

# NIH Common Fund High-Risk, High-Reward Program: Funding Opportunities for “Outside-the-box” ideas

## 2021 Northeast Regional IDeA States Conference

Ravi Basavappa, Ph.D.

Program Leader, High-Risk High-Reward Research Program

Office of Strategic Coordination in the Office of the Director

National Institutes of Health

August 16, 2021



National Institutes of Health

*Office of Strategic Coordination - The Common Fund*

# What is the NIH Common Fund?



The Common Fund

- Supports a set of trans-NIH scientific programs
- “Venture capital” space for endeavors with potential for very broad impact
- Short-term (5-10 year), goal-driven programs focused on developing specific deliverables (data, tools, technologies, etc.) to catalyze research
- Managed by the Office of Strategic Coordination within the Division of Program Coordination, Planning, and Strategic Initiatives in the NIH Office of the Director, in partnership with the NIH Institutes and Centers.



**Common Fund programs are intended to benefit the entire biomedical/behavioral research community**

# The Common Fund (in the NIH Office of the Director)

## Current Programs:



The Common Fund

### Data/Tools/Methods

- Bridge to Artificial Intelligence (Bridge2AI)
- Cellular Senescence Network (SenNet)
- Gabriella Miller Kids First
- Genotype-Tissue Expression (GTEx)
- Glycoscience
- Human BioMolecular Atlas Program (HuBMAP)
- Illuminating the Druggable Genome (IDG)
- Knockout Mouse Phenotyping (KOMP)
- Metabolomics
- Protein Capture Reagents
- Library of Integrated Network-Based Cellular Signatures (LINCS)
- Science of Behavior Change (SOBS)
- Somatic Cell Genome Editing (SCGE)
- Stimulating Peripheral Activity to Relieve Conditions (SPARC)
- Transformative High Resolution Cryo-Electron Microscopy (CryoEM)

### New Paradigms

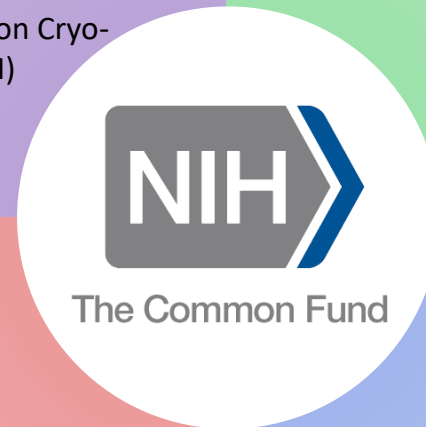
- 4D Nucleome (4DN)
- Extracellular RNA Communication (exRNA)
- Molecular Transducers of Physical Activity Consortium (MoTrPAC)

### New Types of Clinical Partnerships

- Acute to Chronic Pain Signatures (A2CPS)
- Global Health
- Harnessing Data Science for Health Discovery and Innovation in Africa (DS-I Africa)
- HCS Research Collaboratory
- Nutrition for Precision Health, powered by the All of Us Research program
- Undiagnosed Diseases Network (UDN)

### Transformative Workforce Support

- Enhancing the Diversity of the NIH-Funded Workforce (DPC/BUILD)
- Faculty Institutional Recruitment for Sustainable Transformation (FIRST)
- High-Risk, High-Reward Research Program
  - Pioneer Award
  - New Innovator Award
  - Transformative Research Award
  - Early Independence Award
- Transformative Research to Address Health Disparities and Advance Health Equity



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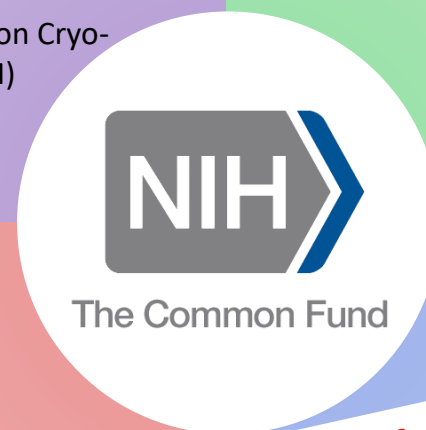
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### Transformative Workforce Support

- Diversity of the NIH-Funded Workforce (DPC/BUILD)
- Recruitment for Sustainable Transformation
- Research Program
- Career Award
- New Innovator Award
- Transformative Research Award
- Early Independence Award
- Transformative Research to Address Health Disparities and Advance Health Equity

**CF programs may be useful for your research:  
FOAs, access to high-end instruments, databases,  
reagents, protocols, ....**

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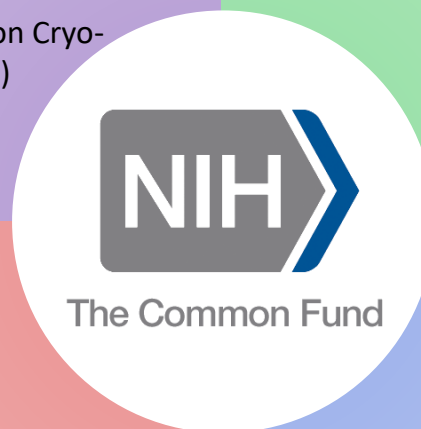
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- Enhancing the Diversity of the NIH-Funded Workforce (DPC/BUILD)
- Faculty Institutional Recruitment for Sustainable Transformation (FIRST)
- **High-Risk, High-Reward Research Program**
  - **Pioneer Award**
  - **New Innovator Award**
  - **Transformative Research Award**
  - **Early Independence Award**
- Transformative Research to Address Health Disparities and Advance Health Equity



