



Center for
Scientific Review

CSR Review of The NIH Common Fund HRHR Research Award Programs

CSR Advisory Council
September 24, 2018

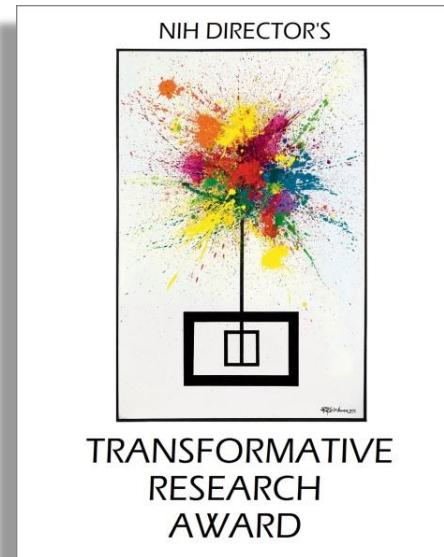
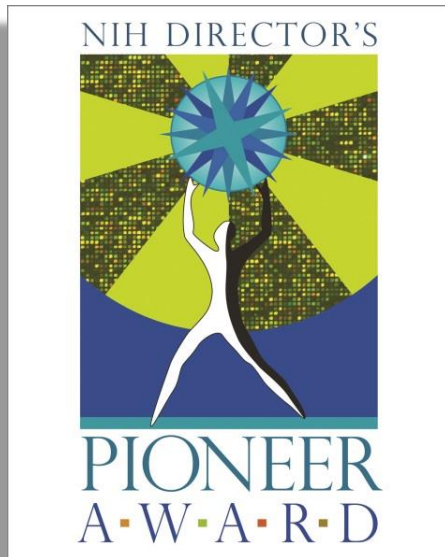
Ray Jacobson

Chief, Biological Chemistry and Macromolecular
Biophysics IRG

The NIH Common Fund

- Common Fund programs provide a strategic approach to tackle major roadblocks in biomedical research and advance scientific discovery with extraordinary rapidity. The application of these discoveries leads to improvements in the public's health.
- The NIH Common Fund is managed by the Office of Strategic Coordination, an office in the of the Division of Program Coordination, Planning, and Strategic Initiatives (DPCPSI) within the Office of the NIH Director.
- A significant portion of the Common Fund is dedicated to the **NIH Director's High Risk-High Reward Awards Programs**. These programs identify and support scientists with ideas that have high impact potential that may be otherwise overlooked by traditional funding mechanisms because they are too novel, span too diverse a range of scientific disciplines, or are at too early stage of development.
- Peer review of grant applications submitted to the **NIH Director's High Risk-High Reward Awards Programs** as well as other Common Fund Programs is carried out by the Center for Scientific Review

NIH Common Fund High-Risk, High-Reward Research Programs



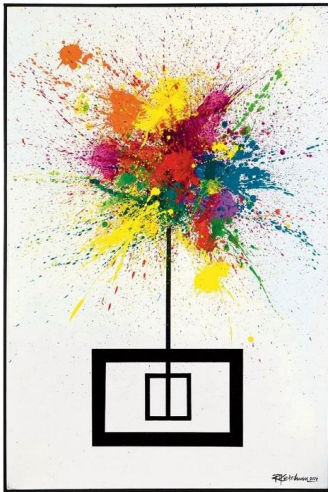
The High-Risk, High-Reward Research program supports **exceptionally creative scientists** pursuing **highly innovative research with the potential for broad impact** in biomedical or behavioral science. The program's four constituent NIH Director's awards provide a diverse set of funding opportunities.

commonfund.nih.gov/highrisk

	Pioneer Award	New Innovator Award	Transformative Research Award	Early Independence Award
Target Group	Individuals with exceptional creativity proposing pioneering approaches	Individual early stage investigators of exceptional creativity proposing research with uncommonly high impact potential	Individuals or teams proposing transformative research that may require very large budgets	Outstanding junior scientists wishing to "skip the postdoc" and immediately begin independent research
Career Stage	Open to all career stages	NIH New Investigator Status only (No R01 or equivalent)	Open to all career stages	Junior investigators: +15/-12 months from terminal degree and not currently holding an independent position
Preliminary Data	Not required; may be included	Not required; may be included	Not required; may be included	Not required; may be included
Research Strategy	5-page limit	10-page limit	12-page limit	12-page limit
Budget	\$700,000 per year for each of 5 years, plus indirect costs	Awards of \$1.5 million disbursed in the first year of the 5-year project period, plus indirect costs	No limit 5 year project period	Awards up to \$250,000 per year for 5 years, plus indirect costs
Review Format	Editorial Board, interview of finalists	Editorial board	Editorial board	Editorial board, interview of finalists

