



Undergraduate Student Research Support Program AY 2016-17 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 year undergraduate students as well as historically underrepresented minority, low-income and first-generation college students.

In AY 2016-17, a total of 71 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 2016-2017 Undergraduate Student Research Support Awards

Campus	Recipient	Program/ Major	Advisor	Project Title	Award Amount (Campus Match)
Bakersfield	Mabelle Cruz	Computer Science	Dr. Chengwei Lei	Dynamic route planning UAV project	\$417
	Andy Koumane	Computer Science	Dr. Chengwei Lei	Observation of pollution in skies above seawater and coastal areas using dynamic self-guided UAV	\$417
	Jazmine Mejia-Muñoz	Biology	Dr. Antje Lauer	Are pinnipeds breeding on the Channel Islands in danger of contracting coccidioidomycosis?	\$833
	Jacob Priester	Biology	Dr. Jeroen Gillard	Comparative study of the chemotactic capacity of fresh water and marine diatom species towards silicic acid nutrient sources	\$833
Channel Islands	Tim Holcombe	Computer Science	Dr. Jason Isaacs	Autonomous floating detector for monitoring illegal fishing activities in coastal waters	\$1,000
	Chase Tilman	Environmental Science and Resource Management	Dr. Sean Anderson	Coastal mapping with lasers and drones	\$1,500

AY 2016-2017 Undergraduate Student Research Support Awards

Campus	Recipient	Program/ Major	Advisor	Project Title	Award Amount (Campus Match)
Chico	Linda Drobatz	Biological Sciences	Dr. Amanda Banet	The effects of incubation temperature on salmonid egg and alevin survival and growth	\$1,250
	Sophia Phillips	Microbiology	Dr. Emily Fleming Nuester	Determining the relationship between biological iron oxidation and mercury mobility in an estuarine salt marsh	\$1,250
Dominguez Hills	Ashley Arambula	Human Services	Dr. Karin Kram	Aquaculture threatened by global climate change: microbiome responses of purple-hinge rock scallop (<i>Crassadoma gigantea</i>) to decreased pH and increased temperature	\$1,124
	Keyley Norton	Biology	Dr. Brynne Bryan	Evaluation of urban runoff effects on the diversity and density of marine diatoms in the littoral zone surrounding Palos Verdes Peninsula	\$688
	Monica Warner	Biology	Dr. Brynne Bryan	Evaluation of urban runoff effects on the diversity and density of marine diatoms in the littoral zone surrounding Palos Verdes Peninsula	\$688
East Bay*	Gerardo Plascencia	Biochemistry	Dr. James Murray	Are sea slugs immune to chemical weapons?	\$1,000 (\$893)
	Robert Wilt	Biological Science	Dr. James Murray	Active sniffing by sea slug rhinophores is enhanced by brain neurons	\$1,500 (\$500)
Fresno	Francisco Barajas	Biology	Dr. Joshua Reece	A phylogenetic perspective on the evolution of body shape in hagfish	\$625
	Huyen Nguyen	Earth & Environmental Science	Dr. Steve Blumenshine	Adjustments of temperature – specific growth rates for juvenile Chinook Salmon in the San Joaquin Watershed	\$625
	Emily Ramirez	Biology	Dr. Steve Blumenshine	The role of disturbance on San Joaquin River macroinvertebrate assemblages; implications for Chinook Salmon survival and growth	\$625
	Nathan Sayavong	Biology	Dr. Brian Tsukimura	Effects of thermal stress and population density on Vitellogenin (Vg) levels in the hemolymph of the anomuran crab <i>Petrolisthes cinctipes</i>	\$625
Fullerton*	Antonio Carmona	Biological Science	Dr. Jennifer Burnaford	Hydrodynamic forces on the surfgrass <i>Phyllospadix</i> and the role that epiphytes play in breakage	\$325
	Tania Eulogia	Biological Science	Dr. Kathryn Dickson	Ocean acidification effects on calcified structures of California grunion larvae at hatching	\$500

