0	1.8	1.5	2.8	3.9	2.5	2.6	1.7	6.8	3.2
Primary activity ^g													
Research and development	55.2	63.8	58.2	63.6	74.7	69.5	57.9	43.8	55.0	69.6	75.2	28.5	43.4
Teaching	20.0	13.0	D	9.9	10.9	6.1	D	22.5	D	D	7.8	23.2	33.1
Management or administration	3.7	1.9	D	2.3	1.4	1.4	D	6.0	D	D	0.6	5.7	2.8
Professional services and other	21.0	21.4	19.4	24.2	13.1	23.0	26.9	27.6	21.2	15.8	16.5	42.6	20.7
Secondary activity ^g													
Research and development	21.5	18.5	25.5	14.4	15.3	15.5	23.4	29.8	22.7	20.4	9.7	27.8	32.9
Teaching	7.8	5.4	D	2.7	6.3	3.2	D	11.1	3.9	6.4	1.0	12.5	15.3
Management or administration	13.6	14.4	27.6	19.7	7.8	14.3	17.0	18.7	5.6	11.3	16.2	15.2	14.6
Professional services and other	10.4	11.2	8.7	9.3	12.2	12.8	11.1	9.2	12.0	13.2	10.3	9.5	8.4
No secondary activity	46.7	50.5	33.2	53.9	58.4	54.2	43.9	31.1	55.7	48.7	62.8	35.0	28.9
Activity unknown	3.7	3.6	5.8	3.6	3.6	3.4	3.4	4.5	3.4	3.5	3.8	5.4	3.1
Postgraduation location (%) ^h													
United States ⁱ	90.5	90.8	92.4	95.3	91.4	92.1	90.6	90.0	86.4	92.0	90.4	95.9	80.1
Midwest	15.3	14.4	26.4	15.1	8.8	14.5	9.2	17.0	14.4	11.5	14.1	21.0	14.7

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Characteristic	All fields	Science and engineering											
		Total	Agricultural sciences and natural resources	Biological and biomedical sciences	Computer and information sciences	Engineering	Geosciences, atmospheric, and ocean sciences	Health sciences	Mathematics and statistics	Multidisciplinary/ interdisciplinary sciences	Physical sciences	Psychology	Social sciences
Northeast	21.4	21.9	12.3	29.9	20.4	18.4	15.5	23.8	22.6	21.0	23.8	23.8	21.1
South	25.4	24.0	35.9	23.9	20.3	24.6	28.1	29.1	22.6	21.9	19.0	27.9	26.4
West	27.9	30.0	17.5	25.7	41.4	34.3	37.5	19.5	26.1	36.9	33.2	22.7	17.2
Outside the United States	9.5	9.2	7.6	4.7	8.4	7.8	9.2	10.0	13.5	7.9	9.6	4.1	19.8
Location unknown	0.1	0.1	0.0	0.0	0.2	*	0.2	0.0	0.1	0.1	0.0	0.0	0.1
Postgraduation location in same state as doctorate institution (%)	36.0	35.5	48.4	45.2	32.4	36.9	39.9	40.6	25.8	34.5	29.1	34.4	27.7
Female doctorate recipients reporting postgraduation status (number)	24,683	18,490	624	4,924	500	2,541	501	1,720	529	587	1,697	2,496	2,371
Definite postdoctoral training plans	27.1	32.6	29.3	39.8	17.2	23.5	49.9	20.2	28.4	25.0	31.0	50.6	21.7
Definite employment plans	46.1	40.8	42.1	28.9	57.8	47.8	26.1	53.5	52.6	49.7	42.0	31.3	52.5
Seeking employment or study	23.8	23.5	25.6	26.6	23.2	26.3	23.0	23.5	16.4	23.9	24.8	15.7	22.7
Other status ^a	2.9	2.9	2.4	4.5	1.8	2.3	1.0	2.6	2.5	1.4	2.2	2.3	3.0
Definite postdoctoral training plans (%) ^b													
Postdoc fellowship or research associateship	93.7	93.7	96.7	95.0	97.7	95.5	97.6	91.1	98.7	95.9	97.7	86.5	96.5
Other training or unknown ^c	6.3	6.3	3.3	5.0	2.3	4.5	2.4	8.9	1.3	4.1	2.3	13.5	3.5
Definite employment plans (%) ^d													
Academe	42.7	33.1	31.9	25.2	29.4	14.7	31.3	50.8	31.7	35.3	13.3	38.9	55.7
In tenure track faculty position (%)	43.0	42.5	44.0	20.6	62.4	46.1	19.5	41.1	50.0	48.5	24.2	42.4	53.2
Not in tenure track position (%)	54.8	54.8	54.8	78.3	34.1	51.7	80.5	54.4	45.5	49.5	72.6	54.9	44.3
Government	7.0	8.4	16.7	7.6	3.5	6.2	25.2	8.3	4.0	5.1	5.6	13.2	9.7
Industry or business ^e	34.8	47.2	41.4	56.7	60.2	73.6	33.6	24.7	59.7	49.7	75.7	29.1	18.3
Nonprofit organization	8.2	8.2	6.8	8.7	4.5	4.1	6.1	13.5	3.2	7.2	4.2	9.9	11.9
Other or unknown ^f	7.3	3.1	3.0	1.8	2.4	1.5	3.8	2.8	1.4	2.7	1.1	9.0	4.3
Primary activity ^g													
Research and development	38.6	49.0	49.4	55.3	68.7	60.3	46.5	28.7	44.2	58.1	68.3	30.5	40.8
Teaching	30.4	21.4	22.4	13.5	17.6	8.7	D	38.0	D	D	9.8	21.9	36.2
Management or administration	7.2	3.9	6.3	4.9	0.0	1.9	D	7.4	D	D	0.9	3.5	5.1
Professional services and other	23.9	25.7	22.0	26.3	13.7	29.2	28.3	26.0	27.9	16.5	21.1	44.2	17.9
Secondary activity ^g													
Research and development	25.6	21.9	25.1	14.5	19.8	17.7	27.6	32.4	29.0	18.3	8.1	21.9	33.3
Teaching	10.0	7.4	D	3.4	8.6	3.8	D	12.0	3.0	10.0	1.4	11.3	13.8
Management or administration	13.8	14.2	23.1	17.3	6.5	12.5	15.0	15.9	3.7	10.4	17.2	13.3	13.0
Professional services and other	8.7	9.6	12.9	8.1	11.5	11.7	8.7	10.2	9.3	12.9	6.3	9.3	9.2
No secondary activity	42.0	46.9	32.9	56.7	53.6	54.3	45.7	29.5	55.0	48.4	67.0	44.3	30.7
Activity unknown	3.8	3.4	3.0	3.0	3.8	3.3	3.1	4.1	3.2	4.5	2.7	4.6	3.1

