# Office of Research

Enabling excellence in research and innovation

www.research.ucdavis.edu





# Office of Research

www.research.ucdavis.edu

### **Denise Ehlen**

Executive Associate Vice Chancellor dmehlen@ucdavis.edu





# Organizational Structure



#### **Simon Atkinson**

Vice Chancellor for Research



- Sponsored Programs Office
- IRB Administration
- InnovationAccess
- IACUC
- Research Ethics & Compliance
- Strawberry Program



- Interdisciplinary Research Support
- Research Core Facilities Program
- Strategic Initiatives
- Research Program Administration



- Campus Veterinary Services
- Teaching and Research Animal Care Services

# Resources to Help You Succeed





Funding Opportunities



Project Development and Proposal Writing



Proposal Submission



Research Collaboration and Seed Funding



Early-Career Researcher Support



Research Unit Development



Strategic Partnerships



Research Promotion



Proof of Concept Grants



Invention Protection & Licensing



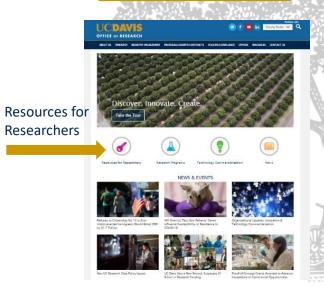
Startup Formation



Business Incubators

#### To View the Full List:

research.ucdavis.edu



### **Get Connected**



# Signup to receive the latest news, opportunities and events

VISIT: research.ucdavis.edu/connect

# Join us April 18 at the Research Expo

- Keynote: Al in Research
- Exhibits
- Workshops







# Strategic Research Advancement

**Ana Lucia Cordova** 

Director

anacordova@ucdavis.edu





# Research Development...



"...encompasses a set of *strategic*, *catalytic*, and *capacity-building* activities that advance research, especially in higher education.

RD professionals help researchers become more successful communicators, grant writers, and advocates for their research. They help researchers bring new ideas to life...[and] create services and resources that transcend disciplinary and administrative barriers and create programs to spur discovery."

-National Organization of Research Development Professionals (<u>NORDP</u>)

# Award pipeline: Catalyze & convert ideas to awards



#### Mobilize & facilitate collaboration

- PhD level domain-specific expertise
- IRC: Conversations series
- Build institutional partnerships & networks
- Research working groups

#### Research program development services

- Early career & grantsmanship training & support.
- Program-specific cohorts (e.g., NSF-CAREER)
- Research Pathways to Impact

#### Catalyze new research

- Seed funding programs
- Strategic intelligence
- IMPACT Centers program



respond

#### **Funding Opportunities Program**

- Identify & disseminate opportunities of interest
- · Curated, custom funding searches
- Limited Submissions



#### **Proposal development services**

(individual & large team)

- **Budget review**
- Copyediting
- Proposal assembly
- Templates & formatting
- Training grant data

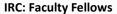


**Proposal** preparation **Application** submitted

**Award** 

Post-award

Research activities



- Enable PI to focus on writing large-scale proposal
- Team building facilitation



#### **Enabling research activities**

- Campus-wide
- Shared research facility resources & services



#### Research unit advancement

- Program-level oversight
- Communications, marketing, development

# **IR&SI** organizational structure

**Research Proposal Services** 

Enabling external support & converting ideas to awards

Dr. SHERYL SOUCY-LUBELL Director Interdisciplinary Research



8.5

Dr. NANCY BULGER **Executive Director** Research Unit Development

Special Projects & Program Development

Dr. WHITNEY CHEUNG Chief of Staff



2.5

IR&SI

Dr. ANA LUCIA CORDOVA Director Strategic Initiatives

Strategic Research Advancement

Pre-award research architecture mobilizing faculty across disciplines & internal/external partnership development

Associate Vice Chancellor Interdisciplinary Research & Strategic Initiatives

Dr. CRISTINA DAVIS



Dr. ISABELLE GIRARD Director Research Core Facilities Program

Shared research facility resources Enabling researcher access to state-of-the-art technology

PI prepared to

opportunity

Interdisciplinary Research Unit Advancement Post-award management, program oversight,

and project advancement

Research

## Our team





**Cristina Davis**Associate Vice Chancellor IR&SI

IR&SI

IR&SI



Ana Lucia Cordova

Director

Strategic Initiatives
& Research Funding



Whitney Cheung
Executive Analyst &
Chief of Staff



Meg Sparling Research Funding Manager



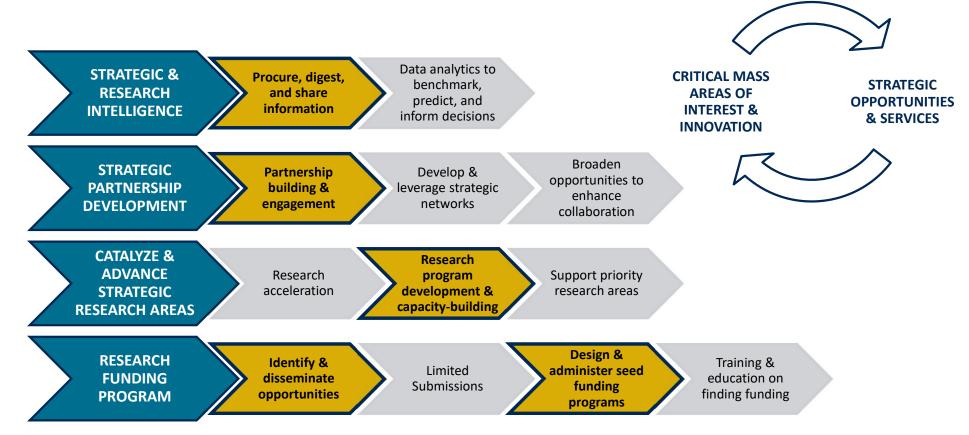
Hasina Mamtaz SI Analyst



(New Hire)
SI Coordinator

## \*Pre\*-pre-award research program development





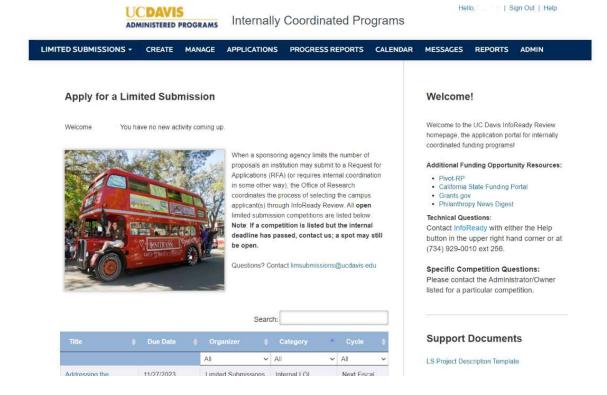
## Limited Submissions & Internal Funding Programs





https://ucdavis.infoready4.com

Use your Kerberos ID to create an account



FAQ: <a href="https://research.ucdavis.edu/proposals-grants-contracts/funding-opportunities/limited-submissions">https://research.ucdavis.edu/proposals-grants-contracts/funding-opportunities/limited-submissions</a>

# **Building collaborations**





Research "speed-dating" and introductions



Consortia memberships & contracts (e.g., BioMADE, Omnibus IV, CERES)



International research collaborations



Workshops

• Questions? Email us at <u>strategicinitiatives@ucdavis.edu</u>

# Interdisciplinary Research Catalyst



#### Faculty Fellows tinyurl.com/irc-facultyfellows

- Up to \$25,000 matched with Dean
- \$340,000+ total matched investment
- ❖ \$15.3M awarded (so far...)
- \$150,000 National Lab Partnership edition

#### **Conversations** tinyurl.com/irc-conversations

- ❖ \$5,000 awards
- 350+ participants
- Themes include: Community and Citizen Science, Biophotonics, Neuroengineering, Health & the Environment, Neuroscience















### Team Research Forums







- Highlight specific research areas & opportunities.
- Provide a space for faculty & researchers to find collaborators and make new connections.
- Address areas of broader impact and societal well-being.

https://tinyurl.com/ucd-teamresearchforum

















# **Identify Funding Opportunities**



Lead

- Identify search tools and learn how to use them
- Conduct a purposefully broad search
- Generate a list of 35 or more potential leads

Prospect

- For each identified agency, review mission statement
- Eliminate agencies and programs not aligned with your project goals
- Narrow your list to 10-15 opportunities

Match

- For each prospect, conduct a close read of RFP
- Eliminate poor matches due to eligibility, project needs, timeline, or logistics
- You now how 5-6 programs to focus on at this time

# **Identify Funding Opportunities**





#### **Announcements**

Sustainable Agriculture & Food Systems -Small Grants Program



Deadline: Tuesday, January 10, 2023 by 12:00 PM

U.C. Sustainable Agriculture Research and Education Program (U.C. SAREP) is pleased to announce the release of the request for proposals for our 2023-24 Small Grants Program. The program funds research, education and demonstration projects that support the development of sustainable community food systems and environmentally-sound and economically viable farming enterprises.

