On the path to a research career: NIH funding and career opportunities

Marsha F Lopez, PhD, MHS
National Institute on Drug Abuse
OBJECTIVES

• How did I get here?
• Overview of NIH, NIDA - what we are and what we do
• Early/Mid career funding opportunities and Resources
• NIDA Activities and Priority areas
What a long strange trip it’s been…

1. College
2. Pharmacology
3. NIDA IRTA
4. Walter Reed
5. UMD
6. JHSPH
7. NIDA
NIH Structure and Function

- Component of the U.S. Department of Health and Human Services
- Comprised of 27 Institutes and Centers
- *Science in pursuit of fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to extend healthy life and reduce the burdens of illness and disability*
The NIH Research Program

Institutes and Centers

• Divisions
• Branches
• Programs

Where to find a guide?
Getting to know NIH staff

**Scientific Review Officer**: an extramural staff scientist and the federal official responsible for ensuring that applications receive an objective and fair initial peer review.

**Program Official**: extramural staff scientist responsible for developing research initiatives and for the programmatic, scientific, and/or technical aspects of assigned applications and grants.
What do you talk about with program staff?

- Funding Mechanisms
- Program Priorities
- Grant Process
- Application Procedure
- Review Process / Committees
- New Initiatives-
  - RFAs,
  - PAs
Career Development & Funding Opportunities

**GRADUATE/MEDICAL STUDENT**
- T32 - Postdoctoral Institutional Training Grant
- F31 - Predoctoral Individual NRSA
- F30 - Predoctoral Individual MD/PhD NRSA

**EARLY**
- F32 - Predoctoral Individual NRSA
- K08 - Mentored Clinical Scientist Development Award

**MIDDLE**
- K01 - Mentored Research Scientist Development Award
- K23 - Mentored Patient-Oriented Research Award

**SENIOR**
- K24 - Midcareer Investigator Award in Patient Oriented Research
- K02 - Independent Scientist Award

**POST DOCTORAL**
- K99/R00 - NIH Pathway to Independence Award
- F32 - Postdoctoral Individual NRSA
- T32 - Predoctoral Institutional Training Grant
- K01 - Mentored Research Scientist Development Award
- K08 - Mentored Clinical Scientist Development Award
- K23 - Mentored Patient-Oriented Research Award
- K24 - Midcareer Investigator Award in Patient Oriented Research
- K02 - Independent Scientist Award

**Career Development & Funding Opportunities**
- R01 - Research Project Grant
- R21 - Exploratory & Development Grant
- R03 - Small Grant
- DP2 - NIH Director’s New Innovator Award
- Loan Repayment Program (LRP)
- DP5 - NIH Director’s Early Independence Award
Purpose of Research Training and Career Development Awards

- **Predoctoral and Postdoctoral Fellowships**: To provide funding for individualized training experiences for promising pre/post docs
- **Mentored Career Development Awards**: To provide support and protected time to continue training and conduct research to support the transition to an independent research career
- **Salaried Career Development Awards**: To provide established investigators with salary support for conducting drug abuse research and making a commitment to training junior investigators
Predoctoral and Postdoctoral Training
National Research Service Award Predoctoral Fellowships

- Individual Predoctoral Fellowship (F31)
- Individual Predoctoral Fellowship for MD/PhD Students (F30)
- Institutional Training Grants (T32)

FEATURES
Duration - up to 5 yrs (F31), 6 yrs (F30)
Mentor - Yes
Stipend - $22,920
Tuition, Fees, Health Insurance
Eligibility - U.S. Citizen or Naturalized Resident
Dissertation Research Awards

- **R36 Mechanism**
- **Used by some, not all ICs** (e.g. NIDA, NIMH, NIA)

**FEATURES**
- **Duration** – Up to 2 years
- **Mentor** – No
- **Support** – $15,000 to 50,000 (varies by IC)
- **Renew** – No
- **Eligibility** – U.S. Citizen or Naturalized Resident
National Research Service Award Postdoctoral Fellowships

- Individual Postdoctoral Fellowship (F32)
- Institutional Training Grants (T32)

**FEATURES**
- Duration – up to 3 years
- Mentor – Yes
- Stipend – $42,840 up to $56,376
- Renew – No
- Eligibility – U.S. Citizen or Naturalized Resident
Career Development Training
Intention of K Mechanism: Ideal K Candidates

