Undergraduate Student Research Support Program
AY 2017-18 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 2017-18, a total of 81 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. Some awards may include unspent funds from previous years. Campuses marked with an * provided match funding.

AY 2017-2018 Undergraduate Student Research Support Awards

Campus	Recipient	Program/ Major	Advisor	Project Title	Award Amount *(Campus Match)*
Bakersfield	Jeffrey Buehler	Geology	Dr. David Miller	Location of the marine-nonmarine transition in Cenozoic coarse clastic sediments and evolution of Miocene coastal watersheds in the southern San Joaquin Valley	$625
	Samuel McKinney	Geology	Dr. David Miller	Location of the marine-nonmarine transition in Cenozoic coarse clastic sediments and evolution of Miocene coastal watersheds in the southern San Joaquin Valley	$625
	Jazmine Mejia-Muñoz	Biology	Dr. Antje Lauer	Are pinnipeds breeding on the California Coast in danger of contracting coccidioidomycosis?	$1,250
Chico	Karissa Cunningham	Biological Sciences	Dr. Amanda Banet	Effect of temperature fluctuation on fall-run Chinook Salmon (*Oncorhynchus tshawytscha*) embryonic development	$1,250

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Chico	Gavin Monges	Biological Sciences	Dr. Cawa Tran	Light variation in the marine environment and its effect on cnidarians and their algal symbionts	$1,250
Dominguez Hills	Michelle Garcia	Biology	Dr. Kathryn Theiss	Elucidating the evolutionary relationships of coralline algae in Southern California	$2,500
East Bay	Coleman Emery	Biological Sciences	Dr. James Murray	Examining the interaction between *Ptilosarcus gurneyi* and *Tritonia diomedea* acetylcholinesterase	$2,500
Fresno	Jocelyn Boe	Biology	Dr. David Lent	A cross-species comparison of the lateral pallium in *Muraenidae* and *Anguillae* as an indication of evolution of spatial cognition	$417
	Christian Cunningham	Biology	Dr. Tricia Van Laar	Characterization of the internal microbiota of *Octopus bimaculoides*	$417
	Dalia Dull	Biology	Dr. Steve Blumenshine	Thermal variation in juvenile Chinook habitats in their Pacific range	$417
	Claire Evangelho	Health and Human Services	Dr. Joshua Reece	Vulnerability assessment of climate change, sea-level rise and human land-use change in coastal Georgia	$417
	Shelby Moshier	Biology	Dr. Joshua Reece	Harbor dredging affects Morro Bay beach biodiversity and sediment chemistry	$417
	Gabriela Vang	Biology	Dr. Steve Blumenshine	15 N enrichment in juvenile Chinook under controlled conditions determination of prey use by wild juvenile Chinook Salmon using nitrogen stable isotopes under controlled conditions	$417
Fullerton*	Jessica Ballard	Biological Science	Dr. Jennifer Burnaford	Feeding preferences for *Littorina scutulata* and *Chlorostoma funebralis* and the effects of low tide exposure on rockweed (*Silvetia compressa*)	$250
	Jamie Hayward	Geological Science	Dr. Joseph Carlin	Linking marine and terrestrial processes to the evolution of a mid-shelf mudbelt: an investigation of the Salinas River Mudbelt, Central California, USA	$495
	Kiarra Lyons	Biological Science	Dr. Danielle Zacherl	Avian use of restored eelgrass meadows and oyster beds as part of a living shorelines project	$525 *($197)*

