




University of California
San Francisco
advancing health and science

Faculty Development Day

Funding Your Research

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September 10, 2013




Outline

Context:

Resources at UCSF and Pearls from the Panelists

- NIH Grant Applications: Types and Criteria
- Resources for You
- Non-NIH Opportunities
- Grantsmanship and Success Factors
- Questions and Answers- Discussion


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UCSF Resources

- **HUB** <http://hub.ucsf.edu/>
- **Office of Career and Professional Development**
 - Resources target students, but library includes useful links
 - Grant writing guides and publications
- **Office of Industry, Technology and Alliances**
 - Designed to develop strategic partnerships with private industry; can help identify funding opportunities
- **Office of Sponsored Research**
 - Provides variety of funding resources and links; compliance requirements and guidelines
 - Supports preparation of complex proposals through the Research Development Office (RDO)
 - Controls limited submission opportunities (LSO)


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UCSF Resources:

- **Limited submission opportunities**
 - Grant opportunities that limit the number of UCSF applications (*Burroughs Wellcome, Pew Trust, William T. Grant Foundation, etc.*)
 - Join listserv: limitedsubmissions@ucsf.edu
- **PIVOT: Community of Science (COS) funding opportunities**
 - **PIVOT.cos.com**
 - Searchable database, updated daily: government, non-profit, industry and international funding opportunities.
 - receive weekly email of personalized search terms
 - Departments can schedule training workshops
 - Gail Fisher

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<http://accelerate.ucsf.edu/funding?career-development-awards>

Grant Writing Guidance

Examples of successful research proposals and expert advice on how to navigate and write grant applications

- K-Proposal Library (K09, K23, K24, K99) ⓘ
- Writing NIH Mentored K Award Applications ⓘ
- T32 Proposal Library ⓘ
- Data Safety Monitoring Protocol Library ⓘ
- Biostatistics Consultation Services in Statistical Grant Writing ⓘ

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Funding mechanisms of special interest to pre-tenure faculty

Foundation grants for new investigators

- *Arthritis Foundation,*
- *March of Dimes,*
- *Hearing Health Foundation, etc.*

Pilot projects supported by

- *RAP grants*
- *Center Grants (P's)*

NIH Diversity Supplements on other R01's

Diversity - defined by UCSF/San Francisco area

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**Types of NIH Grants:
Investigator-initiated or response to PA or RFA**

R01 Research

- PI defines scientific focus based on interest and competence
- PI writes application and is responsible for conducting the research, but official applicant is UCSF
- 1 to 5 years, \$250,000/yr (modular budget) <\$500,000/yr

R03 Small Grant

- Small research projects, short time period, limited resources
- Pilot studies, secondary data, new methods or technology
- 2 years, \$50,000/yr.

R21 Exploratory/Developmental

- New, exploratory, developmental; potential to advance health-related research; risky, potential for major impact
- Must be distinct from R01
- 2 years, up to \$275,000 total

R01 is a better investment of time and effort for a early career PI

Other NIH Awards

K Award – Training grant

- Provide support and protected time (75%) for new faculty
- Primarily for researchers at the beginning of their careers
- Provide a transition to full independent research awards
- Evaluated on training plan and research plan
- (PI) Award (K99/R00)

K99/ R00 – NIH Pathway to Independence

F Award – individual training grant

T Award – institutional training grant

U Award – Cooperative agreement

P Award – Program Project Grant (Centers)

- Support for integrated, multi-project research projects involving a number of independent investigators who share knowledge and common resources

Criteria for Rating NIH Applications

1=perfect 3-6 = minor weaknesses 7-9=flawed

- Significance**
 - address important problem?
 - advance scientific knowledge?
- Investigator(s)**
 - appropriately trained to carry out work?
 - appropriate work for PI and collaborators?
- Innovation**
 - novel concepts, approaches or methods?
 - challenge existing paradigms or develop new methodologies?
- Approach**
 - design and methods appropriate for aims?
 - acknowledge limitations and consider alternative tactics?
- Environment**
 - contribute to probability of success?
 - evidence of institutional support?

