

A Gentle Introduction to NIH Grant writing for Population Scientists

Tim Bruckner
tim.bruckner@uci.edu

Center for Population,
Inequality, and Policy

Outline

- Why NIH / Pop Dynamics Branch?
 - Is my work “health-y” enough?
- How to match grant to study section / agency
- Which mechanism? R03, R21, R01
- Timeline—from idea to submission
- Practical Tips & Resources
- Panel of NIH Reviewers (Greg Duncan, Candice Odgers)

Why NIH / Pop Dynamics Branch? It fits much of CPIP

- exclusively devoted to funding population dynamics research
 - <https://www.nichd.nih.gov/about/org/der/branches/pdb>
 - fertility, pregnancy outcomes, mortality and morbidity (especially maternal, infant, child, adolescent, and young adult mortality and morbidity), **migration, population distribution, population stratification** (including disparities based on race, ethnicity, sex/gender, and age), **nuptiality, family demography, population growth and decline, and the causes and consequences of demographic change.**
- Priorities
 - Disparities in infant and maternal health
 - **Health, Disease, and Development Across the Lifespan**
 - Contraceptive Use and Non-Use / unintended pregnancy

Center for Population,
Inequality, and Policy

- NICHD funding line is ~12%, but greater for
 - Early Stage Investigators (PhD within last 10 years)—up to 17%
 - New Investigators (no previous R01)
- Peers evaluate your work, and you get feedback (vs. RWJF)
 - Grant can set groundwork for research agenda and collaboration
- If work relates to other NIH branches, funding line may be more generous:
 - Ex: NIA (for Alzheimers and Dementia: ~30%)
 - Search: NIA 2021 funding line, etc.—they are updated throughout the year

Examples of Grants funded by NICHD

- NIH Reporter is your friend:
 - <https://reporter.nih.gov/>
 - Search by topic, researcher, institution
 - Ex: George Farkas
- Results:
 - Title and Summary of Project
 - Investigators
 - Funding Agency

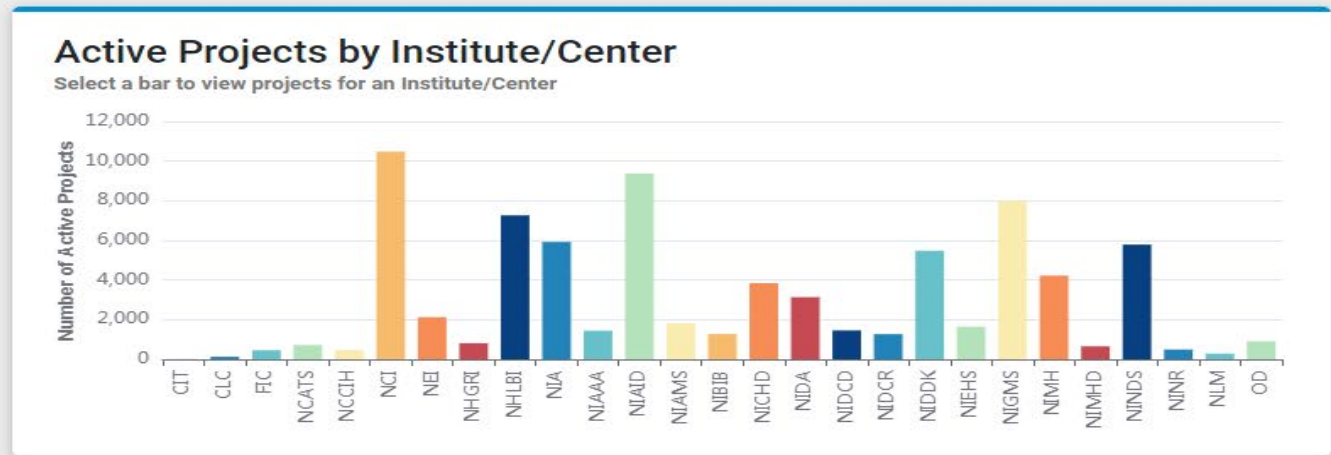
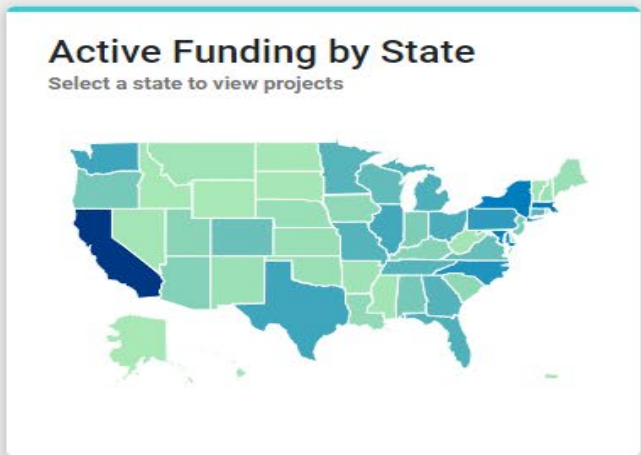
Quick Search