NIH Director's Transformative Research Award

NIH DIRECTOR'S



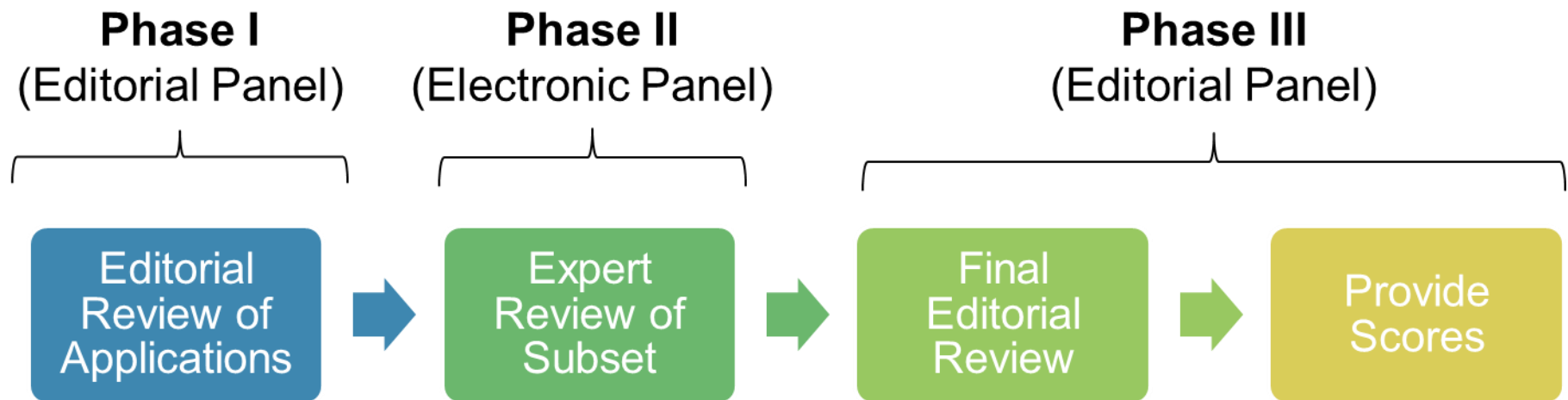
TRANSFORMATIVE
RESEARCH
AWARD

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

- Open to individuals or teams at all career stages
- No preliminary data required
- No limit on budget requests
- No prior approval required for large budget requests

[RFA-RM-18-009](#)

Transformative Research Award Review Process



Phase I: Editorial Review of Applications

Phase I (Editorial Panel)

Editorial
Review of
Applications

Time Frame: late October to mid-December
Number of Applications: 100 - 200

- The editorial panel is made up of 12-14 high-level, senior scientists drawn from diverse scientific areas that broadly cover the NIH research portfolio
- Each editor looks at 50-60 randomly assigned applications during Phase I and places them in bins reflecting the editor's assessment of the potential transformative impact
- Each application is viewed by 4 editors
- Top scoring subset of applications plus any selected for rescue by any of the editors advance to Phase II

Phase II: Editorial Review of Applications

Phase II (Electronic Panel)

Expert
Review of
Subset

Time Frame: January to February

Number of Applications: 70-80

- The applications selected by the editors during Phase I are distributed to the Integrated Review Groups that cover the area of science contained within each application
- 3 reviewers with content based expertise are recruited by Scientific Review Officers in the various IRGs to provide written critiques for the selected applications
- Mail reviews include only written comments addressing significance and transformative impact, qualifications of the investigators, the level of innovation, the approach and the research environment. No scores are provided.
- Completed mail reviews are provided to the editors for Phase III by the end of February

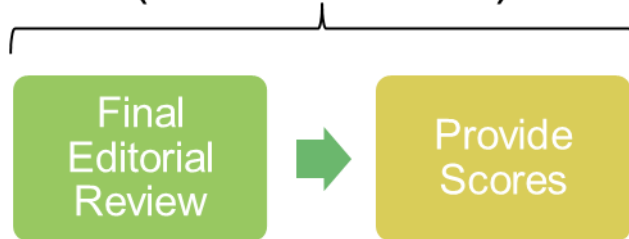
Phase III: Final Editorial Review and Scoring

Time Frame: March - April

Number of Applications: 70-80

Phase III

(Editorial Panel)



- Each editor is randomly assigned 25-30 applications and is provided the corresponding mail reviews from Phase II
- 4 editors look at each application and provide preliminary Overall Impact scores taking into account both their own assessment and the mail critiques
- The top half of the applications from the Phase II set, plus any selected for rescue are brought up for discussion at a 1 day meeting of the editors that takes place in early April
- Editors discuss each application and vote to score the applications

2017 Transformative Research Awards

PI Name	Institution Name	Title
ANDREWS, ANNE MILASINCIC	UNIVERSITY OF CALIFORNIA LOS ANGELES	<u>Micro- to Nanoscale Neurochemical Sensors</u>
BENNER, STEVEN A	FOUNDATION FOR APPLIED MOLECULAR EVOLUTN	<u>Transforming Life Sciences: Artificial Life</u>
BOYDEN, EDWARD S	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	<u>High-Performance Imaging through Scattering Living Tissue</u>
CHIU, DANIEL T (contact) VAUGHAN, JOSHUA	UNIVERSITY OF WASHINGTON	<u>Spatially Resolved Transcriptomics Enabled by Ultrabright Pdot Probes for Interrogation of Complex Tissues</u>
DAVIDSON, KARINA W	COLUMBIA UNIVERSITY HEALTH SCIENCES	<u>Re-engineering Precision Therapeutics through N- of-1 Trials</u>
ELOWITZ, MICHAEL B (contact) CAI, LONG LOIS, CARLOS	CALIFORNIA INSTITUTE OF TECHNOLOGY	<u>MEMOIR: Recording, and In Situ Readout of Cell Lineage and Transcriptional History</u>
JOHNSTON, CHRISTOPHER D	FORSYTH INSTITUTE	<u>The SyngenicDNA and μPOET Platform: Overcoming Innate Barriers to Genetic Engineering in Bacteria</u>
MUCIDA, DANIEL S	ROCKEFELLER UNIVERSITY	<u>Functional Mapping of Enteric-Associated Neurons</u>