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(Number and percent)

Characteristic	All fields	Science and engineering															
		Total	Agricultural sciences and natural resources	Biological and biomedical sciences	Computer and information sciences	Engineering	Geosciences, atmospheric, and ocean sciences	Health sciences	Mathematics and statistics	Multidisciplinary/ interdisciplinary sciences	Physical sciences	Psychology	Social sciences				
Postgraduation location (%) ^h																	
United States ⁱ	93.8	94.2	93.7	95.4	90.7	94.8	95.5	93.5	91.8	94.1	94.1	98.1	88.2				
Midwest	16.9	16.0	27.6	16.0	9.6	13.7	7.3	18.0	15.4	11.4	14.8	19.7	15.3				
Northeast	22.8	24.0	14.3	27.3	22.4	22.7	16.8	22.7	25.0	22.8	24.6	24.6	23.4				
South	29.4	27.5	26.9	26.9	20.5	25.2	31.5	34.6	26.4	24.4	23.3	28.7	29.4				
West	24.1	26.0	24.4	24.6	36.8	32.9	39.9	17.7	24.8	34.9	30.9	24.3	19.5				
Outside the United States	6.1	5.8	6.3	4.6	9.1	5.1	4.2	6.5	8.2	5.9	5.9	1.9	11.8				
Location unknown	0.1	0.1	0.0	0.1	0.3	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.1				
Postgraduation location in same state as doctorate institution (%)	41.8	40.1	43.7	48.3	31.7	37.2	38.8	48.8	26.9	39.6	33.8	37.7	32.6				

* = value between 0.00% and 0.05%; D = suppressed to avoid disclosure of confidential information.

^a Other status 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 Definite postdoctoral training plans excludes doctorate recipients reporting plans for other full-time degree program. Percentages are based on the number of doctorate recipients reporting definite postdoctoral plans for study.

^c Other training includes doctorate recipients who reported definite postdoctoral plans for traineeship, internship or clinical residency, or other study.

^d Percentages are based on the number of doctorate recipients reporting definite postgraduation plans for employment.

^e Industry or business includes doctorate recipients reporting self-employment.

^f Other is mainly composed of elementary and secondary schools.

^g Percentages are based on the number of doctorate recipients reporting definite postgraduation plans for employment and primary or secondary work activity.

^h Percentages are based on the number of doctorate recipients reporting definite postgraduation plans and type of plans.

ⁱ United States 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. Due to rounding, percentages may not sum to 100. 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 about the 2021 taxonomy change, see the "Technical Notes."

Source(s):

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