



FUNDING LANDSCAPE FOR EARLY CAREER RESEARCH

A WEBINAR FROM HANOVER RESEARCH

NOVEMBER 29, 2022



WEBINAR LOGISTICS

PRESENTATION LENGTH

45-minute presentation followed by Q&A

Q&A

Please ask questions using the Q&A function in the Zoom toolbar. Presenters will respond in real time, where possible, and we will respond to as many of the remaining questions as time allows during the Q&A.

RECORDING & SLIDES

All attendees will receive a copy of the recording, including the slides.

TODAY'S PRESENTER



Paul Tuttle, MA
GRANTS CONSULTANT

TOTAL WINS

\$175+
MILLION

Total grant funding for clients since 2003 from nearly every Federal funder and many major foundations.

MAJOR AWARDS

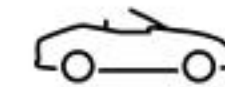


- MA in English with a concentration in Rhetoric and Composition
- Former business and technical writing instructor
- Worked at Hanover 2011-2015 (and now 2022-present)

On a personal note . . .



Born and raised in North Carolina



Interested in classic and modern cars



Hiking, biking, swimming, and reading



Do you know where to look for
funding?

Have you ever applied for a grant?

Use the chat box to post your responses!

OVERVIEW OF TODAY'S TOPICS



Understanding the
context



Strategies for operating
successfully within that
context



Key themes and
trends

Today's Learning Objectives:

1. To understand the context of grantseeking (particularly for early career research).
2. To identify strategies that maximize your success in that context, including how to identify opportunities that best fit the early career experience level).
3. To understand major themes and trends among early career faculty grant programs.

An aerial, top-down view of a city street intersection. The image is dark and semi-transparent, showing a grid of streets and crosswalks. A white text overlay is centered in the middle of the frame. The text reads "LET'S GET STARTED!". The background shows a street intersection with crosswalks, streetlights, and some buildings. The text is in a bold, sans-serif font.

LET'S GET STARTED!

KNOW YOUR FIELD

Understand the lay of the land.



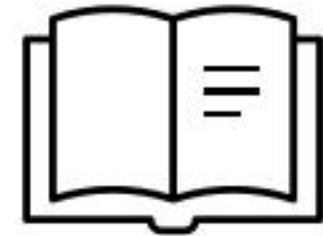
Current trends in the field? In your subfield?



Gaps in knowledge hindering the field?



Ways to fill the gaps?



Current work addressing these gaps?



Impact of filling these gaps?

KNOW THE TERRITORY

With the overall field in mind, survey the **funding landscape**

- Who are the **key funders** in your field?
 - Federal, state, foundation, corporate
- What are their **priorities**?
 - Both stated and unstated
- What are the overall **funding trends** in the field?
 - Are there potential untapped sources of funding in your field?
 - What are they?

