An Overview of F31/32 Grant Opportunities

Office of Research Resources
Mailman School of Public Health
Columbia University
Today’s Session

- Introduction
- Preparing an Application
- F31 awards: Integrating all the elements
- Review process
- Importance of grantwriting groups
- Q and A
Today’s Speakers

- Dr. Pam Factor-Litvak
  - Associate Professor of Clinical Epidemiology
  - Associate Dean for Research Resources

- Dr. Leslie Davidson
  - Professor of Clinical Epidemiology and Clinical Pediatrics

- Dr. Ana Abraido-Lanza
  - Associate Professor of Sociomedical Sciences
  - Director Initiative for Maximizing Student Diversity (IMSD) Program

- Dr. Mark Hatzenbuehler
  - Assistant Professor of Sociomedical Sciences
Introduction:
Dr. Pam Factor–Litvak
How to Pay for a Doctoral Degree

- Training Grants (T32)
- Personal Funds
- School Scholarships
- Other Sponsored Scholarships
- F31 Grants: Individual Predoctoral Fellows
Primary source of federal support for full-time graduate students in the biomedical sciences
Participating Institutes (F31s– PA–11–111)

- National Cancer Institute (NCI)
- National Human Genome Research Institute (NHGRI)
- National Institute on Aging (NIA)
- National Institute on Alcohol Abuse and Alcoholism (NIAAA)
- National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)
- National Institute of Biomedical Imaging and Bioengineering (NIBIB)
- *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD)
- National Institute on Deafness and Other Communication Disorders (NIDCD)
- National Institute on Dental and Craniofacial Research (NIDCR)
- National Institute on Drug Abuse (NIDA)
- National Institute of Mental Health (NIMH)
- National Institute of Neurological Disorders and Stroke (NINDS)
Participating Institutes
(F31—Diversity—PA—11–112)

- National Cancer Institute (NCI)
- National Eye Institute (NEI)
- National Heart, Lung, and Blood Institute (NHLBI)
- National Human Genome Research Institute (NHGRI)
- National Institute on Aging (NIA)
- National Institute on Alcohol Abuse and Alcoholism (NIAAA)
- National Institute of Allergy and Infectious Diseases (NIAID)
- National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)
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- National Institute on Dental and Craniofacial Research (NIDCR)
- National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
- National Institute on Drug Abuse (NIDA)
- National Institute of Environmental Health Sciences (NIEHS)
- National Institute of General Medical Sciences (NIGMS)
- National Institute of Mental Health (NIMH)
- National Institute of Neurological Disorders and Stroke (NINDS)
- National Institute of Nursing Research (NINR)
- National Center for Complimentary and Alternative Medicine (NCCAM)
Eligibility (F31)

- Skills, knowledge, and resources necessary to carry out the proposed research as the Project Director/Principal Investigator
- Citizen or a non-citizen national of the U.S. lawfully admitted for permanent residence
- At dissertation research stage of their training
- Evidence of high academic performance in the sciences and substantial interest in a research area of high priority to the participating Institutes.
- Enrolled in a PhD or equivalent research degree at a domestic or foreign research institution.
Preparing an Application: Dr. Mark Hatzenbuehler
F31s (Parent award)

- Up to 5 years of funding aggregate from NRSA
- Fellowship awards often limited to 2–3 years of funding
- Not all institutes participate
- Standard deadlines 3 times yearly (HIV/AIDS related are different)
- Must pursue research and training full time
- Must address priorities of the institute
- Individual eligibility: must be at dissertation research stage of doctoral career
Diversity F31s

- Up to 5 years of funding aggregate from NRSA
- Fellowship often limited to 2–3 years (check Institute)
- Many institutes participate
- Standard deadlines as for parent F31s
- Requires letter on institutional stationery with official signature certifying eligibility
- Must pursue research and training full time
- Applicants do not need to be at the dissertation research stage of their doctoral program
Diversity Eligibility

- Individuals from underrepresented racial/ethnic groups
  - The following racial and ethnic groups have been shown to be underrepresented in biomedical research: African Americans, Hispanic Americans, American Indians, Alaska Natives, Native Hawaiians, and other Pacific Islanders. In addition, it is recognized that under-representation can vary from setting to setting and individuals from racial or ethnic groups that can be convincingly demonstrated to be underrepresented by the grantee institution are eligible for support under this program (http://www.nsf.gov/statistics/showpub.cfm?TopID=2&SubID=27).

