



The mission of the National Institute of Biomedical Imaging and Bioengineering (NIBIB) is to improve human health by leading the development and accelerating the application of biomedical technologies. The Institute is committed to integrating the physical and engineering sciences with the life sciences to advance basic research and medical care.

To attract and train bright and talented researchers, the NIBIB provides support in a broad range of training programs. These include disciplinary programs to support and bridge areas of NIBIB relevance, multidisciplinary programs to promote the clinical translation of emerging technology, and interdisciplinary programs to train a new cadre of researchers working at the intersection of the biological and physical sciences. These programs are designed to support researchers throughout the career continuum, increase the number of clinician-scientists, and enhance the participation of underrepresented populations in biomedical imaging and bioengineering research.

## Undergraduate Training

### **Enhancing Science, Technology, Engineering, and Math Educational Diversity (ESTEEMED) Research Education Experiences (R25):**

Supports educational activities that enhance the diversity of the biomedical workforce through early preparation for undergraduate students in STEM fields.

### **Design by Biomedical Undergraduate Teams (DEBUT)**

**Challenge Awards:** \$45,000 in prizes to teams of undergraduate students working on projects offering innovative solutions to unmet clinical and health problems.

### **Biomedical Engineering Summer Internship Program (BESIP):**

Provides undergraduate biomedical engineering students the opportunity to participate in cutting-edge biomedical research projects at NIH intramural laboratories.

### **Team-Based Design in Biomedical Engineering (R25) Awards:**

Provides support for new or existing design courses in which undergraduate students work in teams on open-ended biomedical design projects.

## Pre- and Post-Doctoral Training

*Ruth L. Kirschstein National Research Service Awards (NRSA) support predoctoral students working toward research degrees and postdoctoral fellows pursuing research in mentors' laboratories.*

### **Individual Awards**

**F30 – Individual Predoctoral MD/PhD or Other Dual-Doctoral Degree Fellowships for Students at Institutions Without NIH-Funded Institutional Predoctoral Dual-Degree Training Programs:** Provides support for the integrated research and clinical training of promising predoctoral students who are matriculated in a dual-doctoral degree training program.

**F31 – Individual Predoctoral Fellowships to Promote Diversity in Health-Related Research:** Offers up to two years of doctoral training support to individuals from under-represented racial and ethnic groups, persons with disabilities, and those from disadvantaged backgrounds.

**F32 – Individual Postdoctoral Fellowships:** Provides postdoctoral training support for qualified individuals who have received the Ph.D. (or equivalent) degree.

### **Institutional Awards**

**T32 - Institutional Research Training:** Awards support focused predoctoral and post-doctoral research training programs in biomedical engineering for graduate students, postdoctoral fellows, and radiology residents, as well as broad based multidisciplinary and interdisciplinary research training integrating engineering with the biological, computational, and physical sciences.

### **T35 – Short-Term Institutional Research Training Awards:**

Supports short-term clinical or translational research experiences for biomedical engineering graduate students.

## Conference/Meetings Awards (R13)

Supports attendance at national conferences and meetings that significantly impact the scientific fields relevant to the NIBIB mission. Priority is given to applications that encourage the participation of students, fellows, and junior faculty, especially members of underrepresented groups.

## Loan Repayment Program (LRP)

LRP Awards help support doctoral-level clinical researchers with domestic nonprofit or U.S. government funding must conduct clinical research for 50% or more of their total level of effort in exchange for NIH repaying up to \$35,000 per year of qualified debt. More information at: <https://www.lrp.nih.gov/>



## Career Development Awards

Career development awards provide salary and laboratory support for postdoctoral fellows transitioning to faculty positions and junior faculty who are changing research fields or need protected research time during critical periods of their careers.

### Transitional Career Development

**Pathway to Independence (K99/R00) Awards:** Provides 2 years of support to postdocs in the K99 phase, with an additional 3 years once they have secured an independent faculty position and transitioned into the R00 phase. Offers funding for both mentored training (K99) and independent research (R00), shortening the time between postdoctoral training and research independence.

### Maximizing Opportunities for Scientific and Academic Independent Careers (MOSAIC) Postdoctoral Career Transition (K99/R00) Awards:

Offers funding for mentored training (K99) and independent research (R00), shortening the time between postdoctoral training and research independence and enhancing diversity in the biomedical research workforce.

### Basic Career Development

**K01 – Mentored Research Scientist Development Awards:** Provides basic researchers who wish to obtain experience in an

area different from their doctoral or postdoctoral research focus up to four years of mentored research support as they transition to research independence.

### K25 – Mentored Quantitative Research Career Development

**Awards:** Provides up to four years of mentored research support to individuals with quantitative backgrounds but little experience in biology or medicine who wish to refocus their research on biomedical research.

### Clinical Career Development

**K08 – Mentored Clinical Scientist Development Awards:** Offers clinician-scientists up to four years of mentored research support as they transition to research independence.

### K23 – Mentored Patient-Oriented Research Career Development

**Awards:** Provides clinically trained professionals with up to four years of mentored patient-oriented research support as they transition to research independence.

## Research Awards

### Research Enhancement Awards (R15)

**AREA Awards:** Provides up to three years of support for biomedical research conducted by faculty and students at academic institutions that have not been major recipients of NIH research awards. Institutional eligibility can be verified at <https://grants.nih.gov/grants/funding/r15.htm>

**REAP Awards:** Provides up to three years of support for faculty and students at Health Professional Schools and Graduate schools to conduct basic and clinical research in educational institutions that provide baccalaureate or advanced degrees and have not been major recipients of NIH research awards.

### Research Education Programs (R25)

**Team-based Design in Biomedical Engineering – see Undergraduate Training: Summer Research Experience Program**  
Offers support to high school science and community college faculty from STEM-related departments to foster a better understanding of biomedical, behavioral and clinical research and its implications.

### Research Supplements

**Research Supplements to Promote Diversity in Health-Related Research Awards:** Supports individuals from underrepresented racial and ethnic groups, persons with disabilities, and those from disadvantaged backgrounds.

**Research Supplements for Career Reentry Awards:** Enables talented fellows and early-career faculty with high research potential to reenter an active research career after a qualifying interruption for family or other responsibilities.

**NOSI - Administrative Supplements to Promote Research Continuity and Retention of NIH Mentored Career Development (K) Award Recipients and Scholars:** Offers support to NIBIB K Awardees to ensure continuity of research.

**NOSI – Administrative Supplement for Continuity of Biomedical and Behavioral Research Among First-Time Recipients of NIH RPGs Awards:** Offers support to enhance the retention of investigators facing critical life events who are transitioning to the first renewal of their first independent RPG or to a second new NIH research project grant award.

## NIBIB Contacts

Please contact the following program staff with questions about the above programs. We welcome the opportunity to speak with potential applicants about our training programs. More information at <https://www.nibib.nih.gov/training>

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