# High-Risk, High-Reward Research Program



The Common Fund

## Chair

**James M. Anderson, MD, PhD**  
OD

## Program Leader

**Ravi Basavappa, PhD**  
OSC/DPCPSI/OD

## Members

**Kristin Abraham, PhD**  
NIDDK

**Hugh Auchincloss, MD**  
NIAID

**David Balshaw, PhD**  
NIEHS

**Abraham P. Bautista, PhD**  
NIAAA

**Eugene Carstea, PhD**  
CSR

**Robert H Carter, MD**  
NIAMS

**Makyba Charles-Ayinde, PhD**  
OSC/DPCPSI/OD

**Jennifer Collins, MR**  
NIEHS

**Christine Colvis, PhD**  
NCATS

**Milton Corn, MD, FACP,  
FACMI**  
NLM

**Emmeline Edwards, PhD**  
NCCIH

**Zeynep Erim, PhD**  
NIBIB

**Rene Etcheberrigaray, MD**  
NIA

**Lia Fleming, MPH**  
CSR

**Valerie Florance, PhD**  
NLM

**Nancy Freeman, PhD**  
NIDCR

**Gabriel Hidalgo**  
NIDCR

**Christine Hunter, PhD, ABPP**  
OBSSR/DPCPSI/OD

**Raymond Jacobson, PhD**  
CSR

**Flora Katz, PhD**  
FIC

**Anthony Kirilusha, PhD**  
NIAMS

**Susan Koester, PhD**  
NIMH

**James Li, PhD**  
CSR

**Roger Little, PhD**  
NIDA

**James Mack, PhD**  
CSR

**Judy A. Mietz, PhD**  
NCI

**Becky Miller, PhD**  
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**Brett Miller, PhD**  
NICHD

**Daniel Miller, PhD**  
NINDS

**David Miller, PhD**  
NCI

**Michael Morse**  
OSC/DPCPSI/OD

**Ellie Murcia, MEd**  
OSC/DPCPSI/OD

**Imoh Okon, PhD**  
CSR

**Steven Pittenger**  
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**Srikanth Ranganathan, PhD**  
CSR

**Diana (Dede) Rutberg, MBA**  
NIDCR

**Suzanne Ryan, PhD**  
CSR

**John Satterlee, PhD**  
NIDA

**Carol Shreffler, PhD**  
NIEHS

**Lillian Shum, PhD**  
NIDCR

**Darren Sledjeski, PhD**  
NIGMS

**Heidi J. Sofia, PhD**  
NHGRI

**Barbara Sorkin**  
ODS/DPCPSI/OD

**Michael A. Steinmetz, PhD**  
NEI

**Nathaniel Stinson, Jr., PhD,  
MD**  
NIMHD

**Edmund Talley, PhD**  
NINDS

**Stephanie Johnson Webb,  
PhD**  
NHLBI

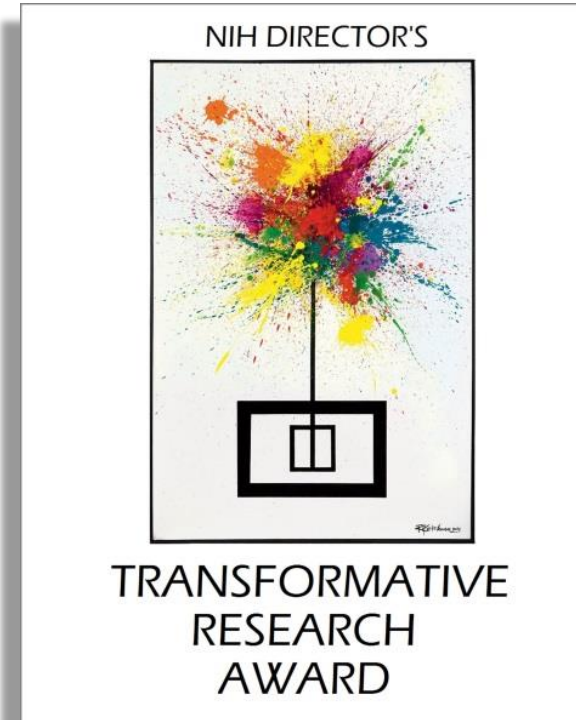
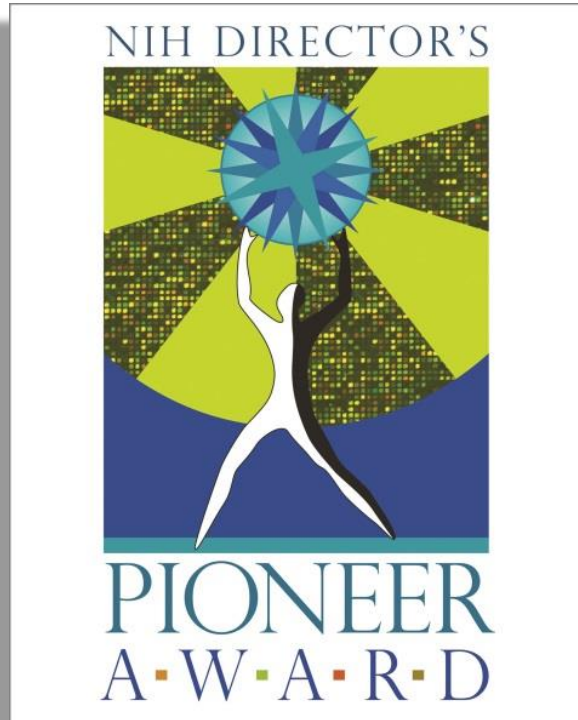
**Tasmeen Weik, DrPH, MPH**  
CSR

