



RESEARCH INITIATIVES IN SCIENCE & ENGINEERING (RISE)

Information Session: Wednesday, September 23, 2015

Office of the Executive Vice President for Research

OBJECTIVES

- Support High-Risk & High-Reward Research
- Encourage Interdisciplinary Collaboration & Innovation
- Increase Competitiveness with Funders by Enabling Researchers to Create Preliminary Data

SCOPE

- Started by Executive Vice President for Research in 2004
- Internal Competition for Seed Funding for Interdisciplinary, Collaborative, Early-Stage, High-Risk Research
- Covers *All* Scientific, Engineering & Medical Disciplines
- Selects 5-6 “Teams” per Year to Receive **\$80,000** per Year (Maximum of Two Years)
- Seeks to Fund Projects that Cannot be Funded Through *Any* Other Sources (Either Public or Private) Because They Are Viewed As:
 - Too **Preliminary** (Not Enough Data)
 - Too **Risky** (May Not Succeed)
 - Too **Boundary-Pushing** (Not Within Traditional Disciplinary Limits; Unusual Disciplinary Marriages)
- Funding Strengthens Initial Proof of Concept, Thereby Strengthening Future Proposals

CROSS-YEAR STATISTICS: 2011 – 2015



APPLICATION & REVIEW PROCESSES

Round 1 Application Materials (Due Oct 5)

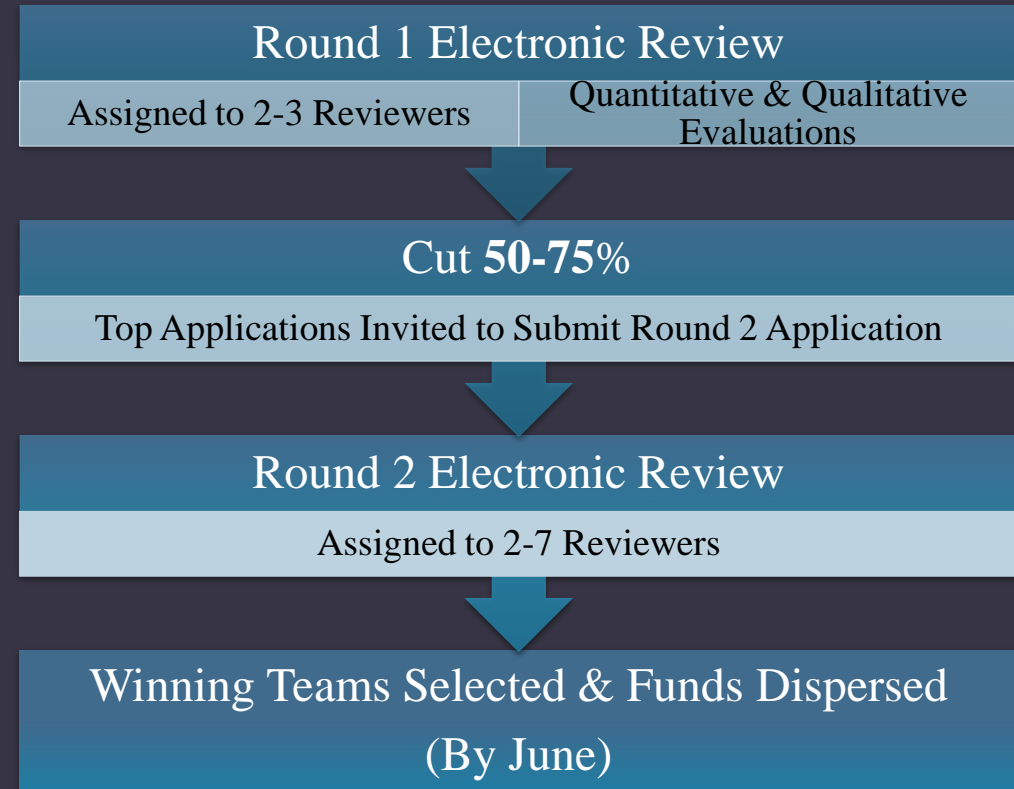
Application Form

- Example Questions:
 - What is the proposed research? (3,500 characters)
 - Why is this research innovative? (1,000 characters)
 - Why can this research not receive funding through any other methods? (1,000 characters)
 - What will the researchers do to obtain subsequent funding? (1,000 characters)
- PI and Co-PI CVs (Maximum 2 pages each)
- Proof of Prior Rejections Due to Perceived Risk (If Any)

