



Undergraduate Student Research Support Program AY 2015-16 Report

The COAST Undergraduate Student Research Support Program provides \$2,500 annually to every campus to stimulate undergraduate student engagement in faculty-mentored marine, coastal and coastal watershed related research. Through this program, COAST aims to increase the number of CSU undergraduate students participating in research and provide them with the opportunity to obtain the skills necessary to join a highly skilled and technologically advanced workforce. COAST also encourages faculty members to use the program to meaningfully engage first and second undergraduate students as well as historically underrepresented minority, low-income and first-generation college students.

In AY 2015-16, a total of 77 students throughout the system were supported. COAST relied upon officially appointed Campus Representatives to implement the program on their campuses. The Representatives at each campus created their own application process, accepted applications and allocated funding. Campuses marked with an * provided match funding.

AY 2015-2016 Undergraduate Student Research Support Awards					
Campus	Recipient	Program/ Major	Advisor	Project Title	Award Amount (Campus Match)
Bakersfield	Jazmine Mejia-Muñoz	Biology	Dr. Antje Lauer	Coccidioidomycosis in pinnipeds stranded along California's coast	\$2,500
Channel Islands*	Robert Anderson	Biology	Dr. Cori Newton	Biochemical analysis of skeletal muscle in developing baleen whales	\$1,727 (\$280)
	Lila Marcial-Hernandez	Biology	Dr. Rachel Cartwright	Documenting developmental changes in tissue type in young baleen whale muscle tissue	\$427 (\$500)
Chico	Kevin Kunkel	Crops, Horticulture and Land Resource Management	Dr. Amanda Banet	The effects of cortisol and temperature on salmonid egg survival	\$1,250
	Ravi Shankar	Applied Mathematics	Dr. Sergei Fomin	Numerical modeling of tsunami wave dynamics over complex seafloors	\$1,250
Dominguez Hills	Carlos Alvarado	Biology	Dr. Brynne Bryan	Malacology: conversion of an extensive shell collection to a museum-quality resource	\$500
	Ashley Arambula	Biology	Dr. Jacqueline Padilla-Gamiño	Aquaculture threatened by global climate change: Physiological responses of purple-hinge rock scallop (<i>Crassodoma gigantea</i>) to decreased pH and increased temperature	\$1,000

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Dominguez Hills	Azia Mitchell	Biology	Dr. Jacqueline Padilla- Gamiño	Effects of thermal stress on coral reproduction in Hawaii	\$500
	Richard Sato	Biology	Dr. Jacqueline Padilla- Gamiño	Culturing symbionts from <i>Anthopleura</i> in California	\$500
East Bay*	Yesenia Lopez-Ornelas	Biology	Dr. James Murray	Quantifying gene expression in sea slug <i>Tritonia</i>	\$500 (\$1,000)
	Emily Nguyen	Biology	Dr. James Murray	Quantifying gene expression in sea slug <i>Tritonia</i>	\$500 (\$1,000)
	William Schneider	Biology	Dr. James Murray	Elucidating magnetoreceptive structures in <i>Tritonia tetraquetra</i>	\$1,500 (\$500)
Fresno	Omoshola Aleru	Biology	Dr. Mamta Rawat	Identification of novel antibiotic producing cyanobacteria	\$900
	Jovany Canchola	Geology	Dr. Mathieu Richaud	Study of the influence of El Niño Southern Oscillation on the Morro Bay Sandspit	\$300
	Christian Cunningham	Biology	Dr. Steve Blumenshine	Effects of ethanol preservative on freshwater invertebrates over time and its correction	\$400
	Akusha Kaur	Biology	Dr. Steve Blumenshine	Analyzing temperature effects of juvenile chinook salmon	\$500
	Rachel Nelson	Geology	Dr. Tricia Van Laar	Antibiotic resistance in the microbiome of urban vs. rural American crows (<i>Corvus brachyrhynchos</i>)	\$400
Fullerton	Dulce Cortez	Geological Sciences	Dr. Joe Carlin	Investigating spatial and temporal variations in suspended sediment concentrations above intertidal mudflats	\$510
	Stacy Schkoda	Biological Science	Dr. Kristy Forsgren	The presence of the phytoestrogen, 8-prenylnaringenin, in brewery waste-water and its effects on the reproductive physiology of zebrafish (<i>Danio rerio</i>)	\$640
	Sarah Annie Singleton	Biological Science	Dr. Kathryn Dickson	Ocean acidification effects on hatching success of California grunion embryos	\$199
	Austin Xu	Biological Science	Drs. Bill Hoese and Danielle Zacherl	Examining use of <i>Ostrea lurida</i> and <i>Zostera marina</i> beds by birds in upper Newport Bay, California	\$1,151