**Elizabeth L. Wilder, PhD**  
OSC/DPCPSI/OD

# High-Risk, High-Reward Research Program



The Common Fund

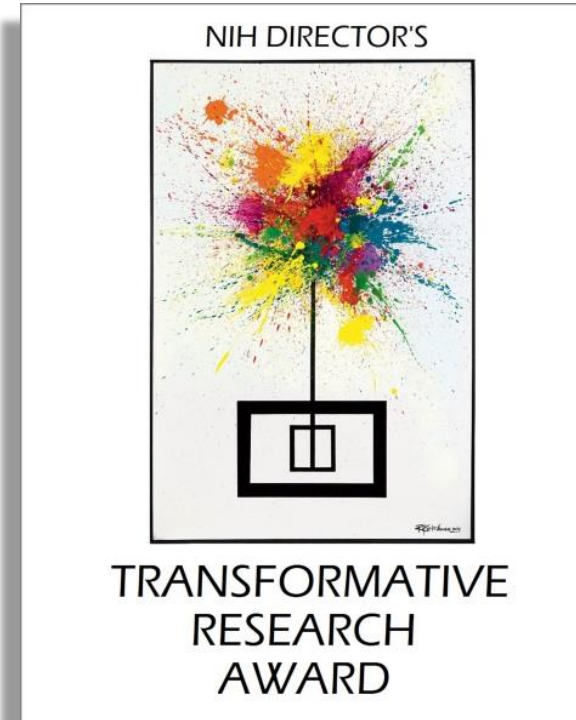
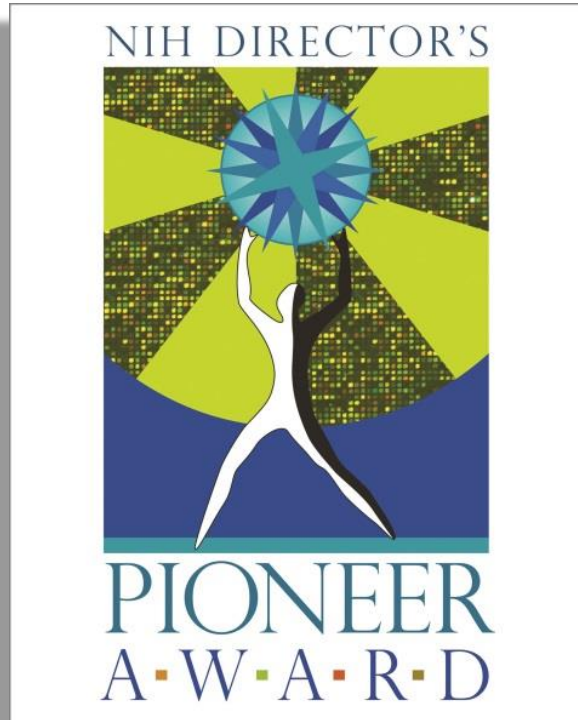


High-risk, high-impact ideas

# High-Risk, High-Reward Research Program



The Common Fund



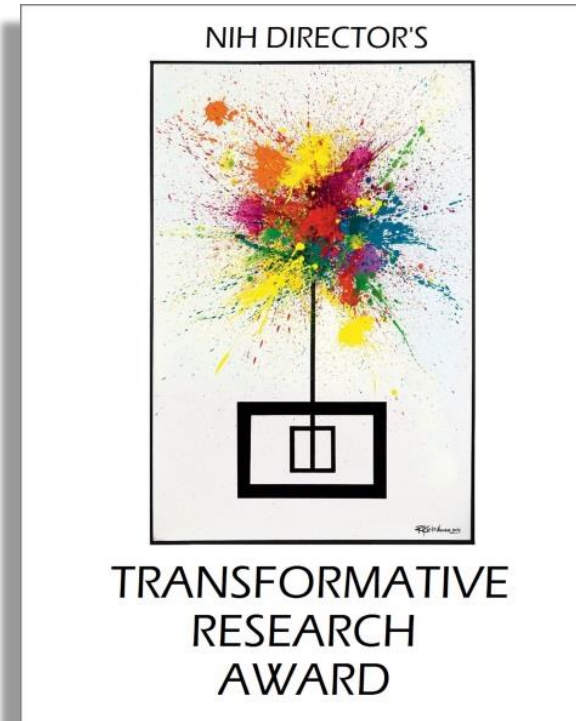
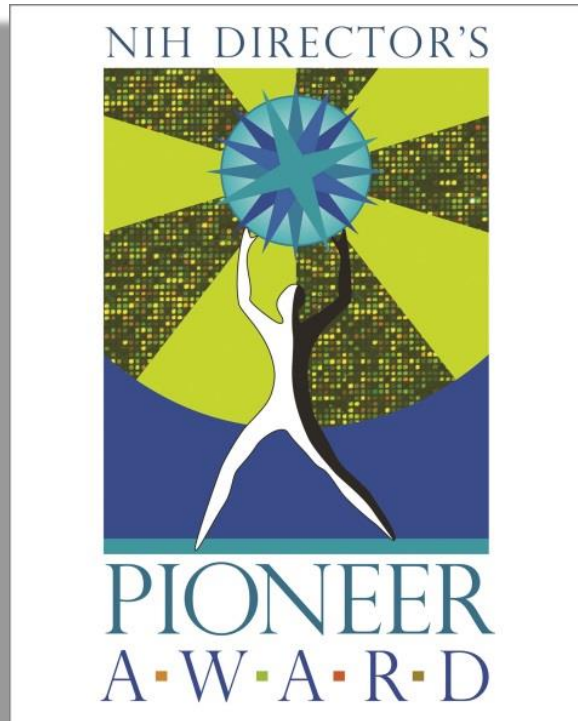
No preliminary data or detailed experimental plan required (really)