• Pursuing a new research area that warrants additional supervised research experience; or in need of substantial augmentation of current skills
• In need of three, four or five years of mentored support
• Can devote a minimum of 75% of full-time professional effort
• Plan to pursue NIH R01
Mentored Career Development Awards (K Awards)

- Mentored Research Scientist Development (K01)
- Mentored Clinical Scientist Development (K08)
- Mentored Patient-Oriented Research Career Development (K23)
- Mentored Quantitative Research Development (K25)

**FEATURES**
- Duration: 3, 4, or 5 years
- Mentor: Yes
- Salary: Up to $90,000
- Res. Costs: Up to $50,000
- Renew: No
- Eligibility: U.S. Citizen or Non-citizen Nationals, Permanent Resident (EXCEPT for K99); Doctoral level Degree; Full-time faculty or other research appt (EXCEPT for K99)
NIH Pathway to Independence Award K99/R00

- Up to 5 years of support in 2 phases:
  - 1-2 yrs mentored support for highly promising postdocs
  - 3 yrs independent support contingent on securing independent position

- Mentored phase: $90K salary/ $50K research support per yr
- Independent phase: up to $249K per yr

- Eligibility: no more than 4 yrs post doc training; not held an independent (R01, R03, R21) or K award
Tips for Research Training and Career Development Applicants

- Unlike R applications, RT & mentored CDA grant applications must contain a detailed training plan.
- Unlike R applications, RT & CDA grants must submit a plan for ongoing training in the responsible conduct of research.
- Mentorship is essential to the training process—mentors must be chosen carefully.
- CDA applicants should discuss plans for mentorship and/or training of junior scientists in their field.
Other Exceptional Opportunities

• Early Postgraduate
  – DP5: NIH Director’s Early Independence Award
  – For exceptional junior scientists to accelerate entry into an independent career
  – RFA-RM-13-009

• Early Independent Investigator
  – DP2: NIH Director's New Innovator Award Program
  – For exceptionally creative NI proposing highly innovative research
  – Also NIDA Avenir: HIV/AIDS with substance abuse OR gen/epigen of addiction
More Mechanisms (1)

- Small Grant – (R03, $50,000/yr, 2 years)
- Exploratory/Developmental Grant (R21, 2-year max of $275,000)
- B-START – Behavioral Science Track Award for Rapid Transition (R03, 1-year max of $50,000)
- I-START – Imaging Science Track Award for Research Transition (R03, $150,000/yr, 1 year)
- ECHEM- Early Career Award in Chemistry of Drug Abuse and Addiction (R21, $250,000 per yr, 1-2 years/ R33, $250,000 per yr, up to 3 years)
More Mechanisms (2)

- NIDA Avenir Award Program for research on Genetics/Epigenetics OR HIV/AIDS (DP2, $300,000 per yr for up to 5 years)
- Lasker Clinical Research Scholars Program (Si2/R00, 5-7 years Intramural/3 years extramural research, up to $499,000)
- Diversity Supplement
NIH Loan Repayment (LRP)

- NIH will repay up to $35,000/year of qualified educational debt for those spending at least 50% effort in:
  - Clinical, Pediatric or Health Disparities related research
- Individuals from underrepresented backgrounds conducting clinical research are encouraged to apply
- Eligibility
  - Doctoral-level degree
  - Government or domestic nonprofit research funding
  - Student loan debt must be at least 20% of annual salary
  - U.S. citizens or permanent residents
Which Mechanism Is Right for you?

- Stage of research career
- What are your research needs
  - do you need additional training?
  - do you need funding to conduct your dissertation research?

Talk with NIDA staff, they can help match your needs to the right funding mechanism.
Where do I begin?

