NIH New Innovator (DP2) Award Preparation Seminar

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STANFORD RESEARCH DEVELOPMENT OFFICE

Jointly sponsored by Stanford Vice Provost and Dean of Research, School of Medicine’s Office of Faculty Development and Diversity, Engineering Research Administration in the School of Engineering, and Stanford Earth
Seminar Outline

I. Presentation
   I. Background and Context for DP2
   II. Application Requirements
   III. Application Review
   IV. DP2 Success Rates
   V. Strategic Advice and Considerations

II. Panel
NIH New Innovator Award (DP2) Overview

• Part of the NIH High-Risk, High-Reward Research Program
• Supports exceptionally creative early career investigators who propose innovate, high-impact projects within the NIH mission
• Focuses on the individual – Single PI applications only
• $1.5 million in direct costs distributed in first year of 5-year project period
• No requirement for preliminary data or a detailed experimental plan

• 2020 Funding opportunity has not been released yet. Requests for Application usually released in early April and applications are typically due in late August.
Eligibility

- Applicants must **have Early State Investigator (ESI) Status** to apply
  - Completed doctoral degree or postgraduate clinical training within last 10 years
  - Have not received an NIH R01 or equivalent NIH award
  - K awards, R21s, R03, and other smaller grants do **NOT** remove your ESI status
- Double check your ESI status within ERA commons
- You can request an extension to your ESI status
- ESI status can be extended due to disruptions from COVID-19
- Applicants must hold an independent research position at a domestic institution by the award start date
- Only single PI applications allowed
# Application Requirements

## DP2 ≠ R01

### Not Allowed
- Co-investigators or other key personnel
- Introduction (only new applications allowed)
- Specific Aims
- Bibliography
- Equipment
- Letters of Support
- Multiple PI Leadership Plan
- Detailed budget and justification
- Post submission material

### Required
- Research Strategy (10 pages)
- Project Summary
- Project Narrative
- Biosketch for PI only
- Current and Pending Support
- Facilities (1 page)
- Additional documents if applicable
  - Vertebrate Animals
  - Human Subjects
  - Authentication of Resources
  - Select Agents
Application Requirements – Research Strategy

- 10 page essay - Not a typical research strategy
- Must address five areas:
  - Project description
  - Innovativeness
  - Investigator qualifications – personal information not off limits
  - Suitability for the New Innovator Award Program
  - Statement of research effort commitment – minimum of 25% research effort
- Discouraged from presenting as a series of specific aims
- Do not provide a detailed experimental plan
- Preliminary data are allowed but not required
- References must be included in the 10 pages
- Can include information on collaborators
- Rigor and reproducibility **must** be addressed in the essay

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<table>
<thead>
<tr>
<th>4 AREAS OF FOCUS</th>
<th>WHAT DOES IT MEAN?</th>
<th>WHERE SHOULD IT BE INCLUDED IN THE APPLICATION?</th>
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</thead>
<tbody>
<tr>
<td>Rigor of the Prior Research</td>
<td>A careful assessment of the rigor of the prior research that serves as the key support for a proposed project will help applicants identify any weaknesses or gaps in the line of research. Describe the strengths and weaknesses in the rigor of the prior research (both published and unpublished) that serves as the key support for the proposed project. Describe plans to address weaknesses in the rigor of the prior research that serves as the key support for the proposed project.</td>
<td>Research Strategy ➢ Significance ➢ Approach</td>
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<td>Scientific Rigor (Design)</td>
<td>Scientific rigor is the strict application of the scientific method to ensure robust and unbiased experimental design, methodology, analysis, interpretation and reporting of results. Emphasize how the experimental design and methods proposed will achieve robust and unbiased results.</td>
<td>Research Strategy ➢ Approach</td>
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<tr>
<td>Biological Variables</td>
<td>Biological variables, such as sex, age, weight, and underlying health conditions, are often critical factors affecting health or disease. In particular, sex is a biological variable that is frequently ignored in animal study designs and analyses, leading to an incomplete understanding of potential sex-based differences in basic biological function, disease processes and treatment response. Explain how relevant biological variables, such as the ones noted above, are factored into research designs, analyses, and reporting in vertebrate animal and human studies. Strong justification from the scientific literature, preliminary data or other relevant considerations must be provided for applications proposing to study only one sex.</td>
<td>Research Strategy ➢ Approach</td>
</tr>
<tr>
<td>Authentication</td>
<td>Key biological and/or chemical resources include, but are not limited to, cell lines, specialty chemicals, antibodies and other biologics. Briefly describe methods to ensure the identity and validity of key biological and/or chemical resources used in the proposed studies. These resources may or may not have been generated with NIH funds and: • may differ from laboratory to laboratory or over time; • may have qualities and/or qualifications that could influence the research data; • are integral to the proposed research. The authentication plan should state in one page or less how you will authenticate key resources, including the frequency, as needed for your research. Note: Do not include authentication data in your plan.</td>
<td>Other Research Plan Section ➢ Include as an attachment ➢ Do not include in the Research Strategy.</td>
</tr>
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*See related FAQs, blog posts, articles & examples.*
Application Requirements – Human Subjects

- Clinical trials ARE allowed
- Safety requirements for clinical studies can make it difficult to fit the "high-risk" criterion
- Contact program staff at the appropriate institute to ensure your applications conforms to NIH and Institute-specific policies for clinical trials
- Standard NIH requirements for human subjects documents apply

Upcoming workshop on preparing Human Subjects Documents offered through the Clinical Research Operations Program – July 9 at 9:00 AM
Application Requirements – Other Supporting Documents