# High-Risk, High-Reward Research Program



The Common Fund

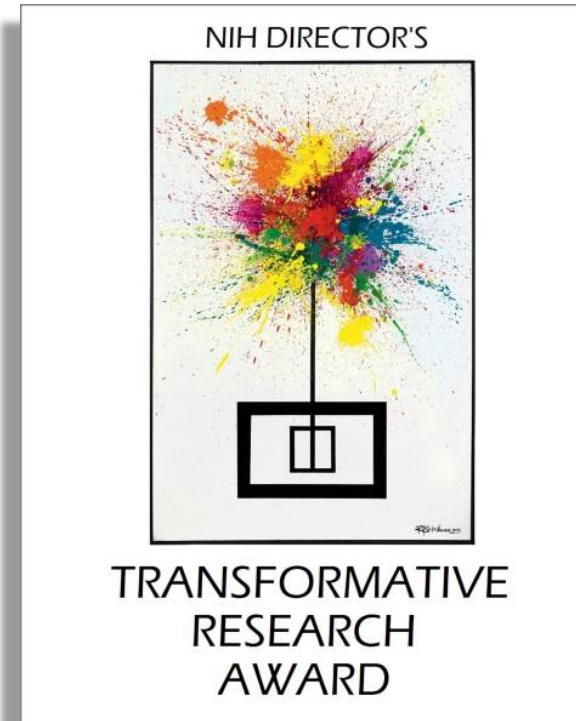
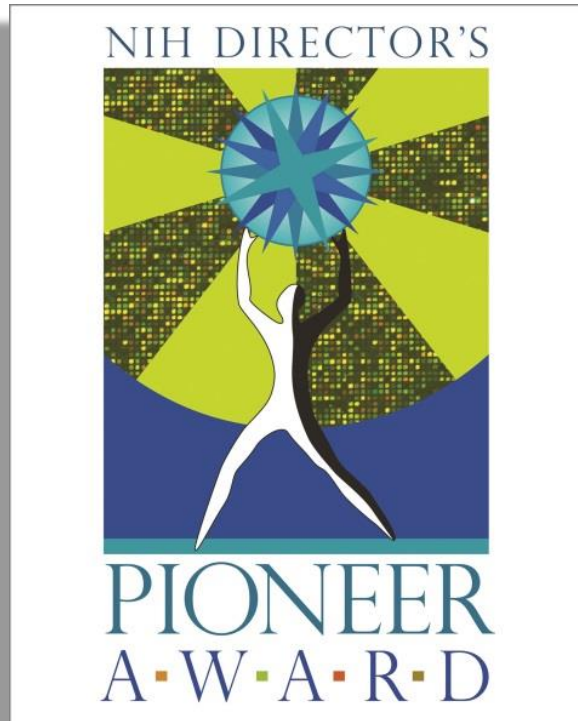


Any topic relevant to NIH mission

# High-Risk, High-Reward Research Program



The Common Fund



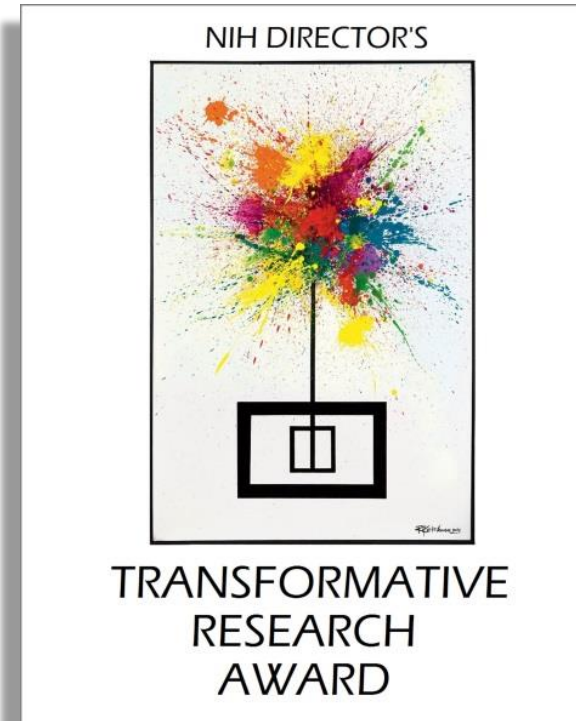
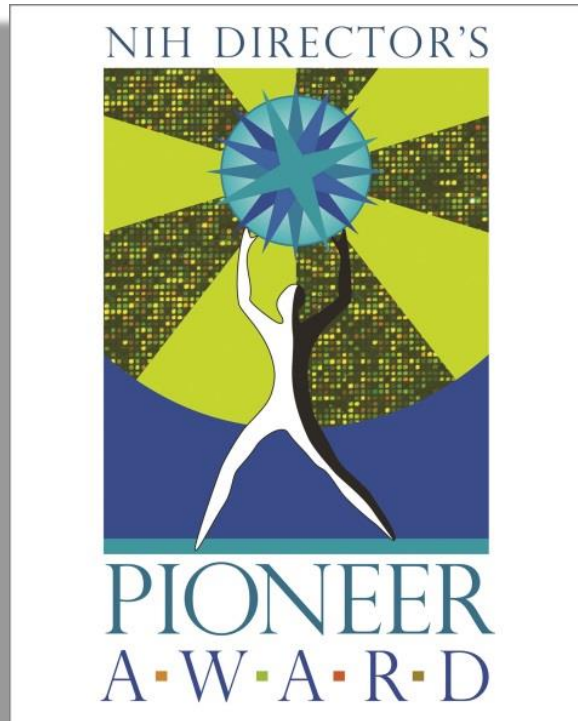
## Any topic relevant to NIH mission

(including, for example, behavioral, biomedical, social science, engineering, computational, basic, applied, clinical, ...)

