Getting an NIH Pre-Doc Fellowship (F30/F31)

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Outline

- Why write grants
- Intro to the NIH and types of NIH funding
- The F30/F31 main sections
- NIH submission and review process
- Resources for preparing your grant application

Why write grants

- Gives you time to update yourself on the literature – be an expert in the field
- Forces you to examine what is most important about your research – why anyone else should care and give you taxpayer (or foundation) money for it
- Forces you to communicate succinctly and logically
- Fosters new collaborations
- To get practice early on
- Establishes your credibility
- $

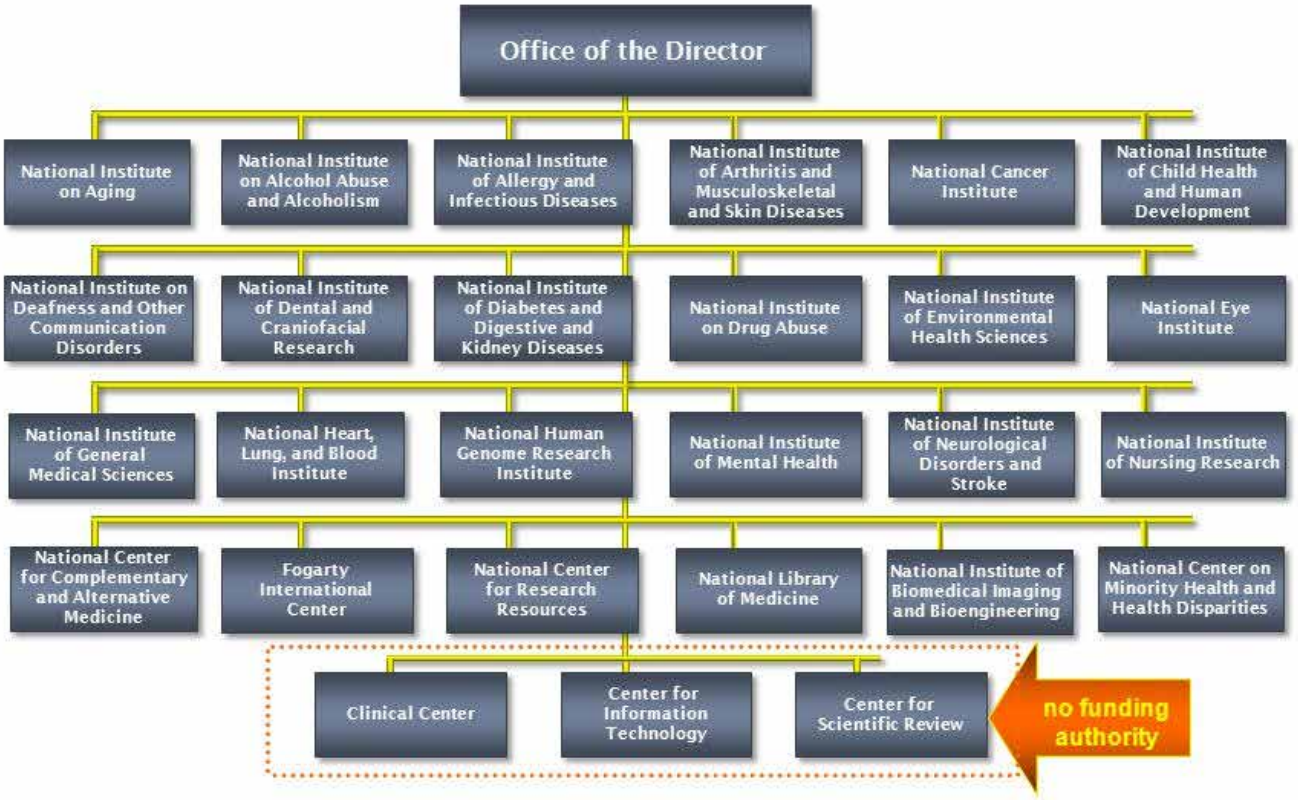
Lots of good related ideas
à Clear path forward

