What is NIH interested in funding?

• Health research, which can be
  – Basic, clinical, or translational
  – Medical or behavioral
• (including) Statistical methodology or applications that contribute to health research
Funding Process

1. Prepare your application
2. Receipt, Referral and Review
3. Post-review

POC: Program Officer

POC: Scientific Review Officer
Preparing your application

**STEP 1**
Decide on your MECHANISM and FUNDING OPPORTUNITY Announcement

**STEP 2**
Refine your RESEARCH PLAN

**STEP 3**
Write your COVER LETTER
### STEP 1: Common Research Grant Mechanisms

<table>
<thead>
<tr>
<th>Description</th>
<th>Duration</th>
<th>Direct Costs</th>
<th>Page Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>R01</strong> Traditional Research Project Grant</td>
<td>Typically 3-5 yrs</td>
<td>Typically ≤$250k/yr</td>
<td>12</td>
</tr>
<tr>
<td><strong>R03</strong> Small Research Grant</td>
<td>≤2 yrs</td>
<td>$50k/yr</td>
<td>6</td>
</tr>
<tr>
<td><strong>R21</strong> Exploratory/Development Grant</td>
<td>≤2 yrs</td>
<td>$275k over 2 yrs</td>
<td>6</td>
</tr>
<tr>
<td>• <em>Pilot or feasibility studies</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• <em>high risk/high return</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>R15</strong> AREA Grant</td>
<td>≤3 yrs</td>
<td>$300k over 3 yrs</td>
<td>12</td>
</tr>
<tr>
<td>• <em>Supports research at institutions receiving little NIH funding</em></td>
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<tr>
<td>• <em>Strengthens the research environment</em></td>
<td></td>
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<td></td>
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<tr>
<td>• <em>Exposes students to research</em></td>
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</tr>
</tbody>
</table>
### STEP 1: Common Training Grant Mechanisms

<table>
<thead>
<tr>
<th>Description</th>
<th>length</th>
<th>Career level</th>
<th>eligibility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>K25</strong> Mentored Quantitative Research Development Award</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Statistics, math, CS, engineering, physics</td>
<td>3-5 yrs</td>
<td>Any w/ full-time appt</td>
<td>US citizens or PR</td>
</tr>
<tr>
<td>• Little or no background in biomedicine</td>
<td></td>
<td></td>
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<tr>
<td>• Must identify a mentor</td>
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<tr>
<td><strong>K99/R00</strong> Pathway to Independence Award</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Within 5 yrs of terminal degree</td>
<td>1-2 yrs</td>
<td>early</td>
<td>any</td>
</tr>
<tr>
<td>• Mentored + independent support</td>
<td>3 yrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>T32</strong> Ruth Kirschstein National Research Service Award</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Institutional award</td>
<td></td>
<td></td>
<td>US citizens or PR</td>
</tr>
<tr>
<td>• Supports training</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Stipends, tuition, travel, health insurance</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**STEP 1: Funding Opportunity Announcements**

<table>
<thead>
<tr>
<th>Announcement Type</th>
<th>Description</th>
</tr>
</thead>
</table>
| Omnibus/Parent    | • formerly called unsolicited research grants  
|                   | • exist for most grant mechanisms (but NCI doesn’t participate in R03 and R21 omnibus) |
| RFA               | Has a set-aside pot of money |
| PA                | • Statement of interest by the institute  
|                   | • Important at funding but not necessarily at review  
|                   | • A separate review may occur |
| Other             | • SBIR contracts  
|                   | • ARRA initiatives |
STEP 2: Refine your Research Plan

Seek Collaborators – bench scientists, clinicians, other statisticians
STEP 2: Refine your Research Plan

Seek advice from mentors and resources such as websites
STEP 2: Refine your Research Plan

Think about dissemination and impact

- Will you hire programming assistance?
- How will your research to be useful at the bench or at the bedside?
STEP 2: Common Mistakes to Avoid

Reviewers in this video clip point out that over-ambitiousness and lack of clarity are two mistakes to avoid.
## STEP 3: Preparing Your Cover Letter

<table>
<thead>
<tr>
<th>Category</th>
<th>Suggested Institutions/Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suggest a study section</td>
<td>BMRD, EPIC, ACE, GCAT</td>
</tr>
<tr>
<td>Suggest a funding institute</td>
<td>NCI, NIGMS, NIAID, NHLBI, etc. Primary and secondary</td>
</tr>
<tr>
<td>Do NOT name reviewers</td>
<td>T. Bayes, R. Fisher</td>
</tr>
<tr>
<td>Other</td>
<td>Cite continuous submission eligibility</td>
</tr>
</tbody>
</table>
Submission Due Dates

• Standard due dates occur 3 times per year (Feb, June, October for new R01 submissions)
• Your institution may set earlier due dates (technically the institution is the applicant)
• RFAs, PAs can have non-standard due dates
• Exceptions for study section members and new investigators
Funding Process

- Prepare your application
- Receipt, Referral and Review
- Post-review
CSR: Receipt, Referral, and Review

- Most applications go to CSR, which does referral and review for all of NIH
- Scientific Merit Review: Study Section Meeting
- To view a mock review: search “peer review revealed”
What does the study section look for?