Pearls about NIH

- See NIH Video – review process:
<http://www.youtube.com/watch?v=kfgzdLe92c0>
- visit NIH website and do a search on your area.
<http://grants.nih.gov/grants/oer.htm>
- Read NIH announcements.
 - Example: PI is interested in preventing obesity in underserved children, particularly in Latino families. She found this Program Announcement (PA):
 - PA-13-153 (for an R01) and
 - PA-13-154 (for an R21)

Schedule/meet with your pre-award staff

| Announcement Number | Related Announc. | Issuing Organization | Release Date* | Opening Date (SF 424 Only) ? | Expiration Date | Activity Code(s) | Title |
|---------------------|------------------|----------------------|---------------|------------------------------|-----------------|------------------|---|
| PA-13-153 | See Related | NIDDK | 03/22/2013 | 05/05/2013 | 05/08/2016 | R01 | Home and Family Based Approaches for the Prevention or Management of Overweight or Obesity in Early Childhood (R01) |
| PA-13-154 | See Related | NIDDK | 03/22/2013 | 05/16/2013 | 05/08/2016 | R21 | Home and Family Based Approaches for the Prevention or Management of Overweight or Obesity in Early Childhood (R21) |

<http://projectreporter.nih.gov/reporter.cfm>

- NIDDK -good until 5/2016. open PA-13-153 announcement, see it is a re-issue of prior PA
 - PA-10-127
- “RePORTER” magnifying glass to open query page
 - type in search word(s), limit search to mechanism (R, K), or limit to San Francisco. On the right side of the query form, go to FOA (Funding opportunity announcement) and type in “PA-10-127”
- When you hit ‘submit’ at the bottom of the page, it will take you to the 3 funded applications.

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<http://projectreporter.nih.gov/reporter.cfm>

- Click on each of these to get to the "description" tab and read the abstract.
 - Click on details tab to see Program Officer

UNIV OF NORTH CAROLINA CHAPEL HILL 2012 NICHD Program Officer: HAVERKOS, LYNN
BENTLEY, MARGARET:
MOTHERS AND OTHERS: FAMILY-BASED OBESITY PREVENTION FOR INFANTS AND TODDLERS

If you or mentor knows the PI, look at their publications and faculty profile, then chat with her. This PI may be a logical consultant on your application!

If you don't know the PIs, look at their prior publications, begin a correspondence, and when the time is right, ask if they would be willing to share a copy of their R01.

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Where are you most likely to be successful?

In RePORTER go to links and see "success rates" – first PDF is a definition of success rate

| | Mechanism | Number submitted | Number funded | Success Rate |
|-------|-----------|------------------|---------------|--------------|
| NICHD | R01 | 3,554 | 443 | 12.5% |
| NICHD | R03 | 496 | 61 | 12.3% |
| NICHD | R15 | 114 | 21 | 18.4% |
| NICHD | R21 | 1,171 | 107 | 9.1% |
| NICHD | R43 | 183 | 38 | 20.8% |
| NICHD | R44 | 35 | 13 | 37.1% |

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NIH Reporter – 2012 success rates

| NICHD | | submit | funded | SUCCESS |
|-------|-----|--------|--------|---------|
| NICHD | K01 | 22 | 8 | 36.4% |
| NICHD | K02 | 3 | 0 | 0.0% |
| NICHD | K08 | 25 | 11 | 44.0% |
| NICHD | K12 | 45 | 17 | 37.8% |
| NICHD | K23 | 59 | 28 | 47.5% |
| NICHD | K24 | 11 | 4 | 36.4% |
| NICHD | K25 | 3 | 0 | 0.0% |
| NICHD | K99 | 62 | 16 | 25.8% |

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NIH Websites

- NIH.gov
- Overview of Peer Review Process
 - http://grants.nih.gov/grants/peer_review_process.htm
- CSR/Study Section
 - <http://public.csr.nih.gov/StudySections/Standing/Pages/default.aspx>
- Deadlines
 - <http://grants.nih.gov/grants/funding/submissionschedule.htm>

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Research Grants

- Federal (AHRQ, CDC, NIH) www.grants.gov
- Patient-Centered Outcomes Research Institute (PCORI)
- Dept of Defense (DOD)
 - <http://cdmrp.army.mil/funding/reftable.shtml>
- UCSF intramural grants – RAP
 - <http://rap.ucsf.edu/grants/>
- Grateful patients (via development office)
- Diversity supplements

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Pearls about UCSF

- Meet with pre-award staff:
 - provide PAR, RFA, and set up a schedule to meet the deadline, considering travel and vacations and lifestyle
- Meet with statistician:
 - design/methods/sampling and power analysis for the budget
- Finalize budget with pre-award staff when methods and sampling are clear
- Bio-sketches
- Resources & Environment description

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Pearls about Getting Funded

- **Diversify funding agencies**
 - NIH, NSF, HRSA, Foundations, UCSF
- **Recycle grants; use the same grant model more than once**
- **Best when grants build on each other**
- **Get feedback from colleagues!**
- **Collaborate – you cannot be responsible for 100% of your salary!**
 - UCSF Profiles <http://profiles.ucsf.edu>

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Thinking Beyond NIH...