National Institutes of Health

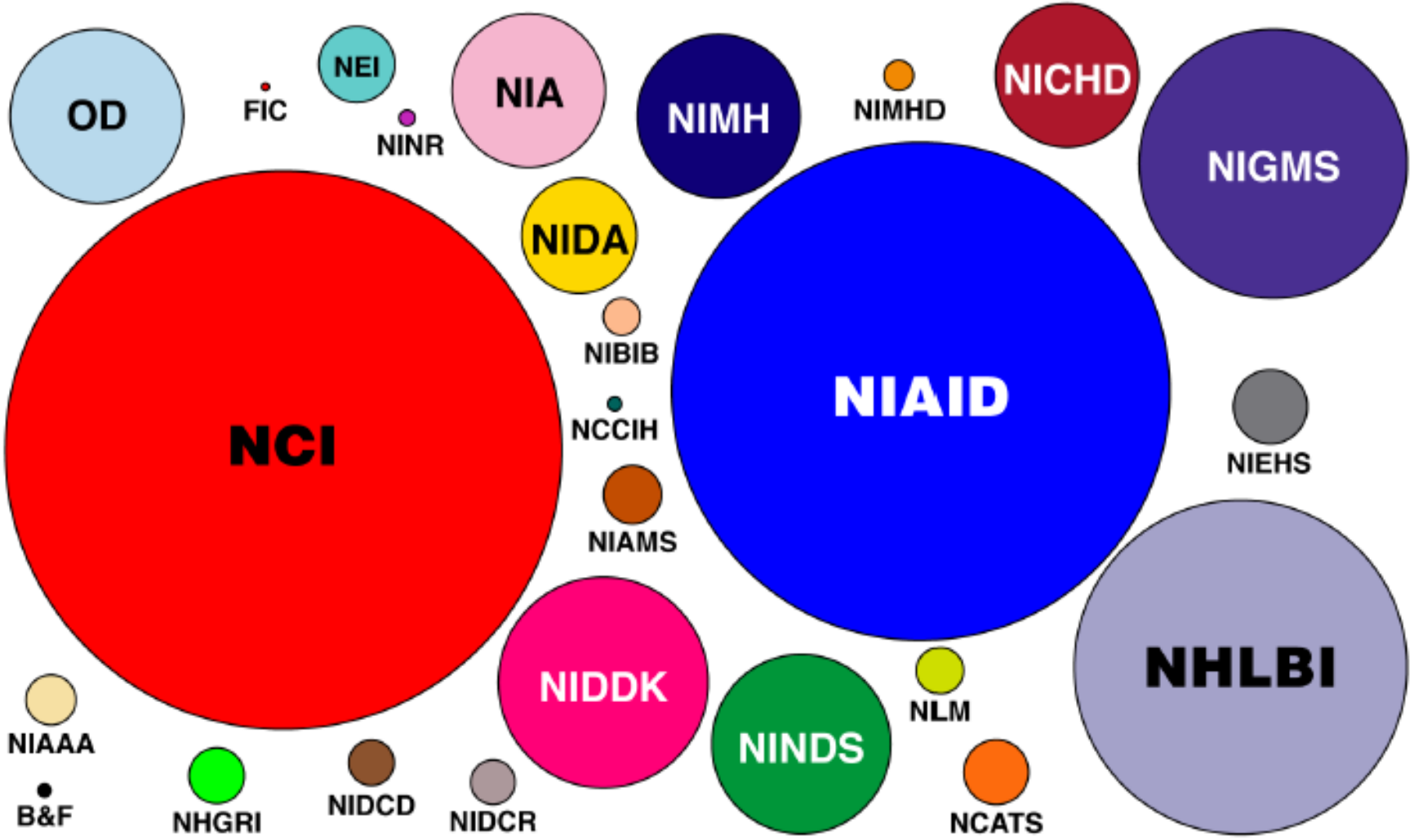
- “NIH’s mission is to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability.”
- $37.3 billion
  - 80% grants
  - 10% intramural research
- 300,000 researchers have NIH grant awards