Read more...

#### **Events**

UC Climate Action Webinar & Funding Opportunity UNIVERSITY OF CALIFORNIA RESEARCH INITIATIVES

Next Monday, October 17, 2022 from 12:00 - 1:30 PM Virtual, register here

The UC Vice President for Research and Innovation invites you to learn about the UC Climate Action Research funding and upcoming Requests for Proposals (RFPs). The webinar will be recorded for those unable to attend.

The State of California has allocated \$100 million to the University of California to fund Climate Action research projects that-address critical state needs. More specifically, the UC Office of Research and Innovation will be releasing RFPs inviting proposals spanning the full range of disciplines and cross-disciplines that lead to rapid, translational and applied research outcomes.

Register here...

#### **New Funding Opportunities**

#### Multidisciplinary

#### W. M. Keck Research Grants in Science & Engineering and Medical Research Limited Submission - Extended

Limited Subr Deadline

Sponsor: W. M. Keck Foundation Internal Deadline: October 24, 2022 Sponsor Concept Deadline: January 05, 2022

Contact: <u>Traci Galbaugh</u>, Managing Executive Director of Foundation Engagement

Dual Purpose with Dual Benefit: Research in Biomedicine and Agriculture Using Agriculturally Important Domestic Animal Species (R01)

Sponsors: NIH and the USDA Sponsor Deadline: December 15, 2022

#### Earth System Science and Modeling Research in Support of the Disaster

Sponsor: National Oceanic and Atmospheric Administration (NOAA) Sponsor Deadline: January 26, 2023

Biological Anthropology Program
Senior Research Awards (BA-SR)
Sponsor: National Science Foundation

Sponsor Deadline: January 26, 2023

#### Agriculture & Environmental Science

#### Request for Information: Designing a Global Digital Integration Hub to Enhance Collaboration

Sponsor: Foundation for Food & Agriculture Research

Sponsor Comment Deadline: November

Contact: Molly McCarthy, Senior Director of Foundation Engagement

Central Valley Project Conservation Program and Central Valley Project Improvement Act Habitat Restoration Program Grants

Sponsor: Bureau of Reclamation (DOI) Sponsor Deadline: November 30, 2022

#### Targeted Airshed Grant Program Sponsor: Environmental Protection

Agency (EPA)

Sponsor Deadline: December 08, 2022

#### Solid Waste Management Grant

Sponsor: US Department of Agriculture (USDA)

Sponsor Deadline: December 31, 2022

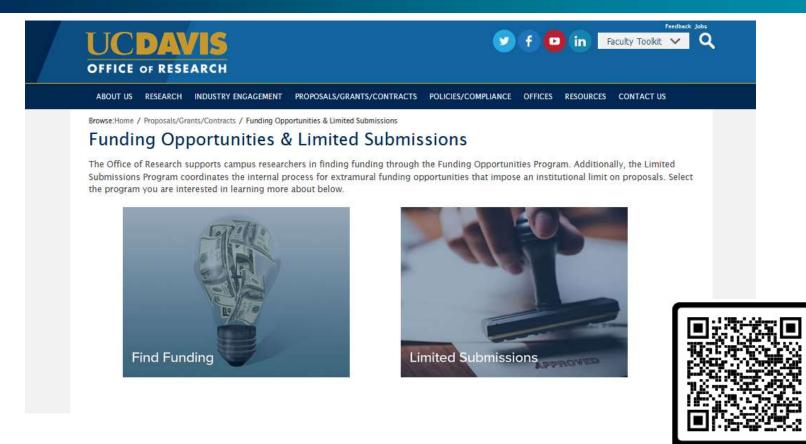
https://lists.ucdavis.edu/sympa/subscribe/fundingjrfaculty/index.html





# **Identify Funding Opportunities**

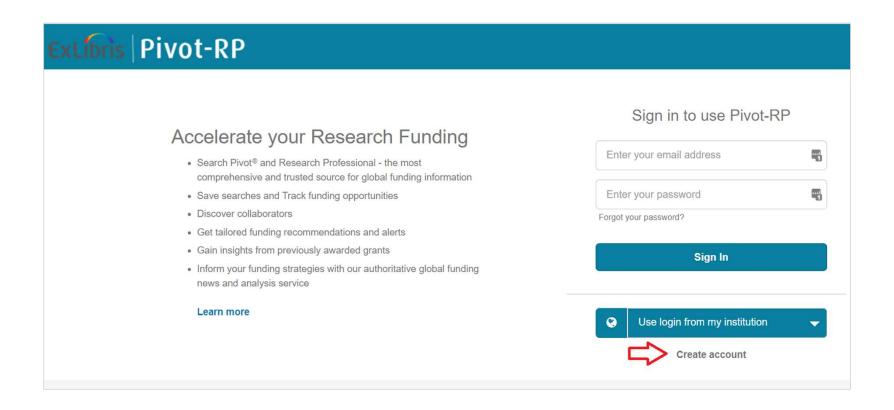




https://research.ucdavis.edu/proposals-grants-contracts/funding-opportunities/

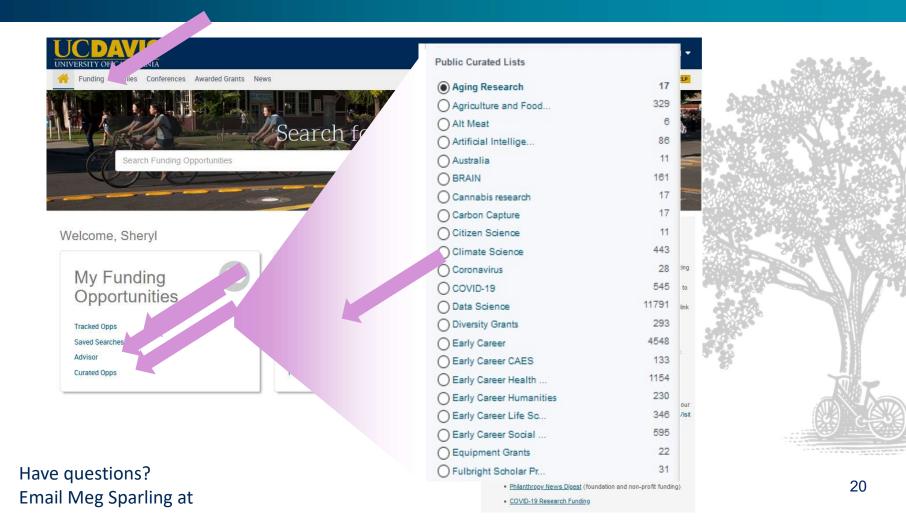
### **Know Your Tools**





### **Know Your Tools**





# Consider some of these funding options



- Workshop Grants
  - Leadership opportunities
  - Develop relationships
  - Impress letter writers
- "Sweeps" month
  - Federal agencies must spend their remaining funds before
- Student Funding
  - Student Fellowships
  - Institutional Training Grants



# **Early Career Funding**



GRANTS CALENDAR	NATIONAL SCIENCE FOUNDATION (NSF)	NATIONAL INSTITUTES OF HEALTH (NIH)	ENVIRONMENTAL PROTECTION AGENCY (EPA)	DEPARTMENT OF AGRICULTURE (USDA)	DEPARTMENT OF ENERGY (DOE)	DEPARTMENT OF DEFENSE (DOD)	NATIONAL ENDOWMEN FOR THE HUMANITIES (NEH)	PRIVATE FOUNDATIONS
WINTER- SPRING	NSF Investigator-Initiated Research Project (Round 1): Spring *date varies by division	NIH R01 Research Grant (Round 1): Feb 5	USDA AFRI Standard Grant: RFAs issued in Spring, due in Summer		DOD Army Research Office (ARO) YOUNG INVESTIGATOR PROGRAM (YIP): Open		NEH Fellowship (EARLY CAREER): April	Packard Fellowship for Science and Engineering (EARLY CAREER) - Limited Submission: February
		NIH - K - CAREER DEVELOPMENT Grant (Round 1): Feb 12			DOD Defense Advanced Research Projects Agency (DARPA) YOUNG FACULTY AWARD (YFA): January			
		NIH R21 Exploratory Research Grant (Round 1): Feb 16	USDA AFRI Conference Grant: RFAs issued in Spring, due in Summer  USDA AFRI Coordinated Agricultural Project (large-scale, multi-function): RFAs issued in Spring, due in Summer					Pew Scholars Program Biomedical Sciences (YOUNG INVESTIGATORS) - Limited Submission: April
SUMMER	NSF EARLY CAREER Program: July (last Wed	NIH R01 Research Grant (Round 2): Jun 5			Research (AF	ffice of Scientific FOSR) YOUNG DGRAM (YIP): June		Harlwell Foundation Individual Biomedical Research Fellowship - Limited Submission: June
		NIH - K - CAREER DEVELOPMENT Grant (Round 2): Jun 12			DOD Office of Naval Research (ONR)		NEH Summer Stipends Limited submission: July	Johnson & Johnson,
		NIH R21 Exploratory Research Grant (Round 2): Jun 16	Science Enhai INVESTIGATOR Gr	and Agricultural ncement, NEW ant: RFAs issued in in Summer	YOUNG INVESTIGATOR PROGRAM (YIP): July			WiSTEM2D Scholars Award Program - Limited Submission: August
FALL	NSF Investigator-Initiated Research Project (Round 2): Fall *date varies by division	NIH R01 Research Grant (Round 3): Oct 5	EPA Science to Achieve Results Research Grant: Varies by research area; must respond to open RFAs		DOE EARLY CAREER Research: September		NEH Infrastructure and Capacity Building Challenge Grants: September	W.M. Keck Foundation Science & Engineering and Medical Research Program - Limited Submission: October
	NSF Research Traineeship: September	NIH - K - CAREER DEVELOPMENT Grant (Round 3): Oct 12						
	NSF Major Research Instrumentation Grant: Limited Submission: October	NIH R21 Exploratory Research Grant (Round 3): Oct 16						Moore Inventor Fellows - Limited Submission: October

