Writing CSUPERB Grant Proposals

Webinar (Recorded)

November 9, 2020

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www.calstate.edu/csuperb

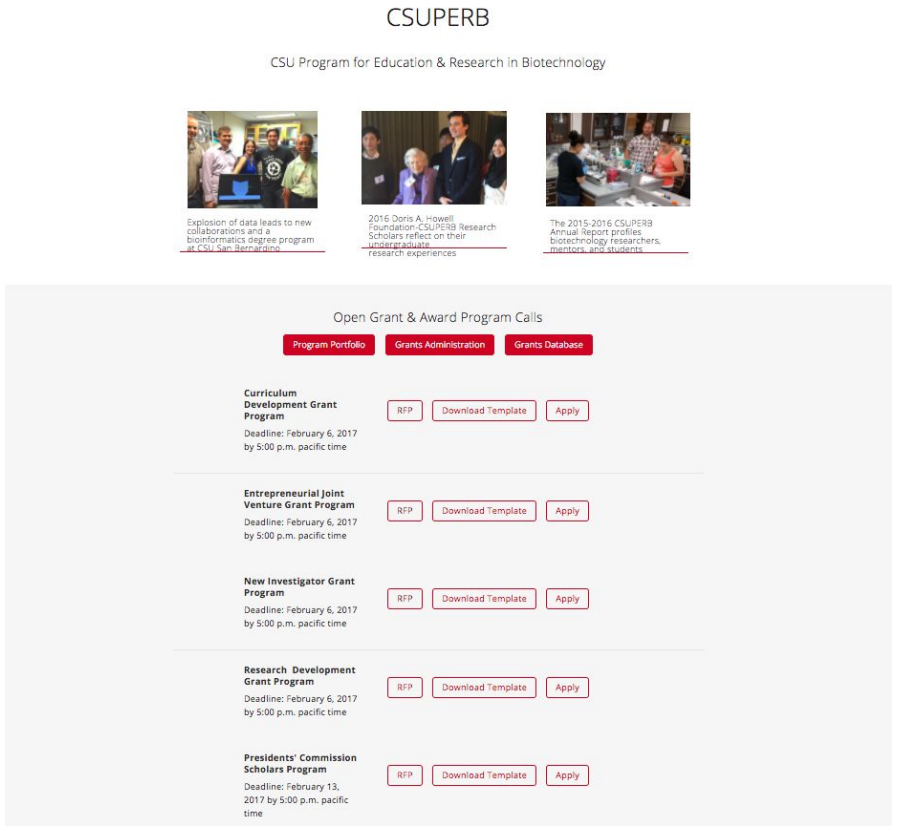
PARTICIPANT INSTRUCTIONS:

- Listen to this webinar
- Go to www.calstate.edu/csuperb to view current RFPs
- Send any questions to csuperb@sdsu.edu

CSU The California State University
PROGRAM FOR EDUCATION AND RESEARCH IN BIOTECHNOLOGY (CSUPERB)

CSUPERB Schedule 2020-2021

Program	RFP Issued	Application Deadline	Award Notification	Maximum Award
COVID-19 Research Recovery Microgrant Program	OPEN	Ongoing	Within 30 days of submssion	Up tp $1500
Curriculum Development Program	OPEN	Feb. 1, 2021	May	$15,000
Faculty-Student Collaborative Research Grant Programs (New Investigator & Research Development)	OPEN	Feb. 1, 2021	May	$15,000
Travel Grant (*Faculty and Student*) Programs	CLOSED		December May	$1500
Howell-CSUPERB Research Scholar Awards Program (*for students*) Presidents' Commission Scholars (*for students*)	CLOSED OPEN	Oct., 2020 Feb. 1, 2021	December April	$3500 to student only $8000 ($6000 to student; $2000 to lab)
Symposium Awards - *faculty & students:* (Andreoli, Eden, Faculty Research, Nagel & Pauling Awards)	CLOSED/OPEN	Pauling, Faculty Research & Andreoli – Oct. 21, 2019	At Symposium	$1000-1750 / award
Industry Partnership Initiative (IPI)	OPEN	Feb. 1, 2021	May	$15,000
33rd Annual CSU Biotechnology Symposium,	January 7-10,, 2021	Registration Open Month of November	Early November	
CSU I-Corps ™ Summer Sprints				$1000 - $3000



www.calstate.edu/csuperb

- Bookmark website & check back periodically
- Subscribe to the Monthly CSUPERB Newsletter - subscription link at bottom of webpage

Open RFAs!