SURVEY THE FUNDING LANDSCAPE

FEDERAL AGENCIES

STATE AGENCIES

FOUNDATIONS

CORPORATIONS

ASSOCIATIONS



ALFRED P. SLOAN FOUNDATION



Robert Wood Johnson Foundation



TWO FUNDING LANDSCAPES: FEDERAL AGENCIES & FOUNDATIONS

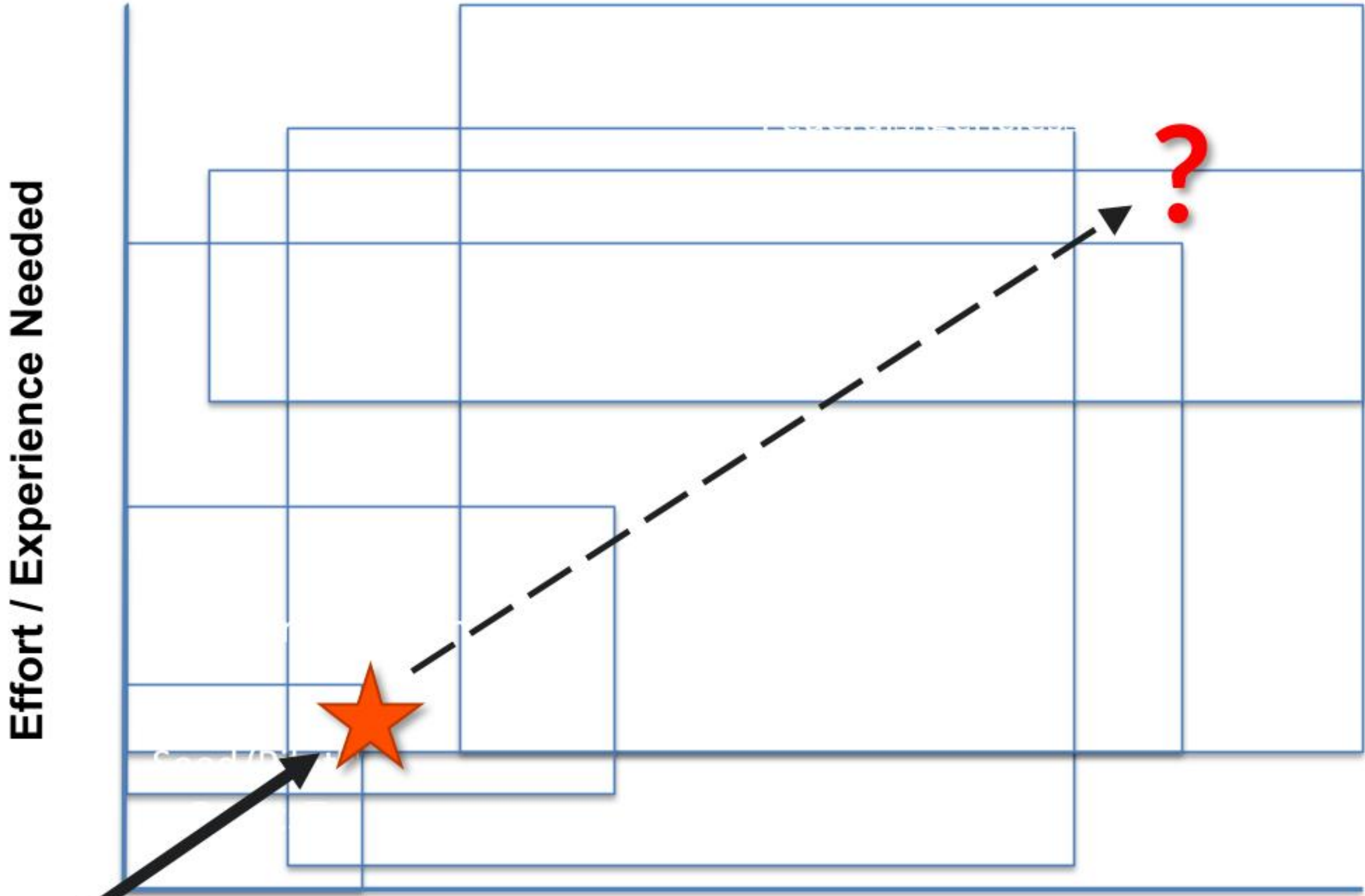
- **The federal funding landscape**
 - Federal grantmaking agencies and their missions
 - The role of the federal government in the scientific and technological (S&T) innovation enterprise
 - What the federal government means by “research”: systematic investigations that increase the knowledge base or provide solutions to intransigent problems
- **The foundation funding landscape**
 - Foundations (corporate, family, local, and community) and their missions
 - Thought leadership in providing societal solutions
 - Collaboration among foundations, policy makers, and government
 - Support for programs that benefit society

WHERE THE MONEY COMES FROM

- **Federal**
 - The president's annual budget request:
 - Is published every spring at [whitehouse.gov/omb/budget](https://www.whitehouse.gov/omb/budget)
 - Sets funding policy and priority areas
 - Provides parameters for that year's budget and appropriations process
 - Over time, defines an administration's signature accomplishments
- **Foundation**
 - Donations and contributions
 - Endowments
 - Fundraising events and efforts

CONCEPTUALIZING YOUR RESEARCH CAREER

START SMALL,
DREAM BIG



YOU ARE HERE

Amount / Length of Funding

PREPARING YOURSELF

Develop a research funding plan!

