Q&A Webinar
June 29, 2020 @ 3 PM EDT

Please submit your questions in the “Q&A” box
(scientific inquiries will not be discussed)

NIH DIRECTOR’S
TRANSFORMATIVE RESEARCH AWARD

https://commonfund.nih.gov/tra
Panelists

Ravi Basavappa, Ph.D.
Program Leader
Office of the Director

Becky Miller, Ph.D.
Program Officer
Office of the Director

Ellie Murcia, M.Ed.
Program Specialist
Office of the Director

James Li, Ph.D.
Scientific Review Officer
Center for Scientific Review

Anthony Kirilusha, Ph.D.
Program Officer, National Institute of Arthritis and Musculoskeletal and Skin Diseases
Member, HRHR Working Group

Amelie Gubitz, Ph.D.
Program Officer, National Institute of Neurological Disorders and Stroke
Contact, ALS² Program
The Common Fund (in the NIH Office of the Director)

Current Programs:

Data/Tools/Methods
- Big Data to Knowledge (BD2K)
- Gabriella Miller Kids First
- Genotype-Tissue Expression (GTEx)
- Glycoscience
- Human BioMolecular Atlas Program (HuBMAP)
- Illuminating the Druggable Genome (IDG)
- Knockout Mouse Phenotyping (KOMP)
- Library of Integrated Network-Based Cellular Signatures (LINCS)
- Metabolomics
- Regenerative Medicine Program (RMP)
- 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
- HCS Research Collaboratory
- Undiagnosed Diseases Network (UDN)

Transformative Workforce Support
- Enhancing the Diversity of the NIH-Funded Workforce (DPC/BUILD)
- High-Risk, High-Reward Research Program
  - Pioneer Award
  - New Innovator Award
  - Transformative Research Award
  - Early Independence Award
- Strengthening the Biomedical Research Workforce (BEST)
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**CF programs may be useful for your research:**
- FOAs, access to high-end instruments, databases, reagents, protocols, ....

commonfund.nih.gov
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High-Risk, High-Reward Research Program

Annual funding opportunities
High-Risk, High-Reward Research Program

High-risk, high-impact ideas
No preliminary data or detailed experimental plan required
High-Risk, High-Reward Research Program

Any topic relevant to NIH mission
Any topic relevant to NIH mission, including:
behavioral, social, biomedical, applied, and formal sciences,
and basic, translational, or clinical research
High-Risk, High-Reward Research Program

Encourages applications from investigators with diverse backgrounds and from the full spectrum of eligible institutions
# High-Risk, High-Reward Research Program

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

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

**Members**
Kristin Abraham, PhD
NIDDK
Vernon Anderson, PhD
NIGMS
Hugh Auchincloss, MD
NIAID
David Balshaw, PhD
NIEHS
Abraham P. Bautista, PhD
NIAAA
Eugene Carstea, PhD
CSR
Robert H Carter, MD
NIAMS
Jennifer Collins, MR
NIEHS
Christine Colvis, PhD
NCATS
Judith A. Cooper, PhD
NIDCD
Milton Corn, MD, FACP, FACMI
NLM
Cindy D. Davis, PhD
Office of Dietary Supplements/DPCPSI/OD
Emmeline Edwards, PhD
NCI
Zeynep Erim, PhD
NIBIB
Rene Etcheberrigaray, MD
NIA
Valerie Florance, PhD
NLM
Gabriel Hidalgo
NIDCR
Christine Hunter, PhD, ABPP
OBSSR/DPCPSI/OD
Raymond Jacobson, PhD
CSR
Flora Katz, PhD
FIC
Karen Kellton
OSC/DPCPSI/OD
Anthony Kirilusha, PhD
NIAMS
Susan Koester, PhD
NIMH
Rajiv Kumar, PhD
CSR
James Li, PhD
CSR
Roger Little, PhD
NIDA
James Mack, PhD
CSR
Judy A. Mietz, PhD
NCI
Becky Miller, PhD
OSC/DPCPSI/OD
Brett Miller, PhD
NICHD
Daniel Miller, PhD
NINDS
Michael Morse
OSC/DPCPSI/OD
Ellie Murcia, MEd
OSC/DPCPSI/OD
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
NIDCR
Heidi J. Sofia, PhD
NHGRI
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
Transformative Research Award (TRA)

