Table 65

Statistical profile of postgraduation plans of doctorate recipients in engineering fields, by sex and field of study: 2020

(Number and percent)

Characteristic	All engineering fields	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronics, and communications engineering	Industrial and manufacturing engineering	Materials science engineering	Mechanical engineering	Other engineering
All doctorate recipients (number)[a]	10,476	399	1,083	994	796	1,973	304	880	1,634	2,413
Postgraduation status (number)[b]										
Definite postgraduation study	2,332	77	330	239	181	323	36	236	404	506
Definite employment	4,275	186	301	359	280	1,025	150	277	603	1,094
Seeking employment or study	2,875	95	361	307	231	434	74	294	473	606
Other[c]	175	4	32	9	22	26	4	16	22	40
Definite postgraduation study (%)[d]										
Postdoc fellowship or research associateship	95.7	96.1	95.2	95.8	94.5	93.5	86.1	98.7	97.5	95.5
Other or unknown[e]	4.3	3.9	4.8	4.2	5.5	6.5	13.9	1.3	2.5	4.5
Definite employment (%)[f]										
Academe	14.1	17.2	13.6	5.3	21.8	10.0	35.3	4.7	15.9	17.0
Government	8.8	24.7	4.0	D	16.8	5.6	D	6.5	8.1	11.7
Industry or business[g]	72.6	50.5	76.7	90.0	54.6	80.2	54.7	83.8	72.3	66.6
Nonprofit organization	3.1	5.9	4.3	D	3.9	3.1	D	3.6	2.3	2.8
Other or unknown[h]	1.5	1.6	1.3	0.3	2.9	1.1	2.0	1.4	1.3	1.8
Primary activity[i]										
R&D	74.3	83.5	65.0	80.2	41.3	85.1	63.2	82.8	78.6	68.7
Teaching	7.8	5.1	7.4	2.9	12.1	6.3	18.8	2.7	9.1	9.3
Management or administration	3.6	D	6.0	2.0	8.0	1.7	5.6	D	2.5	5.0
Professional services	13.7	D	21.2	14.9	38.3	6.0	11.8	D	9.7	16.1
Other	0.6	0.0	0.4	0.0	0.4	0.8	0.7	1.1	0.2	1.0
Secondary activity[j]										
R&D	12.0	7.4	13.1	7.5	26.5	7.9	22.9	7.7	10.4	14.6
Teaching	6.4	7.4	3.5	2.9	11.7	4.7	19.4	D	D	8.6
Management or administration	12.1	15.3	20.8	14.7	9.8	8.8	7.6	15.7	14.1	10.7
Professional services	6.2	5.7	6.0	5.2	8.7	5.2	10.4	5.7	6.3	6.6
Other	0.5	0.0	0.0	1.1	1.5	0.1	0.0	D	D	0.4
No secondary activity	62.8	64.2	56.5	68.7	41.7	73.3	39.6	67.8	63.8	59.1
Activity unknown	4.8	5.4	6.0	3.1	5.7	4.5	4.0	5.8	5.6	4.4
Postgraduation location (%)[k]										

Table 65

Statistical profile of postgraduation plans of doctorate recipients in engineering fields, by sex and field of study: 2020

(Number and percent)

Characteristic	All engineering fields	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronics, and communications engineering	Industrial and manufacturing engineering	Materials science engineering	Mechanical engineering	Other engineering
United States[l]	90.6	93.2	93.5	92.1	85.7	90.9	84.4	92.2	91.2	89.4
New England	8.0	6.8	17.3	10.0	3.3	4.9	5.9	5.7	9.2	7.9
Middle Atlantic	9.1	4.6	14.3	10.4	9.3	6.6	9.1	8.2	9.8	9.1
East North Central	10.8	13.3	8.2	11.0	9.1	8.5	16.7	12.7	13.6	10.5
West North Central	3.4	D	D	3.3	5.4	1.2	6.5	2.3	5.4	3.8
South Atlantic	12.6	D	D	10.9	16.1	10.4	17.7	10.9	11.1	12.2
East South Central	3.2	3.8	1.6	2.3	4.6	2.0	2.7	4.3	3.9	4.0
West South Central	7.9	5.7	5.4	11.2	10.4	7.6	10.2	5.3	7.4	8.6
Mountain	7.6	12.9	4.1	7.7	8.2	6.4	3.2	10.3	9.6	7.4
Pacific and insular	27.5	20.2	23.5	25.1	18.9	42.5	12.4	32.0	20.5	25.6
Not in United States	9.4	6.8	6.3	7.7	14.1	9.1	15.6	7.8	8.8	10.6
Location unknown	0.1	0.0	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0
Male doctorate recipients (number)	7,882	329	653	695	586	1,630	209	638	1,373	1,769
Postgraduation status (number)[b]										
Definite postgraduation study	1,756	63	198	165	145	278	28	178	343	358
Definite employment	3,272	147	183	248	194	847	101	204	512	836
Seeking employment or study	2,130	87	221	220	167	359	49	207	393	427
Other[c]	120	1	22	5	17	18	3	10	16	28
Definite postgraduation study (%)[d]										
Postdoc fellowship or research associateship	95.9	95.2	95.5	97.0	95.2	93.9	85.7	98.9	97.1	95.8
Other or unknown[e]	4.1	4.8	4.5	3.0	4.8	6.1	14.3	1.1	2.9	4.2
Definite employment (%)[f]										
Academe	13.5	D	D	D	D	D	D	D	D	15.3
Government	9.2	23.1	3.8	D	16.0	D	5.9	D	8.2	12.2
Industry or business[g]	72.9	53.7	75.4	87.9	56.2	80.2	54.5	83.3	72.3	67.8
Nonprofit organization	3.0	D	D	D	D	2.8	D	D	D	2.8
Other or unknown[h]	1.4	2.0	1.6	0.4	3.1	0.9	1.0	0.5	1.4	1.9
Primary activity[i]										
R&D	75.8	85.7	66.3	80.3	39.5	84.5	57.1	83.9	81.0	71.4
Teaching	7.9	D	9.3	D	11.9	7.0	D	3.6	8.5	8.3