- Facilities and Other Resources
  - 1 page maximum
  - Emphasize unique benefits of Stanford
  - Describe institutional investment in your success

- Biosketch
  - Tailor the personal statement to the DP2
  - Emphasize innovativeness and creativity in your prior research
Application Review

• Application Receipt: Late August
• Administrative Review
• Stage 1: Mail Review
• Finalist selection via preliminary review scores
• Stage 2: Editorial Panel
• Programmatic Review: NIH Council of Councils
• Selection of Awardees by OD/Institutes
• Awards Announced: September

~20 % of applications
Application Review – Stage 1 (Mail Reviews)

• Applications are grouped based on the science areas you identify

• Panel of mail reviewers that cover all major science areas

• 3 reviewers per application

• Reviewers score 3 criteria and the Overall impact (1-9)
  1. Importance and potential impact of the scientific problem
  2. Novelty/innovativeness of Approach
  3. Creative potential of investigator

1 BSS - Behavioral and Social Science
2 CB - Chemical Biology
3 CTR - Clinical and Translational Research
4 IDI - Infectious Diseases and Immunology
5 IE - Instrumentation and Engineering
6 MCB - Molecular and Cellular Biology
7 NS - Neuroscience
8 HIB - High-Throughput and Integrative Biology
9 BCB - Bioinformatics and Computational Biology
Application Review – Stage 2 (Editorial Review)

- Editorial panel is independent of mail reviewers (~25 senior scientists with broad scientific background)
- Finalists selected based on overall impact scores and critiques from the mail review (~20% of applications)
- Each application reviewed by 3 reviewers and all applications are discussed
- Scoring is focused on impact and innovation
- Reviewers provide impact statement and impact score
Application Review – Programmatic Review

• Finalists can write a response to reviewer comments (2 pages)
• NIH Council of Councils conducts the final level of review

• Selection of awardees based on:
  • Outcome of peer review
  • Recommendations of Council level review
  • Availability of funds
  • Programmatic priorities
    • Scientific balance in the portfolio of New Innovator Award-supported research
    • Conformance to the clinical trial research policies of the administering Institute or Center

• Most applications are funded by the Office of Director
• NIH Institutes are invited to fund additional applications
## DP2 Success Rates

<table>
<thead>
<tr>
<th>Year</th>
<th># of applications from Stanford</th>
<th>Stanford success rate (%)</th>
<th>National success rate (%)</th>
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<tbody>
<tr>
<td>2019</td>
<td>48</td>
<td>10</td>
<td>--</td>
</tr>
<tr>
<td>2018</td>
<td>14</td>
<td>21</td>
<td>9</td>
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<td>2017</td>
<td>9</td>
<td>11</td>
<td>12</td>
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<tr>
<td>2016</td>
<td>17</td>
<td>35</td>
<td>9</td>
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<tr>
<td>2015</td>
<td>23</td>
<td>30</td>
<td>9</td>
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Strategic Advice and Considerations

• Don’t treat the DP2 like an R01
• Reach out to your network for successful examples
• Strike a balance with preliminary data:
  • Too little: Application is overly ambitious
  • Too much: Application is a better fit for an R01
• Disconnect between RFA and Stage 1 reviewer comments
  • You have to make it past the first round of review
  • NIH is making a stronger effort to educate reviewers
  • Tap into your network for feedback on your application
• Funding depends on programmatic priorities, which are not easy to pin down
• Impact scores are hard to interpret. Better scoring applications are not always funded.
DP2 Program Contacts

• Reach out to the DP2 Program Contacts

• Program Officer
  • Ravi Basavappa
  • Office of the Director
  • NewInnovatorAwards@mail.nih.gov

• Scientific Review Officer
  • Srikanth Ranganathan
  • Center of Scientific Review
  • NewInnovator_Review@mail.nih.gov
Other Funding Opportunities to Consider

- NIAID DP2
- NIGMS MIRA R35 for ESI
- NHGRI Genomic Innovator Award R35
- Parent R01 with ESI Status
- Parent R21
- NSF CAREER
- Foundation funding opportunities for early career faculty
Stanford Resources


- Research Development Staff in Departments and Institutes:
  - Anesthesiology: Hui Wang
  - CVI: Amanda Chase
  - OBGYN: Elizabeth Seckel
  - Pediatrics: Crystal Botham
  - Radiology: Susan Kopiwoda
  - SCI: Babette Hayer

- Engineering Research Administration: Blythe Nobleman
Panel
Panelists

Dr. Jennifer Dionne, PhD
Associate Professor of Materials Science and Engineering and, by courtesy, of Radiology

Dr. Sean Bendall, PhD
Assistant Professor (Research) of Pathology

Dr. Charles Gawad, MD, PhD
Associate Professor of Pediatrics

Dr. Manish Saggar, PhD
Assistant Professor (Research) of Psychiatry and Behavioral Sciences

Dr. Daniel Herschlag, PhD,
Professor of Biochemistry and, by courtesy, of Chemical Engineering and of Chemistry

Stanford University
Thank you!

Seminar Evaluation:
https://stanfordmedicine.qualtrics.com/jfe/form/SV_bBJ8suUe7EMIGR7
Other Helpful Resources

- NIH High-Risk, High-Reward Research Program
- NIH Director’s New Innovator Award
- Enhancing Reproducibility through Rigor and Transparency
- Reviewer Guidance on Rigor and Transparency
- Frequently Asked Questions – Rigor and Transparency
- Common mistakes in writing applications
- 30 reasons your grant proposal may not have been funded