- Individuals with disabilities

- Individuals from socially, culturally economically, or educationally disadvantaged backgrounds that have inhibited their ability to pursue a career in health-related research—these are not usually awarded past the undergraduate level
Success rates for F31 applications: 2000–2012

<table>
<thead>
<tr>
<th>Year</th>
<th># reviewed</th>
<th># awarded</th>
<th>Success Rate (%)</th>
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<tbody>
<tr>
<td>2000</td>
<td>551</td>
<td>285</td>
<td>52</td>
</tr>
<tr>
<td>2001</td>
<td>698</td>
<td>408</td>
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<td>2002</td>
<td>729</td>
<td>389</td>
<td>53</td>
</tr>
<tr>
<td>2003</td>
<td>972</td>
<td>414</td>
<td>43</td>
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<tr>
<td>2004</td>
<td>1227</td>
<td>478</td>
<td>39</td>
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<td>2005</td>
<td>1425</td>
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<td>2007</td>
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<td>552</td>
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<td>2008</td>
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<td>518</td>
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<td>2009</td>
<td>1377</td>
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<td>1498</td>
<td>487</td>
<td>33</td>
</tr>
<tr>
<td>2012</td>
<td>1770</td>
<td>505</td>
<td>29</td>
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## Success rates for F31 applications by institute: 2012

<table>
<thead>
<tr>
<th>NIH Institute/Center</th>
<th># reviewed</th>
<th># awarded</th>
<th>Success Rate (%)</th>
</tr>
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<tbody>
<tr>
<td>NCI</td>
<td>333</td>
<td>95</td>
<td>28.5</td>
</tr>
<tr>
<td>NIA</td>
<td>128</td>
<td>40</td>
<td>31.3</td>
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<tr>
<td>NIAAA</td>
<td>51</td>
<td>29</td>
<td>56.9</td>
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<tr>
<td>NIDCD</td>
<td>70</td>
<td>29</td>
<td>41.4</td>
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<tr>
<td>NIDCR</td>
<td>31</td>
<td>13</td>
<td>41.9</td>
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<tr>
<td>NINDS</td>
<td>390</td>
<td>95</td>
<td>24.4</td>
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<tr>
<td>NIDA</td>
<td>115</td>
<td>38</td>
<td>33.0</td>
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<td>NIMH</td>
<td>284</td>
<td>61</td>
<td>21.5</td>
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<tr>
<td>NICHD</td>
<td>37</td>
<td>9</td>
<td>24.3</td>
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<tr>
<td>NIBIB</td>
<td>7</td>
<td>1</td>
<td>14.3</td>
</tr>
<tr>
<td>NIAMS</td>
<td>11</td>
<td>4</td>
<td>36.4</td>
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<tr>
<td>NHGRI</td>
<td>2</td>
<td>2</td>
<td>100.0</td>
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### Success rates for F31–Diversity applications by institute: 2012

<table>
<thead>
<tr>
<th>NIH Institute/Center</th>
<th># reviewed</th>
<th># awarded</th>
<th>Success Rate (%)</th>
</tr>
</thead>
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<tr>
<td>NCCAM</td>
<td>17</td>
<td>5</td>
<td>29.4</td>
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<tr>
<td>NEI</td>
<td>13</td>
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<td>46.2</td>
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<td>NHLBI</td>
<td>37</td>
<td>11</td>
<td>29.7</td>
</tr>
<tr>
<td>NIAID</td>
<td>58</td>
<td>12</td>
<td>20.7</td>
</tr>
<tr>
<td>NIDDK</td>
<td>31</td>
<td>9</td>
<td>29.0</td>
</tr>
<tr>
<td>NIEHS</td>
<td>4</td>
<td>1</td>
<td>25.0</td>
</tr>
<tr>
<td>NIGMS</td>
<td>72</td>
<td>20</td>
<td>27.8</td>
</tr>
<tr>
<td>NINR</td>
<td>78</td>
<td>24</td>
<td>30.8</td>
</tr>
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</table>
F31 Application Receipt Dates and Review Schedule

<table>
<thead>
<tr>
<th>Receipt Cycle 1</th>
<th>Application Receipt Date</th>
<th>Initial Review Date</th>
<th>Council Review Date</th>
<th>Earliest Possible Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 8</td>
<td>April 8 (AIDS/AIDS-related: May 7)</td>
<td>June/July</td>
<td>Sept/Oct</td>
<td>December</td>
</tr>
<tr>
<td>Receipt Cycle 2</td>
<td>August 8 (AIDS/AIDS-related: September 7)</td>
<td>Oct/Nov</td>
<td>Jan/Feb</td>
<td>April</td>
</tr>
<tr>
<td>Receipt Cycle 3</td>
<td>December 8 (AIDS/AIDS-related: December 7)</td>
<td>Feb/March</td>
<td>May/June</td>
<td>July</td>
</tr>
</tbody>
</table>
Which Institute?