# High-Risk, High-Reward Research Program



The Common Fund

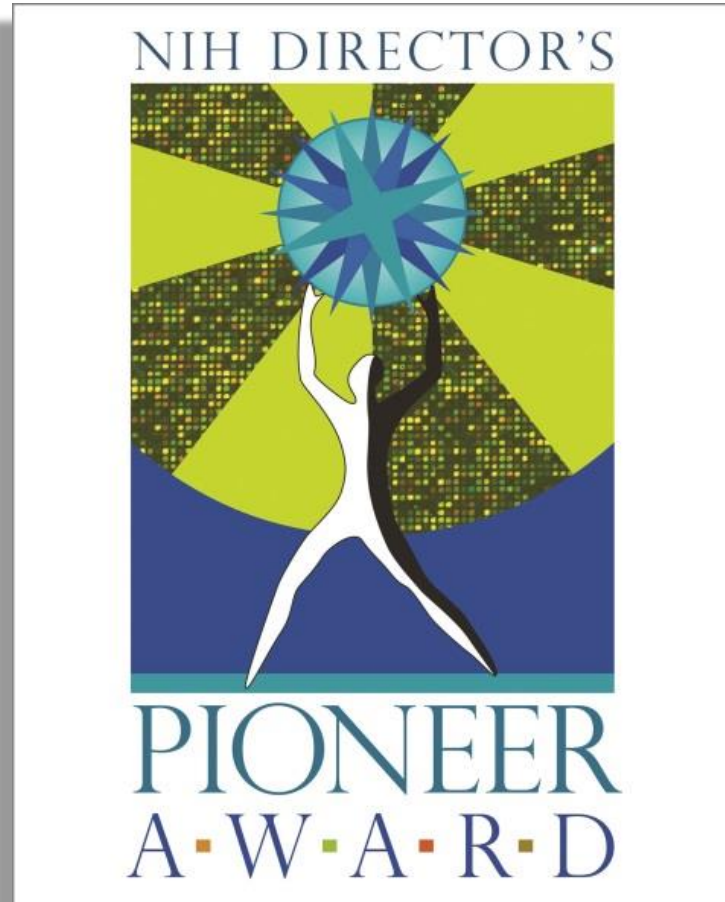


Encourages applications from all eligible applicants and from all eligible institutions

# High-Risk, High-Reward Research Program (Pioneer Award)



*The Common Fund*



Supports individual scientists with outstanding records of creativity proposing bold, impactful ideas

- Started in 2004
- Open to all career stages (most applicants are established)
- Single PI applications only
- Must be a new research direction
- Commit major portion of research effort (more than 51%\*)
- Awards of \$700,000 direct cost (+F&A) per year for 5 years
- Five-page essay – no conventional Research Strategy section
- Two-phase review process, including interviews in second phase
- Heavy focus on qualities of investigator (person-based award)
- 4-5% success rate

# Example of Pioneer Award Supported Research



The Common Fund

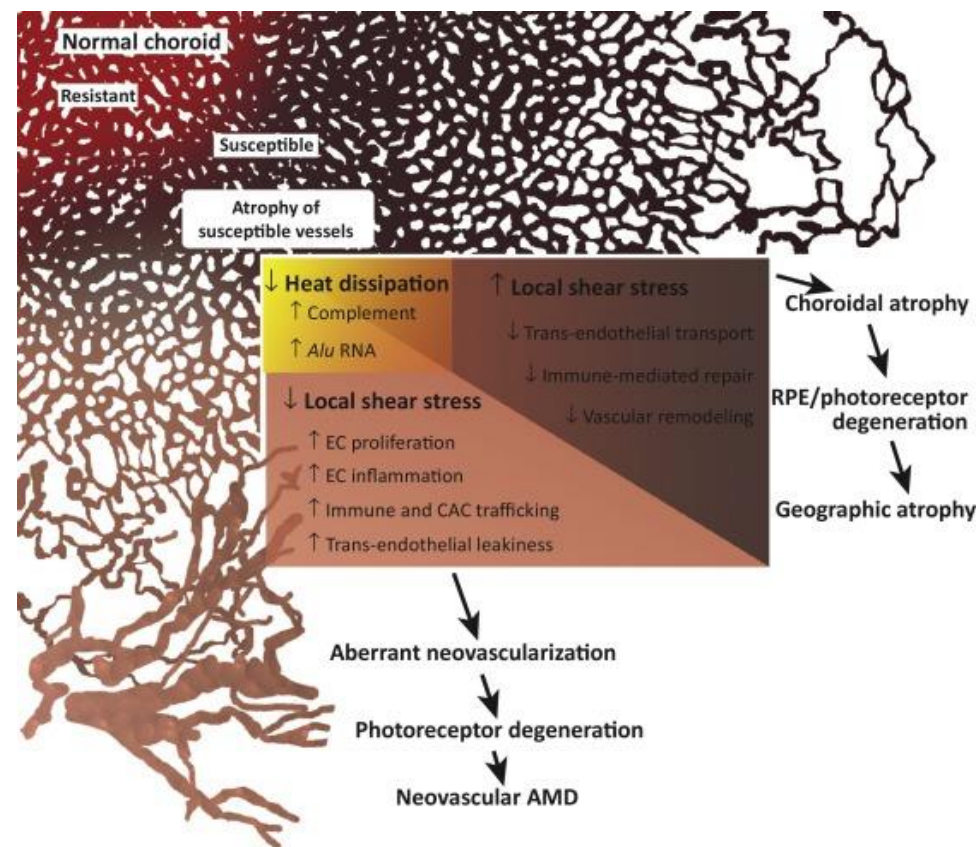


**Jayakrishna Ambati, M.D.**

University of Kentucky (at time of award)

Pioneer Award, 2014

*“Form and Function of Our Janus Faced Genome”*



Trends Mol Med, 2016

**A New Theory of Age-Related Macular Degeneration**

# High-Risk, High-Reward Research Program (New Innovator Award)



The Common Fund



Supports exceptionally creative early career investigators proposing innovative, high-impact research