George Farkas Search

Enter just about anything to find NIH projects and funding information: text, PI names, project number, fiscal year, agency

Welcome to the new NIH RePORTER
Rebuilt from the ground up, leveraging the latest technologies, to bring you an enhanced experience. Faster performance, mobile ready, and an intuitive, all-new Quick Search brings the power of NIH RePORTER to your fingertips.

Feedback



Advanced Projects Search

Fiscal Year ?
Active Projects
Current FY is 2021

Principal Investigator (PI) ?
PI Names or Profile IDs, semicolon ";" separated

Organization ?
Enter at least 3 characters to search

Matchmaker

Find potential Program Officials, ICs, and review panels for your research.

Get Started >

NIH RePORT RePORTER

12 Projects

Save... Export Share

George Farkas Search

Projects Publications Patents Clinical Studies News & More

Results are sorted by Relevance

Projects

Publications

Patents

Clinical Studies

News & More

Results are sorted by Relevance

List

Charts

Map

Filters

☐ Active Projects

Fiscal Years

Org Names

Agencies

States

Countries

Principal Investigators

| T | Act Project | Year Sub | Principal Investigator(s)/ Project Leader(s) | Organization | Fiscal Year | Admin IC | Funding IC | FY Total Cost by IC | Similar Projects |
|---|--|----------|---|---------------------------------|-------------|----------|----------------|------------------------|---------------------|
| | Remediating Academic and Non-Academic Skill Deficits among Disadvantaged Youth | | | | | | | | |
| | 5P01HD076816-05 | | LUDWIG, JENS MAYER, SUSAN E. POLLACK, HAROLD ALEXANDER | UNIVERSITY OF CHICAGO | 2018 | | NICHD NICHD | \$886,134 | View > |
| | Remediating Academic and Non-Academic Skill Deficits among Disadvantaged Youth | | | | | | | | |
| | 5P01HD076816-04 | | LUDWIG, JENS MAYER, SUSAN E. POLLACK, HAROLD ALEXANDER | UNIVERSITY OF CHICAGO | 2017 | | NICHD NICHD | \$795,760 | View > |
| | Remediating Academic and Non-Academic Skill Deficits among Disadvantaged Youth | | | | | | | | |
| | 5P01HD076816-03 | | LUDWIG, JENS MAYER, SUSAN E. POLLACK, HAROLD ALEXANDER | UNIVERSITY OF CHICAGO | 2016 | | NICHD NICHD | \$1,503,642 | View > |
| | PROJECT 1: Child Policy Fit in Experimental Early Childhood Interventions | | | | | | | | |
| | 5P01HD065704-05 | 5704 | FARKAS, GEORGE ANDREW | UNIVERSITY OF CALIFORNIA-IRVINE | 2015 | | NICHD | \$151,035 | View > |
| | Remediating Academic and Non-Academic Skill Deficits among Disadvantaged Youth | | | | | | | | |
| | 5P01HD076816-02 | | LUDWIG, JENS MAYER, SUSAN E. POLLACK, HAROLD ALEXANDER | UNIVERSITY OF CHICAGO | 2015 | | NICHD NICHD | \$1,423,125 | View > |



Match Grant to Study Section and NICHD (or other agency)

- What is Study Section?
 - Your peers who score your grant (NIH does NOT score grants)
 - These peers tend to get speaker invitations!
- NIH Matchmaker, within NIH Reporter:
 - <https://reporter.nih.gov/matchmaker>
 - Ex: sex ratios and male/female differences in survival
 - Insert abstract into matchmaker