- Determine which NIH institute is the best fit for your project (discuss with mentor).
  - See Table of IC-specific Information, Requirements and Staff Contacts in PA-11-111 or PA-11-112
- Check NIH Reporter for funded F31s by that Institute
- Contact fellowship program officer (PO) at the Institute(s) by phone to discuss proposal and fit with the Institute’s scientific goals
- Refer to the conversation and the PO by name in application Cover Letter
Talking to NIH Program Officer

Steps:
1. Find appropriate PO at your institute
2. Send brief email asking to set up a time to discuss your proposal
   ◦ Attach a 1-page specific aims or a brief description training goals, sponsors, and research idea
3. On the phone, briefly review your project and training goals
4. Ask specific questions about your project:
   ◦ Is research in line with the Institute’s priorities?
   ◦ Advice about the training aims? (E.g., Do they support projects that use CBPR? Qualitative vs. quantitative approaches?)
   ◦ Any unique issues about your project (e.g., sponsor/co-sponsor)?
   ◦ Any other advice?
Training Goals

- **Training grant**
  - Training central component

- **Training dictates**
  - Mentors (who provide training)
  - Research project (uses the new skills, methods, literature, etc. in which you are getting trained)

- **Must provide concrete areas for training.**
  - For example: Methods (meta-analysis, structural equation modeling, qualitative coding, CBPR); new literatures.

- **How do you obtain this training?**
  - Coursework: check out summer courses (e.g., Michigan’s ICPSR, Columbia’s Epidemiology & Population Health Summer Institute)
  - Mentorship
  - Seminar series: CPRC, HIV Center grand rounds, etc.

- **Research project must use training**
  - E.g., must be a meta-analysis if you get training in that area
Training Forms

- Goals for NRSA Fellowship Training and Career – 1 page
- Activities planned under the award (e.g., research, coursework, teaching) – 1 page
  ◦ Tables can be a good way of showing this information
- Selection of co-sponsors and institution – 1 page
Choosing a sponsor/additional co–sponsors

- Sponsor is the Senior/Key Person 1 (Sponsor).
  - Must include: her/his information (up to 6 pages) and biosketch. You may have to assist in preparing this material.
- Sponsor must be:
  - Active investigator in area of research training
  - Committed to your training and
  - Supervising the proposed research
  - Must document availability of research support and facilities
    - These must map onto your training plan and activities as well as research
- If sponsor is a junior faculty member, you might benefit from a Co–Sponsor (tenured faculty member with relevant research and training experience)
- May want a mentoring team (sponsor is the lead) to cover all training and research needs
Budget

- Budgets are straightforward. See:
  - Standard NIH stipend in FY 2012 is $22,032
  - Tuition and Fees (60% of level requested up to $16,000 = $9,600)
  - Institutional allowance: health insurance, research supplies, equipment, books, travel to meetings ($4,200)
  - No indirect costs for the institution
  - No funds for research expenses (data collection, etc.)
Letters of Recommendation (3–5)

- NOT mentor/sponsor (since s/he writes statement about your qualifications in the grant)
- Usually the Departmental chair, cluster director (if applicable), Director of Doctoral Program, thesis committee member who is not a sponsor, or faculty research collaborator
- Choose someone who knows you well, who likes you, and for whom you have done good work
- Must use fellowship–specific form and be submitted electronically: https://commons.era.nih.gov/commons/reference/submitRefereeInformation.jsp
F31 awards: Integrating all the elements: Dr. Leslie Davidson
Sponsor generated material  
(6 pages, uploaded on SF424 in “Other Attachments”)

- Research Support Available [Attach] tailor to specific needs
- Previous Trainees [Attach], want record of prior mentorship
- Training Plan, Environment & Research Facilities [Attach]
- # of Trainees Supervised During Fellowship [Attach] (not too many)
- Applicant’s Qualifications and Potential for Research Career [Attach] (this is critical)
Fellow Biosketch

- 4 pages
  - Personal statement
- What goes into a personal statement
  - How does it support the goals of the research
- How do the other components support the personal statement
- Review biosketch examples from successful applicants
Sponsor/Mentor Biosketches

- 4 pages
  - Personal statement
- What goes into a personal statement
  - How does it support the goals of the research
  - How does it support the mentor role
  - Specific to application and applicant mentee
- How do the other components support the personal statement
- Review mentor biosketches
Developing the Research Strategy Section

- Feasibility of the plan
- Develop design and problem solve issues
- Outline the whole structure
  - One paragraph/major idea
- Complete the whole draft before editing
- Edit and edit – and make the format highlight the key ideas
- Don’t pack the page
Specific Aims– Formatting matters

Although the binding of peperoni (Pe) to pizza (Pi) has been well established, the nature of the binding cite (BS) remains elusive, as does the relation between Pe binding and the reward experienced by ingesting food. In this study we sought to explore both of these issues. Our hypothesis is that Pe will bind to Pi and the nature of that binding will affect the reward value of the product. First, will will determine the binding characteristics of Pe and other ligands (LIG) to Pi. We will explore several variable including (a) which Pi surface is exposed, (b) the method of target preparation, and (c) nature, concentration, and size of the ligands. Second, we will use a quantitative structure–activity model and show that there is a strong relation between Pi conformation and reward value. We will use a rodent model to examine how variables explored in our first aim impact on the reward value of the product.