- Started in 2007
- **Early Stage Investigator** (no substantial NIH grant as PI and within 10 years of doctoral degree or clinical training)
- Single PI applications only
- \$1.5M for a five-year project period
- Commit 25% research effort
- 10-page essay instead of Research Strategy section
- Two-phase review process
- 8-10% success rate

# Example of New Innovator Award supported research



The Common Fund

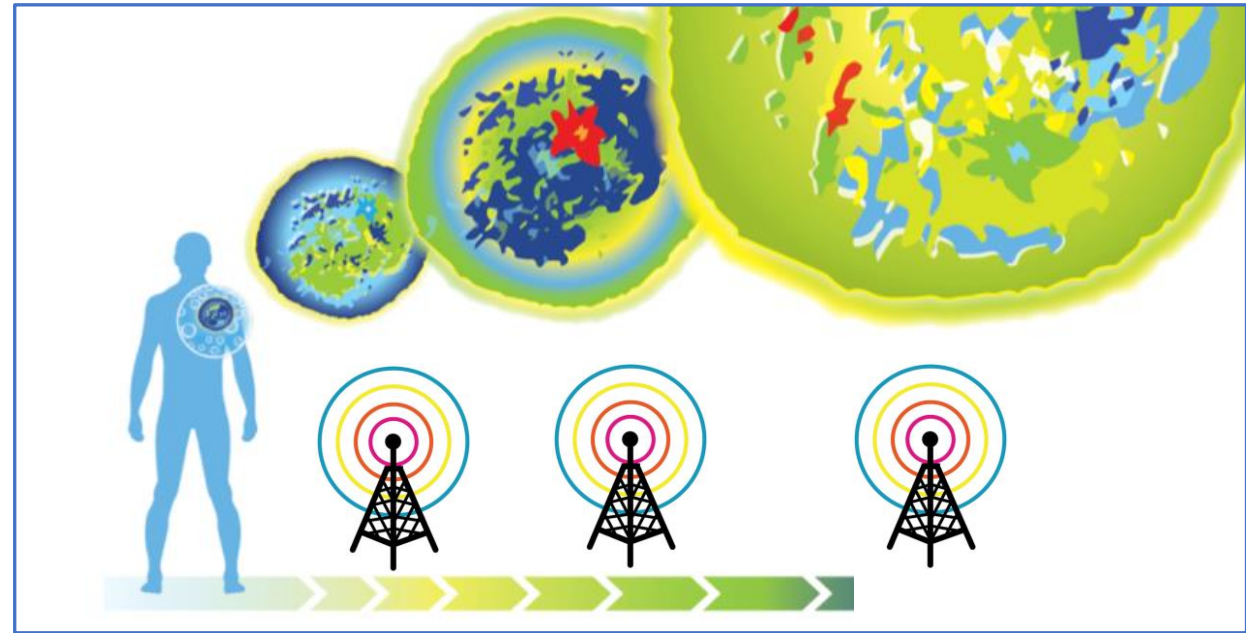


**Angela Pannier, Ph.D.**

University of Nebraska - Lincoln

New Innovator Award, 2017

*“Using Cell Priming and Telecommunications Modeling to Enhance Gene Delivery for Stem Cell Therapies”*

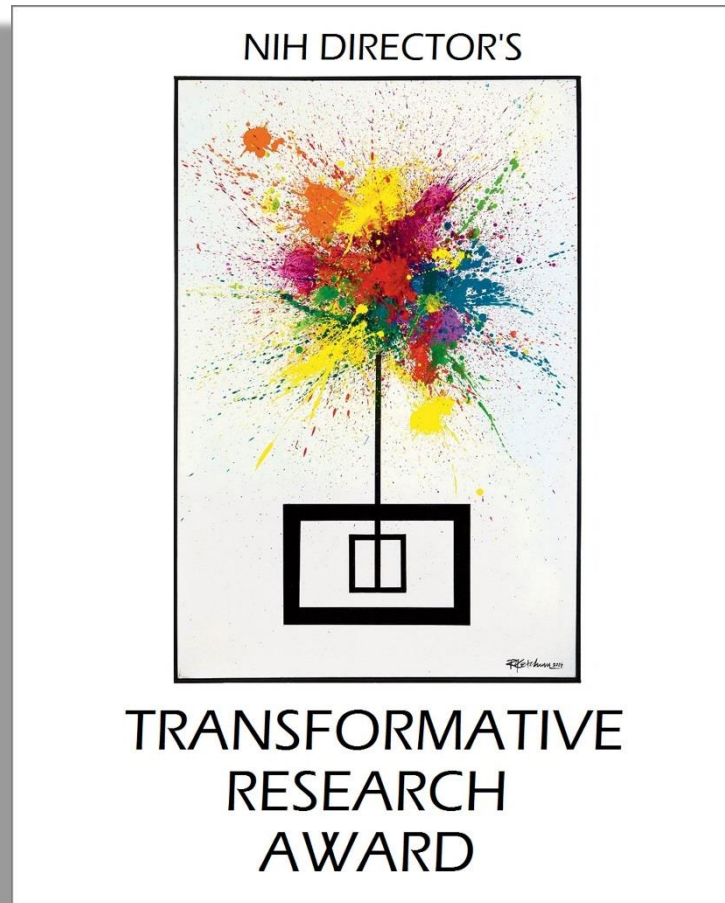


**Novel approaches to improve gene delivery to stem cells**

# High-Risk, High-Reward Research Program (Transformative Research Award)



The Common Fund



Supports exceptionally innovative or unconventional research projects with the potential to create or overturn fundamental paradigms