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Humboldt*	Marco Amezcua	Chemistry	Dr. Matthew Hurst	The determination of copper (II) concentrations in UV treated wastewater through voltammetric analysis in Arcata Bay, California	\$350 (\$150)
	Thien Crisanto	Biology	Dr. Frank Shaughnessy	The ability of <i>Phyllospadix</i> to buffer ocean acidification effects on intertidal calcifying organisms	\$100 (\$115)
	Jeremiah Ets-Hokin	Biology	Dr. Paul Bourdeau	Effects of tidally driven variation on the response of coralline algae to ocean acidification	\$350 (\$150)
	Kenny Gossow-Smith	Chemistry	Dr. Matthew Hurst	A flow-injection spectrophotometric method for copper determination in natural waters	\$300 (\$125)
	Wesley Hull	Biology	Dr. Paul Bourdeau	Do predatory crabs affect the distribution and abundance of mussels on northern California rocky shores?	\$350 (\$150)
	Dylan Inskeep	Biology	Dr. Christine Cass	Humboldt State University's marine debris program	\$250
	Alexandra Mongarro	Biology	Dr. Karen Kiemnec-Tyburczy	Investigating genetic diversity in a local population of the red octopus (<i>Octopus rubescens</i>)	\$100 (\$131)
	Alex Strawhand	Biology	Dr. Sean Craig	An analysis of the impact of flow rates on the growth of two invasive Bryozoans (<i>Watersipora subtorquata</i> and <i>Watersipora</i> new species)	\$350 (\$150)
	Kyle Swanson	Biology	Dr. Paul Bourdeau	Behavioral response of an invasive snail to a native crab	\$150 (\$277)
	Kristen White	Fisheries Biology	Dr. Timothy Mulligan	Spawning of figure eight puffer in captivity	\$200 (\$148)
Long Beach	Brian Cohn	Biology	Dr. Darren Johnson	Has the removal of top predators affected the behavior of surfperch populations?	\$500
	Karla Gonzalez-Reyes	Biology	Dr. Bengt Allen	Diversity effects in a long term study of a coastal wetland	\$500
	Sarah Luongo	Marine Biology	Dr. Christopher Lowe	Acclimated metabolic Q_{10} of the horn shark, <i>Heterodontus francisci</i>	\$500
	Maria Rivera	Microbiology	Dr. Jesse Dillon	Assessing the impacts of sea level rise on decomposer communities in California salt marshes	\$500

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Long Beach	Janine Rodriguez	Biology	Dr. Douglas Pace	Linking feeding efficiency and larval morphology between two echinoderms, <i>Strongylocentrotus purpuratus</i> and <i>Centrostephanus coronatus</i>	\$500
Los Angeles	Russel Bacosa	Microbiology	Dr. Andres Aguilar	Effects of aquatic hypoxia on fish microbiota	\$750
	Lisa Lugo	Biology	Dr. Patrick Krug	Do water-borne cues mediate density dependent reproductive effects in <i>Alderia willow</i>	\$500
	Christian Ramirez	Geology	Dr. Mohammed Rezae-Boroon	Polycyclic aromatic hydrocarbon (PAH) in water, sediment, pore water, and biomass of Ballona and Marina del Rey Lagoons, CA	\$1,250
Maritime*	Ryan Darfler	Mechanical Engineering	Dr. William Tsai	Closed loop water flume: simulating tidal flows in the Carquinez Strait for testing renewable energy technologies	\$625 (\$1,875)
	Christine Edmiston	Global Studies and Maritime Affairs	Dr. Alexander Parker	The effect of anti-fouling coatings on marine biofouling communities	\$625 (\$1,125)
	Emily Shimada	Marine Engineering Technology	Dr. Alexander Parker	The influence of nitrate and ammonium concentrations on diatom and flagellate population in the low inflow estuary of Drakes Estero, California	\$625 (\$1,875)
	Jacob Steiner	Mechanical Engineering	Dr. Michael Holden	Autonomous marine data collection vessel	\$625 (\$936)
Monterey Bay	Patrick Carilli	Marine Science	Dr. Cheryl Logan	The physiological response of sanddabs to hypoxia: how obligate benthic species compensate	\$1,250
	Jesirae Collins	Marine Science	Dr. Corey Garza	The impact of seafloor structure on a dominant marine organism of the shallow, sandy habitat in Monterey Bay, CA	\$1,250
Northridge	Courtney Button	Biology	Dr. Steve Dudgeon	Nontrophic effects of the sea hare, <i>Aplysia californica</i> , on the Rhodophyte, <i>Plocamium cartilagineum</i>	\$1,250
	Brenda Rodriguez	Geological Sciences	Dr. Kathleen Marsaglia	Submarine geomorphology of the Arguello Submarine Canyon system	\$1,250
Pomona	Kendall Garabedian	Zoology	Dr. Ángel Valdés	Pantropical rainbow of the sea: a systematic approach to Genus <i>Cyrce</i> (Heterobranchia: Sacoglossa) using 18S	\$504