AY 2016-2017 Undergraduate Student Research Support Awards

Campus	Recipient	Program/ Major	Advisor	Project Title	Award Amount (Campus Match)
Fullerton*	Alejandra Garcia	Biological Science	Drs. Ryan Walter and Danielle Zacherl	Outcompeted or outbred? Localized extirpation of a native mussel via interspecific hybridization with a highly invasive congener	\$925 (\$350)
	Blake Miyamoto	Biological Science	Dr. Jennifer Burnaford	Effect of intra-individual variability in chemical composition in the kelp <i>Egregia menziesii</i> on the feeding preference of intertidal herbivores	\$750
Humboldt*	Thomas Anderson	Biology	Dr. Rafael Cuevas Uribe	Investigating the viability of triploidy in <i>Haliotis rufescens</i> utilizing caffeine	\$250 (\$250)
	Jessica Gravelle	Biology	Dr. Paul Bourdeau	How stressors influence the lytic activity in <i>Anthopleura elegantissima</i>	\$350
	Daniel Ladd	Wildlife	Dr. Tim Bean	Recolonization rate of purple urchins	\$100 (\$400)
	Chase Macherzak	Fisheries Biology	Dr. Rafael Cuevas Uribe	Land-based marine integrated multi-trophic aquaculture system	\$350 (\$150)
	Amezcu Marcos	Chemistry	Dr. Matthew Hurst	Determination of the copper speciation in Humboldt Bay	\$200 (\$190)
	Aris Ownsbey	Biology	Dr. Paul Bourdeau	Ocean acidification acclimation potential of coralline algae when exposed to tidally driven variation	\$200 (\$163)
	Jordan Paulsen	Biology	Dr. Paul Bourdeau	Effects of shell shape and shell thickness on <i>Nucella lamellosa</i> shell strength	\$350
	Aria Peavy	Biology	Dr. Paul Bourdeau	The effects of caffeine in marine systems on zooxanthellae symbionts	\$350 (\$150)
	Dustin Price	Biology	Dr. Jacob Varkey	Determination of genotype influence on sea star associated densovirus load and sea star wasting disease symptoms	\$350 (\$150)
Long Beach	Cynthia Coria	Biology	Dr. Christine Whitcraft	Relation of food source availability at Huntington State Beach to the California Least Tern (<i>Sternula antillarum browni</i>) diet	\$625
	Haley Gause	Microbiology	Dr. Douglas Pace	Assessing the dissemination potential of tachyzoite stages of <i>Toxoplasma gondii</i> parasites during exposure to coastal California seawater conditions: exploring a new pathway to marine mammal infections	\$625
	Richer Laporte	Microbiology	Dr. Jesse Dillon	The effect of restoration on extreme hypersaline viruses in a solar saltern	\$625

AY 2016-2017 Undergraduate Student Research Support Awards

Campus	Recipient	Program/ Major	Advisor	Project Title	Award Amount (Campus Match)
Long Beach	Alec Ohanian	Molecular Cell Biology and Physiology	Dr. Douglas Pace	Determining temperature- performance of the aerobic enzyme, citrate synthase, as a way of predicting thermal habitat range in the three species of California echinoderms	\$625
Los Angeles	Benson Truong	Biology	Dr. Andres Aguilar	DNA barcoding and cryptic differentiation of mesopelagic fishes	\$1,152
	Andrew Wong	Biology	Dr. Patrick Krug	Interspecific competition and multivariate natural selection set range limits for a coastal sea slug	\$1,050
Maritime*	Kevin Prochnow	International Business & Logistics	Dr. Alexander Parker	Potential micro-plastic collection in the San Francisco Bay estuarine fronts	\$900
	Shaun Teter	Marine Transportation	Dr. Alexander Parker	The seasonal and spatial variation of light attenuation in the northern San Francisco Estuary, California	\$1,600 (\$1,000)
Monterey Bay	Jordan Healy	Marine Science	Drs. Gerick Bergsma and Alison Haupt	Effects of human visitation on rocky intertidal communities at Point Lobos	\$300
	Madison Heard	Marine Science	Dr. Cheryl Logan	Changes in metabolic enzyme activity of larval gopher rockfish (<i>Sebastes carnatus</i>) as an indicator of acclimation to seasonal upwelling events	\$1,100
	Skylar Kensigner	Biology	Dr. Eric Crandall	Is Cape Mendocino a barrier to marine larval dispersal?	\$1,100
Northridge*	Corensa Eisenlord	Environmental & Occupational Health	Dr. Gretchen Boria Perez	Vibrio Cholerae 01 in coastal waters of Southern California and its ecological relationships with planktonic copepods	\$1,000
	Lindsey Stockton	Biology	Dr. Mark Steele	Effects of exploitation on targeted fishes in marine protected areas	\$500 (\$475)
	Adam Wiryadimejo	Biology	Dr. Robert Carpenter	The effects of ocean acidification and temperature change on the growth rates of tropical infaunal bivalves	\$1,000
Pomona	Morgan Bottomley	Biology	Dr. Ángel Valdés	Additional nuclear gene for taxonomic revision of Juliidae	\$672
	Stephanie Franck	Biology	Dr. Jeremy Claisse	Effects of body size, age, and seasonality on gonadal development in Garibaldi, <i>Hypsypops rubicundus</i>	\$697