- **Internal grants**
 - Center grants: Liver, Cancer, Women's health, etc
 - CTSI (<http://accelerate.ucsf.edu/funding>)
 - RAP
 - T1 Catalyst
 - QB3 (<http://www.qb3.org/about>)
- **Office of Sponsored Research (<http://or.ucsf.edu/cg>)**
 - Limited Submission Opportunities (LSOs):
 - Keck, Packard,...
 - NSF, DOD, DARPA...
 - Non-Profit Agencies/Foundations
 - UCOP Research Programs

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Beyond NIH... (continued)

- **Public/Private partnerships**
 - Large partnerships (Pfizer, Bayer, Sanofi, GE Health, J&J, etc.)
 - Smaller companies (individual relationships)
- **Non-traditional sources...**
 - Thiel Foundation, crowdsourcing

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UCSF ecosystem for public-private partnerships

Resources

- Start-up in a Box
- Garage Incubator Space
- Mentorship via CTSI

Funding

- Bridging the Gap Funds
- Catalyst T1

Start-up Expertise

- Entrepreneurs in Residence
- Academy of Biomedical Entrepreneurs
- Expert Affiliates
- Seminars/short courses

Industry Investment

- Program for Breakthrough Biomedical Research
- New Technology Partnerships
- Visiting scientists

Logos: qb3, UCSF Innovation, Technology & Alliances, Clinical and Translational Science Institute / CTSI, Accelerating Research to Improve Health, ROGERS FAMILY FOUNDATION, Mission Bay Capital

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FOUNDATIONS... many!

Am Heart Assn...\$50k/yr x 4
Am Cancer Soc...\$100k/yr x 5 yrs
Am Diabetes Assn...\$80k/yr x3 yrs
Am Lung Assn
Juv Diabetes Res Fnd...\$160k/yr x 3 yrs
United Cerebral Palsy... \$50k/yr x 2 yrs
Cystic Fibrosis Fnd
March of Dimes....\$100k/yr x 3 yrs
Schizophrenia Fnd....\$100k/yr x 3 yrs
Pfizer Award....\$100k/yr x 5 yrs

**THESE AWARDS CAN FUND YOUR PROGRAM
AND PROVIDE IMPORTANT SEED FUNDS**

APPLY...APPLY...APPLY

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Catalyst Award Program Value Proposition

GOAL: Enable translation of early-stage research ideas—therapeutics, diagnostics, devices and digital health—into marketable products.

Identify → **Support** → **Enable**

Expert review panels
Therapeutics
Devices
Diagnostics
Digital Health

Customized awards
Consultation awards
Pilot awards
Development awards


Building value
IP
Partnerships
Follow-on funding

- 120 expert advisers
Industry (pharma/medtech)
Venture capital
Regulatory and IP
- Customized funding
Pilot awards (up to \$15,000)
Catalyst awards (up to \$100,000)
- Return on investment (3 years)
\$6 in follow-on funds for every \$1 awarded
42 disclosures and patents, including 2 out-licenses to industry

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UCSF Industry Collaborative Programs

- UCSF-Pfizer Center for Therapeutic Innovations
- UCSF-Quest Translational Collaborations
- PBBR (Programs in Breakthrough in Biomedical Research)
- Many more



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Commandments
Of
Grantsmanship

Margaret Tempero, M.D.
Director, Pancreas Center

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1. Listen to your mentor
2. Understand the funder
3. Be competitive
4. Have a great innovative idea
5. Ensure feasibility

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6. Establish and vet your hypothesis and specific aims first
7. Demonstrate your competency
8. Know your reviewers and the review criteria
9. Be persistent
10. Publish

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Special Pearls about Grantsmanship

- Write clearly and correctly – minimize jargon, abbreviations
- Remember the power of pictures
- Use a decent size font
- Put important points in bold
- Promote the innovation in your project

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Final Pearls

- Use UCSF HUB to navigate and Profiles to find mentors, consultants, collaborators.
- Demonstrate UCSF support when applying for external funding – get a RAP grant, get a track record, publish...
- Use NIH RePORTER database to find consultants, prior funded applications, success rates, program officers, funding institutes.
- Partner effectively with local bio-tech and pharmaceutical industry.
- Be kind to reviewers, know the criteria they use to review your application, talk to the program officers.

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