

2 **Postdoctoral researcher**

3 **Occupation**

4 ***Profession***

5 Activity sectors: Academia

6 ***Description***

7 Competencies: Research, Teaching

8 Education required: PhD or equivalent

9 Fields of employment: Academics

10 **Post-doctoral researchers by discipline (United States, 2012)[1]**

11 Life sciences (65%)

12 Physical sciences (13%)

13 Engineering (11%)

14 Math and computer sciences (3%)

15 Geosciences (3%)

16 Psychology, social sciences and others (5%)

17 A postdoctoral researcher or postdoc is a person professionally conducting research after the completion of their doctoral studies
18 (typically a PhD). The ultimate goal of a postdoctoral research position is to pursue additional research, training, or teaching in order to
19 have better skills to pursue a career in academia, research, or any other fields.[2] Postdocs often, but not always, have a temporary
20 academic appointment, sometimes in preparation for an academic faculty position. They continue their studies or carry out research and
21 further increase expertise in a specialist subject, including integrating a team and acquiring novel skills and research methods.
22 Postdoctoral research is often considered essential while advancing the scholarly mission of the host institution; it is expected to produce
23 relevant publications in peer-reviewed academic journals or conferences. In some countries, postdoctoral research may lead to further
24 formal qualifications or certification, while in other countries it does not.[3][4]

25 Postdoctoral research may be funded through an appointment with a salary or an appointment with a stipend or sponsorship award.
26 Appointments for such a research position may be called postdoctoral research fellow, postdoctoral research associate or postdoctoral
27 research assistant. Depending on the type of appointment, postdoctoral researchers may work independently or under the supervision of
28 a principal investigator. However, a designated postdoctoral research appointment may also be taken up when other suitable positions
29 are not available, rather than merely pursuing the deepening of scholarly experience. In many English-speaking countries, postdoctoral
30 researchers are colloquially referred to as "postdocs".[5]

31	Contents	
32	1	Job security and academia
33	2	Regional variations in postdoctoral employment
34	2.1	United Kingdom
35	2.2	United States
36	2.3	India
37	2.4	Australia
38	3	
39	4	References

40 **Job security and academia**

41 Due to the nature of their work,[6][7][8][9][10][11] and an over-supply of graduating PhD students in many fields,[12][13] some
42 postdoctoral researchers face an uncertain future in academia,[4][14] and a large proportion will not gain tenure[15] or a coveted
43 faculty position in their chosen field of research.[16][17][18][19]

45 **United Kingdom**

46 In the United Kingdom, 25% of doctors in the natural sciences continue to undertake postdoctoral research.[20]

47 Since the landmark ruling in the employment tribunal (Scotland) Ball vs Aberdeen University 2008 case (S/101486/08),
48 researchers who have held successive fixed-term contracts for four years' service are no longer temporary employees but are entitled to
49 open-ended contracts.[21]

50 **United States**

51 In the US, a postdoctoral scholar is an individual holding a doctoral degree who is engaged in mentored research or scholarly training
52 for the purpose of acquiring the professional skills needed to pursue a career path of his or her choosing.[3] Postdoctoral researchers
53 play an important role in spearheading research activity in the US. The median salary of postdoctoral researchers is **\$42,000** a year
54 for up to 5 years after receiving their doctoral degrees— **44%** less than the **\$75,000** average for tenured positions.[22] The
55 National Postdoctoral Association (NPA)[23] is a member-driven organization that provides a voice for postdoctoral scholars in the
56 United States.

57 Postdoctoral research may be required for obtaining a tenure-track faculty position, especially at research-oriented institutions. Post-
58 doctoral appointments that were traditionally optional have become mandatory in some fields as the degree of competition for tenure-
59 track positions in academia has significantly increased over previous decades. In fact, the small supply of the professional positions in
60 academia compared to the growing number of postdoctoral researchers makes it difficult to find tenure-track positions. In **2008**, the
61 proportion of postdoctoral researchers who got a tenure or tenure-track within 5 years after they received a doctoral degree was about
62 **39%**:[22] nearly **10%** of postdoctoral researchers were still waiting for tenure-track positions over **40** in **2003**.[24]