Table 65

Statistical profile of postgraduation plans of doctorate recipients in engineering fields, by sex and field of study: 2020

(Number and percent)

Characteristic	All engineering fields	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronics, and communications engineering	Industrial and manufacturing engineering	Materials science engineering	Mechanical engineering	Other engineering
Management or administration	3.6	D	4.1	D	D	D	D	D	1.9	5.3
Professional services	12.3	7.1	20.3	14.7	D	D	D	D	8.5	14.5
Other	0.5	0.0	0.0	0.0	0.5	0.9	0.0	1.0	0.2	0.5
Secondary activity[j]										
R&D	12.0	D	13.4	7.6	28.6	8.5	26.5	D	9.9	14.1
Teaching	5.9	5.0	D	D	9.2	4.1	D	D	5.6	8.1
Management or administration	12.4	D	22.7	16.0	9.2	9.1	D	16.1	D	10.6
Professional services	6.5	D	D	4.6	9.2	5.7	10.2	D	5.6	6.9
Other	0.4	0.0	0.0	D	1.1	0.1	0.0	1.0	D	0.5
No secondary activity	62.8	65.7	51.7	67.2	42.7	72.4	37.8	65.8	64.0	59.8
Activity unknown	4.9	4.8	6.0	4.0	4.6	4.5	3.0	5.4	5.5	5.0
Postgraduation location (%)[k]										
United States[l]	89.8	93.8	91.6	91.3	85.3	90.2	82.2	91.6	90.2	88.9
New England	7.4	D	14.4	10.2	D	4.8	3.9	5.5	9.0	7.6
Middle Atlantic	9.2	D	13.4	9.4	10.9	6.8	D	9.4	10.1	9.6
East North Central	10.8	12.9	8.7	10.9	10.3	8.8	17.1	12.8	13.6	10.0
West North Central	3.3	D	3.9	2.2	5.3	D	D	D	5.3	3.5
South Atlantic	12.3	D	D	10.2	16.5	10.4	17.8	9.7	11.2	11.6
East South Central	3.3	D	D	1.9	4.1	1.9	3.9	D	3.9	4.2
West South Central	7.7	D	4.7	12.1	D	7.4	7.0	5.2	7.1	8.7
Mountain	7.7	12.9	2.9	8.7	7.7	D	D	10.7	9.1	7.4
Pacific and insular	27.5	19.5	26.0	25.4	17.4	41.2	11.6	30.4	20.4	25.8
Not in United States	10.1	6.2	8.1	8.7	14.5	9.7	17.8	8.4	9.8	11.1
Location unknown	0.1	0.0	0.3	0.0	0.3	0.1	0.0	0.0	0.0	0.0
Female doctorate recipients (number)	2,593	70	430	299	210	343	95	242	261	643
Postgraduation status (number)[b]										
Definite postgraduation study	576	14	132	74	36	45	8	58	61	148
Definite employment	1,003	39	118	111	86	178	49	73	91	258
Seeking employment or study	745	8	140	87	64	75	25	87	80	179
Other[c]	55	3	10	4	5	8	1	6	6	12

Table 65

Statistical profile of postgraduation plans of doctorate recipients in engineering fields, by sex and field of study: 2020

(Number and percent)

