



CSUPERB Announces 28 Grant Awards to CSU Faculty and Students at 15 Campuses

May 5, 2020

The California State University Program for Education and Research in Biotechnology (CSUPERB) is pleased to announce the spring 2020 round of seed grant awards. Overall CSUPERB is making 28 awards totaling \$419,000 to CSU faculty at 16 CSU universities.

Awards were made as part of three system-wide, competitive CSUPERB seed grant programs: New Investigator, Research Development and Curriculum Development.

This year CSUPERB received 93 proposals from faculty members at 19 different CSU campuses. Averaged across all programs, awards were made to 30% of the proposals received.

A. Faculty-Student Collaborative Research New Investigator Grant Awards

The New Investigator Grant Program aims to provide CSU faculty with the resources required to successfully compete for follow-on, externally-funded grants and to involve CSU students in their research programs.

Twenty-two CSUPERB New Investigator Grants were approved for funding:

1. **Hady Ahmady Phoulady** (Computer Science, California State University, Sacramento)
Award: \$15,000 for the proposal titled “Cervical Cytology Dataset and Image Analysis”
2. **Ana Almeida** (Biological Sciences, California State University, East Bay)
Award: \$15,000 for the proposal titled “Dissecting the molecular mechanisms underlying the evolution of asexual reproduction in the genus *Kalanchoe*.”
3. **Perla Ayala** (Biomedical Engineering, California State University, Long Beach)
Award: \$15,000 for the proposal titled “Engineer a 3D Fibrosis Model to Develop Novel Therapies”
4. **James Bagley** (Kinesiology, San Francisco State University)
Award: \$15,000 for the proposal titled “Effect of Time Restricted Eating and Resistance Exercise Training on Human Muscle Fiber Size”
5. **Mark Borja** (Chemistry & Biochemistry, California State University, East Bay)
Award: \$15,000 for the proposal titled “The Effect of Lipid and Protein Variability on Apolipoprotein A-I Exchange Rate on Model High Density Lipoprotein Particles”

- 6. Jessica Castillo Vardaro** (Biological Sciences, San José State University)
Award: \$15,000 for the proposal titled “Evolution through space and time: identifying signals of local adaptation within American pikas”
- 7. Maya deVries** (Biological Sciences, San José State University)
Award: \$15,000 for the proposal titled “Tolerating gradients: the effects of pH variation on shell structure and function in estuaries”
- 8. Uduak George** (Mathematics, San Diego State University)
Award: \$15,000 for the proposal titled “Mathematical Modeling of Trachea Occlusion and Lung Branching Morphogenesis”
- 9. Marlin Halim** (Chemistry and Biochemistry, California State University, East Bay)
Award: \$15,000 for the proposal titled “Development of Macromolecular Gadolinium Complexes as Efficient Relaxation Agents”
- 10. Morgan Hawker** (Chemistry, California State University, Fresno)
Award: \$15,000 for the proposal titled “Optimizing plasma conditions to customize silk film chemistry while retaining morphology”
- 11. Lisa Hua** (Biology, Sonoma State University)
Award: \$15,000 for the proposal titled “Non-random chromosome positioning during mitosis”
- 12. Alexander Klotz** (Physics & Astronomy, California State University, Long Beach)
Award: \$15,000 for the proposal titled “Nanopore Sensing of Kinetoplast DNA for Point-of-Care Parasite Diagnostics”
- 13. Robert Luallen** (Biology, San Diego State University)
Award: \$15,000 for the proposal titled “A novel paradigm for host cell-to-cell spreading displayed by a new intracellular bacterial pathogen”
- 14. Daniel Nickerson** (Biology, California State University, San Bernardino)
Award: \$15,000 for the proposal titled “Critical cellular pathways governed by a novel, transmembrane Rab GAP in yeast”
- 15. Erica Sanchez** (Biology, San Francisco State University)
Award: \$15,000 for the proposal titled “The Role of Viral G-Protein Coupled Receptor Signaling and Host Cell Glycolysis”
- 16. Melinda Simon** (Biomedical Engineering, San José State University)
Award: \$15,000 for the proposal titled “Scalable Engineered Tissue through Additive Manufacturing”
- 17. Diego Sustaita** (Biological Sciences, California State University San Marcos)
Award: \$14,000 for the proposal titled “A view to a kill: micro-CT analysis of Loggerhead Shrike-induced catastrophic prey injuries”

18. Hugo Tapia (Biology, California State University Channel Islands)

Award: \$15,000 for the proposal titled “Engineering drought tolerant plants via small intrinsically disordered proteins”

19. Kathryn Theiss (Biology, California State University, Dominguez Hills)

Award: \$15,000 for the proposal titled “Single-pollinator contributions to the floral nectar microbiome”

20. Sandra Ward (Chemistry&Biochemistry, California Polytechnic State University, San Luis Obispo)

Award: \$15,000 for the proposal titled “Glutathione sensitive Vesicles loaded into a pH sensitive hydrogel for multi-drug selective release”

21. Alexandra Wright (Biological Sciences, California State University, Los Angeles)

Award: \$15,000 for the proposal titled “Polyculture to increase agricultural yield: the role of microclimate”

22. Michael Wright (Biological Sciences, California State University, Sacramento)

Award: \$15,000 for the proposal titled “Cataloging neuronal variability in the medicinal leech, *Hirudo* sp.”

B. Faculty-Student Collaborative Research Development Grant Awards

The Research Development Grant program aims to provide CSU faculty with support to fill gaps in external funding for ongoing research projects or to pilot new, but as-yet unfunded, research directions for established investigators.

Three CSUPERB Research Development Grants were approved for funding:

1. Mikael Bergdahl (Chemistry & Biochemistry, San Diego State University)

Award: \$15000 for the proposal titled “Ultra-potent marine-inspired therapeutics against liver and colon cancer”

2. Katy Kao (Chemical and Materials Engineering, San José State University)

Award: \$15000 for the proposal titled “Development of a fungal biofilm propagation system to study antifungal drug resistance”

3. Jeanne Robertson (Biology, California State University, Northridge)

Award: \$15000 for the proposal titled “Conservation genomics of a California Channel Island salamander”

C. Curriculum Development Grant Awards

The Curriculum Development grant program supports the development or revision of innovative lower-level or introductory biotechnology-related courses, laboratories, and first-year experiences.

Three CSUPERB Curriculum Development Grants were approved for funding:

1. **Nitika Parmar** (Biology, California State University Channel Islands)
Award: \$15,000 for the proposal titled “Development of a UEP (University Experience Program) First Year Seminar Course focusing on the Food-Health-Ecosystem Trilemma”
2. **Stevan Pecic** (Chemistry and Biochemistry, California State University, Fullerton)
Award: \$15,000 for the proposal titled “Course-Based Undergraduate Research Experience (CURE) Lab: Design, Synthesis and Biological Evaluation of New Therapeutics in Pain Management”
3. **Philip Vieira** (Psychology, California State University, Dominguez Hills)
Award: \$15,000 for the proposal titled “Course-based Undergraduate Research Experiences in a First Year Seminar: High Impact Practices for Underrepresented STEM Majors”

For more information about these grant programs, see the program portfolio at the CSUPERB website (<https://www2.calstate.edu/impact-of-the-csu/research/csuperb/Pages/grants-and-awards-programs.aspx>) or contact Bianca Mothé (Interim Executive Director, CSUPERB; bmothe@csusm.edu). All CSUPERB grants and awards can be searched at the program’s database: <http://csuperb.org/grants/database/>. Program impacts, including student outcomes and annual reports, can be found at the program dashboard: <https://csuperb.org/grants/csuperb-data-dashboard/>.