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Pomona	Danielle McHaskell	Zoology	Dr. Jayson Smith	The effects of phlorotannin concentrations of brown seaweeds (Phaeophyceae) on the feeding rates of the black sea hare <i>Aplysia vaccaria</i>	\$800
	Christian Pirijanjan	Biology	Dr. Ángel Valdés	Asymmetric introgression of a hermaphrodite invasive sea slug in a native species	\$742
	Natalie Yedinak	Environmental Biology	Dr. Ángel Valdés	Molecular systematics of <i>Colga</i> , an Arctic genus of sea slugs	\$454
Sacramento	Bethany Parker	Chemistry	Dr. Justin Miller-Schulze	Quantification of polycyclic aromatic hydrocarbons as chemical tracers of storm water runoff on the Sacramento State campus	\$833
	David Ricci	Chemistry	Dr. Justin Miller-Schulze	Development of an analytical method for quantifying chemical tracers associated with livestock activities	\$833
	Emily Thao	Chemistry	Dr. Justin Miller-Schulze	Adaptation of developed methods for chemical tracers of human wastewater analysis by GC/MS	\$833
San Bernardino	Alexandria Bulato	Anthropology	Dr. Amy Gusick	Coastal and desert technological innovation within California	\$1,500
	Jared Stevens	Criminal Justice	Dr. Nerea Marteache	Illegal, unreported, and unregulated fishing: an analysis of factors that facilitate the offload of illegally caught fish at the country level	\$1,000
San Diego	Hannah Joss	Environmental Science	Dr. Walter Oechel	Coastal air-sea CO ₂ exchange during an El Niño from the Scripps Pier in San Diego, California	\$602
	Felicia Miller	Biology	Dr. Elizabeth Dinsdale	Variation of carbon use of bacteria in different micro-habitats	\$1,105
San Francisco	Saad Bhatti	Biology	Dr. Karen Crow	Sexual dimorphism in anal fins of surfperches	\$500
	Jaymee Chaides	Biology	Dr. Karen Crow	Characterizing development in the anterior pectoral fins and cephalic lobes of various species of batoids	\$333
	Bridget Hansen	Microbiology	Dr. William Cochlan	The effects of temperature on the bloom dynamics of the diatom, <i>Pseudo-nitzschia australis</i>	\$500
	Liam O'Malley	Biology	Dr. Karen Crow	Characterizing development of a novel reproductive anal fin structure in surfperch	\$333
	Cristina Provencio	Biology	Dr. Karen Crow	Multiple paternity in the Bay pipefish, <i>Syngnathus leptorhynchus</i>	\$333

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San Francisco	Rachel Weinberg	Biology	Dr. C. Sarah Cohen	<i>Didemnum vexillum</i> : an invasive colonial tunicate	\$500
San Luis Obispo	Carly Banks	Biological Sciences	Dr. Lisa Needles	Size preference of moon snails for predation on Pismo clams	\$263
	Chelsey Beck	Biological Sciences	Dr. Elena Keeling	Quantification of telomerase in colonial ascidians	\$500
	Brooke Darrah	Biological Sciences	Dr. Nikki Adams	Use of Phos-tag™ labeling to determine effects of UV-radiation on checkpoint kinase-1 in sea urchin embryos	\$500
	Shawn Hannah	Biological Sciences	Dr. Heather Liwanag	Coccidioidomycosis in rescued marine mammals along California's coast	\$360
	Andrew Hostler	Electrical Engineering	Dr. Bridget Benson	Cal Poly underwater remote operated vehicle (U ROV)	\$377
	Hali Morgenroth	Animal Science	Dr. Heather Liwanag	Impacts of attached instrument recovery on fur seal thermoregulation	\$500
San Marcos	Daniel Cubbedge	Music and Biological Sciences	Dr. Betsy Read	Developing microinjection techniques for <i>Emiliana huxleyi</i>	\$1,250
	Tiersa Cosaert	Visual and Performing Arts	Ms. Judit Hersko	The weather on steroids: the art of climate change science	\$1,250
Sonoma	Kiera Craig	Biology	Dr. Sean Place	Profiling the methylation status of the innate immune response gene, MPEG1	\$778
	Kathryn Schwan	Biology	Dr. Mackenzie Zippay	Do mussels like it hot? Examining heart rate in a changing climate	\$821
	Ryan Yost	Biology	Dr. Daniel Crocker	Dominance rank influences immune function in breeding northern elephant seals	\$901
Stanislaus	Mark Hilgers	Biology	Dr. Ritin Bhaduri	A comparative analysis of coexisting larval helminths associated with their intermediate host, the sand crab <i>Emerita analoga</i>	\$1,250
	Mikaila Hickman	Biology	Dr. Ritin Bhaduri	A comparative analysis of coexisting larval helminths associated with their intermediate host, the sand crab <i>Emerita analoga</i>	\$1,250