



Research and Entrepreneurial Development Immersion

REDI K01: Mentored Entrepreneurial
Career Development

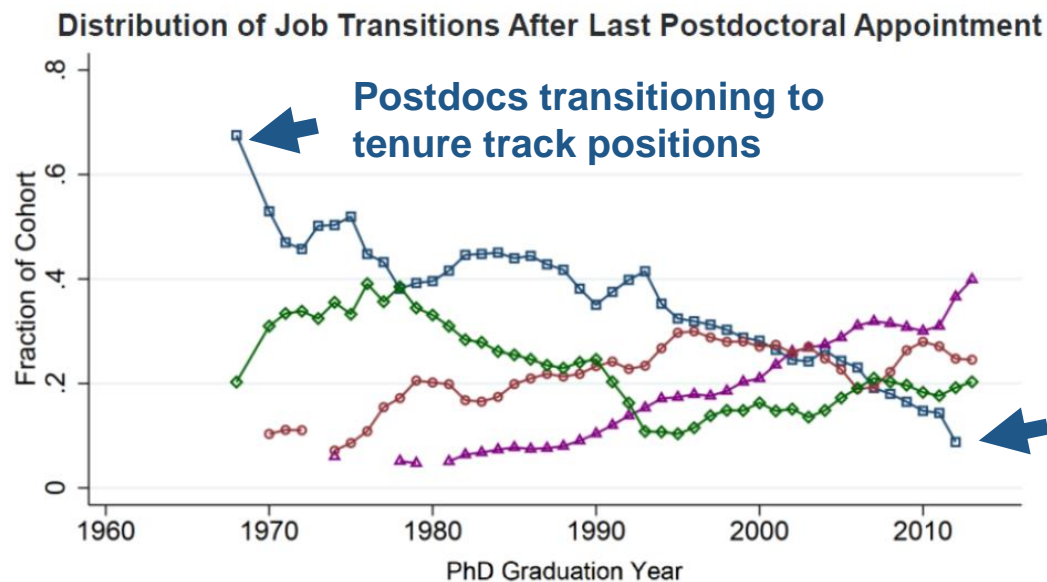
REDI R25: Entrepreneurship
Enhancement Award

Joshua Hooks, PhD

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National Institutes of Health



A faculty job is an “alternative career path”



Current PhD/postdoctoral training programs remain ***limited in scope*** in terms of training.

(Cheng et al, 2023)

Source: <https://www.ascb.org/wp-content/uploads/2014/04/Slide1.jpg>



NIH is aware of these issues

NIH Biomedical Research Workforce Working Group made a number of recommendations. Among them:

1

Better align training

Align training with the current job market

2

Supplement training grants

Create programs to supplement training grants to provide additional training opportunities


3

Leverage SBIR/STTR

Encourage SBIR/STTR awardees to provide internships to trainees



Various programs have been established



PURDUE UNIVERSITY | Weldon School of Biomedical Engineering

BIOMEDICAL ENTREPRENEURSHIP AND INNOVATION



PATENTS 2 PRODUCTS

DEEP SCIENCE ENTREPRENEUR POST-DOC FELLOWSHIPS



bpep BERKELEY POSTDOCTORAL ENTREPRENEUR PROGRAM



MIT IMPACT program



National Institutes of Health
Office of Extramural Research
SHIFT PROGRAM



I-CORPS at NIH

I-Corps at NIH Entrepreneurship Program

8 Weeks with I-Corps at NIH by SBIR funded NERX BioSciences




Carnegie Mellon University
Swartz Center for Entrepreneurship

Education & Resources | Get Involved | Success Stories | Events

Innovation Fellows Program



NATIONAL CANCER INSTITUTE
SBIR Development Center
Small Business Transition Grant



Los Alamos NATIONAL LABORATORY

UC/Los Alamos Entrepreneurial Postdoctoral Fellowship Pilot Program



NIH Blueprint
for Neuroscience Research
Research Education Program on Translational Devices



BEST



MOFFITT CANCER CENTER
INNOVATION FELLOWSHIP

What makes a good program?

One size
doesn't fit all!



Immersive experiences/internships are very useful



Trainees at different stages have different needs



Wide, encompassing training programs are required for the variety of career options

NIA Research and Entrepreneurial Development Immersion (REDI) Umbrella

Broad Definition of “Entrepreneurship”

REDI focus areas: Develop specialized skills for career success



Bio-Entrepreneurship



Intellectual Property



Science Communications,
Policy, and Education



Regulatory Affairs



Drug Discovery, Approval,
and Production



Consulting



Research and Entrepreneurial Development Immersion

Individual
Awards

Institutional
Awards

Novel SB
Awards



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The REDI umbrella



FOA	Due Dates	Budget Limits
<p><u>PAR-22-227</u> (REDI: Mentored Entrepreneurial Career Development Award; K01 clinical trial not allowed)</p>	<p>Application: October 18, 2023 Letter of Intent: N/A</p>	<p>\$90,000/year in salary; \$50,000/year in other program-related expenses</p>



The REDI umbrella



FOA	Due Dates	Budget Limits
<u>PAR-22-227</u> (REDI: Mentored Entrepreneurial Career Development Award; K01 clinical trial not allowed)	Application: October 18, 2023 Letter of Intent: N/A	\$90,000/year in salary; \$50,000/year in other program-related expenses
<u>PAR-22-226</u> (REDI: Entrepreneurship Enhancement Award; R25 clinical trial not allowed)	Application: October 18, 2023 Letter of Intent: 30 days prior	\$250,000/year in direct costs



REDI K01

PURPOSE

Provide protected time (3-5 Years) for a supervised career development experience leading to research independence. Entrepreneurship training, in a field relevant to NIA mission, is a major focus.