Round 2 Application Materials

- 4-Page Proposal

Review Process



2015 APPLICATION & REVIEWER STATISTICS

Applications

- 57 Applications:
 - 32 Biomedical
 - 25 Non-Biomedical
- PIs From:
 - Arts & Sciences: 28
 - Dental: 2
 - Engineering: 24
 - Lamont: 10
 - Law: 1
 - Physicians & Surgeons: 45
 - Public Health: 4

Reviewers

- 54 Reviewers Across All Science, Engineering & Medical Disciplines
- Review as Few as 1,
As Many as 6 Applications

Confidentiality

- Names of Reviewers are Never Released Under Any Circumstances
- Reviewers Do Not Know Identities of Other Reviewers
- *New to 2016 Competition: Reviewers May Anonymously Provide Feedback to Applicants*

RISE OUTCOMES

- Since 2004, **55** Projects Funded
- Distributed **\$8 Million** to Date
- Funded Projects Have Secured Subsequent Grants & Contracts Totaling Over **\$36 Million** (450% RoI)

<u>School</u>	<u>Winners</u>
Arts & Sciences	34
Engineering	38
Lamont	17
Physicians & Surgeons	28
Public Health	2

<u>Accomplishments</u>	<u>Number</u>
Publications	101
Publications In Review	12
Postdocs Trained	24
Grad Students Trained	59
Undergrad Students Trained	24
High School Students Trained	2



CASE STUDIES OF SUCCESS

“RISE-ing to the Occasion” in Biannual EVPR Newsletter



- Developed *Tornado Index* to Project Extreme Weather Variations One Month in Advance of Impact
 - Current Standard: 4 Days
- 3 Publications Accepted in American Meteorological Society's *Journal of Climate*
- Won \$300,000 Grant from NOAA's Climate Program Office (167% RoI)

MICHAEL TIPPETT

2012 RISE Winner

With Suzana De Camargo
& Adam Sobel

*Towards Long-Range
Prediction of Tornado
Activity*

Profiled in Fall 2014
Newsletter



- Polarizing Helium-3 to Align with MRI's Magnetic Field, Thereby Imaging Lungs of COPD Patients (Without Radiation)
- Won \$450,000 R01 Grant (On the First Try) (250% RoI)

GRAHAM BARR &
EMLYN HUGHES
2011 RISE Winners

*Pilot Study of Polarized
Helium-3 Lung Imaging*

Profiled in January 2015
Newsletter



ANSAF SALIEB-AOUISSI

2011 RISE Winner

With Rebecca Passonneau,
David Waltz, Mary McCord,
Harriet Gluck
& Noemie Elhadad

*Understanding Infantile
Colic via Machine
Learning*

Profiled in Spring 2015
Newsletter

- Examines Pediatric Notes to Identify Commonalities in Colic Symptoms, Attempting to Identify Causes, Treatments, and Diagnoses from Evidence
- Outreach via Partnership with BabyCenter
- Won \$175,000 Grant from NSF EAGER Program

Application Components

- Round 1 Application Form ([link](#))
- CVs for Both PIs and All Co-PIs
- “Pink Sheet” Reviews From External Agencies
(If Applicable)
- 2016 Request for Proposals ([link](#))
- Round 1 Evaluation Form *(For Reference Purposes Only)*
[link](#))

2016 RISE COMPETITION

- **Round 1 Application Due:**
9:00 a.m. EST on Monday,
October 5th, 2015
- **Round 2 Application
Invitations:** April 2016
- **Winners Announced:** June
2016

COMMON APPLICANT MISTAKES

- **Project Can Be Reasonably Submitted Elsewhere:** RISE will **only** fund projects that are too risky, too unconventional, and/or too preliminary to be submitted to traditional funding sources.

If reviewers believe that the project can be submitted to funding agencies or foundations, the project will not win RISE funding.

- **Project Is Not Novel:** RISE will **only** fund projects that push conceptual boundaries, and either ask a question or propose a methodology never before witnessed by the discipline(s). “Logical next step” research will not win RISE funding.

The project must be novel according to the *discipline(s) affected*, not according to the PI’s career history.

- **Project is Non-Collaborative:** RISE funds encourage cross-disciplinary collaboration between two PIs. Projects involving only one PI are discouraged.

RISE Leadership

G. Michael Purdy, Executive Vice President for Research

RISE Staff

Victoria Hamilton, Executive Director of Research Initiatives

Marley Bauce, Manager of Research Initiatives

Email: rise@columbia.edu (to ask questions, submit applications, schedule consultation meetings)

Phone: 212-854-7836

Open Door Policy: 409A Low Memorial Library