All About NIH – Part 2: How to Find & Apply for NIH Funding Opportunities

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University Research Services

June 7, 2018
1. NIH – By the Numbers
2. Overview of NIH terminology
3. Finding NIH Programs
4. Applying for NIH – subrecipient
5. Applying for NIH – PI
NIH – By the Numbers
NIH – By the Numbers

• **$34B US health funding agency**
  – ~$212M funding for non-US organizations in FY 2017 ([NIH RePORTER](https://reporter.nih.gov))
  – ~$43M funding for Canadian institutions in FY 2017 ([NIH RePORTER](https://reporter.nih.gov))

• **27 Institutes & Centres**
  – Each research institute has its own scientific program (e.g., aging; heart, lung, & blood; allergy & infectious diseases)

• **> 1,000 funding opportunities** currently listed
NIH Budget

NIH Appropriations, FY 2003-18

- Actual Dollars
- Inflation-adjusted Dollars

Recent Increases

Pre-Sequestration Level

Slide from Dr. Michael Lauer, Deputy Director Extramural Research

NIH Regional Seminar, May 3, 2018
Success Rates – New vs. Renewals

Success Rates over Time

Slide from Dr. Michael Lauer, Deputy Director Extramural Research

NIH Regional Seminar, May 3, 2018
NIH – Terminology
<table>
<thead>
<tr>
<th>Program</th>
<th>Type</th>
<th>Due Dates</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent Announcements</td>
<td>Investigator-initiated grants</td>
<td>Standard due dates (3x per year)</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Program Announcements</td>
<td>Targeted at a particular subject</td>
<td>Standard due dates (3x per year)</td>
<td>Limited duration (3 years)</td>
</tr>
<tr>
<td>Requests for Applications</td>
<td>Aimed at accomplishing a specific goal</td>
<td>Single due date</td>
<td>Does not reoccur</td>
</tr>
</tbody>
</table>
## Activity Codes

<table>
<thead>
<tr>
<th>Activity Code</th>
<th>Purpose</th>
<th>Budget</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>R01</td>
<td>Funds distinct research projects</td>
<td>May have a cap, depending on FOA</td>
<td>Up to 5 years</td>
</tr>
<tr>
<td>R21</td>
<td>High-risk, high-reward research</td>
<td>$275,000 total</td>
<td>2 years</td>
</tr>
<tr>
<td>R03</td>
<td>Pilot projects</td>
<td>$50,000 / yr</td>
<td>2 years</td>
</tr>
<tr>
<td>P-series</td>
<td>Large multi-team projects</td>
<td>No limit (unless specified)</td>
<td>Specified in FOA</td>
</tr>
</tbody>
</table>

More information: [https://grants.nih.gov/grants/funding/ac_search_results.htm](https://grants.nih.gov/grants/funding/ac_search_results.htm)

FOA = Funding Opportunity Announcement
NIH Staff Titles

Program Official:
- Responsible for scientific, technical, and/or programmatic aspects of a grant (both pre- & post-award)
- Develops grant initiatives

• Grants Management Officer:
  - Evaluates applications for administrative content & compliance with NIH policies
  - Interprets NIH grant administration guidelines

• Scientific Review Officer:
  - Responsible for scientific & technical review of grants
  - Point of contact for applicants during the review process
Finding NIH Funding Opportunities
Finding FOAs – NIH Database

- **Option 1**: [https://grants.nih.gov/funding/searchguide/index.html](https://grants.nih.gov/funding/searchguide/index.html)
  - NIH online searchable database of funding opportunities
Finding FOAs – Grants.gov

- Option 2: [https://www.grants.gov/web/grants/search-grants.html](https://www.grants.gov/web/grants/search-grants.html)
  - List of all US-federal grants (filter to only see NIH)
Finding FOAs – Other Options

• **Option 3**: NIH weekly digest of opportunities

• **Option 4**: Institute or Centre website
Understanding the FOA

• FOA lists participating NIH Institutes, outlines the intent of the call, budget, duration, adjudication criteria, etc.

• **Important**: always check the eligibility criteria
  – “Non-domestic (non-US) Entities (Foreign Institutions) are **eligible** to apply” = Queen’s can lead the grant
  – “Foreign components are **allowed**” = Queen’s can be a subrecipient

• Review the **policy notices** section of the FOA (any changes to the opportunity are listed there)

• **Annotated FOA**: [https://grants.nih.gov/grants/annotated_foa.pdf](https://grants.nih.gov/grants/annotated_foa.pdf)
Deadline Dates

- The FOA will either list specific deadlines to apply (sometimes multiple per year) or will state “standard dates apply”
Clinical Trials

- FOA will specify if clinical trials are prohibited, eligible, or required
- A project is a **clinical trial** if the answer is **YES to all four questions:**
  1. Does the study involve human participants?
  2. Are the participants prospectively assigned to an intervention?
  3. Is the study designed to evaluate the effect of the intervention on the participants?
  4. Is the effect being evaluated a health-related biomedical or behavioral outcome?