Tip #1 for Applicants

Questions?
Contact CSUPERB Program Office!

csuperb@sdsu.edu

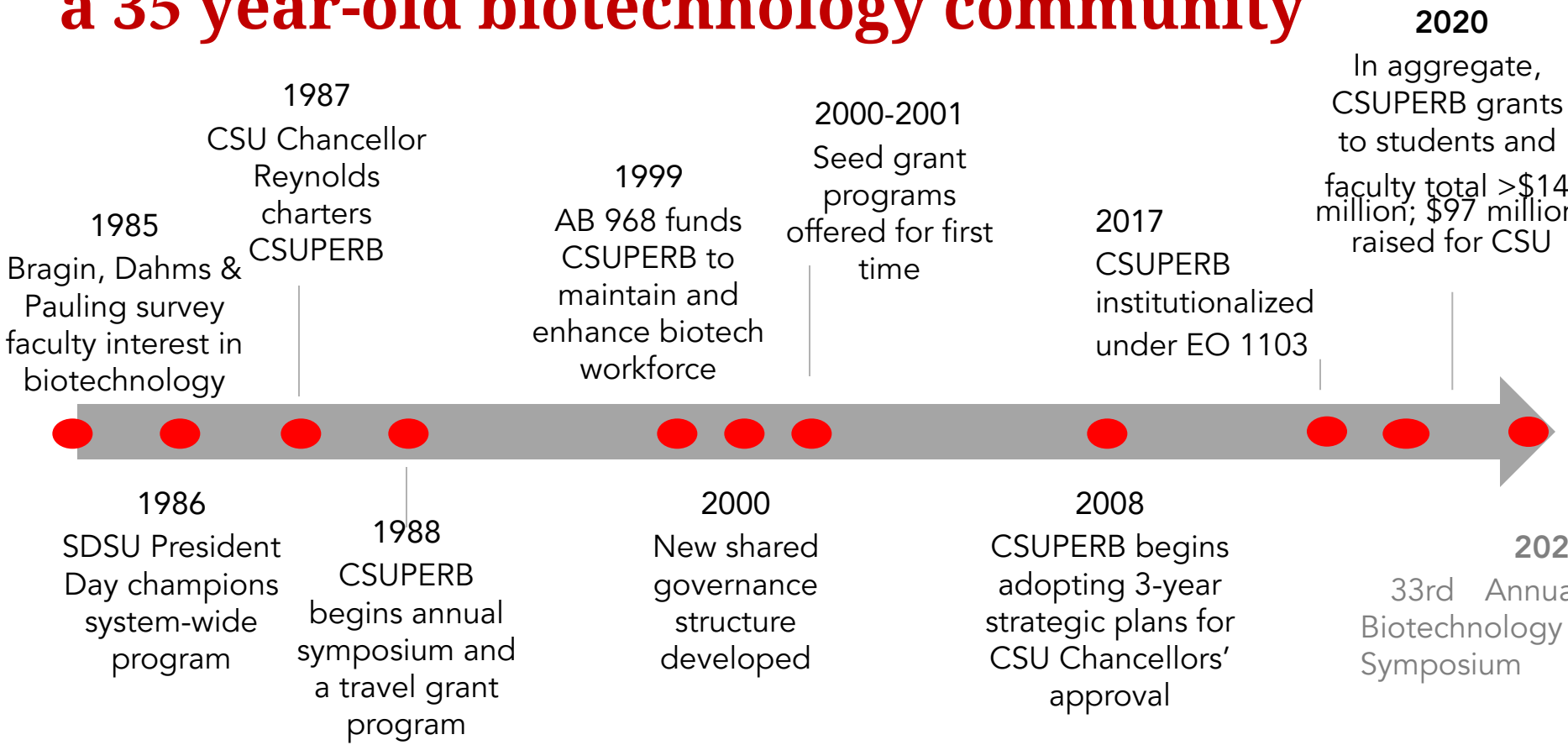
We do not sit/vote on the peer review committees.
We don't have a conflict of interest.
We can give advice before & after proposal is submitted.