*Have realistic expectations- the grants process is lengthy and requires persistence*

- **Office of Extramural Research Website:** [http://grants.nih.gov/grants/oer.htm](http://grants.nih.gov/grants/oer.htm)
- **Center for Scientific Review Website:** [http://cms.csr.nih.gov/](http://cms.csr.nih.gov/)
Pre-Submission Planning Timeline

**PLANNING PHASE**

- Months before receipt date:
  - 8: Explore NIH RePORTER
  - 7: Assess yourself, your field, and your resources
  - 6: Brainstorm; research your idea; call NIH program staff
  - 5: Set up your own review committee; determine human and animal subject requirements

**WRITING PHASE**

- 4: First outline your application’s structure; then write your applicatic
- 3: Get feedback; edit and proofread
- 2: Meet institutional deadlines
- 1: Receipt date
A Few Basic Definitions

• **FOA: Funding Opportunity Announcement**
  – Mechanism for a Federal agency to make known its intentions to award discretionary grants or cooperative agreements, usually by competitive review.

• **PA: Program Announcement (e.g., R, K)**
  – Identifies areas of increased priority and/or emphasis on particular funding mechanisms. Generally active for 3 years.
    • **PAR:** A PA with special *receipt, referral and/or review* considerations
    • **PAS:** A PA that includes specific *set-aside funds*

• **RFA: Request for Applications**
  – Identifies a more narrowly defined area; has set aside funds.
  – Often has single receipt date.
Search the NIDA Web-site

HTTP://WWW.NIDA.NIH.GOV/FUNDING/
Search the NIH Guide

Office of Extramural Research home page: http://grants.nih.gov/grants/oer.htm

Select Funding Opportunities in the NIH Guide for Grants and Contracts
A concept paper describes your research plans concisely. It’s a tool to facilitate productive discussion with an NIH Program Official.

**Study Goals**
You want support to do what?

**Problem/Significance**
Why does this topic need study?

**Research Question**
What hypotheses will you test?

**Design/Analysis**
What study design and statistical approach do you propose?

**Team**
Who will be the key participants and collaborators?
• If you are interested in applying...

• If you have questions...

Consult with NIDA staff and mentors every step of the way
Resources

Application Information
• http://grants1.nih.gov/grants/forms.htm

NRSA
• http://grants.nih.gov/training/nrsa.htm
• http://grants.nih.gov/training/F_files_nrsa.htm

Career Awards
• http://grants.nih.gov/training/careerdevelopmentawards.htm

Diversity Supplements
• http://grants.nih.gov/grants/guide/pa-files/PA-12-149.html

Loan Repayment
• http://www.lrp.nih.gov

NIDA Training Information (including Update Notices)
• http://www.nida.nih.gov/researchtraining/traininghome.html
Guidelines for Trainees at the National Institutes of Health

NIH handbook for Postdoctoral Fellows (Office of Education, Office of the Director, NIH)

K Kiosk
- http://grants.nih.gov/training/careerdevelopmentawards.htm

Guidelines for Annual Review of Trainees

Guidelines for Mentors at the National institutes of Health
Resources

AMMC compact
• http://www.aamc.org/research/postdoccompact/
Designed to communicate:
Institutional Commitment
Quality Postdoctoral Training
Importance of Mentoring in Postdoctoral Training
Foster Breadth and Flexibility in Career Choices

National Postdoc Association
• http://www.nationalpostdoc.org/careers/career-planning-resources
NIDA Activities and Priority Areas
NIDA International Program Mission

Research
- Grants
- Supplements
- NIH Partnerships
- Binational Agreements

Training
- Fellowships
- Virtual Seminars

Exchange
- Web site
- E-News
- Meetings
- Visitors

drugabuse.gov/international
NIDA International Research Priorities

- HIV/AIDS
  - Linkages between HIV/AIDS and drug abuse

- Nicotine and tobacco use
  - Prevention, initiation, and treatment
  - Vulnerable populations
    - Children and adolescents
    - Pregnant women
    - People with comorbid disorders

- Marijuana and cannabinoids
  - Neuroscience
  - Effect of changes in laws and policies on marijuana and its impact
Explore Alternative Funding Sources

- NIH Fogarty International Center
- Substance Abuse and Mental Health Services Administration (SAMHSA)
- U.S. Department of Defense/Veterans Administration (VA)
- U.S. Department of State
- United States Agency for International Development (USAID)
- Institute of Peace
- United Nations Office on Drugs and Crime (UNODC)
- Foundations
NIDA INVEST Postdoctoral Fellowships