# Research Development at UC Davis

Sheryl Soucy-Lubell, PhD
Interdisciplinary Research Support
Interdisciplinary Research &
Strategic Initiatives
irs@ucdavis.edu







# Grant Writing is part of our culture

Self Assessment

Write Early and Often



Don't be Shy

## Grant-writers toolkit



## Research Development Toolbox

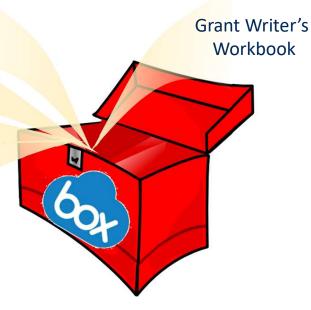


Grant-writing
Newsletters

Early Career Grant Writing Guides

Proposal Component Templates

Agency-specific
Tips and Tricks





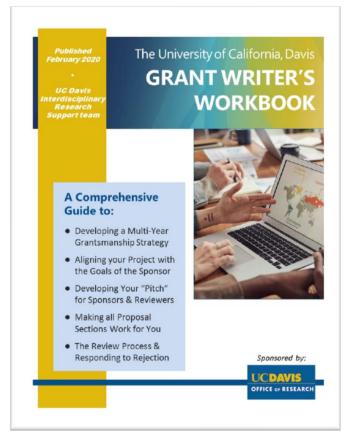
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https://tinyurl.com/53ezmsdb

### The Grant Writer's Workbook



- Part I: Orient Yourself: Understand the research landscape at UC Davis
  - Office of Research
  - Your Department and School
  - Other Offices and Services
- Part II: Developing Your Grantsmanship Strategy
  - Do a SWOT analysis of your own research program
  - Make a 5- year plan



### **GRANT READINESS**



#### **Conduct a SWOT Analysis**

Working against you

STRENGTHS

WEAKNESSES

OPPORTUNITIES

THREATS

Internal

External

#### Strengths

- Demonstrated model system that works
- I'm good at making graphics
- I served as a reviewer once
- Excellent teaching model = broader impacts

#### **Opportunities**

- Lab group can help review drafts
- Colleague in my department has received grant recently
- Funding agency has identified my area as a funding priority
- I don't teach winter quarter

#### Weaknesses

- Don't know how to write a data management plan
- Bad a time management
- Don't know much about review process at USDA

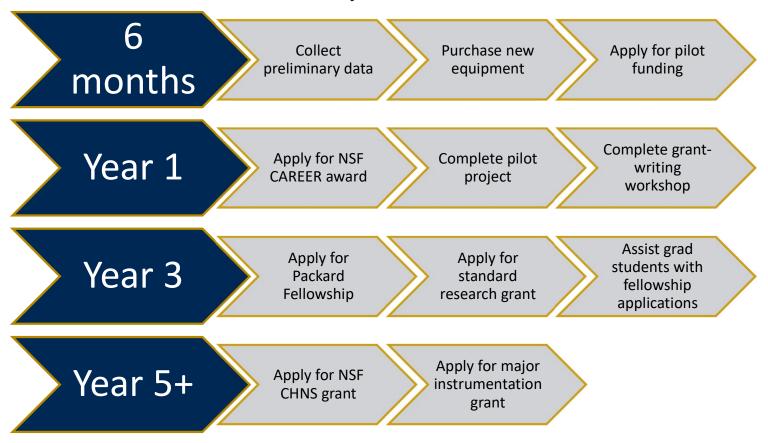
#### **Threats**

- Teaching takes up too much time
- Reviewers don't understand what I want to do
- Competitors published review article that bashed the methods I typically use

## **GRANT READINESS**



#### Make a 5-year Plan



### **Action Items**



#### Download the Grant Writer's Workbook

### Complete Part II of the workbook

- Take the "Grant Readiness: Self Assessment"
- Turn this self assessment into a SWOT analysis
- Make a 5-year plan and a 1-year plan

#### **RESOURCES**

- Grant writers' Workbook Parts I and II
- IRS team workshops

GRANT READIN	ess: Five-Year Plan	
YEAR 1:		
PROPOSALS:		
ACTIVITIES:		
OUTCOMES:		
YEAR 2:		
PROPOSALS:		
ACTIVITIES:		
OUTCOMES:		

### **Action Items**



### Check out our (recorded and new) workshops

### For example...



#### **FINDING FUNDING**

Learn a 3-step method for finding the right funding opportunities, and apply it using the web's most powerful grant search database!



#### **DEVELOPING YOUR PITCH**

To engage reviewers and ensure a proposal makes it past the first round of review, researchers need a concise, compelling research "pitch."



#### **BUDGET**

With guidance from veteran financial analysts, learn what funders look for in financials and discover the top qualities of strong budgets.



#### **REVISE AND RESUBMIT**

Most proposals are funded on the second or third try. Learn how to approach the resubmission process and what pitfalls to avoid.

# Make a Writing Plan







# Make a Writing Plan





# Make a Writing Plan



### Heilmeier's Catechism

- What are you trying to do? Articulate your objectives using absolutely no jargon.
- How is it done today, and what are the limits of current practice?
- What's new in your approach and why do you think it will be successful?
- Who cares? If you're successful, what difference will it make?
- What are the risks and the payoffs?
- How much will it cost? How long will it take? What are the midterm and final "exams" to check for success?



# Make a Writing Plan: One Pager



### The three-paragraph format

Set the Stage—Lay Out the Problem



Who Cares?

State the Theme and your Solution



Here's How

**Create a Vision** 



So What?



# Writing your One-Pager

### Now use your one-pager as a template for the full proposal

#### **First Page**

Lay out the Problem Background Significance

State the Theme and your Solution Hypothesis Objectives

Create a vision
Outcomes
Impact

#### Remaining Pages (more detail)

Overview (25%)
Background (literature review)
Significance
Preliminary Studies (own work)

Theme and Solution (60%)
Objectives and Hypotheses
Approach and Methods (details)
Potential Pitfalls and Alternatives
Timeline and Milestones

Outcomes (15%)
Deliverables
Broader Impacts

# Make a Writing Plan: Action Items



### Develop good writing

- Set a schedule
- Draft a one-pager

### Never submit anything without review

- Create a peer-review group among your colleagues
- Ask a senior colleague to review your proposal

#### RESOURCES

- Research Development Toolbox: Writing a one-pager
- Grant Writer's Workbook, Parts III and IV

#### One-Pager TEMPLATE

#### Paragraph :

Hook: Get the reviewer's attention with a specific situation and its current impact or significance. (1 sentence)



**Long-Term Goal:** Describe your *ultimate* goal in pursuing the project—typically something involving major steps toward addressing the problem/question/challenge (1 sentence)

e.g., "Our long-term goal is to establish a first-of-its-kind Center for Arctic Fermentation Studies, designed around a convergent approach to the co-production of knowledge...."

**Project Goal:** Explain the goal you will achieve *during the period of the grant*—typically a significant portion of work related to your long-term goal, but not often encompassing the entire long-term goal (1

# Get Yourself Known





# Get Yourself Known: Talk to Program Officers



#### My One Pager

Radioactivity often harms or kills living organisms, but a select few thrive in the presence of ionizing radiation and these taxa can revolutionize our understanding of how life can survive in extreme environments. Microbial taxa thrive in modern radiation-contaminated environments, flourished on early Earth where radiation was higher than present, and survive on spacecraft exposed to ionizing radiation. These taxa can provide important insight into bioremediation, early life, planetary protection, and where life can persist in our universe. However, we have been limited to using model organisms to understand the effect of radiation on cellular metabolism or using 185 FNNA to study community composition. While useful, these methods cannot provide a complete understanding of radiation-adapted communities, their metabolic capabilities, and their behavior under radiation stress. Therefore, we know very little about most organisms that inhabit these ecosystems. We can transform our understanding of how life survives in the presence of radioactivity by leveraging recent advantages in sequencing technologies and new bioinformatics tools.