Is the FOA Right for You?

• Discuss with colleagues familiar with NIH programs & study sections
• Contact the NIH Program Official as early as possible:
  – For targeted calls, contact is listed in the FOA
  – For “parent announcements”, a link is normally given to a list of Institute contacts (example, parent R01)
• Send a brief, clear email (include FOA number, study aims, and any other pertinent information – e.g., Canadian applicant)
  – Advice on whether project is within scope of call / Institute mandate, and/or which study section is appropriate
Is the FOA Right for You?

- **NIH RePORTER** (search tool for all NIH funded research):
  - Gives FOA title, Activity Code, Budget amount, & Program Official
  - **Matchmaker** tool can let you find projects similar to yours
### Matchmaker Results – Summary

#### Filter Results by Institute/Center, Activity Code, or Study Section

<table>
<thead>
<tr>
<th>INSTITUTE/CENTER</th>
<th>ACTIVITY CODE</th>
<th>STUDY SECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCI</td>
<td>R01</td>
<td>ZCA1</td>
</tr>
<tr>
<td>NIGMS</td>
<td>R21</td>
<td>NCI</td>
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<tr>
<td>NIDCR</td>
<td>P30</td>
<td>CBSS</td>
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<tr>
<td>NIBIB</td>
<td>U01</td>
<td>NANO</td>
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<tr>
<td>VA</td>
<td>P50</td>
<td>EBIT</td>
</tr>
<tr>
<td>NIHES</td>
<td>R44</td>
<td>ZGM1</td>
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#### Table of Projects

<table>
<thead>
<tr>
<th>Match Score</th>
<th>Act</th>
<th>Project</th>
<th>Year</th>
<th>Sub #</th>
<th>Project Title</th>
<th>Contact PI / Project Leader</th>
<th>Organization</th>
<th>FY</th>
<th>Admin IC</th>
<th>Funding IC</th>
<th>FY Total Cost by IC</th>
<th>Similar Projects</th>
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<tbody>
<tr>
<td>276</td>
<td>P50</td>
<td>CA166706</td>
<td>04</td>
<td>7-44</td>
<td>DEVELOPING SCHLAP1 AND OTHER INORGANES AS PROSTATE CANCER BIOMARKERS IN URINE</td>
<td>WEL JOHN T</td>
<td>MICHIGAN AT ANN ARBOR</td>
<td>2017</td>
<td>NCI</td>
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<td>$237,945</td>
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<tr>
<td>276</td>
<td>R01</td>
<td>CA193885</td>
<td>03</td>
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<td>TOPICAL CHEMOPREVENTION OF SKIN CANCER BIOMARKERS</td>
<td>ELMET'S CRAIGA</td>
<td>UNIVERSITY OF ALABAMA AT BIRMINGHAM</td>
<td>2016</td>
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<td>$336,263</td>
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<td>276</td>
<td>R01</td>
<td>CA195286</td>
<td>03</td>
<td></td>
<td>VALIDATION OF PANCREATIC CANCER BIOMARKERS IN LARGE PROSPECTIVE COHORTS</td>
<td>LOKSHIN ANNA F</td>
<td>UNIVERSITY OF PITTSBURGH AT PITTSBURGH</td>
<td>2017</td>
<td>NCI</td>
<td></td>
<td>$417,779</td>
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</table>
Applying for NIH Funding Opportunities
Subrecipient vs. Lead Organization

Subrecipient Arrangement
- Queen’s
  - Texas A&M
    - Guelph
        - Harvard

Lead Organization
- Texas A&M
  - Guelph
  - Harvard
Considerations: Subrecipient vs. Lead

- Foreign organizations need to provide a **foreign justification** and so have a “**higher bar**” in peer review
  - Explain why the research MUST be done in Canada (unique expertise, unique resources, unique facilities)
  - Exceptional projects may be funded, but NIH’s primary interest is in supporting US-led projects

- Be prepared to “sell” your project to US readers
  - How is your project relevant to **US health concerns**?
  - Ground yourself in the **US-based literature**
  - May need to provide extra contextual information for US readers
Considerations: Subrecipient vs. Lead

• Higher **administrative burden** as lead
  – NIH “paperwork burden” gives ~60 hours to complete NIH forms
    (not including time to develop proposal & budget)

• **Indirect cost** considerations
  – If there is a budget cap, this limits funds available for research
  – Indirect cost rates for US universities typically high (40-60%)
  – Non-US organization rate = 8%

• Other key considerations:
  – Which investigator has an established **NIH track record**?
  – Who would be acting as the **intellectual lead**?
Submission: Subrecipient Arrangement

- Queen’s already has all required registrations (DUNS, EIN, SAM)
- **Contact URS at least 3-weeks in advance** of lead organization’s deadline (generally a few weeks before NIH deadline)
- **EVERY US UNIVERSITY IS DIFFERENT!**
  - Subrecipient arrangements are usually straight forward, but if the US university has unusual requirements sign-off at Queen’s may take longer
## Subrecipient arrangements