5 Fellowship Programs
- INVEST Drug Abuse Research Fellowship
- INVEST/Clinical Trials Network (CTN) Drug Abuse Research Fellowship
- NIDA-ANRS Drug Abuse and HIV Research Fellowship
- U.S. – Mexico Drug Abuse Prevention Research Fellowship
- NIDA – Inserm Drug Abuse Research Fellowship for U.S. and French Scientists

The 12-month fellowships provide:
- Rigorous postdoctoral research training with a NIDA grantee at a U.S. institution
- Professional development activities
- $42,000US stipend
- $6,000US allowance for health insurance and professional development activities
- Round-trip airfare

Application Deadlines: April 1
drugabuse.gov/international/fellowships-landing
Priority Areas

Prevention Research

Children & Adolescents
genetics/epigenetics
development
environment
co-morbidity

Treatment Interventions

(New Targets & New Strategies)

HIV and Drugs

Prevention
Treatment
Opioid Initiative: HHS Actions to Address Opioid-Drug Related Overdoses and Death

• Announced March 26, 2015
• Initiative focuses on three priority areas:
  1. Improving opioid prescribing practices
     a. Improve clinical decision-making; reduce inappropriate prescribing
     b. Enhance prescription monitoring (PDMPs)
     c. Support data sharing to facilitate appropriate prescribing
  2. Expanded use of Naloxone
     a. Accelerate development of new naloxone formulations
     b. Disseminate best practice for naloxone distribution
     c. Expand utilization of naloxone
  3. Expanded use of MAT
     a. Support research on effective use and dissemination of MAT
     b. Increase access to clinically effective MAT strategies
A few NIDA FOAs

Identification of Genetic and Genomic Variants by Next-Gen Sequencing in Non-human Animal Models (U01) PAR-15-120
Issued: February 13, 2015; Open date: May 30, 2015; 1st Application Due Date: June 30, 2015.

Issued: February 5, 2015; Open date: May 5, 2015 (R01); May 16, 2015 (R03) & (R21)

Advancing Exceptional Research on HIV/AIDS and Substance Abuse (R01) RFA-DA-16-001.
Open date: June 30, 2015; Application Due Date: July 31, 2015.

Tobacco Regulatory Science Small Grant Program for New Investigators (R03) RFA-OD-15-004
Open date: July 20, 2015; Application Due Date: August 20, 2015.
FY 2016 AIDS Budget Priorities
NIH Office of AIDS Research

**Prevention Research:** prevent transmission and acquisition of HIV, including basic research on HIV that will underpin development of vaccines, microbicides, and other biomedical prevention strategies, including use of HART as prevention.

**Treatment:** research to develop and assess therapies that are more effective in suppressing viral replication; less toxic; longer acting; have fewer side effects and more likely to achieve eradication of infection. Address gender, race/ethnicity, age, nutritional status, genetics, and history of violence and trauma that may influence treatment success or failure.

**Research Toward a Cure:** potential for a cure or lifelong remission of HIV, including studies on viral persistence, latency, reactivation, and eradication.

**Co-Infections, Co-Morbidities and Complications:** research on tx and prevention of HIV-related co-infections, malignancies, neurological, cardiovascular, metabolic complications.

**Behavioral and Social Science Research:** factors that fuel or mitigate HIV epidemics; stigma; adherence to tx or prevention strategies.

**Preparing a Diverse and Talented Biomedical Research Workforce:** next generation of AIDS researchers around the world.
Status of Medical Marijuana Laws in the United States
Marijuana initiatives

**PAS-14-020 Public Health Impact of the Changing Policy/Legal Environment for Marijuana (R01)**

- Population-based research on social, behavioral, and health outcomes of marijuana involvement to help inform the public health impact of the changing marijuana environment epidemiology, prevention and treatment of marijuana and other substance use or disorders, related social and health outcomes such as education and professional achievement, other risky behaviors (e.g. drugged driving) and other disease incidence or prevalence (e.g., HIV, mental illness)

- R01 projects limited to 3 years
Adolescent Brain Cognitive Development
National Longitudinal Study
NIDA, NIAAA, NCI, NICHD, NINDS, NIMH, NIMHD, OBSSR, ORWH

Ten year longitudinal study of 10,000 children from age 10 to 20 years to assess effects of drugs on individual brain development trajectories
Thank you for your attention!

Questions?

marsha.lopez@nih.gov