Center for Population,
Inequality, and Policy

Quick Search

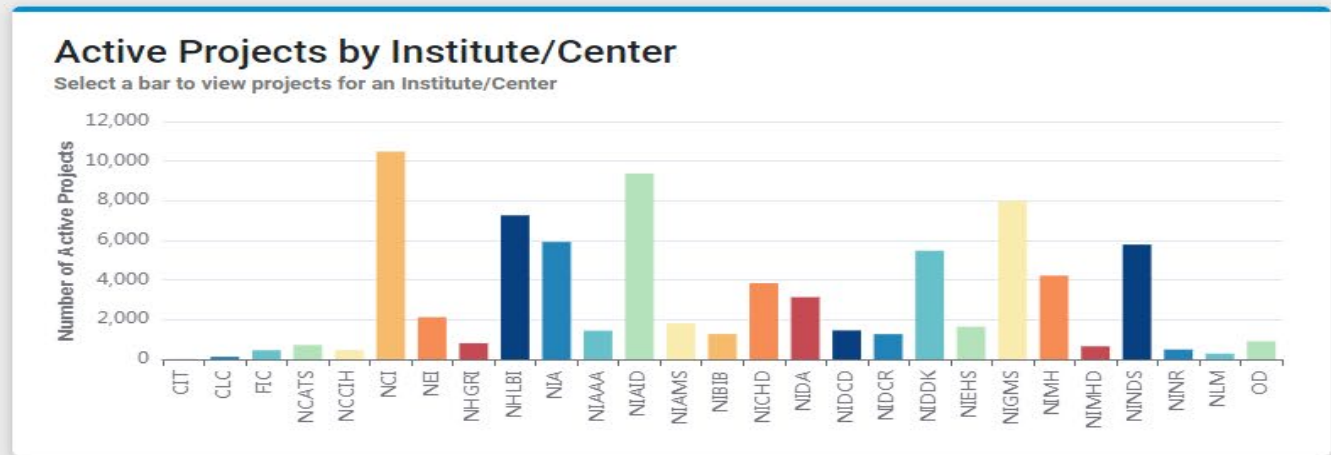
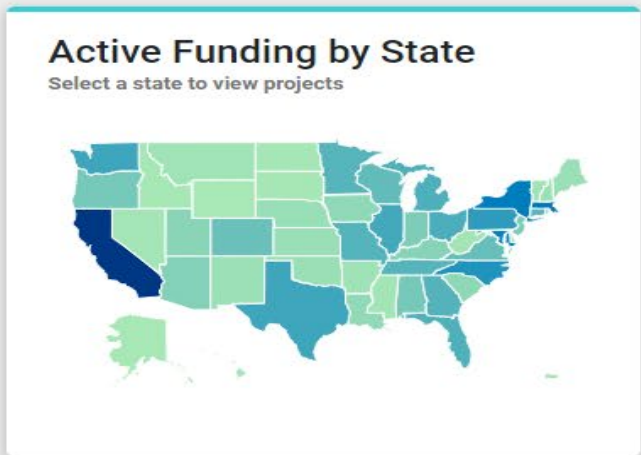
George Farkas

Search

Enter just about anything to find NIH projects and funding information:
text, PI names, project numbers, fiscal year, agency

Welcome to the new NIH RePORTER
Rebuilt from the ground up, leveraging the latest technologies, to bring you an enhanced experience. Faster performance, mobile ready, and an intuitive, all-new Quick Search brings the power of NIH RePORTER to your fingertips.

Feedback



Advanced Projects Search

Fiscal Year ?

Active Projects

Current FY is 2021

Principal Investigator (PI) ?

PI Names or Profile IDs, semicolon ";", separated

Organization ?

