

Ministry of Education and Science of the Republic of Kazakhstan
Bologna Process and Academic Mobility Center

Postdoctoral programs

In the *North American system* of higher education, postdoctoral studies belong to the third cycle. At this level, postdoctoral training in universities or research centers completes the training of highly qualified specialists.

Postdoctoral education has been part of American higher education for more than 100 years. Johns Hopkins University first began supporting postdoctoral students as early as 1876. In the 1920s, the Rockefeller Foundation established a formal postdoctoral fellowship program for recent PhD graduates. The recipients of such fellowships are called “postdoctoral fellows” or “postdocs”¹.

In the U.S., postdoctoral fellows are supported by the National Science Foundation (NSF), an independent agency of the U.S. government.

The Foundation makes mostly temporary grants. Most grants are given to individual researchers or small groups of researchers. The remaining grants are used to fund research centers (to support the operation of research equipment and facilities).

Postdoctoral program in the U.S. is implemented for *PhD doctors* and separately for *PhD candidates* (from a number of European countries, Russia).

In the 1-st case, Postdoctoral Training is not a level of education, as there are no formal educational programs. Recent PhD scholars are given the opportunity to undergo special training under the supervision of a supervisor.

Postdoctoral fellows improve their qualifications by attending lecture and seminar classes individually. Training is financed by scholarships from the university, an academic institution, or sponsorship from charitable organizations. In this regard, the postdoc position is temporary (can change at any stage) and depends directly on the amount of funding.

In the 2-nd case, the Postgraduate Level implements an educational program that lasts at least three years. The first 2 years of postdoctoral training are on an individual plan, then for one year students do their research and, if desired, work on the preparation of doctoral dissertations "habilitation to direct theses".

Postdoctoral studies in Germany provide the opportunity for the scholar to gain experience in his or her field of study. It promotes focused, in-depth knowledge of your field. The time spent working in a research group or institute as a postdoc is limited, since the position is a temporary employment and can last from 3 to 5 years, depending on the specialty².

Postdoc continuously works on his self-improvement, developing primarily his own teaching skills (*constantly teaching classes, giving lectures, conducting seminars, and supervising undergraduate, graduate, and PhD projects*).

¹ Association Of American Universities, Committee on Postdoctoral Education, 1998.

² Жарекешев И.Х. Постдокторантура как этап повышения квалификации научного работника // Вестник РАН. 2013, Т.82, Вып. 12. С 1104-1107.

Postdocs can go through the next stage of habilitation (from the Latin *habilis* - capable, fit). Based on the results of the defense of a special paper, the applicant is awarded the degree of Habilitated Doctor (Dr. habil.).

A postdoctoral researcher may spend his/her postdoctoral period at more than one university. With few exceptions, he or she has a supervisor, which may be a full professor, a department chair, or the director of the institute. During the period of postdoctoral studies the scientist should publish several significant works in scientific journals with a high impact factor. An important indicator of a scholar's research activity after completing a postdoc is the Hirsch index.

Postdoctoral studies in Germany can be paid for by various grants won by professors who recruit future postdoctoral fellows to their departments or institutes. There are also scholarship programs of various foundations for postdoctoral researchers. For example, the Humboldt Foundation annually funds scholarships for young foreign researchers who have completed their doctoral studies no more than 4 years after they apply for the scholarship. The amount of this scholarship is 2,600-3,000 euros per month³.

In **India**, the number of postdoctoral fellows is small. They are hired as lab assistants, teaching assistants, and research assistants. Postdoctoral programs are run by the Indian Institute of Technology⁴.

Postdoctoral programs in India are funded by research councils and government departments. The Council of Scientific and Industrial Research awards research memberships based on clearly defined research proposals and mentors at recognized institutions. The Department of Science and Technology runs an accelerated program to provide independent research support to postdoctoral fellows. Under this scheme, 600 fellowships are awarded annually. Other fellowships are provided by the Department of Biotechnology, the Department of Electronics, the Department of Atomic Energy, the Ministry of New and Renewable Energy, the Indian Council of Medical Research, and other government organizations.

³ Humboldt Research Fellowships for postdoctoral researchers http://www.humboldt-foundation.de/pls/web/docs/text_id_1806/F1313641042/programme_information_p.pdf

⁴ Ananth M.S. Postdoctoral Careers in India [URL: <https://www.humboldt-foundation.de/web/31661.html>]