- Definition: outline of research ideas that connects the big picture, in time, to its component ideas and to relevant funding opportunities
- Purpose: advance scholarship and facilitate progress in grant awards, publications, speaking engagements, and/or career goals

Pfirman, S., Bell, R.E., Culligan, P.J., Balsam, P., & Laird, J.D. (2008). Maximizing productivity and recognition, part 3: developing a research plan. Science Careers. Retrieved from <http://sciencecareers.sciencemag.org>

PREPARING YOURSELF (2)

- Characteristics of a research plan:
 - Well-thought-out ideas
 - Time element
 - Unifying technique, problem, or theme
 - Requires your unique skills set

A plan breaks your long-term research goal into units that can be finished in the typical grant duration: 2-5 years.

Gilmore, J. Writing the research plan for your academic job application. Retrieved from <http://www.acs.org/content/acs/en/education/students/graduate/writing-the-research-plan-for-your-academic-job-application.html>

A SAMPLE RESEARCH PLAN

	Assistant Professor	Associate Professor	Full Professor
Y 1	<p><u>Apply for:</u> intramural funding, NIH K99-R00, K01, R03 or R21, <\$300K NSF, CAREER, and smaller federal grants, ESI foundation, corporate funding</p> <p><u>Work on:</u> collecting preliminary data, contact foundation, corporate relations, identify mentoring team, participate as co-investigator on a major award, limit committee and "service" work to focus on establishing research portfolio, identify timeline for transition from early funding to first R01, publications, develop an "idea bank" of research questions</p>	<p><u>Apply for:</u> NIH R21, first or continuing R01, Foundation grants focusing on transitions, funding from national professional associations</p> <p><u>Work on:</u> PI grants with Co-Is from other disciplines, direct a graduate program, direct a Center or Institute, build energy around ideas for P01 type grants or NSF center grants, high impact publications, develop an "idea bank" of research questions</p>	<p><u>Apply for:</u> Continuing R01, P01, high-risk foundation grants like Simons or Keck, corporate funding such as 3M, Microsoft, Samsung</p> <p><u>Work on:</u> Patents, solicit your VPR, Dean and Provost to kick in for funds to develop a team to seek center-type funding, which requires collaboration such as co-authorship, co-teaching, and/or co-funding, high impact peer review publications, develop an "idea bank" of research questions, mentor an ESI, develop a personal website, twitter</p>
Y 3	<p><u>Apply for:</u> intramural funding, transitions from mentored awards to independent awards, corporate and foundation prospects gathered from corporate and foundation relations, if ready, first R01, NSF awards between \$300-\$400K</p> <p><u>Work on:</u> leverage preliminary data gathered, high impact co-authorship with someone outside your discipline</p>	<p><u>Apply for:</u> NIH R21, first or continuing R01, foundation grants focusing on transitions, funding from national professional associations</p> <p><u>Work on:</u> PI grants with Co-Is from other disciplines, direct a graduate program, direct a Center or Institute, build energy around ideas for P01 type grants or NSF center grants, develop a personal website, twitter</p>	<p><u>Apply for:</u> Continuing R01, P01, high-risk foundation grants like Simons or Keck, corporate funding</p> <p><u>Work on:</u> Finalize patents and copyrights, build international collaborations, write first center award, conduct needs assessment if necessary, develop partnership with business school for business plans (necessary for successful center and program awards), identify excellent evaluators</p>
Y 5	<p><u>Apply for:</u> "New Investigator" R01, R21 for additional research ideas, foundation "transitions" awards, professional society awards, PI grants with Co-Is from other disciplines, direct a graduate program, direct a Center or Institute</p> <p><u>Work on:</u> Transition fully as an independent investigator, align research funding plan with promotion/tenure goals, consider ideas and research product for patent</p>	<p><u>Apply for:</u> Continuing R01, NSF funded researchers apply for NIH, NIH funded apply for NSF, seek smaller NSF center and collaborative awards</p> <p><u>Work on:</u> Request funding from Chair, Dean, VPR for interdisciplinary center or institute for collaborative research, degree or certificate program, learn how to develop a business plan</p>	<p><u>Apply for:</u> Apply for P01 and center funding, high profile foundation funding, quick hitting corporate funding (Lockheed Martin, Pzifer, Shell)</p> <p><u>Work on:</u> continuing R01s, mentor ESI, high impact publications with multiple disciplines, ERC/STC funding plans, collaborate with foundation relations on high impact and synergistic funding opportunities to bring together federal, foundation and corporate funding</p>