63 On the other hand, **85** percent of engineering doctoral degrees holder are likely to initially go into business or industry sector.[25]
64 Under the circumstances, providing doctoral students as well as postdoctoral researchers with necessary skills for nonacademic positions
65 has become one of the important roles for graduate schools and institutions. The America COMPETES Act recognized the importance
66 of graduate student support for obtaining skills needed when they pursue nonacademic careers, and required National Science
67 Foundation (NSF) to increase or decrease funding for the Integrative Graduate Education and Research Traineeship (IGERT)
68 programs[26] at least at the same rate as it increases or decreases funding for the Graduate Research Fellowship. There are no
69 comprehensive data of international postdoctoral researchers in the US because of the less-organized survey and the difficulty in
70 counting international postdoctoral researchers. The proportion of postdoctoral researchers on temporary visas reached **53.6%** in
71 **2010**.[27] The life sciences hold the largest percentage of postdoctoral researchers on temporary visas; in **2008**, approximately
72 **56%** of postdoctoral researchers in the life sciences were temporary residents. Of these postdoctoral researchers on temporary visas,
73 four out of five earned their PhD outside of the United States.[28] While there exists fear that foreign PhD's are taking postdoctoral
74 research positions from American researchers, it is not true. However, the influx of foreign PhD's has influenced the supply of ready-
75 researchers, and thereby, the wages. One estimate claims that a **10%** increase in the supply of foreign postdoctoral researchers lower
76 the position salary by **3-4%**.[28]

77 In the US, life sciences have a greater share than other fields due to higher federal funding of life and medical science areas since mid
78 **1990** [29]. One survey shows that **54%** of postdoctoral researchers major in life sciences, whereas those who majored in physical
79 science, mathematics, and engineering account for **28%**.[30]

80 In **2010**, postdoctoral researchers in California formed a union, UAW Local **5810** in order to secure better working conditions such
81 as the right to file a complaint for alleged discrimination or sexual harassment through a formal grievance procedure.[31] In California,
82 new postdoctoral appointments receive at least the NIH postdoctoral minimum salary (**\$39,264** in **2011**) and many receive annual
83 pay raises of **5-7%** or more in accordance with the NIH's Ruth L. Kirschstein National Research Service Awards (NRSA).[32]

84 In **2014**, postdoctoral researchers in Boston organized the "Future of Research" Symposium to respond to a conversation about the
85 state of biomedical research[33] from the perspective of junior scientists. The meeting included panel discussions with academics

86 concerned about the scientific enterprise, a video message from Massachusetts senator Elizabeth Warren, and workshops discussing
87 training, funding, the structure of the biomedical workforce, and metrics and incentives in science which were used to generate
88 recommendations in a white paper.[34] Meetings organized by postdoctoral researchers in 2015 spread to New York University
89 (NYU), Chicago and San Francisco and a second meeting in Boston discussed data collection, labor economics and evidence-based
90 policy to advocate for changes to science, including the future of the PhD.[35]

91 **India**

92 Most of India's premier engineering, science and management institutes (like Indian Institutes of Technology (IITs), National Institutes of
93 Technology (NITs), Indian Institutes of Science Education and Research (IISERs) and Indian Institutes of Management (IIMs)) have
94 postdoctoral positions. The salary typically varies from INR 40,000 - 70,000 per month. For example, IIT Kharagpur
95 (<http://www.iitkgp.ac.in/academics-post-doc-fellowships>), IIT Delhi, IIT Kanpur (<http://www.iitk.ac.in/new/postdoctoral-vacancies>),
96 IIT Bombay, IIT Madras, IISER Mohali, IISER Pune, IIM Kolkata offer postdoctoral fellowships.[36]

97 **Australia**

98 Salaried appointments at the minimum Level A, Step 6 for academic salaries, for doctoral qualified employees (beginning in 2008) are
99 set at A\$75,612 p.a. at the University of Sydney,[37] A\$75,404 p.a. at the University of Melbourne,[38] and A\$75,612 p.a. at
100 the University of New South Wales.[39]

101 Alternatively the Australian Research Council (ARC) provides Postdoctoral Fellowships. For example, their Discovery Projects,[40] funds
102 3 year Fellowships, beginning in 2009, with A\$61,399 p.a.[41] Furthermore, a mandatory superannuation payment of 11 – 17% is
103 paid by Universities.[42]

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169	Academic ranks overview
170	Faculty
171	Ranks
172	Titles
173	Professorship
174	North American system
175	Adjunct professor (non-tenure track)
176	Instructor (non-tenure track)
177	Assistant professor
178	Associate professor
179	Professor (full)
180	Chair/Distinguished Professor
181	Commonwealth system
182	Lecturer
183	Senior lecturer
184	Reader or Associate professor
185	Professor
186	Researchers
187	Research assistant
188	Research associate
189	Research fellow
190	Postdoctoral researcher
191	Other positions,,,
192	Teaching assistant
193	Teaching associate