CSUPERB Mission

"...is to develop a professional biotechnology workforce by catalyzing and supporting collaborative California State University (CSU) student and faculty research, innovating educational practices, and partnering with the life science industry."

- California legislature recognized and funded program in 1999 (AB 968, Ducheny) to "maintain and enhance its role in the preparation of the biotechnology workforce"
- CSUPERB Strategic Plans are approved by the CSU Chancellor and set funding priorities described in CSUPERB Requests for Proposals (RFPs)

In 1984 grassroots faculty interest seeded a 35 year-old biotechnology community

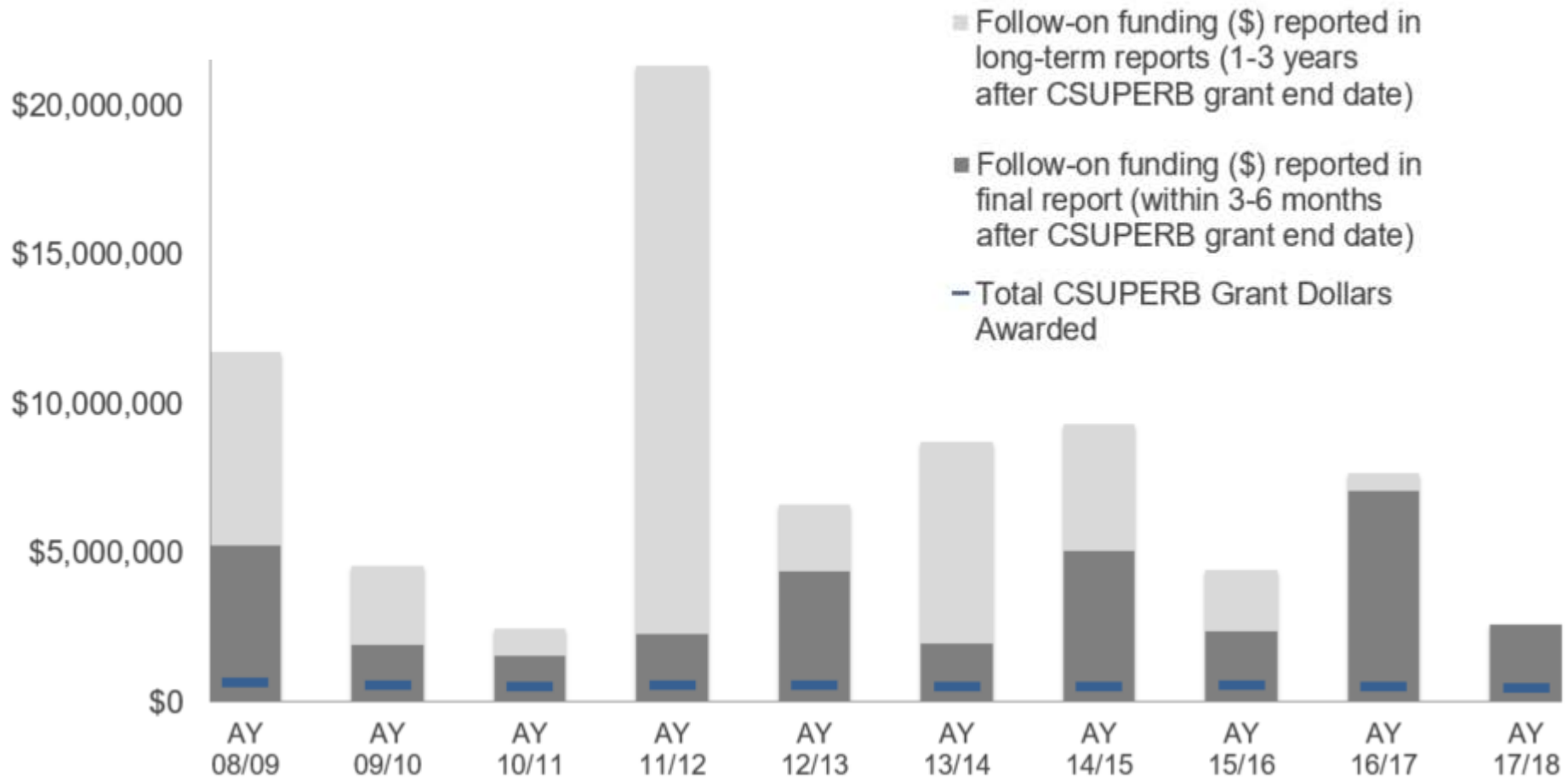


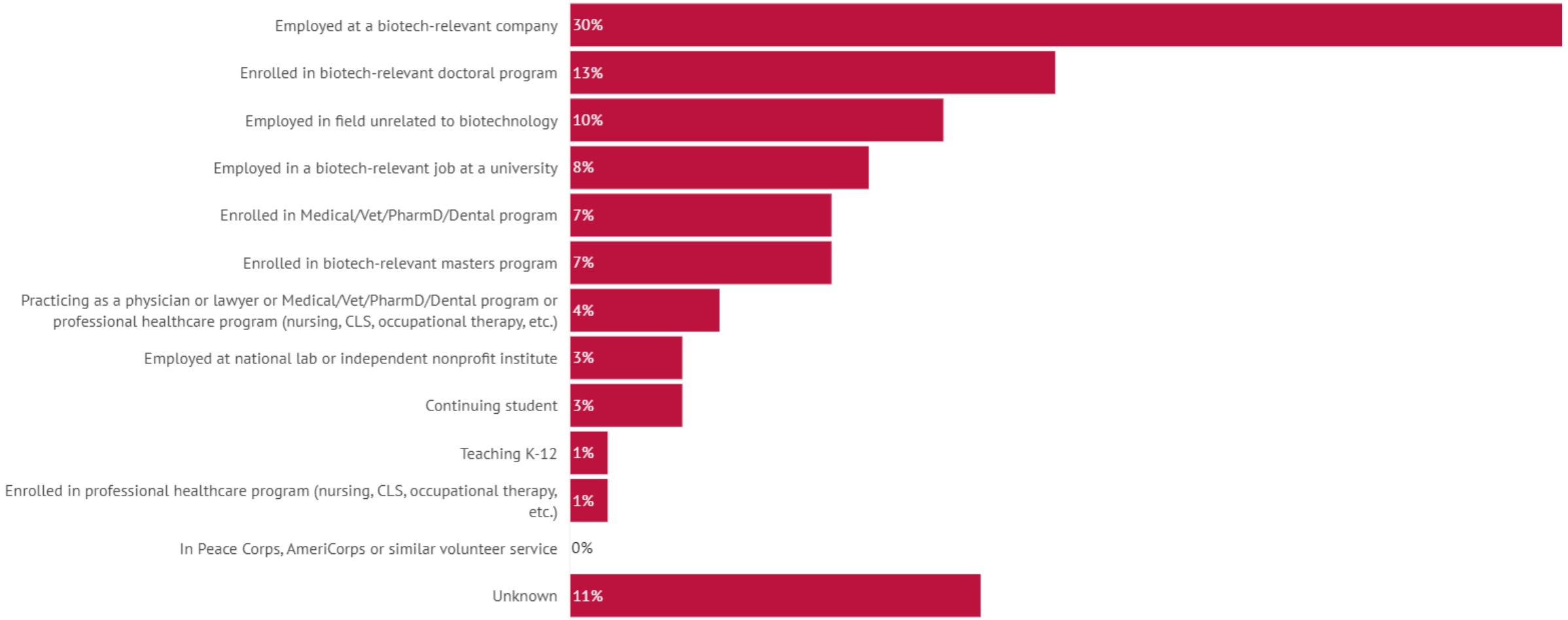
CSUPERB PI's win follow-on funding and students benefit

- The fiscal return-on-investment of CSUPERB seed grant programs averaged >1:15 (or 1500%), based on CSUPERB dollars awarded (2009-2019) and follow-on funding received by CSUPERB-supported PIs
- The graduation rates of CSUPERB-supported student researchers is >85%, far exceeding averaged CSU STEM 6-year graduation rates
- >80% of CSUPERB-supported students continue on in life science career paths, whether accepting jobs in the life science industry or entering professional and graduate school programs

Follow-on funding received by CSUPERB PIs

13X averaged fiscal “return-on-investment” over 10-year window (2008-2018)
Figures based on final and long-term reporting from CSUPERB PIs