PREPARING YOURSELF (3)

Search for funding and set up automated alerts!

- Search tools:
 - Grants.gov, NIH *Guide for Grants and Contracts*, NSF Funding site, FedBizOpps
 - The Foundation Center (now Candid)
 - Pivot (formerly COS), InfoEd SPIN, Grant Forward
- Alerts:
 - Grants.gov “Manage Subscriptions,” NIH *Guide* “TOC listserv,” NSF Custom News Service
 - InfoEd SPIN alert setup
- Useful search terms:
 - In the title: “early career,” “young faculty,” “new investigator,” etc.
 - In the abstract: “preliminary data,” “pilot study,” “feasibility study,” “proof of concept,” “seed funding,” etc.

PREPARING YOURSELF (4)

Select a funding opportunity and prepare to talk with the program officer!

- That first funding opportunity
 - Early-career focused? Relatively small size and scope? Opportunity to gather preliminary data, test proof of concept, or similar?
 - New or recurring? Past awards/known cycle? Likely odds of being funded?
 - How well does your idea fit (size, scope, purpose)?
- Reaching out to the program officer
 - Concept/white paper/abstract
 - Biosketch/CV
 - First, send an email asking for a phone or virtual conversation
 - Further details? Hanover will share our guidance on how to reach out to a program officer

An aerial photograph of a city street grid, viewed from a high angle. The streets are dark, and the buildings are light-colored. The image is overlaid with a semi-transparent dark grey layer. In the center, the text "ASSESS AND MAXIMIZE YOUR COMPETITIVENESS" is written in a bold, white, sans-serif font. The text is centered horizontally and vertically. The background shows a grid of streets with some buildings and trees visible. The overall tone is professional and analytical.

ASSESS AND MAXIMIZE YOUR COMPETITIVENESS

A COMPETITIVE GRANT IDEA

- Fills a demonstrable gap (e.g., in services or knowledge)
- Is innovative and interesting to people in the field
- Produces something of value within a specified timeframe
- Has a strong, measurable impact
- Is timely

IF PEOPLE IN YOUR FIELD GET EXCITED ABOUT YOUR IDEA, YOU ARE ON TO SOMETHING.



GAUGE QUALIFICATIONS

Figure out where you stand.



Your publication record



Your position and affiliation(s)



Your experience with:

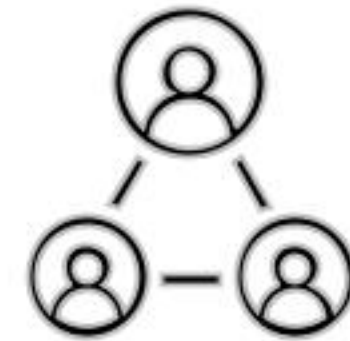
- the proposed work
- funding
- trainees/outreach

GAUGE YOUR COLLABORATORS

What evidence can you point to?



Established collaborations > new collaborations > no collaboration



Evidence of collaboration is important:
Co-publications
Grant applications together
Preliminary data together

GAUGE PROJECT DESIGN AND PRELIMINARY WORK

What can you build on/from?



What does your project vision look like, as compared to typical research projects in your field?

What are the principal innovative aspects of your project design?



What preliminary work have you done?

How do you plan to use that work in the project you're currently planning, as well as in future ones?