<table>
<thead>
<tr>
<th>Form</th>
<th>Details</th>
<th>URS</th>
<th>Queen’s PI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>eRA Commons ID</strong></td>
<td>Online identifier for Queen’s PI</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Subrecipient form</strong></td>
<td>US university form – contains info on Queen’s Policies</td>
<td>X</td>
<td></td>
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<tr>
<td><strong>PHS 398 Face Page</strong></td>
<td>“Cover letter” form for application</td>
<td>X</td>
<td>X</td>
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<tr>
<td><strong>NIH fCOI Forms</strong></td>
<td>Disclosure of financial conflict of interest</td>
<td>X</td>
<td></td>
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<tr>
<td>(Memo &amp; Disclosure)</td>
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<td></td>
<td></td>
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<tr>
<td><strong>NIH biosketch</strong></td>
<td>Short NIH CV for Queen’s PI</td>
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<td></td>
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<tr>
<td><strong>Budget</strong></td>
<td>Queen’s portion of project budget</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>SOW</strong></td>
<td>Summary of work to be done @ Queen’s</td>
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<td></td>
</tr>
<tr>
<td><strong>Facilities Description</strong></td>
<td>Summary of facilities to be used</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Equipment Description</strong></td>
<td>Summary of equipment to be used</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>TRAQ DSS</strong></td>
<td>Include SOW &amp; budget (not full application)</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

See: [https://www.queensu.ca/urs/nih_subrecipients](https://www.queensu.ca/urs/nih_subrecipients)
Submitting as Lead Organization

• **URS must submit** applications on behalf of our faculty
• **Contact URS 2-3 months in advance** of the deadline (or earlier)
• If you contact URS, we’ll:
  – Meet with your team to discuss your application
  – Work with you to make sure your application meets NIH requirements
  – Provide an administrative review of your application
  – Work with you to submit the application to NIH
Submission Process

• **Option 1:** [Grants.gov workspace](#) (recommended)
  – URS will download the application package & email it to you
  – PI completes a set of PDFs & returns the forms to URS to submit

• **Option 2:** [NIH Assist](#)
  – PI creates the application online & sends it to URS
  – URS submits application electronically to NIH

• **IMPORTANT:** Both portals do a series of “checks”. An application error (e.g., missing application document) will cause the package to be REJECTED. PI then needs to correct the error & URS resubmits.
  – URS recommends that first submission attempt made **5 business days** before NIH deadline
Application Requirements

- **Application package** consists of 8-10 PDF forms, plus several “free form” written sections
  - E.g., research proposal, foreign justification, facilities description, resource sharing plan, vertebrate animals description, etc.
- **CV requirements** = short-form [NIH biosketch CV](https://www.queensu.ca/urs/nih_PIs)
- **FOA** gives an overview of application requirements
- **Detailed instructions** for research grants are available online
  - Section-by-section instructions, budget information, page limits
  - Follow these carefully! NIH has an aggressive triage rate (~50%) ... don’t give your readers a reason to score your application poorly!

See: [https://www.queensu.ca/urs/nih_PIs](https://www.queensu.ca/urs/nih_PIs)
<table>
<thead>
<tr>
<th>Research &amp; Related Other Project Information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>R&amp;R OtherProjectInfo v1.4</strong></td>
<td><img src="image.png" alt="Image" /></td>
</tr>
<tr>
<td><strong>Edit</strong></td>
<td><img src="link" alt="Link" /></td>
</tr>
</tbody>
</table>

1. **Are Human Subjects Involved?**
   - If YES to Human Subjects:
     - Is the project exempt from Federal regulations? (Yes/No)
     - If yes, check the appropriate exemption number: 1 2 3 4 5 6 7 8
     - If no, is the IRB review Pending? (Yes/No)
   - IRB Approval Date
   - Human Subjects Assurance Number

2. **Are Vertebrate Animals Used?**
   - If YES to Vertebrate Animals:
     - Is the IACUC review Pending? (Yes/No)
   - IACUC Approval Date
   - Animal Welfare Assurance Number

3. **Is proprietary/privileged information included in the application?**
   - Yes/No

4. **Does this project have an actual or potential impact - positive or negative - on the environment?**
   - Yes/No
Key Resources

• URS webpage: [www.queensu.ca/urs/nih](http://www.queensu.ca/urs/nih)
  – Summary of information for subrecipients & PIs

• NIH How to Apply: [https://grants.nih.gov/grants/how-to-apply-application-guide.html](https://grants.nih.gov/grants/how-to-apply-application-guide.html)
  – Finding opportunities, writing application, & submitting

• NIH policy webpage: [https://grants.nih.gov/policy/index.htm](https://grants.nih.gov/policy/index.htm)

• Sample Applications (NIAID): [https://www.niaid.nih.gov/grants-contracts/sample-applications](https://www.niaid.nih.gov/grants-contracts/sample-applications)
Questions?