Enter at least 3 characters to search

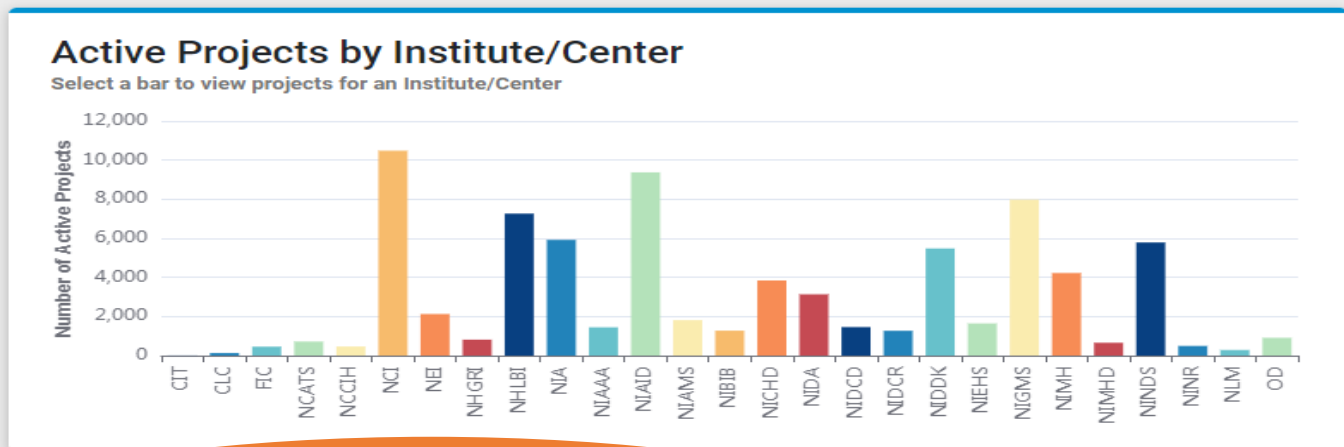
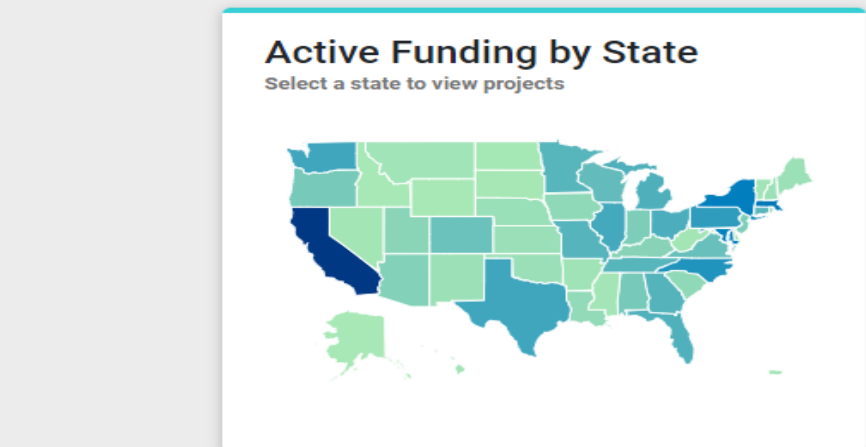
Matchmaker

Find potential Program Officials, ICs, and review panels for your research.

Get Started

Enter just about anything to find NIH projects and funding information:
text, PI names, project numbers, fiscal year, agency

Faster performance, mobile ready, and an intuitive, all-new Quick Search brings the power of NIH RePORTER to your fingertips.



Advanced Projects Search

Search using specific criteria to find **NIH projects** and **funding information**.

[Get Started](#)

Publications Search

Find publications associated with extramural or intramural funded projects using PubMed IDs (PMID) or PubMed Central

Matchmaker

Enter abstracts or other scientific text to find potential Program Officials, ICs, and review panels for your research. ?

Male cohort lifespan falls below female lifespan in all societies with reliable data. Although this male longevity deficit is well-described, less attention focuses on heightened male frailty in utero. Empirical work as well as strong theory indicates that the sex ratio at birth (i.e., M/F) gauges the strength of mortality selection in utero especially

1729 characters left

☒ Similar Projects
☐ Similar Program Officials

[Reset](#) [Search](#)

Matchmaker Results

32 Projects

Male cohort lifespan falls below female lifespan in all societies with reliable data. Although this male longevity deficit is well-described, less attention focuses on heightened male frailty in utero. Empirical work as well as strong theory indicates that the sex ratio at birth (i.e., M/F) gauges the strength of mortality