National Institutes of Health

27 Institutes and Centers (IC)



National Institutes of Health $$$



Common types of NIH funding

	Description / Notes
Graduate student	
F30 / F31 / F31 Diversity	Training, up to 5 years
T32	Training - Apply to institution (45 at UCSF)
R36	Dissertation award - Only NIDA, NIA, and AHRQ
Postdoctoral fellow	
F32	Training, up to 3 years, T32 years subtracted
T32	Training - Apply to institution (45 at UCSF)
K99	Mentored research
LRP	Loan repayment (anytime after MD/DO/PhD degree)
Faculty	
K01, K08, K23	Mentored career development
R00, R01, R03, R21, R34, U01	Investigator initiated research, cooperative research (U01)
P01 / P30	Center grants

F30 / F31 facts

https://researchtraining.nih.gov/programs/fellowships

- 3 types
  - F30 – dual degrees (e.g. MD/PhD)
  - F31 – PhDs
  - F31 Diversity –under-represented groups / persons with disabilities
- These are a type of NRSA (National Research Service Awards)
- Up to 5 years of support
- Provide stipends ($24K/year) and tuition (up to $16K/year), other $ ($4K/year)
- Good success rates in 2017 (report.nih.gov/success_rates) :
  - F30: 42% (24 at UCSF)
  - F31: 26% (37 at UCSF)

Are you a good candidate for a F30 / F31?

- Your trajectory : An investment in YOU
  - You are expected to want to have a career as an NIH-funded scientist
    - Post-doc, faculty position doing independent research
    - For F30 – interested in a career as a physician-scientist or other clinician-scientist
- Do you have the capacity to get trained in your proposed area?
  - Your sponsors (mentors)
  - Your institution
  - You
- Do you have an interesting / important research idea, sound methodology, feasibility?

Your team for a F award

- Primary sponsor who is a senior investigator with a track-record of NIH funding (i.e. Associate or Full Professor)
  - Mentored others, preferably other F awardees
  - Should be able to mentor you in the content area *and* in career development
  - Include a co-sponsor if needed to fill a gap, e.g. if sponsor is very busy
- Include consultants who will complement the primary sponsor's strengths.
- Every person included should have a unique role.
- Keep your team small (3-5 members).
- Reserve advisors outside your current work for references (writing confidential letters in support of your application)

F30/F31 main components and page limits

Section of Application	Page Limits
Project Summary/Abstract	30 lines of text
Project Narrative	Three sentences
Introduction to Resubmission or Revision Application (when applicable)	1
Applicant's Background and Goals for Fellowship Training	6
Specific Aims	1
Research Strategy	6
Respective Contributions	1
Selection of Sponsor and Institution	1
Training in the Responsible Conduct of Research	1
Sponsor and Co-Sponsor Statements	6
Letters of Support from Collaborators, Contributors, and Consultants	6
Description of Institutional Environment and Commitment to Training	2
Applications for Concurrent Support (when applicable)	1
Biographical Sketch (NOTE: Format for applicant differs from sponsors')	5 (each)
Letters of reference (3-5 letters)	No limit

Applicant's Background and Goals for Fellowship Training (6 pages)

- Doctoral Dissertation and Research Experience
- Training Goals and Objectives
- Activities Planned Under Award

Applicant's Background and Goals for Fellowship Training

- Doctoral Dissertation and Research Experience
  - Summarize research experience in chronological order
  - Tell an academic story—Who are you as a researcher? How did you get here? Where do you want to go next?
  - If no research experience, describe other scientific experiences.

Applicant's Background and Goals for Fellowship Training

- Training Goals and Objectives
  - Describe your overall long-term training/career goals and how the fellowship will enable the attainment of these goals
  - Have 2 or 3 distinct areas in which you need training that are outside of your PhD program. For example:
    - Advanced Statistical Methods for Causal Inference
    - Theoretical and Historical Frameworks for Social Determinants of Health and Substance Use
    - Social Policy and Evidence-Based Policy Processes
  - Identify the skills, theories, conceptual approaches, etc. to be learned or enhanced by the broader goals.

