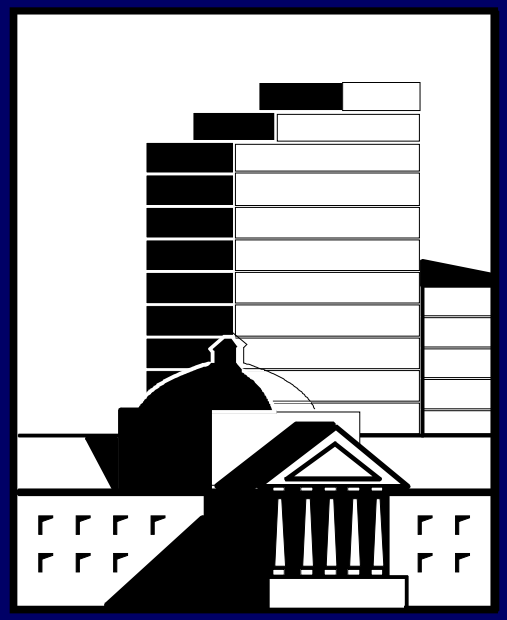

So, You Think You Want A Research Grant…

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Prof. Forman and other presenters have no conflicts of interest related to the material in this presentation

Agenda

Forman– Grant Strategy Overview

Harlow, Turok, Fong– How the DACCPM Research Administration Team Can Help You With Your Grant

Q&A

1) How will Research Fit into Your Career Plans?

A. What is your career stage?
   i. Early
   ii. Middle
   iii. Established

B. Do you need research training?

C. For clinicians, how much time do you plan to commit to research?

2, 3) Significance & Impact

2. What is the focus of your research?
   i. Answering scientific questions
   ii. Changing how we do science or clinical care

3. How will the proposed work Impact on science or clinical practice?

Validate with literature review, mentors, and expert colleagues (https://catalyst.harvard.edu/)

4) What Kind of Research?

A. **Basic laboratory research**
   i. Platform/model development (computational, molecular, cellular, tissue; animal)
   ii. Discovery (screening; driven by technique or model; unbiased)
   iii. Hypothesis-based (biased; negation leads you elsewhere)

B. **Translational**
   i. Validity of discovery or hypothesis in complex organisms

C. **Clinical**
   i. Intervention: Safety, Efficacy, Toxicology (Phases 1 through 4)
   ii. Outcomes: comparative outcomes, discovery using clinical databases

D. **Other**
   i. Innovation (early-phase concept development)
   ii. Clinical Quality and Safety (QI)
   iii. Educational Program Development (local through international scale)
   iv. Disparities, Economics, Human Performance, Culture, Etc.

5) What Resources Do You Need?

A. People/Expertise
   i. Do you need research training (mentorship)?
   ii. Do you need people with special skills (ARC)?
   iii. Collaborate vs. Hire

B. Time
   i. Create milestones for progress

C. Space/Equipment
   i. New or Old? (How lucky are you?)

D. Money--DACCPM Research Administration team
   i. Create budget
   ii. Identify potential internal or external funding sources

6) What Approvals Do you Need?

A. Support/approval from DACCPM
   i. Chief (time, space, money)
   ii. Division Chief (time)

B. Institutional approvals (usually just-in-time)
   i. Animal use (IACUC; local & federal regulations)
   ii. Human subjects (IRB ; local & federal regulations)
   iii. Drugs (local, state, & federal regulations)
   iv. BioSafety (local regulations)
   v. Chemical Safety (local regulations)
   vi. Radiation Safety (local regulations)

C. Budget and cooperative agreements (DACCPM Research Administration & MGH Research Management)

7) Selection of Appropriate Funding Sources & Grants

A. Mission alignment (Are you proposing work that the organization/institute supports? Ask program officials, e.g. NIH program officers.)
B. Career phase (training, career development, established, career transition)
C. Part-time vs. full-time effort
D. Scale of project/budget: small single project to large multi-project
E. Phase of research: innovation, development, translational, clinical trials

8) Grant Sources (not comprehensive)

A. DACCPM (Innovation grants— Doug Raines)

B. MGH (ECOTE = Teaching and Education)

C. NIH (https://grants.nih.gov/grants/funding/funding_program.htm)

   i. F/T-series: research training, full-time (80%)

   ii. K-series: mentored, career development, full-time

   iii. R-series: Research Awards from small to large (single vs. multi-PI)

   iv. P: Program project (big science) with projects and cores ($500K and up)

   v. U01: Research Project Cooperative Agreement (Sponsoring Institute-Center collaboration)