Export

Search

Projects Program Officials

- Filters
- Active Projects

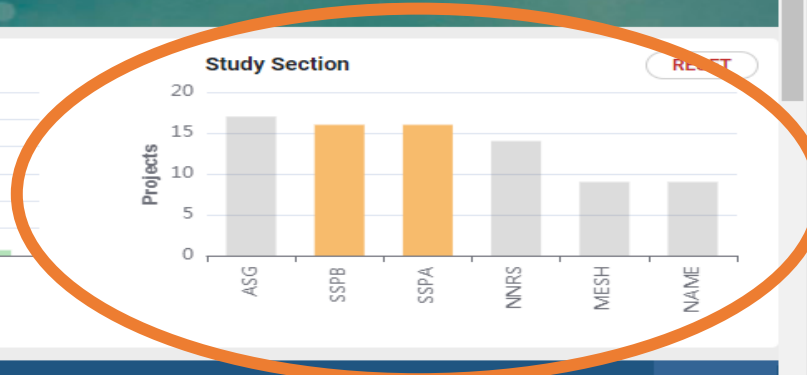
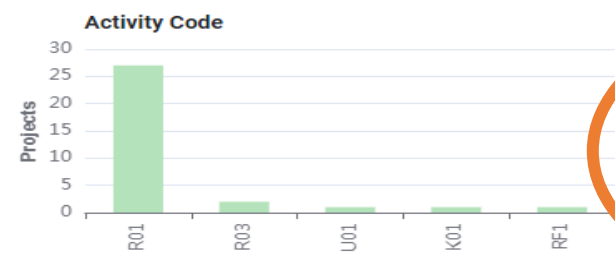
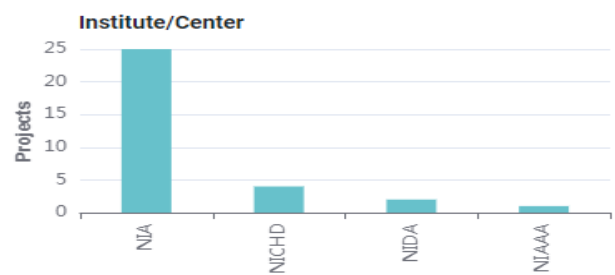
Fiscal Years

Agencies

Activity Codes

Program Officials

Study Sections
- CLEAR



| T Act Project | Year | Sub | Principal Investigator(s)/ Project Leader(s) | Organization | Fiscal Year | Admin IC | Funding IC | FF Total Cost by IC | Similar Projects | Match |
|--|------|-----|---|-------------------------------------|-------------|----------|------------|---------------------|------------------|-------|
| Healthy transitions from mid-life to early older age: biomedical follow-up of 1958 Birth Cohort Study members at age 60 | | | | | | | | | | |
| 5R01AG052519-04 | | | GOODMAN, ALISSA BATTY, DAVID | UNIVERSITY COLLEGE LONDON | 2020 | NIA | NIA | \$323,254 | View | 585 |
| Age, period, and cohort effects on gender differences in alcohol use and alcohol use disorders in 47 national, longitudinally-followed cohorts | | | | | | | | | | |
| 5R01AA026861-03 | | | KEYES, KATHERINE MARGARET JAGER, JUSTIN O | COLUMBIA UNIVERSITY HEALTH SCIENCES | 2020 | NIAAA | NIAAA | \$380,139 | View | 513 |
| ACL-LIFE Life History Interview and Validation | | | | | | | | | | |
| 5R01AG065319-02 | | | BURGARD, SARAH A. | UNIVERSITY OF MICHIGAN AT ANN ARBOR | 2021 | NIA | NIA | \$573,303 | View | 466 |
| Demographic models and hypothesis testing of delayed effects on adult mortality | | | | | | | | | | |
| 5R01AG056608-03 | | | PALLONI, ALBERTO B. | UNIVERSITY OF WISCONSIN-MADISON | 2019 | NIA | NIA | \$214,695 | View | 424 |
| Enhancing Retrospective Life History Data in the Health and Retirement Study- Renewal | | | | | | | | | | |
| 5R01AG051142-06 | | | SMITH, JACQUI | UNIVERSITY OF MICHIGAN AT ANN ARBOR | 2020 | NIA | NIA | \$1,337,775 | View | |

SSPA and SSPB: The 2 Study Sections that likely match

- Center for Scientific Review:
 - <https://public.csr.nih.gov/>
 - Search for SSPA or SSPB
- The Social Sciences and Population Studies (SSPA & SSPB) Study Section reviews **social, behavioral, and economic applications focused on health and well-being across the life course, health disparities, demographic processes, and economic and policy influences on health.**
- Disciplines commonly represented include sociology, social epidemiology, demography, economics, public health, geography, and human development and family studies.



SSPA



For Applicants | For Reviewers | News & Policy | Study Sections | Review Panels & Dates | About CSR

COVID-19

Get the latest public health information from CDC: <https://www.cdc.gov/coronavirus>

Get the latest research information from NIH | Español

Coronavirus Guidance for NIH Applicants and Grantees: https://grants.nih.gov/grants/natural_disasters/corona-virus.htm



Grants 101 & Early Career Reviewer Program Webinar. Recording posted



CSR Advisory Council March 2021 - Materials & Reports Available



Learn About the Benefits of CSR's Early Career Reviewer (ECR) Program

Find a Study Section

Enter Keyword or Title



- or -

Use the Assisted Referral Tool >

SSPA and SSPB: Who serves on these study sections?