Applicant's Background and Goals for Fellowship Training

- Your training goals and activities should be *uniquely* suited to you.
  - Propose a mix of didactic training and “hands- on” research experience that make perfect sense for you (and only you), given your previous training and research experience and your career goals.
  - Include classes, workshops, and conferences that are not a standard part of your program
  - You can propose to use training resources outside UCSF, but choose the best available.

Applicant's Background and Goals for Fellowship Training

- Activities Planned Under Award
  - Explicit list of training activities, including the research activities
  - Best to present this with a table (by each year)
    - Briefly describe each training activity (research, coursework, professional development, clinical activities) with bullet points
    - Organize by training goal or by format
  - Include percent time you will devote to each activity (or group of activities) which adds up to 100% per year.
    - Example (Year 1): 70% research; 10% teaching; 20% other training activities such as conferences, seminars, etc.

Specific Aims and Research Strategy

- You will likely spend the most time (around 50%) on these sections
- The research plan for a F grant is a *training vehicle*.
  - The research plan should provide an opportunity to acquire new skills and should be well integrated with your training goals and activities.
  - Include explicit references to training goals within this section (e.g. methods that you will receive training on before doing).
  - The research plan should be viewed as a precursor for a subsequent F32 or K application.
- Research plan scope: Not too little, not too much
  - Project should move the field forward (is it publishable?)
  - Must be distinct from sponsor's research, though leverage it.
  - Plan must be feasible given the resources and time needed to accomplish the research

Specific Aims (1 page)

- What most reviewers read first
- May be the only page that reviewer reads
- First thing you work on but revise and re-revise
- Common to all grant applications, but for training grants includes reference to how the research will be a vehicle for your training goals
- Circulate drafts of this page to find out if the NIH is interested, to get early concept reviews, interest consultants, etc.

Specific Aims main components

- The overall problem (e.g. debilitating neurodegenerative disease)
- The more specific problem (e.g. poor diagnostics)
- What is known about how to solve the problem
- Why hasn't it been solved – what is the knowledge gap?
- How you propose to solve (or take steps toward solving) the problem
- Aims – main things you will accomplish
  - Best if hypothesis driven
- Very briefly describe how you will accomplish the aims (e.g. study design, experiments)
- How this research will serve as a training vehicle to meet your goals

Specific Aims common structure

- Paragraph 1:
  - What is the problem (disease) – how many people does it affect, how debilitating, how costly, etc.? What is the aspect of the problem that needs a solution?
  - What is known about how to solve this problem?
- Paragraph 2:
  - What is the knowledge gap that has prevented this problem from being solved?
  - What is your solution to the knowledge gap?
  - What are your long-term goals towards solving the problem?
- Paragraph 3:
  - What are your short-term goals for this study – what will you do to begin to bridge the knowledge gap?
  - What type of study/studies will you do; what are your resources?

Specific Aims common structure, cont.

- The Specific Aims themselves:
  - 2-4 aims
  - The aims should break down of the proposed project in terms of knowledge to be gained.
  - Each aim should have a hypotheses if possible.
  - Include one sentence or phrase about the research design in each aim if the aims have different methodologies.
- Final paragraph:
  - Innovation and expected impact in the field or on health policy or outcomes.
  - What new research / further proposals this will lead to.
  - How conducting this research will meet your training goals.

Research Strategy Significance section

- Usually 1-2 pages
- Expand on the Specific Aims paragraphs 1+2
  - Review the literature that describes the health problem
  - Establish the gap in the literature / the need for this work
- Rigor of the prior research – strengths and weaknesses of prior literature (should point to the gap), including preliminary data on the topic (work by you or your sponsor) https://grants.nih.gov/policy/reproducibility/guidance.htm
- Expected research contribution: how the results of the proposed study (or the long-term goals) will change practice, health, etc.
- Note how the proposal is relevant to an NIH priority (if true)
- References are NOT included in the Research Strategy 6-page limit