INCREASE YOUR COMPETITIVENESS



- Establish and document appropriate collaborations.
- Publish preliminary studies.
- Increase the number of publications relevant to the proposed work.
- Know your research environment (personnel, equipment, institutional supports) to leverage its strengths, identify and address critical gaps, and minimize other weaknesses.
- Establish a record of funding, even if it is internal awards (and publish your findings!).
- Take on trainees.
- Develop / participate in outreach activities, if relevant.
- Serve as a reviewer.

An aerial, top-down view of a city street grid, rendered in a dark, monochromatic style. The streets are shown as light-colored lines forming a grid pattern. Some street names are visible, such as '222' and '09'. The text 'EXAMPLES OF EARLY CAREER FUNDING OPPORTUNITIES' is overlaid in the center in a bold, white, sans-serif font.

EXAMPLES OF EARLY CAREER FUNDING OPPORTUNITIES

AGENCY FOR HEALTHCARE RESEARCH AND QUALITY (AHRQ)

AHRQ Small Research Grant Program (R03)

“This FOA encourages Small Research Grant (R03) applications . . . and expresses AHRQ priority areas of interest for ongoing small research projects.”

“The R03 grant mechanism supports different types of health services research projects including pilot and feasibility studies; secondary analysis of existing data; small, self-contained research projects; development of research methodology; and development of new research technology.”

<https://grants.nih.gov/grants/guide/pa-files/PA-18-794.html>

AIR FORCE OFFICE OF SCIENTIFIC RESEARCH (AFOSR)

Air Force Fiscal Year 2023 Young Investigator Program (YIP)

Supports early career investigators (the agency specifies the date on or after which the investigator must have received the PhD) who “show exceptional ability and promise for conducting creative basic research” fitting the needs and priorities of the Department of the Air Force (USAF).

<https://www.grants.gov/web/grants/view-opportunity.html?oppld=338555>

DEFENSE ADVANCED RESEARCH PROJECTS AGENCY (DARPA)

Young Faculty Award (YFA)

Supports junior researchers in academia and at nonprofit research organizations by providing “high-impact funding . . . early in their careers to develop innovative new research that enables transformative DoD capabilities.”

“Proposed research should investigate innovative approaches that enable revolutionary advances in science, devices, or systems.”

<https://www.grants.gov/web/grants/view-opportunity.html?oppld=344373>

Early Investigator Advancement Program (EIAP)

“The EIAP aims to enhance professional skills, guide preparation of an R01 grant application, provide access to a mentoring and peer network, and grow a community of emerging independent investigators from diverse backgrounds.

Each year, EIAP will support the professional and career development of a cohort of eligible and qualified Early Stage Investigators and New Investigators from institutions across the country. Cohort members will provide peer support for each other both during and beyond their participation in the program.”

<https://www.cancer.gov/about-nci/organization/crchd/diversity-training/eiap#Apply>

NATIONAL ENDOWMENT FOR THE HUMANITIES (NEH)

Institutes for Higher Education Faculty

Supports professional development programs for humanities faculty (including early career humanities faculty) in the form of academic meetings that increase participants' understanding of humanities topics along with their capacity to perform humanities scholarship and teaching.

<https://www.neh.gov/grants/education/institutes-higher-education-faculty>

NATIONAL INSTITUTES OF HEALTH (NIH)

Trailblazer Award for New and Early Stage Investigators (R21 Clinical Trial Optional)

“This Trailblazer Award is an opportunity for NIH-defined New and Early Stage Investigators (<https://grants.nih.gov/policy/early-investigators/index.htm>) to pursue research programs that integrate engineering and the physical sciences with the life and/or biomedical sciences. A Trailblazer project may be exploratory, developmental, proof of concept, or high risk-high impact, and may be technology design-directed, discovery-driven, or hypothesis-driven. Importantly, applicants must propose research approaches for which there are minimal or no preliminary data.”

<https://grants.nih.gov/grants/guide/pa-files/PAR-24-022.html>

NATIONAL SCIENCE FOUNDATION (NSF)

Faculty Early Career Development Program (CAREER)

“The Faculty Early Career Development (CAREER) Program is a Foundation-wide activity that offers the National Science Foundation's most prestigious awards in support of early-career faculty who have the potential to serve as academic role models in research and education and to lead advances in the mission of their department or organization.”