- Names from March 2021 roster (all publicly available)
 - Michael Oakes (Epid, Minnesota)
 - Debra Umberson (Soc, UT Austin)
 - Jill Suitor (Soc, Purdue)
 - Kathleen Harris (Soc, UNC)
 - Kathleen Cagney (Soc, U Chicago)
 - Marianne Bitler (Econ, UC Davis)
 - Kelly Musick (Policy, Cornell)
 - Kyle Crowder (Soc, UW)
 - Lawrence Berger (Social Work, U Wisc)
 - Susan Busch (Health Policy, Yale)
 - Gilbert Gee (Public Health, UCLA)

Center for Population,
Inequality, and Policy

Which Mechanism? (Research only)

| Mechanism | Funding (Direct) | Duration | Specific Aims & Research Statement |
|-----------|------------------|---------------|------------------------------------|
| R01 | Up to \$500k /yr | Up to 5 years | 13 pages |
| R21 | \$275k total | 2 years | 7 pages |
| R03 | \$100k total | 2 years | 7 pages |

Which Mechanism? (Research only)

| Mechanism | Type of Project | Lead Time | Details |
|-----------|------------------------------------|------------------------|---|
| R01 | Large; includes non-UCI colleagues | ~2 mths if disciplined | “can’t miss” application with preliminary data |
| R21 | Mini-R01; small team | 1.5 mths | High risk, high reward (but not really risky) |
| R03 | Pilot project | 1 mth | Good idea, requires minimal data cost & time effort |

Which Mechanism? (Research only)

| Mechanism | Due Dates (standard) | Details |
|-----------|-------------------------|--|
| R01 | June 5, Oct 5, Feb 5 | Ambitious for 1 st timers |
| R21 | June 16, Oct 16, Feb 16 | small team, GSR/Postdoc & summer salary, and data, for 2 yrs |
| R03 | June 16, Oct 16, Feb 16 | Same effort as R21, but 36% the \$ |

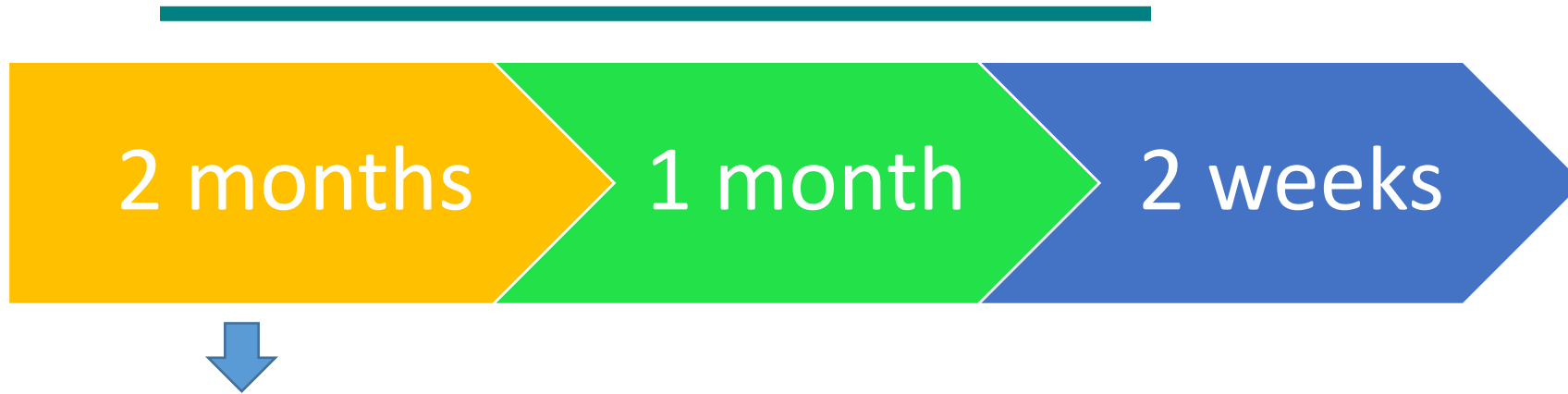
- My suggestion: start with R21 (and to a lesser extent, R03)