From Fischer BA and Zigmond MJ. An Introduction to Grant Writing. 2008
Specific Aims

Although the binding of pepperoni (Pe) to pizza (Pi) has been well established, the nature of the binding site remains elusive, as does the relation between Pe binding and the reward experienced by the individual who is ingesting the food. In this study we sought to explore both of these issues.

**Hypothesis**: Pe will bind to Pi at a single site and the affinity of that binding for a given Pi substrate will be inversely related to the reward value of the product, reward being defined in an animal model as the number of lever presses an animal will make to obtain a Pe–Pi pellet

**Aim 1**: To determine the binding characteristics of Pe and other ligands to Pi. We will explore several variables including (a) which Pi surface is exposed (dorsal versus ventral), (b) the method of target preparation (including baking and boiling), and (c) nature, concentration, and size of the Pe ligands.

**Aim 2**: To use a quantitative structure–activity model to determine the relation between Pi conformation and reward value. We will use a rodent model to examine how variables explored in Aim 1 impact on the reward value of the product, with reward defined in terms of rate of lever pressing.
1. Intro (1 page, only included in resubmissions)
2. Specific Aims (1 page)
3. Research Strategy (6 pages)
   a. Significance
   b. Innovation (only if specified in FOA or by Institute)
   c. Approach (Research Design & Methods)
      • Overall strategy, methodology, analyses
      • Potential problems, alternative strategies, benchmarks for success
      • If developmental, describe strategy to establish feasibility
      • Mention any hazards and discuss precautions (if applicable)
      • Include courses you plan to take to support the research training
4. Human Subjects and Inclusion etc.
Review process:
Dr. Ana Abraido-Lanza
Review Criteria

- F31s are training, not research grants
- Reviewers focus on
  - Applicant fellow
    - Potential for a productive career
    - Need for the proposed training
  - Degree to which the research training proposal, the sponsor, and the environment will satisfy applicant’s needs.
Review Criteria (cont’d)

- Fellowship applicant
- Sponsors, Collaborators, and Consultants
- Research Training Plan
- Training Potential
- Institutional Environment & Commitment to Training
- Additional criteria (among others)
  - Human subjects, budget, training in responsible conduct of research
Scoring

- Only top half of all applications are “discussed”
- All receive a score
- All receive a written critique
- Priority Score (1 to 9) (see handout)
  - 1 to 3 High Impact
  - 4 to 5 Moderate Impact Very good – good
  - 7 to 9 Low Impact
  - Note: 9–point system effective Jan 2009
- Percentile: Varies (percentile of all applications in current and two previous rounds)
The Review Group

- 10–12 Members
- “Standing” committee or Special Emphasis Panel
- Reviewers
  - Primary and Secondary: read grant, write critiques, present application to group
  - Tertiary: reads grant, writes brief critique, adds additional comments as necessary
- Discussion (all members)
- Attempt at “consensus”; dissenting opinions
- Assignment of score (all members)
- Reviewers are “blind” to final score and funding decisions
The NIH Review Process

- eRA Commons notifications via email
- Assignment to Scientific Review Group (SRG)/Study Section
- Review of applications
- Notification
  - Priority Score, percentile (not always calculated)
  - Posting of summary statement reviews (critiques) may take several weeks
- Advisory Council
Award Factors

- Scientific merit
- Program priorities
- Availability of funds
- Extremely rare to receive funding at first submission
- Resubmissions usually go to same review group, but not always to same reviewers
Other tips

- Get feedback!
- Speak to program officer
- Carefully address reviewers’ comments
  - Address comments in resubmission
- Persistence pays
  - Don’t get discouraged
Peer review

- NIH Mock Study Section Video
Grant writing groups
What $R^2$ Can Do For You

- If there is enough interest, set up small grant writing groups (4–5 members)
- Members would bounce ideas and text off each other, and critique
- $R^2$ facilitate groups
Q & A
For Further Information

- Office of Research Resources
  Halley Riley
  - her2109@columbia.edu
  - 212–305–3615

Dr. Pam Factor–Litvak
- prf1@columbia.edu
- 212–305–7851