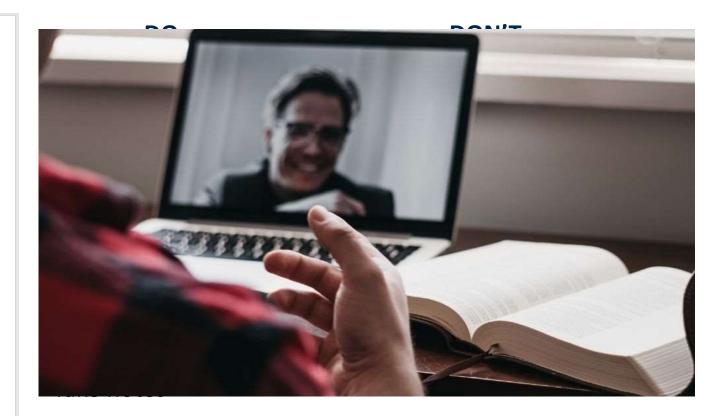
My long-term goal is to provide a comprehensive understanding of how radiation-adapted communities respond to gamma radiation and apply that knowledge to better understand life on early tarth, the deep blosphers, and potential for life outside of Earth. The proposed work will lay the foundation for this research by combining cutting-edge bioinformatics approaches and culture-based approaches to elucidate the genetic basis for radiation resistance and determine if radiation can have a positive effect on specialized bacteria or archaes. The specific goals of the project are to:

- Generate a catalog of bacterial and archaeal species that inhabit gamma radiationcontaminated environments, determine whether these species are unique to these environments, and determine if their genomes contain unique features.
- Identify the biological response to gamma radiation in species acclimated to radiationcontaminated environments.
- 3) Determine whether gamma radiation can have a positive impact on bacterial growth by
- using radiation as an energy source (radiotropism).

  16 The raseries of research-based educational activities for community college students, first-year undergraduates, and upper-division undergraduate students.

This research will provide a catalog of radiation-adapted species and their genomes, the mechanism by which they resist radiation and a determination of whether gamma radiation can enhance microbial growth. This information will help to provide the basis for determining how and which microbial taxa may be used in bioremediation, what metabolic processes facilitate survival in high-radiation early Earth, and the conditions under which species may survive transport through space. If we identify bacterial or archaeal species that are radiatoropic, then this work will revolutionize how we understand energy fluxes in low-energy environments like the deep subsurface.

I have interdisciplinary expertise in microbial acology in extreme environments, geobiology, and geochemistry, and my experience with cutting-edge bioinformatics approaches and am, therefore, an ideal person to carry out this research. The University of California Davis provides the ideal environment to carry out the work due to the presence of the Crocker Nuclear Laboratory, its excellent genomics core facilities, and collaborative bioinformatics community.



# Get Yourself Known



## Talk to Program Officers whenever possible

- Zoom
- Washington
- professional meetings

#### Ask to be on Review Panels

- At a Federal Agency
- For the Academic Senate or your college
- For the Limited Submissions Program



# Get Yourself Known: Networking



#### **Self-promotion**

Broadcast your good press

#### Use social media to your advantage

- Follow funding agencies, your dean, your colleagues, the chancellor
- "Like" posts, even if you aren't posting yourself
- Post often, including about your students (with their permission)
- Use a variety of platforms to reach more people and groups



# Get Yourself Known: Action Items



#### **Contact Program Officer**

- Share one-pager
- Volunteer as reviewer

#### Set up social media accounts

- Establish for professional purposes only
- Use these often, even if just "liking" others

#### Contact your department chair and dean

 Create a "draft" email so that you can quickly insert news you want to share





## Contact Us!

Interdisciplinary Research Support <a href="mailto:irs@ucdavis.edu">irs@ucdavis.edu</a>

#### Do your homework!

- Download the workbook
- Do a self assessment
- Write some one-pagers
- Form a working group
- Promote yourself
- Attend our events
- Follow us on social media

Sponsored Programs Office

**Ahmad Hakim-Elahi** 

Executive Director ahakimelahi@ucdavis.edu





# Sponsored Programs Office: Mission



- The Sponsored Programs Office assists the campus research community with its efforts to secure <u>extramural funding</u> while promoting proper stewardship of those funds
- Responsible for:
  - Review and submission of proposals, and
  - Accepting the resulting awards

All on behalf of The Regents

# Regent's Policy



- "It is the policy of the University of California that employees who
  receive any part of their salary through the University, or whose
  activities use any University resources or facilities, must submit their
  proposals for extramural support through the appropriate local
  contracts and grants office. Awards must be made to The Regents of
  the University of California."
- "This requirement is necessary to ensure that all research and other extramurally funded projects conducted by University employees, or with the use of University resources or facilities, are approved by the appropriate University contract and grant office and comply with relevant University policies and guidelines..."
- https://policy.ucop.edu/doc/2500500/ReqSubmitProp-Awar

# Sponsored Programs Office



# Primarily responsible for providing the following services in support of the unit's mission

- Review and approve proposals as delegated by The Regents
- Review, negotiate, and accept awards on behalf of The Regents
- Issue subawards
- Secure proper approvals for post award transactions
- Coordinate award closeout
- Provide training on pre and post-award policies, procedures and regulations
- Maintain systems for proper reporting of extramural funds and effective management of the unit's functions.

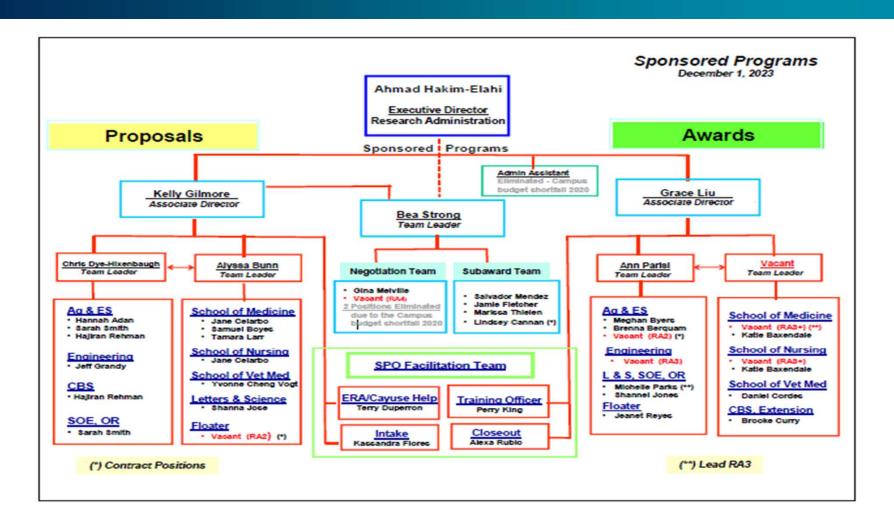
# **Sponsored Programs Office**



- Effective and timely handling of <u>all research proposals</u>
- Review/negotiate NDA/CDAs for anticipated research collaborations
- Review, interpret, negotiate, and <u>accept awards/agreements</u> on behalf of the Regents for projects funded by:
  - federal and state agencies
  - o foundations, and
  - o other **public** and **private** sources.
- Draft, negotiate, and execute <u>awards</u> and <u>subawards</u> for collaborative research.
- Dedicated analysts within the Sponsored Programs office carry out these duties.
  - Each analyst is part of a team (led by a Contracts and Grants Officer) and is assigned to focus on either proposals or awards for a set of schools / colleges.

