An OPEN Conversation: NIH Strategies for Enhancing the Diversity of Neuroscience Researchers

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NINDS OPEN Pathways

NINDS DIVERSITY SCIENTIFIC TRAINING AND CAREER OPPORTUNITIES

AWARD TYPES

- Diversity R25 Programs
- Diversity and Reentry Research Supplements

CAREER STAGE

- High School Student
- Undergraduate Student
- Graduate/Medical Student
- Postdoc Phase
- New Faculty

INDIVIDUAL AWARDS

- Diversity F31 - Predoctoral fellowship
- NIH Blueprint D-SPAN F99/K00 - Predoc to postdoc transition award
- Diversity NINDS K22 - Postdoc to faculty transition award
- Diversity NINDS K01 - New tenure track faculty

INSTITUTIONAL AWARDS

- NINDS T32 - Institutional Research Training Grant recruitment and retention plans to enhance diversity
- NIH Summer R25 - Research opportunities for high school and undergraduate students
- NIH Blueprint ENDURE R25 - Pairs diverse undergraduates with neuroscience focused T32 programs
- NINDS Neuroscience Development for Advancing the Careers of a Diverse Research Workforce R25 - Supports educational programs designed to attract, train, and further careers of diverse graduate students, postdocs and junior faculty

RESEARCH SUPPLEMENTS TO PROMOTE DIVERSITY IN HEALTH-RELATED RESEARCH

- Under-represented racial and ethnic backgrounds
- Individuals with disabilities
- Individuals from disadvantaged socioeconomic backgrounds
- Individuals reentering research
Transition Awards

• The current research environment is often perceived as very challenging (e.g., Developing a 21st Century Neuroscience Workforce, IOM).
  – Attrition of talent occurs at each career transition as the goal of a research career is reconsidered
• In 2014, ~11% of those enrolled in US neuroscience graduate programs were from diverse groups*
• A goal of the NIH is to “create seamless transitions for biomedical career advancement and progression”
• Two examples today: NIH Blueprint DSPAN (F99/K00) and Diversity BRAIN Initiative (K99/R00)

The NIH Blueprint is a collaborative and coordinated effort across 13 NIH Institutes and Centers (see components of participating organizations in FOA)

D-SPAN is intended for individuals who have demonstrated an interest in a neuroscience research career in NIH Blueprint mission-relevant areas and/or BRAIN Initiative research areas

D-SPAN will build a diverse neuroscience pipeline to academic/research careers with potential benefit to all neuroscience ICs.

NIH Blueprint diversity initiatives have benefited from a network and an identifiable critical mass by scientific discipline
Goals of D-SPAN

– Create a defined pathway for a critical juncture in the training pathway—the transition from predoc to postdoc.
– Encourage and retain outstanding, diverse graduate students who have demonstrated ability and interest in careers as independent neuroscience researchers
– Spans career stages to
  • minimize transition barriers
  • enhance self-efficacy by providing a clear pathway to the postdoctorate
  • empower diverse trainees, via an individual award, to develop independent research plans within a strong, mentored environment
Eligibility for D-SPAN

1. **Individuals from nationally underrepresented in neuroscience research**
   - Groups that have been shown to be underrepresented in health-related sciences on a national basis such as: *Blacks or African Americans, Hispanics or Latinos, American Indians or Alaska Natives, and Native Hawaiians and other Pacific Islanders.*
   - Individuals with disabilities, defined as those with a *physical or mental impairment that substantially limits one or more major life activities.*

2. **Applicants should be 3rd or 4th year PhD students**
   - US citizen or permanent resident only
   - Current F31 awardees and applicants eligible
   - May not be in a professional or dual-degree program

3. **MUST have mission relevance to one of the neuroscience Institutes listed on FOA!**
• Two-phase award using the F99/K00 activity code
  – F99 phase (1-2 years): for advanced predoctorates to complete dissertation research and search for an appropriate postdoctoral position with a strong mentor
  – K00 phase (up to 4 years): postdoctoral training and career development
  – The two phases are continuous in time, with the intent of facilitating the transition to a postdoctoral appointment.
• Vetted mentor/mentoring team for each phase
• Enhanced mentoring and professional development opportunities
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<th>Mechanism</th>
<th>F99/K00 (D-SPAN)</th>
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<tr>
<td><strong>Career stage eligibility</strong></td>
<td>Apply during graduate school, transition award to postdoc</td>
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| **F99 Phase** | • Up to 2 years support in F99 phase  
• Stipend level for is the same as for the F31 [Ruth L. Kirschstein National Research Service Award (NRSA)](https://www.finos.org) fellows.  
• Tuition and fees allowable only at this phase  
• Institutional Allowance (insurance, supplies, etc.) |
| **K00 Phase** | • Up to 4 years in the K00 career development phase  
• Up to $50,000 toward the salary of the career award recipient.  
• $3,000 per year toward the research development costs of the award recipient |
Evaluation