REQUISITES

Two Mentors: a Research Mentor & an Entrepreneurial Mentor. Internships, shadowing opportunity and externships are encouraged. Applicants encouraged to spend time with a startup, local biotech company, foundation, life science investment firm or relevant organization. SBIR/STTR grant writing can be considered as part of training.

ELIGIBILITY

Postdoctoral scholars (at least 2 years minimum) and/or recently appointed junior faculty.

Can not have received a prior R01, P01, P50, or other major career grants (K01, K07, K08, K22, K23, K25, K76, K99/R00). Must be a citizen or a non-citizen national of the US or have been lawfully admitted for permanent residence by the time of the award. Individuals with (a) underrepresented racial and ethnic backgrounds and (b) disabilities are strongly encouraged.



REDI K01

- 3-5 Year Award
- \$90K in salary, \$50K in training costs (annually)
- Deadline: Oct 18, 2023

Review Criteria

CANDIDATE

Potential; appropriate prior training; commitment

CAREER DEV. PLAN

Plan's contribution to success; appropriate content, scope, phasing & duration

RESEARCH PLAN

Appropriate methods; relevance; scientific merit

MENTOR

Appropriate mentor and mentorship

ENVIRONMENT

Commitment; research facilities



Tips for the REDI K01

Two ways to use the REDI K01:

1. Gain non-academic skills to apply in your academic career
2. Launch your non-academic career

Be an entrepreneur in designing your own career path:

- How can you apply your PhD skills to an important, fulfilling career?
- What activities can launch your career path?

Integrate your research and career development activities and align them with your career goals.



REDI R25

PURPOSE

Promote the development of entrepreneurial education programs to broaden the skillset of graduate students & postdocs in the fields relevant to the mission of NIA.

REQUISITES

Courses and workshops with a broad scope: product development, commercialization, scientific communication, tech transfer, science policy, drug development, regulatory affairs, finance, marketing, business dev & research administration. Diversity Recruitment Plan is required.

ELIGIBILITY

Broad eligibility including universities, accelerators, for-profit and non-profit organizations

We encourage partnering with existing NIH-funded or other federally funded resources and programs, such as the NIH Proof of Concept Network, including NIH Centers for Accelerated Innovations (NCAI), NIH Research Evaluation and Commercialization Hubs (REACH) and NIGMS IDeA Regional Technology Transfer Accelerator Hubs, NSF-I-Corps, and NCATS Clinical and Translational Science Awards (CTSA).



REDI R25

This Funding Opportunity will support creative educational activities with a primary focus on:

- Research Experiences
- Courses for Skills Development
- Mentoring Activities
- Curriculum or Methods Development

- Intended target of graduate students and postdocs but research programs can be offered to faculty and undergraduates as appropriate.
- Applicants are encouraged to propose collaborations involving both scientific and business departments as well as to consider collaborations with affiliated and/or local institutions as appropriate



REDI R25

□ Up to 5 Year Award □ \$250K direct costs (annually) □ Due: Oct 18, 2023 (LOI: Sept 18, 2023)

Review Criteria

SIGNIFICANCE

Does the program provide opportunities to mentees for a career in entrepreneurship?

INVESTIGATOR

Will the personnel expertise increase participants' entrepreneurial skillset?

INNOVATION

Is the program innovative and reaching targeted audience?

APPROACH

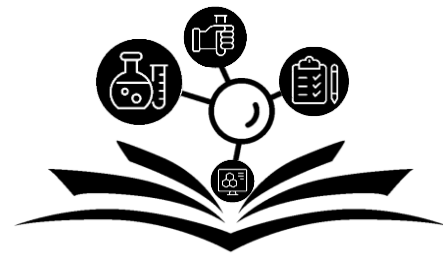
Does the program clearly state its goals? Are the evaluation plans appropriate?

ENVIRONMENT

Will the scientific and education environment of program contribute to the goals?



Tips for the REDI R25



Make it clear that the program aligns with NIA's mission

- Include topics and unique considerations related to aging and/or AD/RD
- Bring in experts on topics such as age-tech, dementia, Medicare, etc

Know your audience

- Is this program primarily aimed at graduate students and/or postdocs?
- How much time will participants have to dedicate to the program?
- How much experience will participants have coming into your program?

Be clear on your program goals:

- Have clear, measurable, program outcomes.
- How are you determining "success"?

Ensure your program is accessible for students of all backgrounds!



Questions and Next Steps

Have specific questions about your potential REDI application? Reach out via email or set-up a 1-on-1 meeting to discuss in more detail



[Book a 20-minute meeting](#)

Joshua Hooks, PhD
joshua.hooks@nih.gov



Guest REDI Awardees

Dr. Brianna Stubbs

REDI K01 Awardee



Dr. Julie Coleman

REDI R25 Awardee



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REDI K01 Examples

- Developing skills to translate AD-related neurobiology into novel drug development
 - Pursuing certifications on regulatory affairs
- Research into digital biomarker development and pain interventions
 - Attending workshops on health care delivery systems
- Researching and developing therapeutic formulations of novel compounds
 - Attending biotech/investor conferences
 - Working with international startups