# Structure of SPO



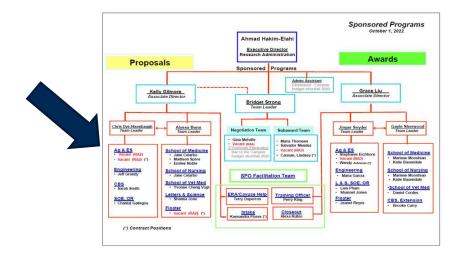


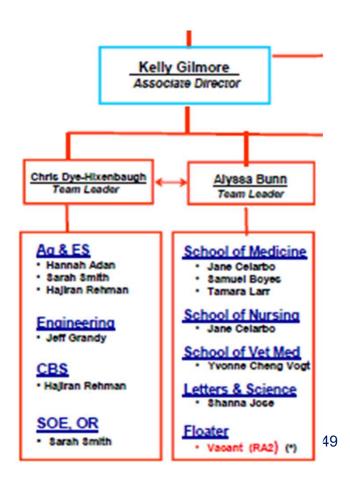
# Structure of SPO (continued)



#### **Proposal Team**

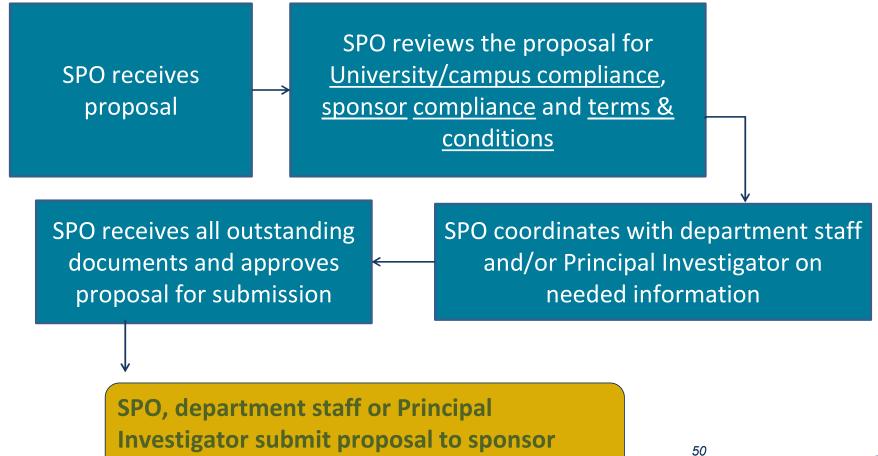
Is charged with reviewing and approving research proposals to ensure compliance with University/campus and sponsor policies, including but not limited to appropriate indirect cost recovery.





# The Proposal Process





# Types of Proposal Reviews



# Full Review ≥ 5 Business Days

- Campus & sponsor requirements
- Financial & regulatory compliance
- PI & institutional eligibility
- Terms & conditions, if applicable
- <u>Submission</u>: Final packages should be submitted to SPO two business days prior to submission deadline (preferred); at a minimum, three hours prior to submission deadline

# Limited Review < 5 business days</p>

- Indirect cost rate, based on information as submitted
- Additional items as time may allow
- Reserve right to negotiate at time of award
- Submission: As soon as practicable, although we cannot guarantee an error-free submission or that th submission will be completed due to factors such as volume or system issues

#### No Review

- No review
- Reserve right to negotiate at time of award
- Submission: As soon as practicable, although we cannot guarantee an error-free submission or that the submission will be completed due to factors such as volume or system issues

Sponsored Programs is open from 8:00 a.m. to 5:00 p.m.

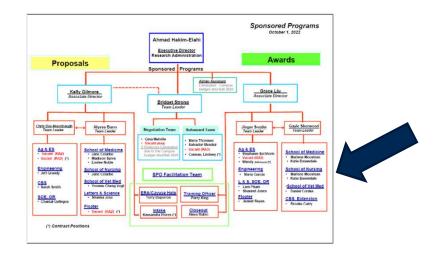
All proposals must be submitted to sponsors **before 5:00 p.m.**, even if the sponsor has listed a later submission time.

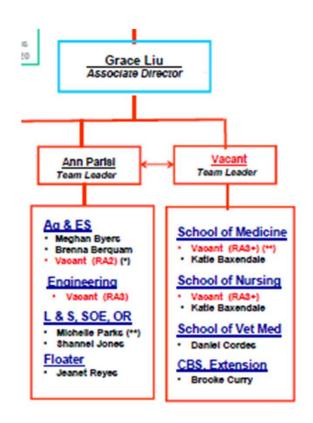
## Structure of the Office



#### **Award Team**

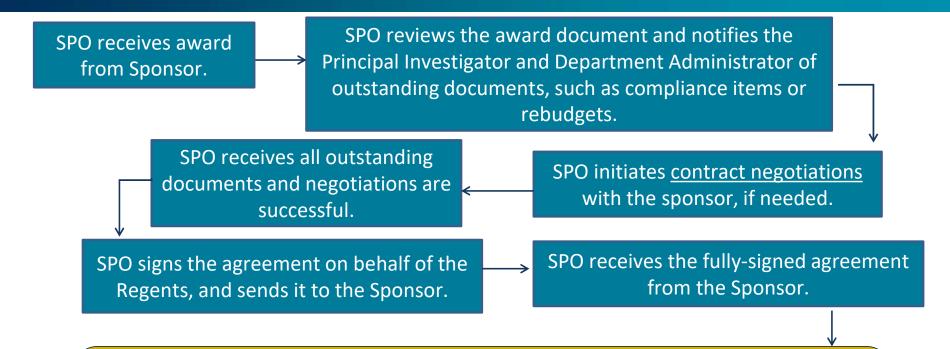
Charged with reviewing and approving awarded grants and contracts. The review process ensures terms and conditions fall within applicable laws and University policies.





# **Award Process**





#### Copies of the fully-signed agreement are available to:

- Principal Investigator
- Department Administrator
- Contracts & Grants Accounting
- Other campus units as needed (e.g., Equipment Management, Risk Management, etc.)

# Structure of SPO

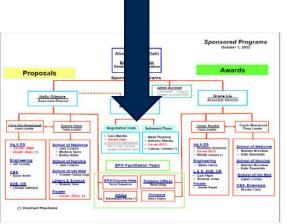


## **Negotiation & Subawards**

Charged with reviewing and approving awards/contracts that required extensive negotiations, especially with the private sponsors, and issuing subawards.

- In the last 2 to 3 years, for negotiations, we have been relying on other members of SPO,







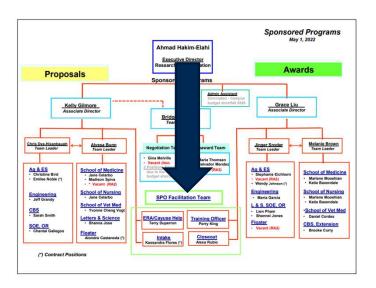
# Structure of SPO (continued)



#### **Facilitation Team**

Provides internal/external support for SPO activities. The team is vital to ensuring efficient operations. This dedicated team is tasked with:

- -resolution of Cayuse Help Desk inquiries
- -real-time review and team assignment of Cayuse requests, systems access controls and prompt resolution of access issues,
- -internal and external training, and
- -award closeout activities.





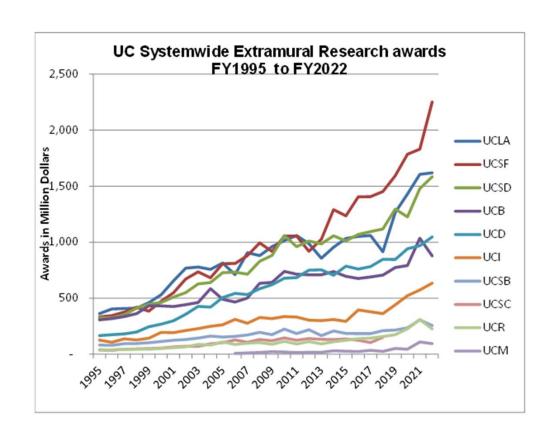
# Sponsored Programs Office: Role



- Proposals: Review and Submit Proposals:
  - Make sure the proposal and supporting documents follow the RFP
  - Ensures that budget is appropriately prepared:
    - Correct indirect cost rate
    - subawards & consultants are properly budgeted
  - Submit proposals to sponsor
- Awards: Review and Accept Awards:
  - Make sure award terms are acceptable
  - Make sure all compliance items are accounted for
  - Sign award on behalf of the Regents
- Subawards: Issues subawards

# Awards \$\$ Amounts





# Research Cores Facilities Program (RCFP)

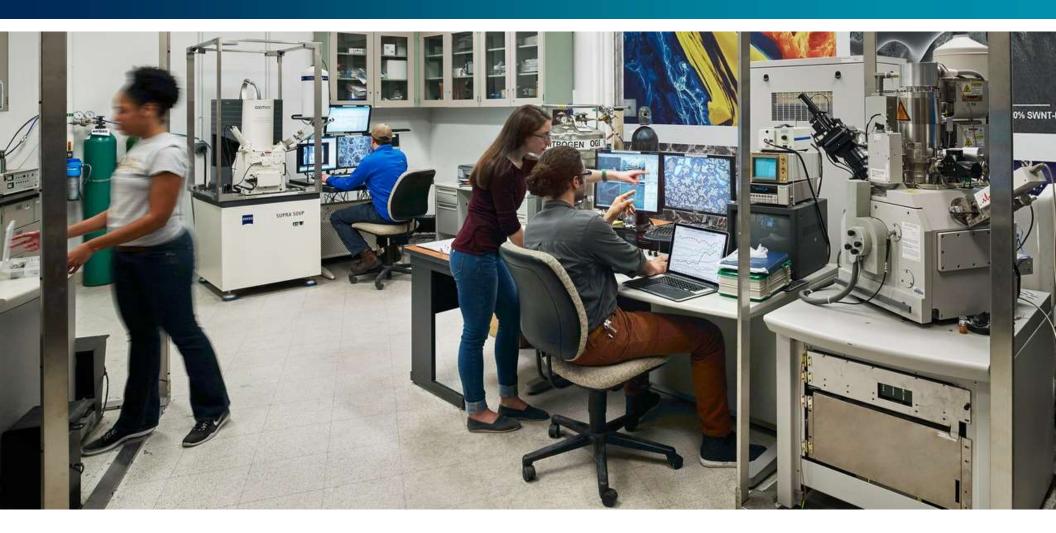
Isabelle Girard, PhD Interim Director, RCFP igirard@ucdavis.edu





# Cores are critical research infrastructure





# UC Davis is adopting an inclusive view of cores



- **O** instrumentation
- O expertise
- © services
- O training

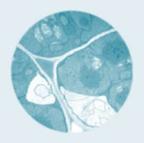
Research cores include any organized shared research facility or resource that provides access to technologies, equipment, services, and expert consultation to enable, facilitate, and enhance the <u>research mission</u> of the university. Cores typically serve a substantial user base and have established and approved recharge rates for users.