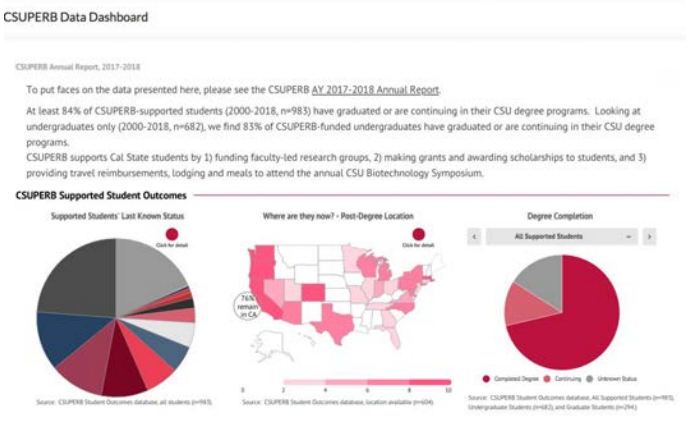
As a proxy for effective CSU STEM learning & mentorship, we track post-graduate status of CSUPERB supported students. The career outcomes are diverse and degree-relevant for >80% of our graduates, reflecting breadth of biotechnology industry as a whole.

83% of CSUPERB research grants support students

CSUPERB Program Data Available Online

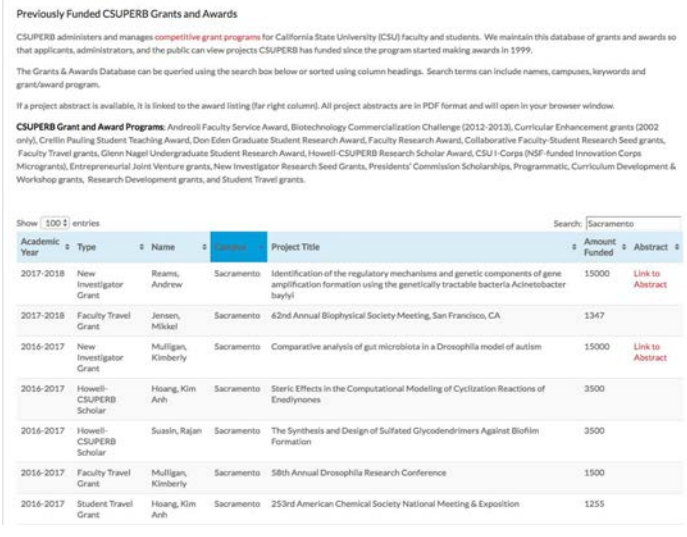
Data Dashboard

https://csuperb.org/grants/csuperb-data-dashboard/



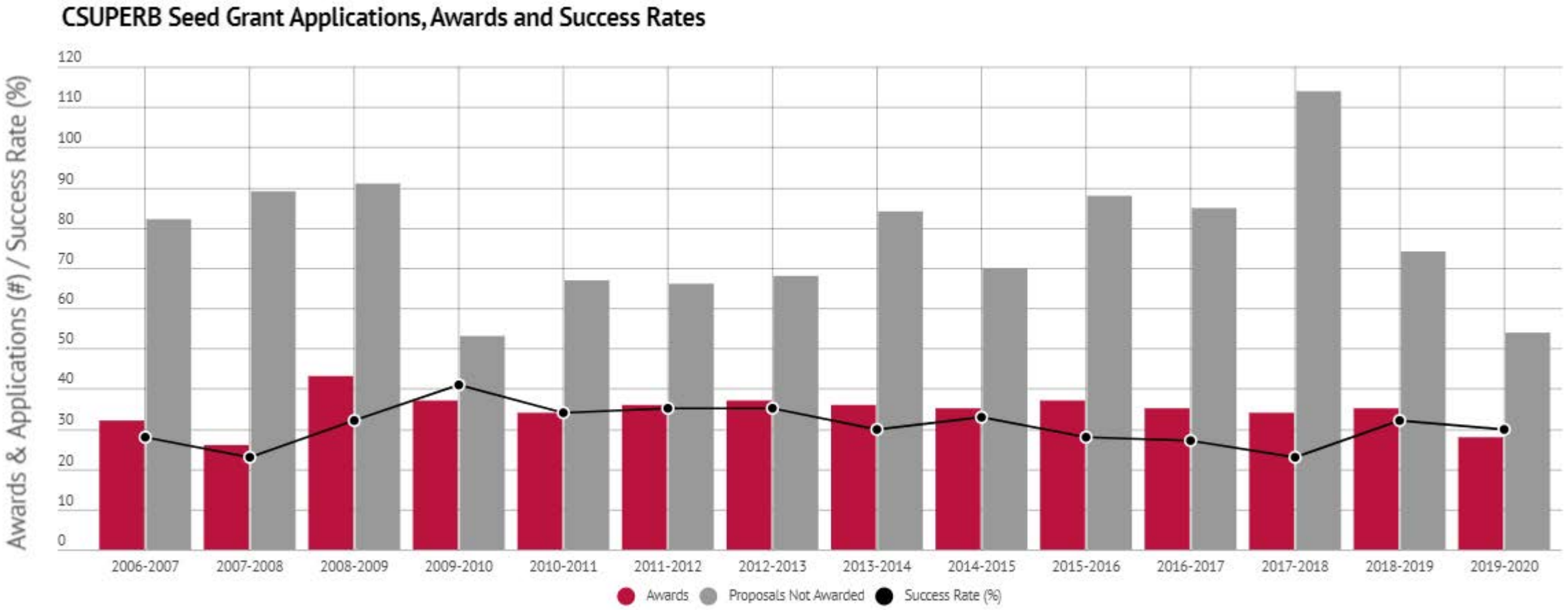
Grants Database

https://csuperb.org/grants/database/



2019-2020 Grants & Awards Program Summary

Participation	
Total Proposals, Applications and Nominations Received (Including all competitive grants and award programs) / # Campuses Applying	384 / 23
Success	**# Awards / $ Total**
Faculty-Student Research Seed Grants	25 / $374,000
Curriculum Development Grants	3 / $45,000
Travel Grants (Faculty and Student)	44 / $64,603
Howell-CSUPERB Research Scholar & Presidents' Commission Scholar Awards	25 / $146,000
Symposium Awards	6 / $9,500
Total # Campuses Funded / CSUPERB Awards / Grants & Awards Dollars	103 / $639,103



Based on benchmarks from NSF, 30% success rates are considered “encouraging.”

CSUPERB Seed Grant success rates were 28%, averaged over the past three years

Overview of the CSUPERB review process

Due to current award amounts ($15k), CSUPERB grants are intended to seed, not sustain, programs and provide professional development opportunities.

