Request for Information (RFI): Re-envisioning U.S. Postdoctoral Research Training and Career Progression within the Biomedical Research Enterprise

https://rfi.grants.nih.gov/?s=639675dcf6d8bc7e840ce9c2

Purpose
The National Institutes of Health (NIH) seeks information from extramural research community members regarding the current state of postdoctoral research training and career progression within the biomedical research enterprise. NIH is particularly interested in understanding the perspective and experience of recent and current postdoctoral trainees, postdoctoral office leaders, as well as graduate students considering becoming postdoctoral trainees within the academic sector. This RFI will assist NIH in hearing the voices of postdoctoral trainees along with others impacted by this unique and skilled training position, and in exploring ways to address some of the fundamental challenges faced by the postdoctoral trainee community. This information will inform the development of recommendations by the NIH Advisory Committee to the Director (ACD), an advisory group that provides advice on matters pertinent to NIH mission responsibilities in the conduct and support of biomedical research, medical science, and biomedical communications. Review of this entire RFI notice is encouraged to ensure your response is comprehensive and to have a full understanding of how it will be utilized.

Background
NIH supports postdoctoral training through its extramural research programs and its own intramural training program. These efforts have supported the development of highly trained biomedical scientists who have the necessary knowledge and skills to pursue independent careers in the biomedical research workforce. Concerns about the postdoctoral training system and recruitment of qualified postdoctoral trainees have grown in recent years. Data published by the National Science Foundation suggest that the number of postdoctoral researchers may be declining, presenting an uncertain future for the overall U.S. biomedical research enterprise. These challenges have recently been severely compounded by the COVID-19 pandemic and the ensuing global economic environment. NIH seeks to evaluate the status of the postdoctoral training process, to understand fundamental issues affecting the postdoctoral trainee process, and to identify possible solutions to address these issues. Toward this end, an ACD working group has been established to explore the status of the postdoctoral training system, identify and understand critical factors and issues relating to the perceived decline in the number of postdoctoral trainees, and provide recommendations that address those factors to the NIH Director.

Information Requested
This RFI invites input on factors influencing postdoctoral training from the community. NIH is particularly interested in receiving input from trainees (e.g., graduate students, postdocs), as well as early-stage investigators, biomedical faculty, training directors, postdoctoral and graduate student office leaders, biotech/biopharma industry scientists, and research education program advocates. NIH is particularly interested in hearing about promising solutions to address current challenges affecting the postdoctoral trainee community. Input sought includes, but is not limited to, the following:

- Perspectives on the roles and responsibilities of the academic postdoc (e.g., what the postdoctoral position means to you, how you view it).

- Fundamental issues and challenges inhibiting recruitment, retention, and overall quality of life of postdoctoral trainees in academic research.
- Existing NIH policies, programs, or resources that could be modified, expanded, or improved to enhance the postdoctoral training ecosystem and academic research career pathways.
- Proven or promising external resources or approaches that could inform NIH's efforts to enhance the postdoctoral training ecosystem (e.g., improving postdoctoral recruitment, training, working environment, mentoring, job satisfaction).

To ensure consideration, responses must be submitted by: 2023-04-14 11:59:59 PM ET

Perspectives on the roles and responsibilities of the academic postdoc (e.g., what the postdoctoral position means to you, how you view it). (max 300 words)

The postdoctoral position is a unique period in a person's academic career, with minimal teaching or administrative responsibilities and maximum opportunity to focus on research and continued research training. A postdoc should not be treated exclusively as a well-qualified research assistant performing tasks they mastered in graduate school for the purpose of forwarding the research of the laboratory's principal investigator. A postdoc is also a trainee whose training and education in new skills and additional knowledge should continue to advance during this period and can be used to further their independent career. The postdoctoral period should be 1) a time for an early-career researcher to gain additional independence and responsibility in a research group while still benefiting from the mentorship of a more senior researcher and/or 2) a time for a researcher to expand their methodological repertoire with the guidance of an experienced mentor and gain new skills that can help the advance their field. An academic postdoctoral position also offers the ability to gain experience mentoring graduate and undergraduate students.

Fundamental issues and challenges inhibiting recruitment, retention, and overall quality of life of postdoctoral trainees in academic research. (max 300 words)

A clear issue facing postdocs and the mentors who wish to recruit and retain them are the poor salaries and benefits associated with the position. Postdoctoral trainees are well-educated researchers, often expected to work long hours and assume considerable responsibilities. Postdocs are productive and valuable members of a research team and their pay and benefits should reflect this value.

Recruiters must remember that postdoctoral trainees are in the laboratory to continue their education and training and must be provided with opportunities to develop the skills necessary to contribute to the future of their own field. This will not only benefit postdocs, but improve the quality of U.S. research as a whole, ensuring we have well-trained scientists able to compete with international developments and continuing research advances.

Currently, many academic research programs are still heavily animal-based, despite the well-known problems with translation and replicability of animal research. Many researchers trained in the use of animal models lack the time, funding, or institutional support to receive training in emerging, human-relevant research technologies. The postdoctoral training period is an ideal period during a scientist's career to familiarize themselves with new and/or unfamiliar technologies.

As the range of animal-free testing methods expands, researchers whose graduate training was animal-based will need training with these tools to keep pace with these pivotal developments and redirect their research as needed and ensure that the U.S. science workforce does not fall behind other countries. Increased postdoctoral education and training initiatives will help ensure we are creating a robust biomedical workforce that is able to compete with a rapidly-changing scientific landscape and respond to increasing calls for improved translation of biomedical research findings into human health advancements. Specific training in advanced, non-animal methods for postdocs would better prepare them for a robust, innovative, and satisfactory career in academic research.

Existing NIH policies, programs, or resources that could be modified, expanded, or improved to enhance the postdoctoral training ecosystem and academic research career pathways. (max 300 words)

- Institutional Training Grants can be provided for postdoctoral researchers to receive training that would allow them to make the transition from animal to non-animal research methods.
- Continuing Education Grants can be offered with the explicit purpose of establishing educational programs to train postdoctoral researchers on available non-animal methodologies.
- The NIH Director's Early Independence Award could prioritize postdoctoral applicants who currently use non-animal, clinically-applicable methods; are making the transition from animal to non-animal methods; or are developing and/or validating non-animal methods.
- The NIH Bench-to-Bedside and Back Program could prioritize pairing basic science postdoctoral researchers using animal models with Intramural Research Program (IRP) clinical researchers. The goal would be to assist those researchers interested in permanently switching from animal-based research to clinical work.
- Program Project Grants or Center Grants can be offered to mentors of postdoctoral researchers who wish to gain experience establishing centers for non-animal methods at their institutions.
- Grant supplements can be offered to postdoctoral researchers who wish to switch to non-animal methods mid-funding.

Proven or promising external resources or approaches that could inform NIH's efforts to enhance the postdoctoral training ecosystem (e.g., improving postdoctoral recruitment, training, working environment, mentoring, job satisfaction). (max 300 words)

Some supplemental training programs have been developed to begin to fill the gap in adequate training in non-animal methods. For example, in the EU, the European Commission's Joint Research Centre hosts a summer school on non-animal approaches. Many online resources by experts in the field also exist, including those offered by PETA Science Consortium International e.V. and the Physicians Committee for Responsible Medicine. The Dutch Transition Programme for Innovation created a series of "helpathons," action-orientated workshops built around a specific question that encourages researchers through a community forum to think creatively and harness the power of coincidence in the discovery of new opportunities with regard to non-animal approaches.