“Activities pursued by early-career faculty should build a firm foundation for a lifetime of leadership in integrating education and research. NSF encourages submission of CAREER proposals from early-career faculty at all CAREER-eligible organizations and especially encourages women, members of underrepresented minority groups, and persons with disabilities to apply.”

<https://beta.nsf.gov/funding/opportunities/faculty-early-career-development-program-career>

NATIONAL SCIENCE FOUNDATION (NSF)

Launching Early-Career Academic Pathways in the Mathematical and Physical Sciences (LEAPS-MPS)

Helps “launch the careers of pre-tenure faculty in Mathematical and Physical Sciences (MPS) fields at institutions that do not traditionally receive significant amounts of NSF-MPS funding, such as some minority-serving institutions (MSIs), predominantly undergraduate institutions (PUIs), and Carnegie Research 2 (R2) universities.”

“By providing this funding opportunity, MPS intends to help initiate viable independent research programs for researchers attempting to launch their research careers such that LEAPS-MPS awards are followed by competitive grant submissions that build upon the research launched through this mechanism.”

<https://beta.nsf.gov/funding/opportunities/launching-early-career-academic-pathways>

Early Career Research Program

“The purpose of this program is to support the development of individual research programs of outstanding scientists early in their careers and to stimulate research careers in the areas supported by [the Department of Energy’s Office of Science],” including:

- Advanced Scientific Computing Research (ASCR);
- Basic Energy Sciences (BES);
- Biological and Environmental Research (BER);
- Fusion Energy Sciences (FES);
- High Energy Physics (HEP);
- Nuclear Physics (NP);
- Isotope R&D and Production (DOE IP); and
- Accelerator R&D and Production (ARDAP).

<https://www.grants.gov/web/grants/view-opportunity.html?oppld=344504>

An aerial photograph of a city street grid, viewed from a high angle. The streets are arranged in a regular pattern, with some streets having white markings. The image is dark and has a high-contrast, almost monochromatic appearance. In the center, the text "KEY THEMES AND TRENDS" is overlaid in a bold, white, sans-serif font. The text is centered horizontally and vertically. The background shows a mix of straight and slightly curved streets, with some areas appearing to have more complex patterns or markings. The overall tone is professional and analytical.

KEY THEMES AND TRENDS

SET-ASIDE DESIGNATIONS/PROGRAMS

Funders have new or early career investigator designations or programs.

- NIH's New Investigator designation
 - <https://public.csr.nih.gov/ForApplicants/PlanningAndWriting/NewInvestigatorAdvantages>
- NIH's Early Stage Investigator Program
 - https://www.era.nih.gov/erahelp/ESIE_EXT/
- NIH's Early Stage Investigator Policies
 - <https://grants.nih.gov/policy/early-stage/index.htm>

SMALL GRANTS

Funders offer small grants for preliminary data collection.

- NIH Small Grant Program (R03)
 - <https://grants.nih.gov/grants/funding/r03.htm>
- NSF Early-Concept Grants for Exploratory Research (EAGER)
 - <https://beta.nsf.gov/policies/pappg/23-1/ch-2-proposal-preparation#2F3>
- Other NSF opportunities suitable for early career preliminary data collection:
 - <https://beta.nsf.gov/science-matters/nsf-101-funding-opportunities-early-career>

OPPORTUNITIES FOR PROFESSIONAL DEVELOPMENT

Funders provide opportunities for professional development at all career stages, including for new and early career researchers.

- Look for language like “capacity building” or “launching your research career.”
- Some are fellowships, mentored research training opportunities, or support for travel to professional meetings.
- Some are highly prestigious awards for new or junior investigators who exhibit significant promise of future innovation or creative scholarship.



SOME FINAL ADVICE: LEVERAGE YOUR RESOURCES

GET TO KNOW OTHER RESEARCHERS

Offer to be a Co-I/Co-PI for Early Career Researchers

- And engage as a full member of the team, including the sometimes-unpleasant task of planning and writing a proposal (or helping them better understand how to write in this genre).