- Started in 2009
- Open to individuals or teams at all career stages
- Flexible budget requests
- No prior approval required for large budget requests
- Three-phase review process
- **Piloting anonymized review**
- 4 – 5% success rate



# Example of Transformative Research Award supported research



The Common Fund

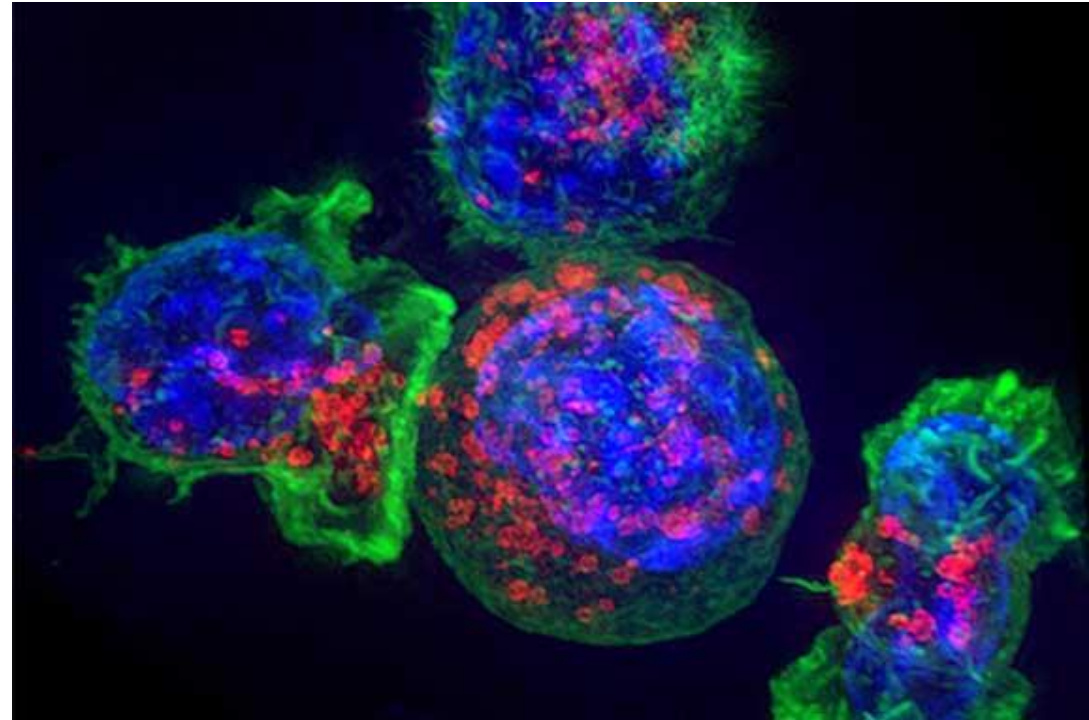


**Augusto Ochoa, M.D.**

Louisiana State University Health Sciences Center

Transformative Research Award, 2013

*"Metabolic Approaches to Treat Severe Viral and Inflammatory Diseases"*



**New understanding of how immune system is suppressed at sites of tumors or chronic inflammation**

# High-Risk, High-Reward Research Program (Early Independence Award)



The Common Fund



Enables outstanding early career scientists to move rapidly into independent research positions by **skipping the traditional postdoc**

- Started in 2011
- Complete terminal research degree or clinical training within past 15 months or finish within following 12 months of application submission
- Single PI applications only
- In non-independent position at time of application
- 80% independent research effort (toward EIA first 2 yrs.)
- Awards up to \$250,000 per year for 5 years
- Limit of two applications per institution

# Example of Early Independence Award supported research



The Common Fund



**Brandon Dekosky, Ph.D.**

University of Kansas

Early Independence Award, 2016

*“Comprehensive analysis of human adaptive immune receptors to elucidate correlates of Epstein-Barr virus disease suppression”*



**Novel, high-throughput immune profiling to reveal B-cell and T-cell correlates of effective Epstein –Barr virus control**

# Annual HRHR Research Symposium



The Common Fund

The screenshot shows the NIH Common Fund website. At the top left is the NIH logo and the text "National Institutes of Health Office of Strategic Coordination - The Common Fund". A search bar labeled "Search Common Fund" is at the top right. Below the header is a navigation menu with "Common Fund Programs", "Common Fund Research Funding", "News & Media", "Common Fund Highlights", and "About Common Fund". A red banner for "COVID-19" contains links to CDC, NIH research information, and NIH staff guidance. The main content area features a "High-Risk, High-Reward Research" section with a "Save-the-Date!" announcement for the annual HRHR Symposium on June 8-10, 2022. Below the announcement are four award logos: Pioneer Award, New Innovator Award, Transformative Research Award, and Early Independence Award. A sidebar on the left lists "NIH Director's Awards" (Pioneer, New Innovator, TRA, EIA), "For the Public" (Health Relevance, Funded Research), and "For Researchers" (Funding Opportunities, Program Overview, Award Decision Tool). The bottom of the page has the text "High-Risk, High-Reward Research Program" and "Funding opportunities for outstanding scientists at all career stages".

- Brings together current HRHR awardees to share their groundbreaking research with each other and with the NIH community
- Remarkable diversity of highly innovative science presented by some of the most creative scientists in the country.
- Links to agendas (and sometime videocasts) of previous symposia on our website
- Next symposium will be held **June 8 - 10, 2022** in Bethesda.