Research Strategy Approach section

- Usually 3-4 pages
- Your preliminary data showing feasibility of the approaches
- The nuts and bolts of what you are going to do
  - Needs to have enough detail to convince reviewers of feasibility in your hands
  - Includes data collection, statistical power, statistical analyses, potential pitfalls, timeline, and future directions
- Step by step methods with tables and figures, etc. Methods should be very clear to reader (almost like a written protocol)
- Be sure to address any potential red flag, like human/animal safety (even if it is addressed elsewhere in the application)
- Include potential pitfalls and solutions, a timeline, and future directions

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Suggested timeline

Time before deadline	What
3-6 months	Discuss with supervisor/mentor to get advice on your readiness, general direction of the proposal, appropriate institutes
3-4 months	Draft specific aims page, review with mentor, revise!
2-3 months	Contact NIH program official(s) for interest in your content area, your specific eligibility
	Confirm sponsor, identify and meet with co-sponsors and consultants, review aims with them
	Inform Research Service Coordinator (RSC) that you will be submitting – get timeline
1-3 months	Draft research and training sections, request biosketches (need to adapt), letters of reference, letters of support (need to draft), sponsors' section (may need to outline)
1 month	Get outside reviews, work with RSC on the remaining materials
2-3 days	Review all materials uploaded by RSC, RSC will do the final submission

NIH submission, review, and award timelines

Series	Description	Cycle 1	Cycle 2	Cycle 3
F Series Fellowships *new, renewal, resubmission*	**SUBMISSION: Individual National Research Service Awards (Standard)**	April 8	August 8	December 8
All *new, renewal, resubmission, revision*	**SUBMISSION: AIDS and AIDS-Related Applications**	May 7	September 7	January 7
All	Scientific Merit **Review**	June - July	October - November	February - March
All	Advisory Council Round	August or October	January	May
All	**Earliest Project Start Date**	September or December	April	July

F award NIH study section review criteria

https://grants.nih.gov/grants/peer/critiques/f.htm

- Fellowship applicant
- Sponsors, collaborators, and consultants
- Research training plan
- Training potential
- Institutional environment and commitment to training