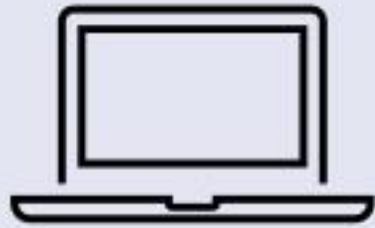
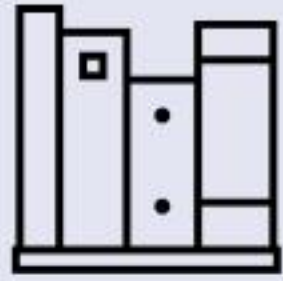
Seek Out Early Career Researchers as Co-Is on Your Own Projects

- And use the opportunity to help them learn the process.

Serve as a Consultant or Subcontractor on Others' Projects

- Bolster your productivity profile.
- Increase your number of publications.
- Find that graduate student or postdoctoral fellow who is doing a fascinating but unfunded project.

LEVERAGE YOUR CAMPUS RESOURCES



- Your institution's office of research, sponsored programs, or sponsored projects
- Mentors, colleagues
- Funding announcements and opportunities
- Funder conferences
- Program officers
- Peers who have been funded in your competition of interest
- Consultants
- Abstracts of recent awards (funder awards databases) and funded proposals, if available
- Librarians

FEDERAL AND PRIVATE TOOLS AND RESOURCES

- [Grants.gov](https://www.grants.gov) is a clearinghouse for information on Federal grants
 - Subscription option to the NIH TOC
 - Email listserv for Weekly Grants & Contracts announcement
- [NSF Award Search](#) and the [NEH Funded Projects Query Form](#) are good resources for information on previous funding and trends
- The [US Department of Education Grants Forecast](#) provides information on upcoming DoE competitions
- **Other Resources:** [NIH RePORTER](#), [Foundation Center](#), [Sponsored Program Websites](#), [Pivot](#)
- Simple Google searches for keywords can often uncover **private** funding sources, particularly corporate funding.



RESOURCES FOR PROPOSAL DEVELOPMENT

- The **National Organization for Research Development Professionals (NORDP)** maintains a [Writing a Grant 101](#) page, which includes links to many useful guides, as well as a more general [Resources](#) page.
- The **Foundation Center** (now known as **Candid**) provides a [Proposal Writing Short Course](#) tutorial, focused on foundation and private grants.
- The **NSF [Proposal and Award Policy and Procedures Guide](#)** is indispensable, particularly Part I, the Grant Proposal Guide.
- The **NIH Office of Extramural Research (OER)** offers guidance for [Writing the Application](#) and the **NIAID** offers excellent [application samples](#).

GRANTS NEWSLETTERS

Through a series of newsletters, the Hanover Grants team tracks funding opportunities in line with strategic interests of our members. Subscription is open for faculty and administrators to select which updates they would like to receive from our team.

GRANT ALERTS WEEKLY



Every Monday, learn about the previous week's grant solicitations of interest from federal agencies and select private foundations. Alerts are broken up into research and programmatic grant opportunities: Higher Education Programmatic, Higher Education Research, Health Programmatic, and Health Research.

GRANT PROJECTIONS MONTHLY



Hanover looks three months ahead at major grant competitions, providing details on program background, key deadlines, and timelines for engaging Hanover for varying levels of assistance. Projections available: Higher Education, Health, and K-12.

