



CSUPERB Announces 35 Grant Awards to CSU Faculty and Students at 17 Campuses

June 30, 2017

CSUPERB is pleased to announce the spring 2017 round of seed grant awards. Overall CSUPERB is making 35 awards totaling \$526,987 to CSU faculty at 17 CSU universities.

Awards were made as part of four competitive CSUPERB grant programs: New Investigator, Research Development, Entrepreneurial Joint Venture and Curriculum Development. CSUPERB reviewed 120 proposals from faculty members at 22 different CSU campuses. Averaged across all programs, awards were made to 29% of the proposals received. Individual awards are listed below.

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 One CSUPERB New Investigator Grants were approved for funding:

1. **Ravinder Abrol** (Chemistry and Biochemistry, CSU Northridge)
Award: \$14,989 for the proposal titled "Understanding G Protein Selectivity in the Biased Signaling of Dopamine Receptors"
2. **Perla Ayala** (Biomedical Engineering, CSU Long Beach)
Award: \$14,994 for the proposal titled "Engineered Composite Cardiac Patch"
3. **Jesse Bengson** (Psychology, Sonoma State)
Award: \$15,000 for the proposal titled "Inference of internal attentional focus by examination of scalp EEG in humans"
4. **Jeffrey Bernard** (Kinesiology, CSU Stanislaus)
Award: \$15,000 for the proposal titled "The effects of electroacupuncture on muscle atrophy and cellular signaling in hindlimb suspended rats."
5. **Daniel Everson** (Chemistry & Biochemistry, CSU Chico)
Award: \$15,000 for the proposal titled "Exploiting the Chemistry of Coenzyme B12 for the Synthesis of Drug-Like Molecules"

6. **Emily Fleming Nuester** (Biological Sciences, CSU Chico)
Award: \$15,000 for the proposal titled "How do they do it? Fe-oxidizing bacteria as low temperature nanotechnologists"

7. **Jeffrey Gustafson** (Chemistry & Biochemistry, San Diego State University)
Award: \$15,000 for the proposal titled "Development of selective RET inhibitors as therapeutic leads for drug resistant breast cancer"

8. **Karin Kram** (Biology, CSU Dominguez Hills)
Award: \$15,000 for the proposal titled "Characterizing the Role of a Regulatory Gene in Adaptation to a Heterogeneous Environment"

9. **Misty Kuhn** (Chemistry and Biochemistry, San Francisco State University)
Award: \$15,000 for the proposal titled "Swapping Allosteric Loop Residues of a *Vibrio cholerae* polyamine acetyltransferase"

10. **Antoni Luque** (Mathematics & Statistics, San Diego State University)
Award: \$15,000 for the proposal titled "Modeling phage-bacteria dynamics in mucus: A multiscale approach to phage therapy"

11. **Kimberly Mulligan** (Biological Sciences, CSU Sacramento)
Award: \$15,000 for the proposal titled "Comparative analysis of gut microbiota in a *Drosophila* model of autism"

12. **Christoph Schaal** (Mechanical Engineering, CSU Northridge)
Award: \$15,000 for the proposal titled "Treatment of pain along the spinal cord using focused ultrasound"

13. **Parvin Shahrestani** (Biological Science, CSU Fullerton)
Award: \$15,000 for the proposal titled "Understanding sexual dimorphism in fighting fungal infection"

14. **Bharti Sharma** (Biological Sciences, Cal Poly, Pomona)
Award: \$15,000 for the proposal titled "Untangling the role of SEPALLATA homologs in floral development of *Aquilegia* (Columbines)"

15. **Monica So** (Chemistry and Biochemistry, CSU Chico)
Award: \$15,000 for the proposal titled "Sponges for Decontaminating Water with Endocrine-Disrupting Chemicals & Carcinogens"

16. **S. Chantal E. Stieber** (Chemistry & Biochemistry, Cal Poly, Pomona)
Award: \$15,000 for the proposal titled "Development of X-ray Emission Spectroscopy for Understanding Enzyme Mechanism"

17. **Sattar Taheri-Araghi** (Physics & Astronomy, CSU Northridge)
Award: \$15,000 for the proposal titled "Interactions of Antibiotics with Natural Antimicrobial Peptides"

18. **Daniel Tamae** (Chemistry & Biochemistry, CSU Northridge)
Award: \$15,000 for the proposal titled "Metabolic targeting of cancer cells via the glyoxalase detoxification system"

19. **John Valdovinos** (Electrical & Computer Engineering, CSU Northridge)
Award: \$15,000 for the proposal titled "Low-Profile Wireless Power Systems for Pediatric Mechanical Circulatory Support"

20. **Yixian Wang** (Chemistry & Biochemistry, CSU Los Angeles)
Award: \$15,000 for the proposal titled "Real-time determination of alpha-synuclein interaction with membrane of individual living cells using surface plasmon resonance microscopy"

21. **Katherine Waselkov** (Biology, CSU Fresno)
Award: \$15,000 for the proposal titled "The Population Genetics of the Agricultural Weed Palmer Amaranth (*Amaranthus palmeri*) in the Southwestern U.S."