The goal of CSUPERB's grant programs is to set faculty PI's up for success in winning follow-on funding from external-to-the-CSU funding agencies or institutional support to adopt new programs or courses.

We think that more dollars supporting CSU faculty translates into more cutting-edge, excellent learning opportunities for students.

CSUPERB defines biotechnology as a fusion of biology and technology

The Biotechnology Innovation Organization (the industry organization) defines biotechnology broadly (heal, fuel, feed, protect the world). CSUPERB explicitly adds to their list health IT and medical device research and development due to the workforce importance of those two sectors in California.

https://www.bio.org/what-biotechnology

Wordcloud based on titles from 2018 CSUPERB seed grant awards.

CSUPERB-funded projects reflect "convergence" of or "integrative" disciplines addressing biotechnology projects

- We accept proposals from tenure-track CSU faculty and CSU students from life sciences, physical sciences, computer and clinical sciences, engineering, agriculture, math and business

- CSUPERB funds projects that fuse biology and technology

  - Technologies and Tools
  - Health Care Applications
  - Agricultural Production
  - Food Biotechnology
  - Blue Biotechnology
  - Industrial and Environmental Applications
  - Pandemics and Biodefense
  - DNA Fingerprinting

CSUPERB Seed Grant Review Process

- Proposal deadline usually first Monday in February
  - FCG insists on firm deadlines. Run into trouble? Call program office *BEFORE* deadline!