NIH review process

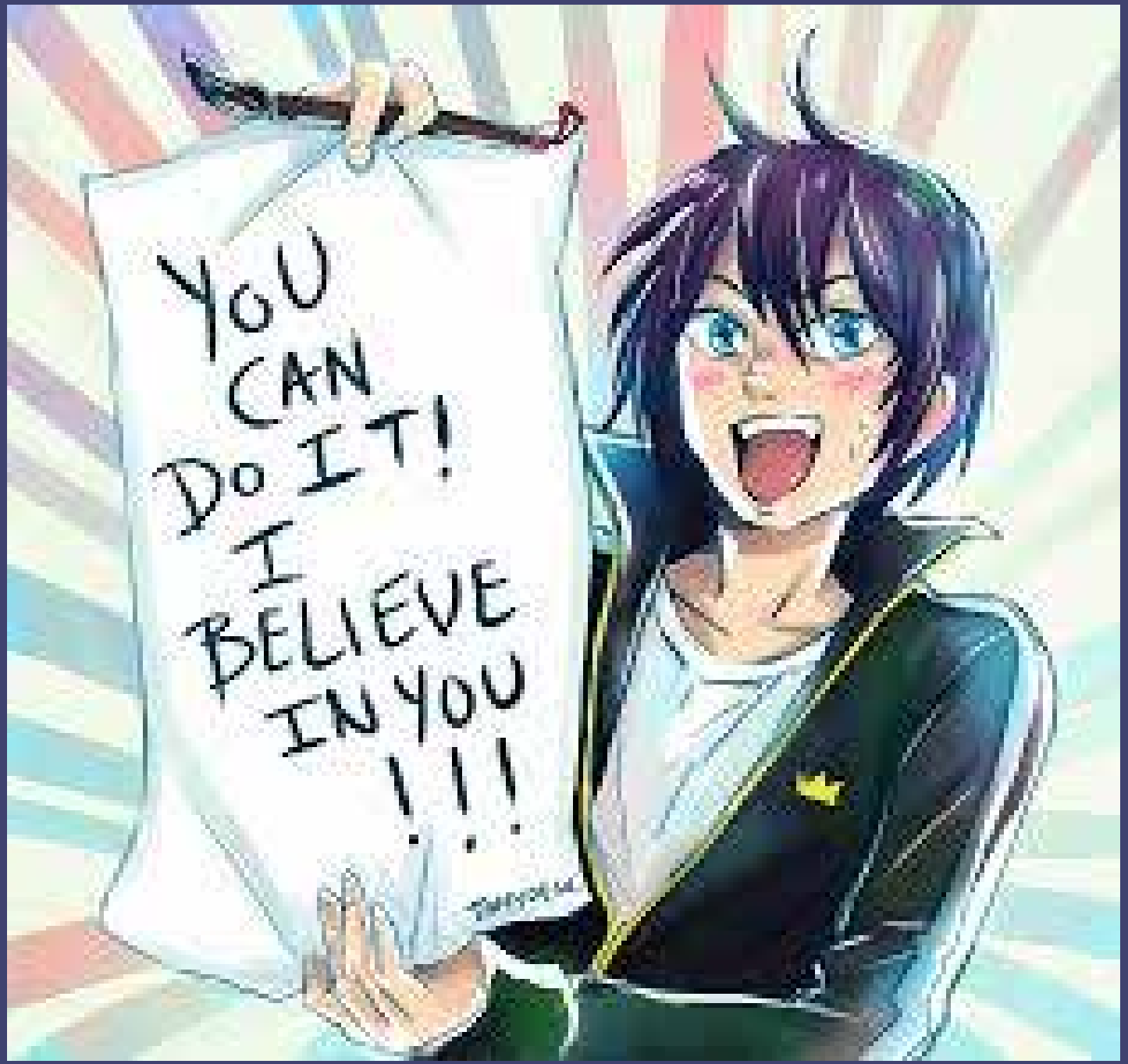
- There are 20 Fellowship review panels https://public.csr.nih.gov/studysections/fellowship/pages/default.aspx
- 3-4 reviewers get your proposal several weeks before study section
- They are asked to write up reviews: summary, and strengths and weaknesses of each of the 5 review criteria
- They will give you a score for each of the 5 criteria, and an overall "impact" score
  - Impact scores are NOT the weighted average of the 5 criterion scores
  - 1=perfect, 9=worst
  - The score you get is multiplied by 10 (so 10 is a perfect score)
- If preliminary scores from the reviewers make the cut (usually top 50-60%), your proposal will be discussed.
- During the study section meeting, the reviewers will present your proposal, there is a discussion, and all members vote on the final score
- You will get the reviewers' written comments, plus a one paragraph summary of the discussion (if discussed)

Grant writing resources

- Read others' successful proposals, including their summary statements and revisions
  - CTSI K library accelerate.ucsf.edu/funding/k-library
  - Hahn F31 library or take my grant writing course (http://ticr.ucsf.edu/courses/schedule/grant_writing_workshop.html)
  - NIH reporter projectreporter.nih.gov -- search on F31 and other fields and contact the PI
- Book: The Grant Application Writer's Workbook http://www.grantcentral.com/workbooks/national-institutes-of-health/ and in the library
- Course: EPI 258 - Grant Writing Workshop http://ticr.ucsf.edu/courses/schedule/grant_writing_workshop.html
  - Can access resources there, including a checklist of all the application items, with links to NIH instructions
  - Library of F31s (mostly clinical)
  - Class of 8 with feedback – usually room for 4-6 non Epi PhD students or postdocs, winter quarter

DO!

- Read others' successful grant proposals. If possible read their review sheets as well.
- Make your proposal easy to read. Clear short headings, judicious use of bolding or underlining (only a few per page), space between paragraphs.
- Get reviews of your concept early on and then get a peer review when it is mostly done.


YOU
CAN
DO IT!
I
BELIEVE
IN YOU
!!!

Queenofyourownlife.com

Somebody called her a
smarty pants and she thought,
"why yes, yes I am.
Thank you for noticing."

Queenisms™

Thank you!

Please feel free to contact me:

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