# Representative Research Core Facilities





Bioinformatics Core bioinformatics.ucdavis.edu



Biological Electron Microscopy Facility bioem.ucdavis.edu



Campus Mass Spectrometry Facility cmsf.ucdavis.edu



Center for Molecular and Genomic Imaging cmgi.ucdavis.edu

more than 100 research cores and shared resource facilities can support your work



Controlled Environment Facility cef.ucdavis.edu



DNA Technologies and Expression Analysis dnatech.genomecenter. ucdavis.edu



Flow Cytometry Shared Resource Laboratory health.ucdavis.edu/cancer/ research/sharedresources/ flowcytometry.html



Health Sciences
District Advanced
Imaging Facility
advancedimaging.vetmed.
ucdavis.edu

# Representative Research Core Facilities





High Performance Computing for Research Core Facility hpc.ucdavis.edu



Imaging Research Center ucdirc.ucdavis.edu



Interdisciplinary Center for Inductively-Coupled Plasma Mass Spectrometry icpms.ucdavis.edu



Keck Spectral Imaging Facility ksif.ucdavis.edu



MCB Light Microscopy Imaging Facility microscopy.mcb.ucdavis.edu



Mouse Biology Program mbp.mousebiology.org



Nuclear Magnetic Resonance Facility nmr.ucdavis.edu



Proteomics Core Facility proteomics.ucdavis.edu



West Coast Metabolomics Center metabolomics.ucdavis.edu







Browse: Home / Research / Research Core Facilities Program

Vision & Goals

Facilities

Our Team Contact Us

Stratocore PPMS

Campus Research Core

Campus Research Core

References Our Team Contact Us

Find Services & Equipment

Find Services & Equipment

#### Research Core Facilities Program

The mission of the Research Core Facilities Program is to enable researchers at UC Davis to have access to the state-of-the-art technology for their scientific research, to streamline the core facility administration while improving accountability and transparency, and to provide training opportunities for faculty, graduate students and staff.









Find Services & Equipment

Login to Stratocore (PPMS)

erences Learn About Us

#### Research Core Facilities Survey Results (December 2022)

As part of the effort to understand the campus core landscape and researcher needs, the AVC Cores Working group developed and launched an anonymous survey for the UC Davis research community, including faculty, trainees, staff, students, clinicians, and researchers. The survey was designed to solicit researcher input on the current and recent use of cores and shared facilities, including challenges, unmet needs, concerns, and comments. A copy of the full Research Cores Survey Report can be found here.

**Research Core Facilities Survey Results** 



Browse: Home / Research / Research Core Facilities Program

## Research Core Facilities Program Vision & Goals Stratocore PPMS The mission of the Research Core Facilities Program is to enable restate-of-the-art technology for their scientific research, to streaml

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Find Services & Equipment

Login to Stratocore (PPMS)

View References

Learn About Us

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**Research Core Facilities Survey Results** 

# Find services and equipment







Search.	Search:	
---------	---------	--

	Facility	Email	Phone No.	Facility Website
0	Advanced Materials Characterization Laboratory (AMCaT)	<u>benthem@ucdavis.edu</u>	(530) 752- 0284	https://mse.engineering.ucdavis.edu/amcat
•	Behavior Research Services Core	cehogrefe@ucdavis.edu	(530) 752- 5179	http://www.cnprc.ucdavis.edu/our-services/core- research-services-core/
0	Bioanalysis and Pharmacokinetics Core Facility	<u>chywu@ucdavis.edu</u>	(916) 703- 5510	http://pk.ucdavis.edu
0	Bioinformatics Core	settles@ucdavis.edu	(530) 752- 2698	http://bioinformatics.ucdavis.edu
0	Biological EM facility (CBS)	epbaldwin@ucdavis.edu	(530) 752- 1108	https://www.mcb.ucdavis.edu/cryoem/
0	Biological EM facility (SOM)	pekysar@ucdavis.edu	(530) 752-	http://www.ucdmc.ucdavis.edu/cellbio/electronmi



## New comprehensive cores directory under development



Primary Contact James Cook   jc@ucdavis.edu   916-555-1212		Address Cole Facility Building C
Alternative Contact	Alternative Contact   test@test.com   916-555-1212	1850 Research Park Dr. Room: 222 Davis, CA 95616
Parent Organization	Core Parent Organization LLC	<b>Campus</b> Davis
Organization Center Name	me The center of excellence at UC Davis  Core Phone (530) 752-0284	
Description	The mission of the Cancer Center Biorespository is to provide high quality, well-characterized cancer-related human tissue specimens and biological materials to collaborators. The specific objectives of the shared resource are: * The procurement, preparation, and preservation of malignant, benign, and normal human specimens in a centralized reposit	Core Email benthem@ucdavis.edu  Rate Structure Unassisted and assisted/training rates available  Rate Sheet Url
Home Url	https://mse.engineering.ucdavis.edu/amcat	https://mse.engineering.ucdavis.edu/amcat/recharge-rates Staffed Hours
Citation	UC Davis Crocker Nuclear Laboratory	9-5pm

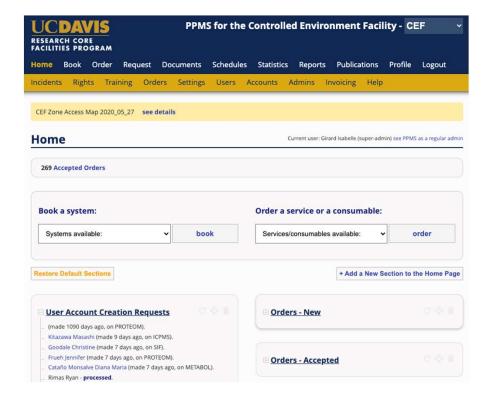




# For orders, reservations, invoices, and reports

#### hosted by Office of Research

https://research.ucdavis.edu/ research/core-facilitiesservices/stratocore-ppms/



# RCFP welcomes your questions





# Innovation Access

Eugene Sisman
Interim Director
esisman@ucdavis.edu







# Two separate but related units

#### Innovation Access

Stewards university intellectual property and implements and manages IP agreements and technology transactions

#### **Venture Catalyst**

Catalyzes the commercial translation of university research through effective enablement of startups and new ventures



# Innovation Access











<sup>\*</sup>New functionality – copyright disclosure form. Icon pending.

# Innovation Access: Two main missions



#### Steward UCD's patentable inventions subject to law and policy

- Main objectives:
  - Compliance with feral law and other sponsor obligations
  - Bring UCD technologies to market
  - Help support the greater Sac, CA, and U.S. ecosystem
  - Fulfil UCD's mission as a land-grant university
  - Receive an equitable return for providing license rights

#### **Assist UCD researchers with technology out-licensing endeavors**

- Types of engagements
  - Material and data transfers
  - Property bailments and know-how licenses
  - Copyright/software licenses
  - Other IP-policy-related support



# Innovation Access Request



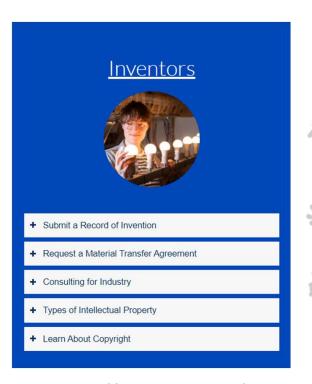


Please DO disclose even potential inventions to IA (ROI). They will make the determination if there's patentability and/or market potential



Please AVOID public disclosures before an ROI evaluation

- Includes publishing papers, presentations (even on campus)
- Negates patentability for most of the world



https://itc.ucdavis.edu/



#### Innovation Access Resources



# TIPS RESOURCES + General IP Resources + Innovator & Inventor Resources + Learn about Patents + Learn about Licensing Tech Transfer & Patent Prosecution Diagrams + Helpful Publications

#### **TIPS VIDEO SERIES**













- For yourself: Learn more about intellectual property
- For your students:

TACTICAL INTELLECTUAL STRATEGY

- Use it in your curriculum
- Request a TIPS presentation from an IA team member



# Venture Catalyst

Janine F. Elliott
Interim Director- Venture Catalyst
jafelliott@ucdavis.edu







## Venture Catalyst

Our purpose is to support entrepreneurship and entrepreneurial mindsets to move innovations out of the lab and into the world, where they can have maximum economic and social impact

Whether you're an *entrepre-curious* innovator or a fire-forged entrepreneur, we're here to help you explore your idea and navigate the startup process



## Venture Catalyst

**Proof-of-Concept Programs** 



Venture Toolkit



Startup Incubator Network



**Economic Engagement** 



- ACE grants
  - Aggies for Climate Equity
- STAIR™ grants
  - Science Translation and Innovative Research

#### **START™ Program**

- Pro bono incorporation & connections to professional services
- Pitch coaching
- Market Insights and Competitive Analysis (MICA) reports
- Mentor matching
- ... and much more!