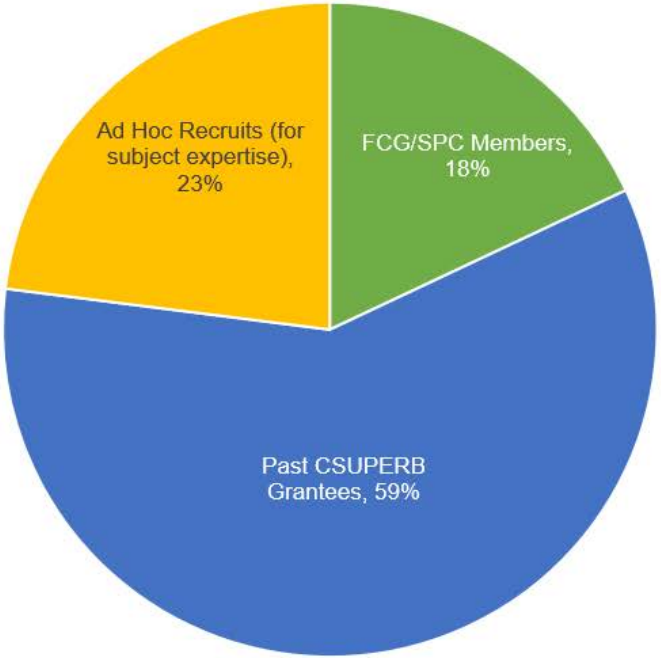
- Proposals sent to CSU faculty reviewers (~12 proposals/reviewer) in March
  - Reviewers are FCG representatives, CSUPERB PIs, and ad hoc experts as needed
  - Usually ~ 50% of reviewers have reviewed proposals for external granting agencies (USDA, NIH, NSF, ACS, State of CA, etc.)
  - Conflicted reviewers are identified and must not be in room for discussion

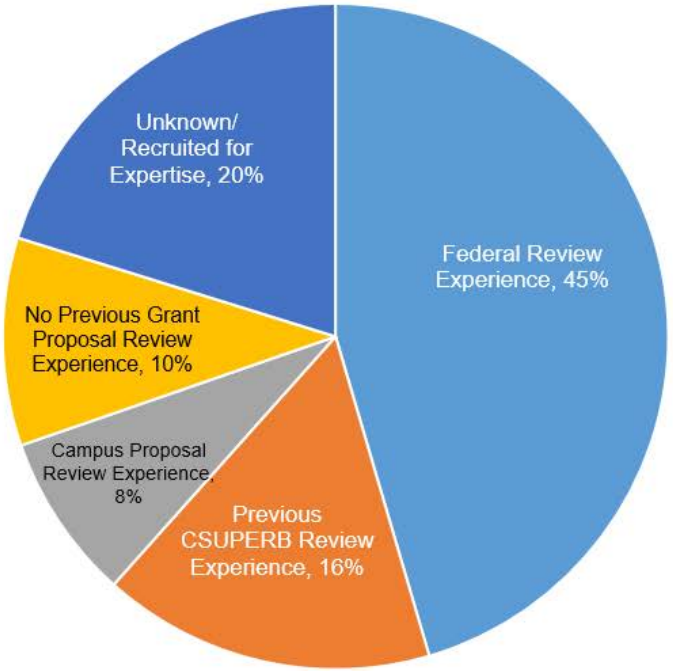
- Written reviews are due in CSUPERB office early April before the in-person review meeting
  - Reviewers do not have access to other reviewer comments until written reviews submitted

- In-person review meeting held in early April

- Award / Non-Award Letters, along with written reviews, sent out to applicants in May

CSUPERB Proposal Review Panel Composition





CSUPERB Uses a “Generalist” Review Panel Design

We assign two “subject area expert” reviewers and one “generalist” reviewer to every proposal

CSUPERB review criteria include general, non-scientific merit criteria that generalists can evaluate

Generalist reviewers usually ask the best questions and find ‘logic holes’ in proposals and discussions!

Tip*: Read Terry McGlynn’s (@hormiga) Small Pond Science blog – https://smallpondscience.com/2017/01/02/lessons-from-serving-on-nsf-panels/#more-14336

Never reviewed before? NSF is recruiting for GRFP (as a toe in!): https://www.nsfgrfp.org/panelist_info/registration

How does the discussion go?

WATCH 15 minute NIH video “NIH Peer Review Revealed” (CSUPERB review nearly identical, starting at 2:50 min):

http://www.youtube.com/watch?v=fBDxI6l4dOA

All CSUPERB grant programs are competitive.

There is no 'formula' for campus or disciplinary distribution of funds. The campus distribution depends on applications received.

CSUPERB makes funding decisions based on:

- final ranked lists from peer review meeting
- available budget
- program priorities

CSUPERB announces grants funded at the program website and updates the grants database within a couple weeks of funding decisions.