AY 2016-2017 Undergraduate Student Research Support Awards

Campus	Recipient	Program/ Major	Advisor	Project Title	Award Amount (Campus Match)
Pomona	John Walls	Geography	Dr. Kristen Conway-Gómez	Death & taxa: monitoring seismic cycle ground deformation using rocky intertidal zone mortality, Nicoya Peninsula, Costa Rica	\$631
	Mikaela Wayne	Biology	Dr. Ángel Valdés	Pseudocryptic speciation of two Eastern Pacific sea slug species	\$500
Sacramento	David Bui	Biological Sciences	Dr. Ron Coleman	When do Bay Pipefish breed?	\$500
	Laura Givens	Biological Sciences	Dr. Ron Coleman	Invasive species in Tomales Bay	\$500
	Dakota Keene	Geology	Dr. Amy Wagner	Stable isotope analysis in corals from US Virgin Islands	\$500
	Margarita Kovalchuk	Civil Engineering	Dr. Cristina Poindexter	Influence of dissolved oxygen and flow rates on accretion in Delta wetlands	\$500
	Shael Rebol	Biological Sciences	Dr. Amy Wagner	Assessment of <i>Errina fissurata</i> utilizing nanoSIMS for growth pattern analysis	\$500
San Diego*	Christopher Long	Biology	Dr. Matthew Edwards	The potential of chicken-poop powered hydroponics: a creative method of utilizing nitrifying bacteria to convert chicken manure into useable nitrogen for crop plants	\$1,080 (\$250)
	Cynthia Martinson	Environmental Science	Dr. Walter Oechel	Climate change and blue carbon sinks	\$200
	Tate Van Duivenbode	Environmental Science	Dr. Kevin Hovel	Healthy seagrass habitats	\$734
San Francisco	Samantha Brophy	Biology	Dr. Robyn Crook	Effects of stress and tissue injury on behaviors of the coastal cephalopod, <i>Euprymna scolopes</i>	\$750
	Ryan Fergusson	Biology	Dr. C. Sarah Cohen	Characterizing the biodiversity of Botryllid Ascidians through CO1 barcoding	\$850
	Kayla Hall	Biology	Dr. Karen Crow-Sanchez	The morphological evolution of cephalic lobes in Myliobatids	\$900
San José	Lauren Cunningham	Biological Sciences	Dr. Luke Miller	Effects of low tide temperature on <i>Mytilus californianus</i> internal body temperatures	\$2,500

AY 2016-2017 Undergraduate Student Research Support Awards

Campus	Recipient	Program/ Major	Advisor	Project Title	Award Amount (Campus Match)
San Luis Obispo	Samantha Bock	Biological Sciences	Dr. Sean Lema	Interactive effects of thermal environment and nonylphenol exposure on the reproductive performance of estuarine sheepshead minnow, <i>Cyprinodon variegatus</i>	\$500
	Maurice Goodman	Biological Sciences	Dr. Ben Ruttenberg	The relationship between geographic range extent and adult traits in coastal temperate fishes	\$467
	Andrew Hostler	Electrical Engineering	Dr. Bridget Benson	ROV workshop design for undergraduates	\$500
	Sawyer Randles	Biological Sciences	Dr. Crow White	Proteomic responses to physiological temperature stress in Kellet's whelk (<i>Kelletia kelletti</i>)	\$500
	Jackson Strobel	Biological Sciences	Dr. Sean Lema	Insulin-like growth factor 1 (IGF-1) as a physiological biomarker for growth rate and nutritional status of juvenile cabezon	\$500
San Marcos	Jaciel Hernandez	Biological Sciences	Dr. Diego Sustaita	A comparison of the feeding behavior between adult and juvenile San Clemente loggerhead shrikes (<i>Lanius ludovicianus mearnsi</i>)	\$1,250
	Morgan Rentschler	Biological Sciences	Dr. Casey Mueller	Effects of temperature on the metabolism of <i>Tigriopus californicus</i> , an intertidal copepod	\$1,250
Sonoma	Haley Sneiderman	Biology	Dr. Mackenzie Zippay	Measuring cardiac performance of invasive mussels	\$1,000
	Emily Sperou	Biology	Dr. Daniel Crocker	Growth efficiency in elephant seal pups	\$1,000
	Anthony Tercero	Biology	Dr. Sean Place	Identifying hypermethylated regions of DNA in immune genes of marine mussels	\$500
Stanislaus	John Hund	Geology	Dr. Horacio Ferriz	Effects of pumping out of Clifton Court Forebay on the discharge of select channels in the Sacramento- San Joaquin Rivers estuary	\$500