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
- No preliminary data required
- Flexible budgets
- No prior approval required for large budget requests
- Cannot be renewed
The Advisory Committee to the Director evaluated the HRHR program, issued report in June 2019 (https://www.acd.od.nih.gov/working-groups/hrhr.html)

- Found that the HRHR program is effective in supporting unusually innovative and impactful research
- Underrepresented groups overall not adversely affected by review process
- More fundamental concern is that underrepresented groups do not apply at rate that reflects their composition in the workforce
- Awards tend to go to a subset of institutions
- One recommendation is to pilot anonymized review
- Will be piloting anonymized review for TRA this year
## TRA Application

Uses R01 application, but in an unconventional way

<table>
<thead>
<tr>
<th>Specific Aims page</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Not used to list specific objectives of project as in standard R01 application</td>
</tr>
<tr>
<td>• Instead, used as a one-page distillation of project and why it is well-aligned with the spirit of the TRA initiative</td>
</tr>
<tr>
<td>• Two sections:</td>
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<tr>
<td>o Significance, Innovation, Impact</td>
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<tr>
<td>o Insight and rationale</td>
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<table>
<thead>
<tr>
<th>Research Strategy section</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Not used as in standard R01 application with substantial preliminary data and experimental details</td>
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<tr>
<td>• Instead, used to address items of programmatic importance to TRA</td>
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<tr>
<td>• Five sections:</td>
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<tr>
<td>o Overview of research project (set context for project)</td>
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<tr>
<td>o Approach (describe underlying logic and will ensure robustness and rigor)</td>
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<tr>
<td>o Innovation (explain why exceptionally innovative)</td>
</tr>
<tr>
<td>o Appropriateness for TRA (explain why HRHR and not traditional R01)</td>
</tr>
<tr>
<td>o Timeline (including critical decision points)</td>
</tr>
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</table>
TRA Research Strategy considerations

Points to consider:

• Given that not all reviewers will be topic experts, be sure that what you write can be easily appreciated by people well outside the field for exceptional innovation and potential for unusually broad impact.

• Begin with a description of the landscape of the field and current state-of-the-art or boundaries; provide proper context for proposal and why it is so innovative and potentially impactful.

• Ease the reader into the jargon of the field.

• Though no detailed experimental plan is required, make clear what it is that you want to do.

• Convince the reviewers that you have thought deeply about the project – identify risky aspects, how they will be mitigated, alternate approaches.

• Also, convince the reviewers that the research will be performed in a robust and rigorous manner – validate new approaches, provide estimates of numbers of human or animal subjects (if used) and why, include that sex will be considered as a biological variable (if appropriate).
For anonymized review, the **Specific Aims page** and the 12-page **Research Strategy section** must not contain the following:

- Names of any individuals or institutions
- Mention of any honors or awards
- Hyperlinks
- Reference to any investigator attributes or accomplishments, such as “as leaders in this field” or “we have shown”
- Citations that provide specific information about the source. Use numeric citations only, which refer to the corresponding source in the “Bibliography & References Cited” component of the application
- Any other text from which the identity of any participating individual or institution can be reasonably inferred

**Inclusion of any such information will result in application being administratively withdrawn.**

(Write other application components using standard SF424 instructions.)
TRA - three “flavors” this year

Standard (RFA RM20-013) – any topic of relevance to the NIH mission is welcome

COVID-19 – related (RFA RM20-020) – must be relevant to SARS-CoV-2 prevention, preparation, or response.
• Includes behavioral/social science research, research on health disparities, novel therapeutics, and any other related topics.
• As with standard TRA, innovation may be technical and/or conceptual, but must be at a very high level.