Center for Population,
Inequality, and Policy

Don't be discouraged by forms upon forms

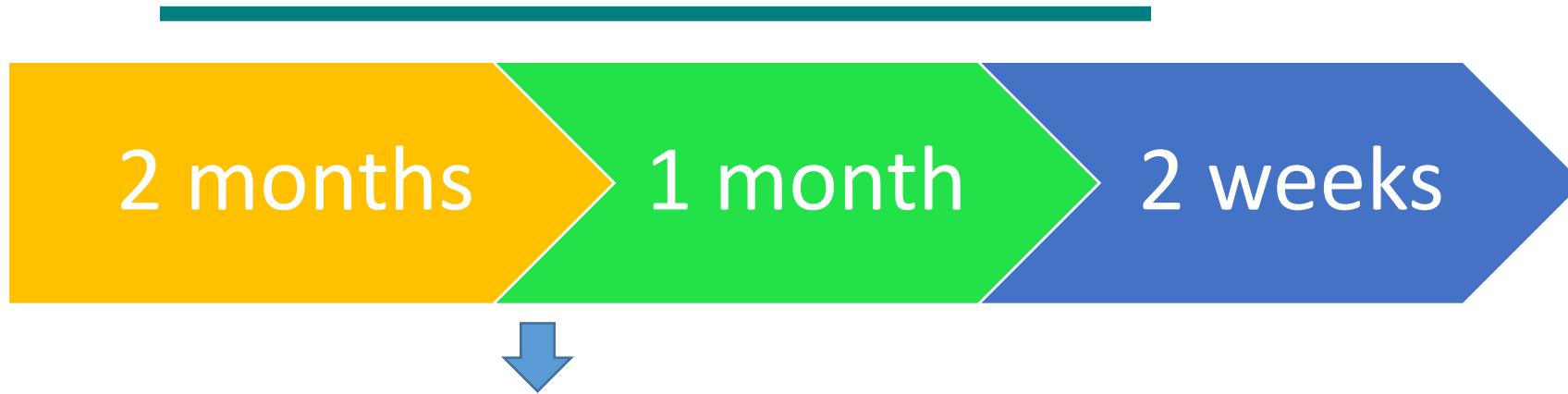
- R01
 - Could be up to 200 pages; but really, ***only 13 pages are for research***
 - Much of the rest can be modified from other documents, other faculty, your department, etc.
 - This takes time, but is not intellectually taxing
- R21 & R03 have much less administrative overhead
 - If you have a good template to work from, much of the administrative sections go quickly
- My thoughts:
 - Use CIP resources; see examples of other grants that scored well; modify admin templates from pre-award staff

Timeline



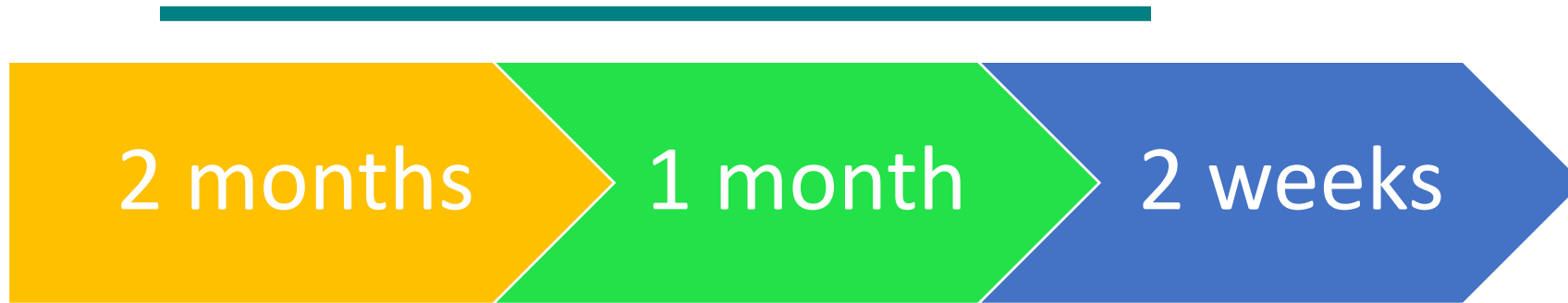
- Tell pre-award staff you will submit to NIH (your department or Dan Paley dpaley@uci.edu)
- Ensure that there is an active program announcement (search “NIH parent R01 no clinical trial”)
 - R01: [PA-20-185](#)
 - R21: [PA-20-195](#)
 - R03: [PA-20-200](#)
 - There are also special calls—you can search for these
- Solidify research team (especially non-UCI collaborators)
 - Budget and subawards require planning and extensive documentation