• Across the BP Institutes, will be able to examine strategies and evaluate outcomes that are often too small for a single NIH Institute
  – Short-term: Transition to a postdoctoral lab with high caliber science and invested mentorship
  – Long-term: Transition to an independent research career in neuroscience
  – Authorship of scientific publications in a neuroscience field
  – Subsequent independent research grant support from NIH or another source.
The BRAIN Initiative Advanced Postdoctoral Career Transition Award to Promote Diversity (K99/R00) FOA

PAR-18-814 (Independent Clinical Trial Not Allowed)
PAR-18-813 (Independent Clinical Trial Required)

– National Eye Institute (NEI)
– National Institute on Aging (NIA)
– National Institute on Alcohol Abuse and Alcoholism (NIAAA)
– National Institute of Biomedical Imaging and Bioengineering (NIBIB)
– Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)
– National Institute on Deafness and Other Communication Disorders (NIDCD)
– National Institute on Drug Abuse (NIDA)
– National Institute of Mental Health (NIMH)
– National Institute of Neurological Disorders and Stroke (NINDS)
– National Center for Complementary and Integrative Health (NCCIH)
– Office of Research on Women's Health (ORWH)
What is The BRAIN Initiative?

• Ten year effort to accelerate development and use of tools to improve our fundamental understanding of how the human brain and nervous system function in health and disease
• Long term goal: A comprehensive understanding of the brain in action, spanning molecules, cells, circuits, systems, and behavior
• Seven high priority research areas were outlined in BRAIN 2025
• New working group will assess BRAIN’s progress and identify key opportunities to apply new and emerging tools to revolutionize our understanding of brain circuits
BRAIN Diversity K99/R00 Objective

• Support the transition of talented, underrepresented post-doctoral scholars to tenure-track or equivalent positions to launch independent research careers that support the goals of the BRAIN Initiative.

• Attracting new investigators to neuroscience from the quantitative and physical disciplines, and vice versa;

• And promoting collaboration between these disciplines.

• A priority for the BRAIN Initiative is a diversity of approaches, tools, and people
The BRAIN Initiative®
Advanced Postdoctoral Career Transition Award to Promote Diversity (K99/R00)

Postdoctoral fellow
- Less than 5 years experience
- Requires at least 12 months of training

Eligible individuals
- Individuals from underrepresented racial and ethnic groups (NOT-OD-18-129)
- Individuals with disabilities
- Women

BRAIN Initiative research
- Must be relevant to the scientific goals of the BRAIN 2025 Report, in areas including but not limited to: engineering, computer science, statistics, mathematics, physics, chemistry, and neuroethics

U.S. citizen or permanent resident by time of award

U.S. domestic institution
K99/R00 Dual-Phase Funding

- 1-2 years mentored postdoctoral research training and career development
- Up to 3 years of independent research support in an independent, tenure-track (or equivalent) faculty position
- Transition is not automatic. The applicant will submit an R00 application to be administratively reviewed by NIH
- To activate the R00 phase, the applicant must have been offered and accepted a tenure-track, full-time assistant professor position (or equivalent) by the end of the K99 project period
The BRAIN Initiative®
Advanced Postdoctoral Career Transition Award to Promote Diversity (K99/R00)

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<td>• Apply during postdoc,</td>
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<td>transition to faculty</td>
<td>• Salary consistent with institutional salary structure</td>
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<td>• Research support up to $25,000</td>
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<td>• Up to $5,000 for meeting participation</td>
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Expected Outcomes/Indicators of Success

• Increase the pool and retention of women, minorities, and persons with disabilities who are highly productive junior faculty conducting BRAIN Initiative research (both neuroscientists and non-neuroscientists)

• Creates a programmatic infrastructure for yearly NIH review of the evidence of career development support, mentoring, and transition plans for diverse scholars at competitive research institutions

• *The BRAIN Initiative Investigators* meeting will provide a forum for peer-mentoring among the BRAIN Initiative Diversity K99/R00 awardees

• Indicators of success for BRAIN Initiative Diversity K99 awardees include:
  – first-authored, peer-reviewed publications in quality journals
  – transition to a tenure-track faculty position with an appropriate start-up package, necessary resources and supportive environment
  – subsequently applying for R01s
Diversity is not a problem. It's the solution.

NINDS, Office of Programs to Enhance Workforce Diversity

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From Potential to Action: NINDS Trainees Navigate Diverse Paths to Success

LinkedIn: https://www.linkedin.com/in/nindsdiversity

https://www.ninds.nih.gov/About-NINDS/Workforce-Diversity/Success-Stories