ANALYZING A CSUPERB REQUEST FOR PROPOSALS (RFP)

Not all grant programs can address all program priorities & that is why CSUPERB has multiple grant programs (*with differing review criteria*).

The Requests for Proposals issued each fall reflect program priorities set by the CSUPERB Presidents' Commission, the Strategic Planning Council and the Faculty Consensus Group each summer.

Read the CSUPERB Strategic Plan for further insights.

Anatomy of a CSUPERB Request for Proposals

- Written for both applicants and reviewers!
- Program description usually includes "strategic intent"
- Review criteria are the ONLY criteria used in review of the proposal package *(poor spelling and bad grammar may reduce enthusiasm for the proposal – but it should not factor into the overall score)*
- Eligibility section is used in administrative review (before proposals are passed to review panel; eligibility is determined by program office, not review panels)
- Reviewers MUST consider and review all criteria

2020-21 CSUPERB Seed Grant Review Criteria

ALL GRANT PROGRAMS:

- Projects must be original/innovative (merit)
- Project must be feasible (& in some way sustainable via follow-on funding, institutional support, etc.)
- Plain writing in non-technical (public) abstract

NEW INVESTIGATOR, RESEARCH DEVELOPMENT, CURRICULUM DEVELOPMENT & INDUSTRY PARTNERSHIP INITIATIVE:

- Involve or engage CSU students

NEW INVESTIGATOR & RESEARCH DEVELOPMENT:

- Consideration of previous or current grant support

2020-21 CSUPERB Review Criteria (continued)

CURRICULUM DEVELOPMENT:

- Projects must address the three major tenets of scientific teaching
  - Active learning
  - Student diversity
  - Assessment

INDUSTRY PARTNERSHIP INITIATIVE:

- Individuals/Companies external to CSU working with faculty toward shared goal
- Matching funds required

COVID-19 Research Recovery Microgrant Program

PURPOSE

- Aim is to assist faculty as they restart, reinitiate and reengage in existing and established research activities with a $1,500 microgrant

USE

- Reestablish lines, student support for training/assisting faculty during program recovery, repairing/replacing damaged equipment, materials & supplies. Travel not allowed

ELIGIBILITY

- Biotechnology related
- Open to tenured/tenure track faculty who participated in CSUPERB programs between July 2017 and present

KEY REVIEW CRITERIA

- Demonstrated need, describing losses OR needs to reopen research facilities
- Campus permission to access research labs

Give attention to the relevant, special sections of a given RFP…(complete all sections of the proposal template!)

- Meaningful Involvement of Students
- Timeline/Milestones of Project
- Details about Follow-on Funding Sought
- Qualifications of Investigator or Campus Resources
- Detailed, Committed Letters of Support (on letterhead!)

Innovative…?

- How is your proposal different from other things out there in the literature (don't forget patent literature)?
- Give the reviewer necessary background or context to assess novelty!
- Does it answer an unmet need? a societal need? (*who cares*?) Can you convince reviewers you are addressing a problem worth solving?
- Don't assume reviewers won't Google!
- Teach! Educate your reviewers and avoid jargon

Feasibility…the oft-forgotten review criteria

- Can the project be performed in the time available?
- …with the funds requested?
- …with the personnel proposed?
- …with the equipment available or proposed?
- …with the materials available or proposed?
- Did the PI demonstrate they can do this? (= not the same as preliminary data!)

Grantsmanship requires life-long learning!

Reach out for advice early and often. Join a faculty learning community. Attend CUR Dialogues. Luckily, today there are many resources online too.

Follow proposal-writing blogs like Small Pond Science (https://smallpondscience.com/), RockTalk (http://nexus.od.nih.gov/all/rock-talk/), NSF blogs (like https://oadblog.nsfbio.com/), the Twittersphere (accounts like https://twitter.com/ProfLikeSubst), your own campus Research office newsletters and updates

Read CSUPERB's monthly newsletter (https://www.getrevue.co/profile/susan-m-baxter)

Questions? What RFP are you interested in?

- New Investigator Grant
- Research Development Grant
- Curriculum Development Grant

Reminder: CSUPERB offers proposal writing workshops at the annual symposium and we will visit your campus, as well, if invited!