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.

Six CSUPERB Research Development Grants were approved for funding:

1. **Laura Burrus** (Biology, San Francisco State University)
Award: \$15,000 for the proposal titled "Mechanisms of WNT1 gradient formation in the chick spinal cord"

2. **Gregory Holland** (Chemistry & Biochemistry, San Diego State University)
Award: \$14,962 for the proposal titled "Collaborative Research: Molecular and Hierarchical Structure Formed by Spider Silk Proteins"

3. **Laura Newcomb** (Biology, CSU San Bernardino)
Award: \$15,000 for the proposal titled "Illuminating interactions essential for influenza RNA synthesis and processing to expose antiviral targets."

4. **Joseph Ross** (Biology, CSU Fresno)
Award: \$15,000 for the proposal titled “Genetic influences on organismal adaptation to climate change”

5. **George Vourlitis** (Biology, CSU San Marcos)
Award: \$14,919 for the proposal titled “Metagenomic analyses of microbial abundance and diversity in semi-arid soils exposed to long-term experimental nitrogen deposition”

6. **Brandon White** (Biological Sciences, San José State University)
Award: \$15,000 for the proposal titled “Targeting triple negative breast cancer cells with walnut compounds.”

7. **Katherine Wilkinson** (Biological Sciences, San José State University)
Award: \$15,000 for the proposal titled “Proprioceptor regulation by exercise released substances and gamma motor neurons”

8. **Roland Wolkowicz** (Biology, San Diego State University)
Award: \$15,000 for the proposal titled “Development of a novel assay for the search of Zika virus protease inhibitors”

9. **Weiming Wu** (Chemistry & Biochemistry, San Francisco State University)
Award: \$15,000 for the proposal titled “Design and Synthesis of Novel SIRT1/2 Inhibitors with New Scaffolds”

C. Entrepreneurial Joint Venture Matching Grant Awards

The Joint Venture Grant Program aims to increase collaboration between CSU faculty and other partners or institutions external to the CSU. CSUPERB recognizes that these collaborations broaden opportunities to pilot innovative biotechnology projects across the CSU, promote multi-disciplinary partnerships and encourage product development and other outreach activities.

Three CSUPERB Joint Venture Grants were approved for funding:

1. **Tom Huxford** (Chemistry & Biochemistry, San Diego State University)
Award: \$25,000 for the proposal titled “X-ray crystallography of bispecific camelid antibodies in complex with a bacterial protein antigen”

2. **Tomas Oppenheim** (Mechanical Engineering, Cal Maritime)
Award: \$5,421 for the proposal titled “Development of a Neurosleeve System for Stroke Rehabilitation”

3. **Elizabeth Skovran** (Biological Sciences, San José State University)
Award: \$25,000 for the proposal titled “Characterizing lanthanide transport in methylotrophic bacteria for recovery of rare earths from discarded electronics”

D. Curriculum Development Grant Awards

The Curriculum Grant Program aims to support innovative educational practices in biotechnology and support the adoption of emerging technology.

Two CSUPERB Curriculum Development Grants were approved for funding:

1. **Dermot Donnelly** (Chemistry, CSU Fresno)
Award: \$15,000 for the proposal titled “Investigating Chemistry Laboratories with Inquiry Projects (ICLIPs)”

2. **Madeline Rasche** (Chemistry & Biochemistry, CSU Fullerton)
Award: \$15,000 for the proposal titled “Learning Through Discovery: Empowering Lower Division Chemistry/Biochemistry and Mechanical Engineering Undergraduates to Engage in Cross-Disciplinary Bioengineering Research”

For more information about these grant programs, see the CSUPERB website (<https://www2.calstate.edu/impact-of-the-csu/research/csuperb/Pages/grants-and-awards-programs.aspx>) or contact Susan Baxter, Executive Director, CSUPERB (sbaxter@mail.sdsu.edu). The database of CSUPERB grant awards can be searched at: <http://csuperb.org/grants/database/>.