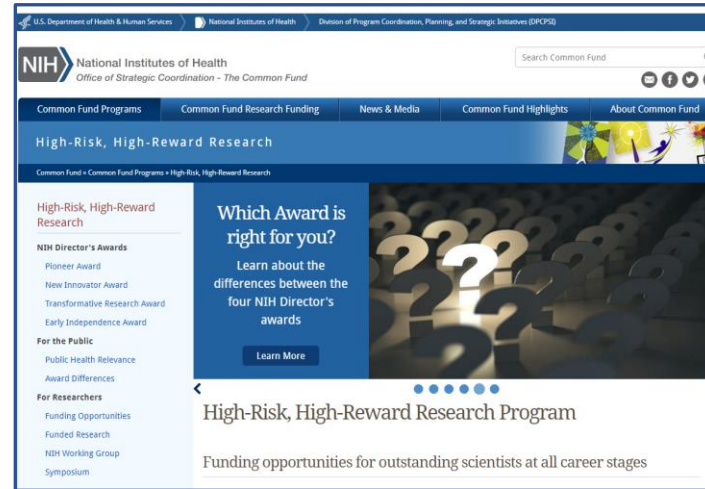
# Our HRHR website contains a lot information!



The Common Fund



[commonfund.nih.gov/earlyindependence](https://commonfund.nih.gov/earlyindependence)



[commonfund.nih.gov/highrisk](https://commonfund.nih.gov/highrisk)



[commonfund.nih.gov/newinnovator](https://commonfund.nih.gov/newinnovator)



[commonfund.nih.gov/pioneer](https://commonfund.nih.gov/pioneer)

- Information about initiative
- FAQs
- Links to webinars
- Links to FOAs
- Scientific highlights
- Brief awardee bios
- Awarded research



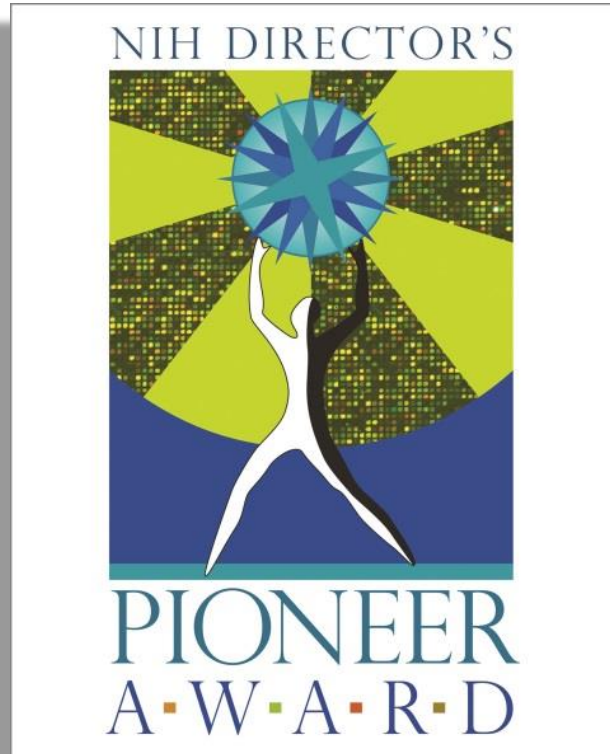
[commonfund.nih.gov/tra](https://commonfund.nih.gov/tra)

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# Do you have any wild and crazy ideas?



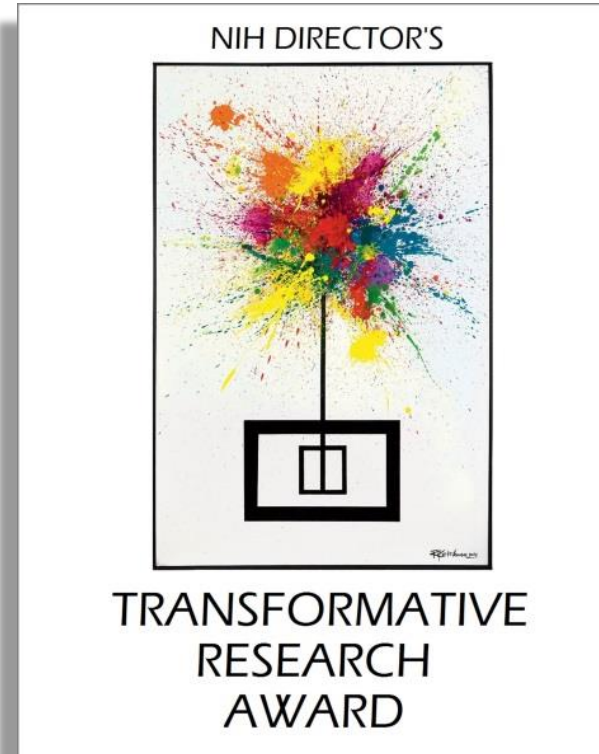
The Common Fund



RFA RM21-015  
September 20, 2021



RFA RM21-016  
August 20, 2021



RFA RM21-017  
September 1, 2021



RFA RM21-018  
September 3, 2021

**FOAs typically are published in April/May; receipt dates typically are in August/September.**

# HRHR program seeks to tap into the best research ideas in the nation.



*The Common Fund*

- Applications are sought which reflect the full diversity of the research workforce.
- Individuals from diverse backgrounds and from the full spectrum of eligible institutions in all geographic locations are strongly encouraged to apply to the Funding Opportunity Announcements.
- Applications in all topics relevant to the broad mission of NIH are welcome, including, but not limited to, topics in the behavioral, social, biomedical, applied, and formal sciences and topics that may involve basic, translational, or clinical research.

# Contact us if you have questions



*The Common Fund*

[PioneerAwards@mail.nih.gov](mailto:PioneerAwards@mail.nih.gov)

[NewInnovatorAwards@mail.nih.gov](mailto:NewInnovatorAwards@mail.nih.gov)

[Transformative\\_Awards@mail.nih.gov](mailto:Transformative_Awards@mail.nih.gov)

[EarlyIndependence@od.nih.gov](mailto:EarlyIndependence@od.nih.gov)

(Addresses also available through our website)