# DRIVE network of affordable shared incubation space within the region

- Wet labs
- Greenhouse
- Bioreactors
- Co-working
- Prototyping

- Knowledge Exchange webinars
- BioTech Innovation Gallery
  - Pre-accelerator
  - Event at JPM conference
- NSF I-Corps bootcamps
- Investor introductions

Whether you're an *entrepre-curious* innovator or a fire-forged entrepreneur, we're here to help you explore your idea and navigate the startup process



## Resources & Opportunities to Engage

- Join Venture Catalyst monthly newsletter
  - Google UC Davis Venture Catalyst → sign up button at top of page
- Download the Startup Handbook
  - Google UC Davis Venture Catalyst → see link at bottom of page
- Proof-of-Concept Award Program applications open soon!
  - Aggies for Climate Equity grants (ACE) launch December 8, closes Jan 21
  - Science Translation and Innovative Research (STAIR™)- launch mid-January, closes mid-March
- Keep an eye out for training opportunities
  - NSF I-Corps bootcamps by our partners at UC Berkeley
  - the **UC Entrepreneurship Academy** by the Mike & Renee Child Institute for Innovation & Entrepreneurship coming each early Spring and Fall
  - Knowledge Exchange webinars and workshops on various startup topics

# Research Ethics & Compliance Office

Alaisha Hellman

Director

**Denise Ehlen** 

Executive Associate Vice Chancellor dmehlen@ucdavis.edu





# Research Ethics & Compliance



**Export Control** 

Stem Cell Research Oversight Responsible Conduct of Research

Financial Conflicts of Interest

**Human Subjects Research QI/QA** 

Research Misconduct

# **Export Controls**



#### Consult RECO, your Export Control Office, if your Research Involves

- Shipping or hand carrying items internationally
- Traveling internationally
- Sponsors that require publication and/or citizenship restrictions
- Purchasing equipment that is, or may be, controlled under export control laws
- Allowing a foreign person access to controlled items (even if the access occurs within the US)
- Work with foreign military
- Undertaking activities in a sanctioned country (e.g. Cuba, Iran, North Korea, Syria and specific regions of Ukraine (Crimea, Donetsk and Luhansk)

# Stem Cell Research Oversight



#### **Stem Cell Research**

- ALL UC Davis research activities involving human stem cell research must be conducted in compliance with the applicable university, state, and federal regulations governing such research.
  - See <a href="https://research.ucdavis.edu/policiescompliance/stem-cell-research/">https://research.ucdavis.edu/policiescompliance/stem-cell-research/</a> for additional information.
    - Submit application to the Stem Cell Research Oversight Committee (SCRO): <a href="https://research.ucdavis.edu/wp-content/uploads/SCRO-Application-rev-07-31-2013-3.docx">https://research.ucdavis.edu/wp-content/uploads/SCRO-Application-rev-07-31-2013-3.docx</a>
    - Quick Guide to Stem Cells and Stem Cell Research: https://research.ucdavis.edu/wp-content/uploads/Stem-Cell-Research-Quick-Guide1.pdf

# UCDAVIS OFFICE OF RESEARCH

# Responsible Conduct of Research

# Provide Information, Training, and Tools Related to Responsible and Ethical Conduct of Research

- May be used to satisfy NIH, NSF, and USDA-NIFA grant requirements.
- 12 online (Zoom) modules offered every academic year.
  - Must complete at least 8 modules to earn certificate of completion
- Register online at <a href="http://lms.ucdavis.edu/">http://lms.ucdavis.edu/</a>, click on "Find a Course," and search for "RCR"
- See <a href="https://research.ucdavis.edu/policiescompliance/research-ethics-rcr-program/">https://research.ucdavis.edu/policiescompliance/research-ethics-rcr-program/</a> for additional information.

## Financial Conflicts of Interest



#### **How to Disclose**

- Navigate to <a href="https://research.ucdavis.edu/policiescompliance/coi/coi-filing-process/ecoi-system/">https://research.ucdavis.edu/policiescompliance/coi/coi-filing-process/ecoi-system/</a>
  - Link to Access eCOI
  - Quick Start User Guides
  - Technical Guidance
  - Overview of Disclosure Forms
    - > 700U
    - > Form 800
    - Supplemental Form
    - > PHS Form

# Human Subjects Research QI/QA



#### Routine Reviews of Active IRB Studies and "For Cause" Audits

- Evaluating human subject studies for possible non-compliance with the IRB Protocol and/or regulatory requirements.
- Promoting a culture of compliance among the human subject research community.
- Assisting with human subject compliance training and outreach.
- Recommending improvements and corrective action in the human research study and IRB process.
- See <a href="https://research.ucdavis.edu/offices/rci/human-subjects/">https://research.ucdavis.edu/offices/rci/human-subjects/</a> for additional information.

#### Research Misconduct



#### Implement and Enforce Integrity in Research, PPM 220-05

- Evaluate and investigate all allegations of misconduct related to research at UC Davis.
  - Fabrication, Falsification, and/or Plagiarism
  - DOES NOT include honest error or differences of opinion
- Research Compliance Hotline: At any time, an employee or individual may make a confidential telephone call to the Research Compliance Hotline (877-384-4272) or the University of California Confidential Hotline (800-403-4744).
- See <a href="https://research.ucdavis.edu/policiescompliance/research-misconduct/">https://research.ucdavis.edu/policiescompliance/research-misconduct/</a>
   for additional information.

# UC Davis Animal Care Program

Rhonda Oates, DMV, MPVM, DACLAM
Associate Director- Animal Care Program

**Director- Campus Veterinary Services** 







#### **UCD Research and Teaching Animal Care Program**

#### Vision

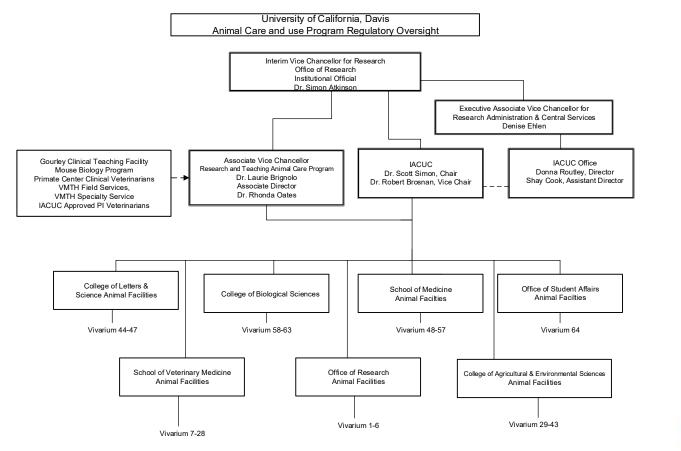
Ensuring people and animals live healthier lives through the judicious, respectful use of animal models

#### **Mission**

Foster a culture of excellence by providing the highest standard of care for our research and teaching animals while providing exemplary support to our investigators, staff and students working with those animals

#### **UCD Research and Teaching Animal Care Program**







November 2023

28

#### **Animal Care and Use Program Facilities**



#### Office of Research

- 1. California National Primate Research Center (CNPRC)
- Respiratory Disease Center
- 2. Campus Veterinary Services Clinic
- 3. Center for Health and the Environment (CHE)
- 4. Mouse Biology Program (MBP)
- M3 Barrier
- 2nd Street
- 12
- 5. Off-Site-Bodega Marine Laboratory (BML- Bodega)
- 6. Teaching and Research Animal Care Services (TRACS)

#### School of Veterinary Medicine

7.CABA- Soto-Fish and Frogs 8.Center for Equine Health (CEH) 9.Feline Nutrition and Pet Care Center (FNPCC)