Timeline



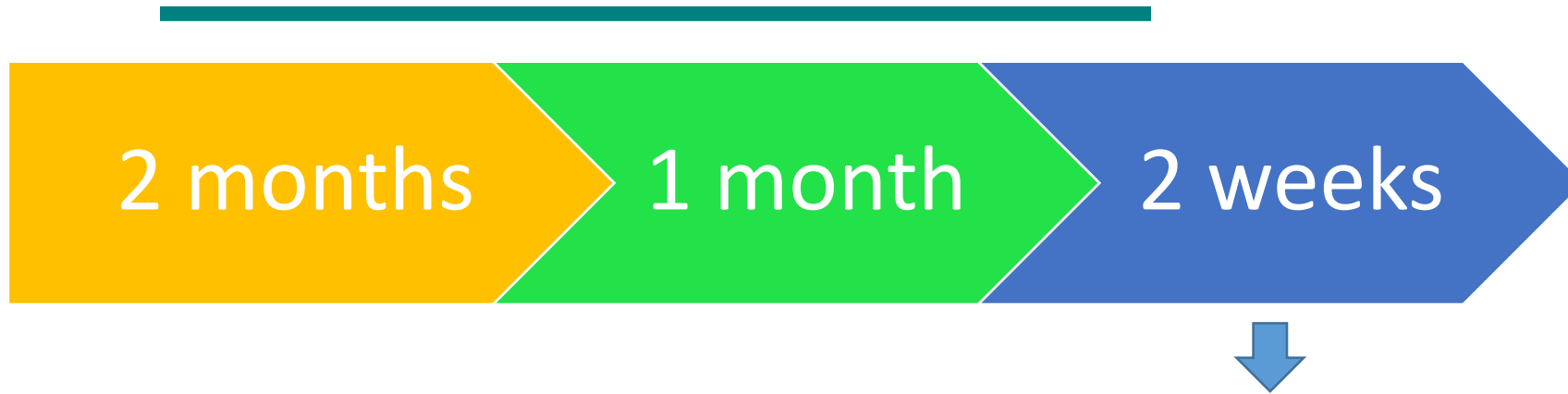
- Have a very solid Specific Aims page (1 page, single spaced)
 - Circulate it to colleagues for feedback
 - Mock study section (Red Team review)—CPIP can help
- Get non-UCI documents from collaborators
 - Biosketch
 - Letter of Support

Timeline



- Have a very solid Research Statement
 - 12 pages for R01
 - 6 pages for R21, R03
- Work closely with pre-award staff to compile the other 15-20 documents
 - Templates and examples from past submissions

Timeline



- Submit draft of entire proposal to SPA
 - They review everything but the science
- You are free to continue to work on refining the science up until the due date

Timeline



- Final checks; read through all pieces
- SPA clicks “submit”; make sure pre-award staff and SPA officer are on same page, and in constant contact with you

Practical Tips for the Scientific Sections

- Imagine that non-expert reviewers have little time and even less patience!
- Refine your “high level” pitch; give full details only if space permits
 - Repetition is OK— in fact, I encourage it
- Significance and Approach (study design, data) tend to drive scores
 - Is the idea/question important? Can you feasibly address the question?
- Read others’ grants to learn how to structure the narrative
 - CPIP can give you examples

Final Tips

- Start now. Do not leave grant to the last minute
 - Better to wait a cycle and submit 3 months later, than to submit an unpolished proposal
 - The first NIH submission is the most work, but . . .
 - The 2nd through 25th take much less time
 - CPIP financial incentive for R01, R21, or R03 grants submitted to NICHD Pop Dynamics Branch may be up to \$5k in research funds
- Center for Population,
Inequality, and Policy

Resources

- For Scientific pieces (Specific Aims and Research Statement)
 - CPIP (Dan Paley can give you examples from past submissions)
- For Pre-Award administrative and budget assistance
 - Either your home dept or school, or CPIP pre-award staff in Social Sciences (Dan Paley, dpaley@uci.edu)
- For NIH / SSPA questions
 - Dr. Suzanne Ryan, Scientific Review Officer
(<https://public.csr.nih.gov/StudySections/DABP/PSE/SSPA>)
- For Tips on what study section looks for
 - Greg and Candice



Now . . . to Candice and Greg

- Perspectives from Study Section