GRANTS CALENDARS BIMONTHLY



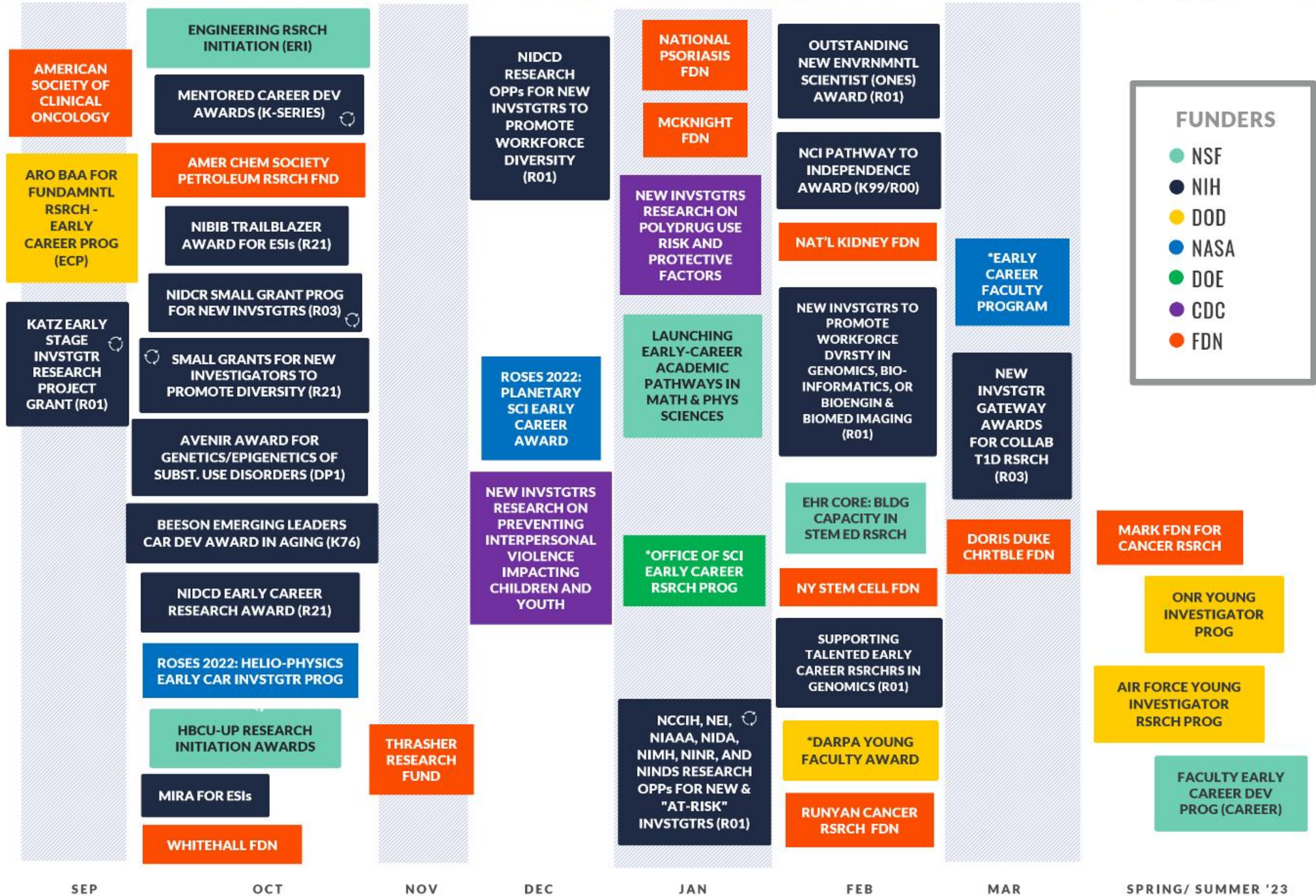
Hanover produces a specialized calendar twice each month, tracking grant opportunities across the coming year of interest to different types of institutions and to faculty in different areas of focus. These calendars include:

- Minority-Serving Institutions
- Arts, Humanities, & Social Sciences
- STEM Programs
- STEM Research Grants
- Health Research
- Early Career Faculty Grants
- Interdisciplinary Research
- Student Success
- Diversity, Equity, & Inclusion
- Environmental Sustainability
- Research Centers
- Education Research & Programs

Sign up to receive Grants Newsletters [here](#).



Hanover's **Grant Calendar for Early Career Research** covers opportunities relevant to young and early stage investigators.



QUESTIONS?



Hanover's **Grant Rant** podcast will supplement our webinar series, addressing outstanding questions from attendees.



Chris Gray

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