- 10.Feline Research Laboratory (FRL)
- 11.Gourlev Facility
- 12.J1 ABSL3- Coffey- Rodents
- 13.J1 Facility- Gallardo- Poultry
- 14.P Building- Gallardo- Poultry
- 15.M2- Beaufrere- Bearded Dragons
- 16.M2- Watson- Bearded Dragons
- 17. Off-Site-California Animal Health and Food Safety (CAHFS- San
- Bernardino)
- 18.Off-Site-Veterinary Medicine
  Teaching and Research Center (Tulare)
- 19. California Raptor Center
- 20.Pasture-Pitesky- Poultry
- 21.VM3B- Hammock- Fish
- 22.VM3B- Segarra- Fish
- 23.VM3B- Rogers- Axolotls
- 24. VMTH Large Animal Clinic
- 25. VMTH Small Animal Clinic

#### College of Agricultural & Environmental Sciences

- 26.Department of Animal Science
- 27. Center for Aquatic Biology and Aquaculture (CABA)
- 28. CABA- Sih- Fish and Frogs
- 29. CABA- Sih- Geckos
- 30. Cole A- Ji- Piglets
- 31. Cole B- Kueltz- Fish
- 32. Nutrition/Environmental Toxicology
- 33. Meyer Hall- Whitehead- Fish
- 34. P-Building and field site- Post-Frogs
- 35. Surge- Fangue- Fish (WFCB)
- 36. Hydraulics Lab- Fangue- Fish
- 37. WFCB-TB1- Eadie- Ducks
- 38. Off-Site-Desert Research Extension
- Center- (DREC- El Centro)
  39. Off-Site-Fish Conservation and
- Culture Laboratory- (FCCL- Byron) 40. Off-Site- Granite Canyon (Big Sur)

#### College of Letters & Science

- 41. M1- Bales- Prairie Voles
- 42. Research Park- Wiltgen- Mice-Learning & Memory Facility
- 43. Psychology
- 44. M2- Krubitzer- Opossums
- 45. Psychology Field Pens- Krubitzer-

#### College of Biological Sciences

- 55. Chronic Acceleration Research Unit (CARU)- Fuller- Rodents
- 56. Green Hall- Draper-Fish
- 57. Green Hall- Furlow- Frogs
- 58. Research Park- Rodent Viviarium
- 59. Storer- Laskowski-Fish
- 60. Storer- Wainwright- Fish
- 61. Green Hall- Bales- Seahorses

#### **School of Medicine**

- 46. Off-Site-Caldecott Tunnel- Bein-Rodents
- 47. GBSF- Baumler- Mice
- 48. GBSF- Goncharova- Rodents
- 49. Institute for Regenerative Cures (IRC)
- 50. Research Park-Fuller-Mice
- 51. Research II
- 52. Research Park- Pedersen- Mice
- 53. Tupper Hall- Jao- Fish
- 54. Tupper Hall- Marsh-Armstrong-Frogs

#### Office of Student Affairs

62. Equestrian Center

November 82023



# Program Scope: in People and Projects



- 1298 active research, teaching and clinical trial protocols
  - 112 pending approval
- 497 Principal Investigators
- 2,973 support staff listed on protocols
- 62 vivaria units
- 255 Investigator laboratory rooms





November 22, 2023

#### Program Scope: in Animal Numbers



- Over 8 million animals covered by protocols
  - 6.2 million fish
  - 500,000 frogs
  - 1.2 million mice
  - 100,000 rats
  - 4,100 nonhuman primates
  - 4,000 rabbits
  - 2,800 Cows
  - 8,500 Horses
  - 900 Sheep
  - 7000 Cats











Over 64 different species represented on protocols

# Program Scope: in Funding



- 25.4 % of the grant dollars coming to campus involve animal research
- 2023
  - \$255,614,031
  - Total grant dollars
    - \$1,006,193,920



# Tips New PI – where do I start?



- Your Department (is there an internal mentor available?)
- Animal housing
  - If within TRACS, "Space Request Form" must be submitted,
    - https://research.ucdavis.edu/wp-content/uploads/TRACS-Space-Request-Formfillable-6.3.21.pdf
  - Other vivaria are handled at the department or facility manager level
- EH&S safety review
  - BUA, RUA, Chemical Safety
- Veterinary consultation
  - Clinical Care
  - Research Support
  - Regulatory Oversight
  - Teaching and Training





# Tips New PI – where do I start?



#### **IACUC Protocol**

- Reach out to the **IACUC Office** iacuc-staff@ucdavis.edu
  - let us know you are a new PI and are seeking guidance
- ACU 101 must be completed
  - https://hr.ucdavis.edu/departments/learning-dev/uclearning
- Occupational Health Program
  - https://safetyservices.ucdavis.edu/units/occupationalhealth/surveillance-system







## **Key Animal Care and Use Contacts**



- Animal Care and Use Program
   https://research.ucdavis.edu/policiescompliance/animal-care-use/
- Campus Veterinary Services
   (Lab Animal Health Clinic)
   lahc@ucdavis.edu
- IACUC Office iacuc-staff@ucdavis.edu





#### Thank Research medicine to treat allergies sn't have fleas • your grandmother has a new hip • you've taken medicine to stop an ache • you've never had the measles • you've hever breathed with the help of an iron lung • you don't know what bubonic plague is . you control your diabetes with insulin . you take vita your dad has recovered from a heart attack doesn't have feline leukemia your grandpa d has had bypass surgery a stem cell transplant repaired T don't have ulcers • you've had an operation and you slept through the whole thing • you feel great today!!!!! Celebrating the people, the process and the promise

STATES UNITED FOR BIOMEDICAL BESEARCH

www.statesforblemed.org

# Introduction to the UC Davis IRB

Stephen Falwell IRB Education, Training, and Outreach





# What is the purpose of IRB review?





Protect rights and welfare of research participants



Compliance with applicable regulations, laws, and policies



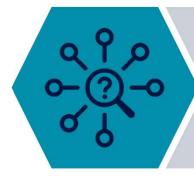


# The IRB reviews Human Subjects Research

		Is the project research?		
		Yes	No	
Does the project involve human subjects?	Yes	Submit to the IRB	IRB review NOT required	
	No	IRB review <b>NOT</b> required	IRB review <b>NOT</b> required	

# What is Research?





Systematic Investigation



Generalizable Knowledge



# What are Human Subjects?





Intervention



Interaction



Private Identifiable Information/ Biospecimen



# The IRB reviews Human Subjects Research

		Is the project research?		
		Yes	No	
Does the project involve human subjects?	Yes	<ul> <li>Submit to the IRB</li> <li>Clinical Trial</li> <li>Surveys to develop generalizable knowledge</li> <li>Retrospective study using data from patient medical records</li> </ul>	<ul> <li>IRB review NOT required</li> <li>Case reports/series</li> <li>Quality improvement/assurance</li> <li>Program evaluation</li> </ul>	
	No	<ul> <li>IRB review NOT required</li> <li>Analysis of publicly available, anonymous, or de-identified data or biospecimens*</li> <li>Non-human animal research</li> </ul>	IRB review NOT required	

#### Structure of the UC Davis IRB



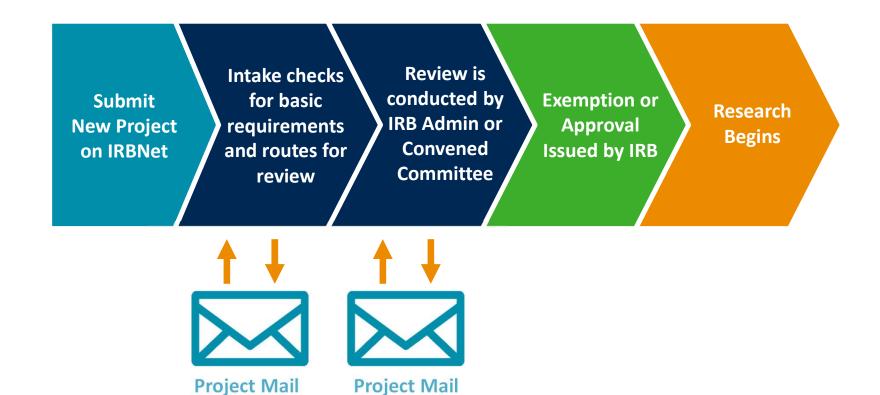
#### Institutional Review Board

Administration

Committee A Committee B

#### The Review Process







# IRB Determinations for New Projects

**Not Research** 

Not Human Subjects Research

**Not Engaged** 

**Modifications Required** 

**Deferred** 

**Not Approved** 

**Exempt** 

**Approved** 



# IRB Determinations for New Projects

**Not Research** 

Not Human Subjects Research

**Not Engaged** 

IRB review **NOT** required

Exempt

← IRB review required

# Recipe for Success





#### Resources



- ✓ Join our listserv
- Required Education webpage
  - <u> www.citiprogram.org</u>
- **✓** <u>IRBNet</u> webpage
  - <u>www.irbnet.org</u>
- **✓** <u>IRB Forms</u> webpage
- ✓ New Projects webpage
- UC Davis Investigator Manual



## Questions



- ✓ hs-IRBeducation@ucdavis.edu
- ✓ hs-IRBreliance@ucdavis.edu



# Thank You!

# Office of Research

www.research.ucdavis.edu