**significance, investigator, innovation, approach, and environment**

- Is there enough preliminary work to show that there is a high probability of success?
- If this research is successful, how will it change the state of science?
- Is this approach reasonable and innovative?
What makes a good grant proposal?

(Videos where two reviewers give opinions)
What makes a good grant proposal?

(Information about accessing videos on slide 29)
Funding Process

1. **Prepare your application**
2. **Receipt, Referral and Review**
3. **Post-review**

The process flows from preparing the application, to receiving and reviewing it, and finally to a post-review step.
Funding Process

Amend or Substantially revise

• One amendment allowed

Receipt, Referral and Review

Post-review

fundable
Funding Decisions

- Two levels of review:
  1) Scientific Review by the study section
  2) Institute’s Council

- Decisions based on
  1) Institute priority
  2) Availability of funds
  3) Scientific Merit
Payline

• A “cut-off” raw score or percentile
  • separates applications into those likely or unlikely to be funded
  • an approximation of roughly where funding will be
  • not a guarantee of funding or of non-funding

• R01 and other mechanisms (depending on the Institute) are percentiled
  ➢ Percentiling is done for each study section by ranking the overall impact scores for a given round and the two previous rounds
  ➢ Removes the “tough study section” effect
  ➢ In a given round, study sections which review a larger number of applications will have a larger number fall below a payline
Payline Facts

1) Varies by Institute
2) Varies by amendment status (at some Institutes)
3) Same for all study sections
4) Different for new or early stage investigator R01s
New Investigators

- Has not previously received a significant NIH award
- New category: Early Stage Investigator (ESI)

New Investigator + <10 yrs from degree* = Early Stage Investigator

- New Investigator R01 (called *R01):
  - grouped at review
  - special (better) NI/ESI payline
  - Some Institutes, such as NHLBI, have a better R01 payline for ESI only

* less than 10 years since a terminal research degree or medical residency
## Paylines for Large Institutes (FY 2010)

<table>
<thead>
<tr>
<th>Institute</th>
<th>R01 (%ile)</th>
<th>*R01 (%ile)</th>
<th>R21 (varies)</th>
<th>R03 (varies)</th>
<th>R15 (raw)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCI</td>
<td>15</td>
<td>20</td>
<td>15%ile</td>
<td>30 raw</td>
<td>29</td>
</tr>
<tr>
<td>NIAID</td>
<td>11</td>
<td>16</td>
<td>31 raw</td>
<td>31 raw</td>
<td>22</td>
</tr>
<tr>
<td>NHLBI</td>
<td>16 for A0</td>
<td>+5 (for ESI only)</td>
<td>16%ile</td>
<td>16%ile</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>12 for A1</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>10 for A2</td>
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<tr>
<td>NIGMS</td>
<td>Does not publish</td>
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<td>...</td>
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</tbody>
</table>
NIGMS FY09 R01 Applications

Applications reviewed (open rectangles) and funded (solid bars).
Blue bars: supported using regular appropriated funds.
Red: supported using Recovery Act funds (2-year awards).

From the NIGMS Feedback Loop post December 10, 2009.
Once Selected for Funding

• Just-In-Time: updated other support, IRB approvals
  – Often automatically requested by eCommons
  – Does not necessarily imply funding

• Progress Reports: due yearly
  – Publications must be submitted to Pub Med Central

• Supplements
  – Two types: administrative, competitive
  – Ask about minority or re-integration administrative supplements

• Competitive Renewal (every 3-5 years)
More info: mock study section videos

• For videos from which clips were taken for this presentation
cms.csr.nih.gov/ResourcesforApplicants/InsidetheNIHGrantReviewProcessVideo.htm
• Find videos by searching “NIH grant process revealed”
More info: Program Officials/Directors

- NIGMS: Shawn Drew
drewl@mail.nih.gov
- NCI: Michelle Dunn
dunnm3@mail.nih.gov
- NIAID: Misrak Gezmu
mgezmu@niaid.nih.gov
- For contacts at other institutes, email Michelle