Characteristic	All engineering fields	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronics, and communications engineering	Industrial and manufacturing engineering	Materials science engineering	Mechanical engineering	Other engineering
Definite postgraduation study (%)[d]										
Postdoc fellowship or research associateship	95.0	100.0	94.7	93.2	91.7	91.1	87.5	98.3	100.0	94.6
Other or unknown[e]	5.0	0.0	5.3	6.8	8.3	8.9	12.5	1.7	0.0	5.4
Definite employment (%)[f]										
Academe	16.1	D	D	D	D	D	D	D	D	22.5
Government	7.6	30.8	4.2	0.0	18.6	D	D	D	7.7	10.1
Industry or business[g]	71.5	38.5	78.8	94.6	51.2	80.3	55.1	84.9	72.5	62.8
Nonprofit organization	3.3	D	D	D	D	4.5	D	D	D	3.1
Other or unknown[h]	1.6	0.0	0.8	0.0	2.3	1.7	4.1	4.1	1.1	1.6
Primary activity[i]										
R&D	69.6	75.0	63.1	80.0	45.6	87.6	76.1	79.4	64.7	60.3
Teaching	7.4	D	4.5	D	12.7	2.9	D	0.0	12.9	12.3
Management or administration	3.8	D	9.0	D	D	D	D	D	5.9	4.0
Professional services	18.2	D	22.5	15.5	D	D	D	D	16.5	21.0
Other	1.0	0.0	0.9	0.0	0.0	0.6	2.2	1.5	0.0	2.4
Secondary activity[j]										
R&D	11.8	D	12.6	7.3	21.5	4.7	15.2	D	12.9	16.3
Teaching	8.0	16.7	D	D	17.7	7.6	D	0.0	D	10.3
Management or administration	11.3	D	18.0	11.8	11.4	7.1	D	14.7	D	11.1
Professional services	5.4	D	D	6.4	7.6	2.9	10.9	D	10.6	5.6
Other	0.7	0.0	0.0	D	2.5	0.0	0.0	D	0.0	0.0
No secondary activity	62.7	58.3	64.0	71.8	39.2	77.6	43.5	73.5	62.4	56.7
Activity unknown	4.6	7.7	5.9	0.9	8.1	4.5	6.1	6.8	6.6	2.3
Postgraduation location (%)[k]										
United States[l]	93.0	90.6	96.4	94.1	86.9	94.2	89.5	93.9	96.7	90.9
New England	9.9	D	21.6	9.7	D	5.4	10.5	6.1	10.5	8.6
Middle Atlantic	8.6	D	15.6	12.4	4.9	5.4	D	4.6	8.6	7.4
East North Central	10.5	15.1	7.6	11.4	5.7	7.2	15.8	12.2	13.8	12.1
West North Central	3.7	0.0	D	5.9	5.7	D	D	D	5.9	4.4
South Atlantic	13.5	20.8	14.4	12.4	14.8	10.3	17.5	14.5	10.5	14.0

Table 65

Statistical profile of postgraduation plans of doctorate recipients in engineering fields, by sex and field of study: 2020

(Number and percent)

Characteristic	All engineering fields	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronics, and communications engineering	Industrial and manufacturing engineering	Materials science engineering	Mechanical engineering	Other engineering
East South Central	3.0	D	D	3.2	5.7	2.7	0.0	D	3.9	3.4
West South Central	8.6	D	6.4	9.2	D	8.5	17.5	5.3	9.2	8.4
Mountain	7.3	13.2	6.0	5.4	9.8	D	D	9.2	12.5	7.4
Pacific and insular	27.4	22.6	19.6	24.3	23.0	48.9	14.0	36.6	21.1	25.1
Not in United States	6.9	9.4	3.6	5.4	13.1	5.8	10.5	6.1	3.3	9.1
Location unknown	0.1	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0

D = suppressed to avoid disclosure of confidential information.

[a] Includes respondents who did not report sex.
[b] Includes only respondents who reported postgraduation status.
[c] Includes respondents who indicated that they did not plan to work or study, respondents who indicated some other type of postgraduation plans, and respondents who indicated definite plans for other full-time degree program.
[d] Excludes respondents who indicated plans for other full-time degree program. Percentages based on number of doctorate recipients reporting definite postgraduation plans for study.
[e] Other includes respondents who indicated definite postgraduation study plans for traineeship, internship or clinical residency, or other study.
[f] Percentages based on number of doctorate recipients reporting definite postgraduation plans for employment.
[g] Includes doctorate recipients who indicated self-employment.
[h] Other is mainly composed of elementary and secondary schools.
[i] Percentages based on number of doctorate recipients reporting definite postgraduation plans for employment and primary work activity.
[j] Percentages based on number of doctorate recipients reporting definite postgraduation plans for employment and secondary work activity.
[k] Percentages based on number of doctorate recipients reporting definite postgraduation plans and type of plans.
[l] Includes cases with an unknown U.S. region of employment after doctorate; see technical notes for states or territories included in regions.

Note(s):
Due to rounding, percentages may not sum to 100. See table A-6 in the technical notes for a listing of major fields and their constituent subfields.

Source(s):
National Center for Science and Engineering Statistics, Survey of Earned Doctorates.