Amyotrophic lateral sclerosis (ALS)-related (NOSI RM20-019) – see next slides

All have the same receipt date (September 30, 2020) and all will use the anonymized review process with the same study section.
Companion program focused on Amyotrophic Lateral Sclerosis (ALS) to the NIH Director’s Transformative Research Award program

Seeks to spur innovative research on ALS, a progressive and fatal neurological disease that weakens and eventually paralyzes voluntary muscles

Notice of Special Interest (NOSI): Common Fund ALS-related Transformative Research Award (R01 Clinical Trial Optional)

Notice Number: NOT-RM-20-019
The following elements are encouraged:

- Adapt emerging tools and technologies from neuroscience, cell biology and other disciplines to identify what causes ALS and how the disease progresses, forming the basis for new potential therapeutic strategies.

- Attract new talent from a range of scientific disciplines, including cell biology, bioengineering, chemistry, biophysics, environmental health sciences, and computational science, and initiate new interdisciplinary collaborations.

- Examine biological similarities between ALS and motor neuron disease in other neurodegenerative disorders.
CSR Review Process for the NIH Director’s Transformative Research Awards

James Li, Ph.D.
Scientific Review Officer
NIH Center for Scientific Review
lijames@csr.nih.gov
Overall Transformative Research Award Review Process

Phase I
(Editorial Board)
- Board members review Specific Aims pages, select subset
- Board members have access only to Specific Aims

Phase II
(Topic Experts)
- Topic experts review Specific Aims and Research Strategy sections; provide comments
- Technical reviewers have access only to Specific Aim and Research Strategy sections

Phase IIIa/b
(Editorial Board)
- Board members select further subset to discuss and assigned members provide preliminary scores
- Board members have access only to Specific Aims and Research Strategy sections; as well as mail review critique

Discussion and Final Scores
- Board members have full access to all applications to be discussed; discuss 5 standard review criteria; also discuss HS, VA, CT, multi-PI plan. Budget

- Both Specific Aims page & Research Strategy section are anonymized
- Review phase I, II, IIIa (anonymized); phase IIIb (full access of application)
Phase I: Editorial Review of Applications

Timeline:
- NIH Admin Review (anonymization): early - mid October
- Phase I Review: late October to mid-December
- Number of Applications: 150 - 200

The editorial board review panel is composed of 16-20 high-level, senior scientists with collective expertise spanning from diverse scientific areas that broadly cover the NIH research portfolio.

Each editor reviews ~ 50 randomly assigned applications based on anonymized Specific Aims page during Phase I; and places them in bins reflecting editor's assessment of the potential transformative impact.

Each application is reviewed by 4 editors.

Top scoring subset of applications plus any selected for rescue by any of the editors advance to Phase II.
The top (70-80) applications selected by the Editorial Board members from Phase I are distributed to various IRGs that cover the area of science contained within each application.

For each application, 3 topic experts are recruited as mail reviewers who have access only to the anonymized Specific Aim page and Research Strategy section.

The mail reviewers provide written comments addressing significance and transformative impact, the level of innovation, and the logic of approach. No scores are provided.

Timeline:

- Phase II Review: January to end February 2021
- Number of Applications: 70-80
Phase Illa: Editorial Review and Preliminary Score

Phase Illa (Editorial Board)

Editorial Review & Preliminary Score

Timeline:
- Phase Illa: early to end March 2021
- Number of Applications: 70-80

- All editors have access to anonymized Specific Aims page & Research Strategy section as well as the corresponding mail reviews from Phase II.
- Each editor is randomly assigned ~20 applications; review and provide preliminary scores taking into account both their own assessment and input from mail reviews.
- Generally, the top half of the applications from the Phase II set, plus any selected for rescue are brought up for discussion in Phase IIIb in early April.
Phase IIIb: Review Discussion and Final Score

Timeline:
- Phase IIIb: early April 2021
- Number of Applications: TBD

- All editors now have full access to the complete applications, will consider the 5 standard criteria including investigator and environment as well as HS, CT, VA and multi-PI plan for final review discussion.

- The editors provide the final Overall Impact scores after the discussion taking into account both their own assessment of entire application, and input from panel discussion and the mail review.
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Eligibility

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Application & Submission

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Budget

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Email: Transformative_Awards@mail.nih.gov

Video: commonfund.nih.gov/tra

https://commonfund.nih.gov/tra