8) Grant Sources (continued)

D. Other Federal Agencies

(https://www.grants.gov/web/grants/search-grants.html)

i. HHS (NIH is part of HHS)

a. AHRQ—health safety, quality, access, costs
b. PCORI—comparative outcomes
c. FDA—Phase 4 clinical studies; e.g. SMARTTOTS)
d. OPHS/HRSA—public health and science (resources, disparities, substance use)

ii. DoD/ DARPA

8) Grant Sources (continued)

E. FAER (https://www.asahq.org/faer/researchfunding)

i. Research in Education (40% effort; 2 years, $100K)
ii. FAER-ABA Research in Education (focus on ABA certification impact; 40% effort; 2 years, $100K)
iii. AHA-FAER Career Development Award (50+% effort; 3 years, $250K)
iv. APSF-FAER MRTG (60% effort; 2 years, $300K)
v. Research Fellowship Grant (residency, 80% effort; 1 year, $75K)
vi. FAER MRTG (75% effort; 2 years, $250K)
vii. FAER Transition to Independence (75% effort; 1 year post-MRTG, $75K)
viii. GEMSSTAR (Early Med/Surg Specialist Transition to Aging Research) *via* NIA R03 (75% effort; 2 years; $50K)

8) Grant Sources (continued)

F. IARS (https://iars.org/research-awards/)
   i. Mentored Research Award (75% effort; 2 years, $175K)
   ii. Frontiers in Anesthesia Research Award (FARA; 3 years, $750K; only granted to one awardee every 3 years)
   iii. IMPACT Award (Large pragmatic clinical trial development; $15K)

G. Other Foundations (AHA, Stroke Society, etc..)

H. Industry Grants

I. Search: MGB Research Management

8) Some DACCPM Grant Awardees

T32 – Julia Rosenbloom, Lei Gao, Mabel Chung, Abraham Sonny, Alex Nagrebetsky, Katarina Ruscic, Sarah Low

F32 – Olivia Moody

IARS – James Rhee

FAER – Yumiko Ishizawa, Rebecca Minehart, May Pian-Smith, Shiqian Shen, Lorenzo Berra

K08/ K23 – Karen Nanji, James Rhee, Dusan Hanidziar, Lorenzo Berra

AHA – Aranya Bagchi

R01, R03, R21, R35, R42 – Shiqian Shen, Lei Gao, Joe Cotten, Ken Solt, Tim Houle, Gary Brenner, Patrick Purdon, others…

Industry – Sheldon Bao, Lorenzo Berra

MGH ECOTE – Dan Saddawi-Konefka

P01 – Emery Brown, Keith Miller

U01 – Julian Goldman

9) RECAP: Who to Talk to *BEFORE* Applying for a Grant?

A. Scientific colleagues
B. Grant Source Scientific Program Officers
C. Department Chief
D. Division Chief
E. VC for Research (J. Mao), T32 Directors (S. Forman or K. Solt) or other Research Council members
F. DACCPM ARC— Research Design & Analysis
G. DACCPM Research Administration (Maria Harlow et al)
H. Institutional Research Compliance Officials

10) WRITE YOUR GRANT

A. Write a first draft early

B. Write for your reviewer (a busy tired person who may not know the research area as well as you)

C. Understand the review criteria and organize your document around them:

i. **Significance**— How might the results impact science or clinical practice and how important are the potential outcomes?

ii. **Investigator(s)**— Do the researchers have expertise and a strong track record?

iii. **Innovation**— What aspects of the proposal are novel?

iv. **Environment**— Does the PI have enough space, equipment, expert collaborators, and institutional/departmental support?

v. **Approach**— Are the methods feasible and well-suited to answer the key question(s), have the experiments been designed well with adequate controls and statistical power, and is the project likely to succeed in its aims?

10) WRITE YOUR GRANT

D. Highlight significance, preliminary data, and scientific/analytical strategy.
E. Ask for constructive feedback from experienced researchers and others with strong writing skills (*reviews provided by the MGH Research Council*)
F. Edit and polish before submission.

Writing is the most underappreciated skill in science.

Be Patient

It typically takes 6-8 months before you learn how your grant application fared.

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QUESTIONS?