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Fullerton*	Victoria Severin	Geological Science	Dr. Joseph Carlin	Interpreting recent stratigraphic changes for the Northern Monterey Bay continental shelf	$495
	Travis Stone	Geological Science	Dr. Nicole Bonuso	Examining reef mound construction to understand how reefs recovered after mass extinction	$735
Humboldt*	Lucas Allen-Custidio	Zoology	Dr. Sean Craig	Invasive bryzoan -- *Watersipora* research	$500
	Ian Brown	Biology	Dr. Paul Bourdeau	Comparing and contrasting domoic acid levels between Dungeness crab (*Cancer magister*) and red rock crab (*Cancer productus*)	$250 *($195)*
	Josh Cahill	Fisheries Biology	Dr. Rafael Uribe	Lionfish sex chromosome system	$250 *($250)*
	Jessica Gravelle	Biology	Dr. Paul Bourdeau	Structural micro-analysis of *Mytilus californianus* shells	$500
	Jack Hawley	Oceanography	Dr. Christine Cass	A comparative study of microplastics throughout the water column, benthic environments, and bivalves in Humboldt Bay, Northern California	$250 *($100)*
	Bryan Lester	Fisheries Biology	Dr. Rafael Uribe	Aquaponic research off-grid in a maritime climate	$250 *($250)*
	Emily McCann	Chemistry	Dr. Matthew Hurst	The use of spectrophotometric and fluorescence detection for the determination of Iron and Zinc in Humboldt Bay water using injection analysis instrumentation	$500
Long Beach	Isaael Acedo	Microbiology	Dr. Jesse Dillon	Assessing degree of resistance of antibiotic resistant coliforms isolated during dry and wet weather at beaches with differing wave action	$625
	Catherine Lachnit	Marine Biology	Dr. Bengt Allen	Selective grazing and the potential for resource complementarity among grazers on the rocky shore	$625
	Janelle Paz	Marine Biology	Dr. Darren Johnson	Estimating growth and mortality rates of black perch within Southern California	$625
	Favian Tong	Marine Biology	Dr. Darren Johnson	A new approach to estimating standard metabolic rates of fishes. An example in Kelp Bass (*Paralabrax clathratus*)	$625

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Los Angeles	Jermaine Bishop	Biology	Dr. Patrick Krug	Molecular phylogenetic and morphological analyses reveal two new species of sea slugs in the genus *Placida* (*Heterobranchia: Sacoglossa*), including one from California	$850
	Cindy Zhang	Geology	Dr. Mohammed Rezaie-Boroon	Monitoring water quality in Ballona Creek Lagoon: nitrate level fluctuation in low and high tide conditions	$1,650
Maritime	Darlene Conolly	Mechanical Engineering	Dr. William Tsai	Modernizing the dissolved inorganic carbon analyzer	$2,500
Monterey Bay	Michaela Colmenarez	Biology	Dr. Nathaniel Jue	Patterns of gene expression associated with the evolution of hermaphroditism in fishes	$500
	David Deering	Biology	Dr. Cheryl Logan	Species specific identification of rockfish using DNA barcoding	$500
	Emma Haines	Environmental Science, Technology and Policy	Dr. John Olson	Creating an index on the dryness of a river	$479
	Winifred Igboke	Biology	Dr. Nathaniel Jue	Estimating chiton genome size using real-time PCR	$250
	Annalyn Roberts	Marine Science	Dr. Eric Crandall	Gene flow of *Pisaster ochraceous* along California's Pacific coast	$450
	Dominique Scott	Biology	Dr. Nathaniel Jue	Estimating chiton genome size using real-time PCR	$250
Northridge*	Nellie Manoukian	Biology	Dr. Maria Elena de Bellard	The development of dermal denticles in sharks and skates	$500 *($250)*
	Ingrid Morales	Sociology	Dr. Steve Dudgeon	Life cycle regulation in *Mastocarpus stellatus* and *M. papillatus*	$500 *($250)*
	Dalia Rodriguez	Environmental and Occupational Health	Dr. Gretchen Boria Perez	Identification and characterization of *Vibrio cholerae* in copepods and seawater from Mother's Beach in Marina del Rey, California	$500
	Lindsey Stockton	Biology	Dr. Mark Steele	Evaluating the effects of predation risk on prey reproduction in a temperate reef fish	$500 *($250)*
	Adam Wiryadimejo	Biology	Dr. Robert Carpenter	The effects of ocean acidification on the respiration rates and acclimitization capacity of the tropical bivalve, *Lithophaga laevigata*	$500 *($250)*

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Pomona	Stephanie Franck	Biology	Dr. Jeremy Claisse	Gonadal development and seasonal spawning patterns of the Garibaldi, *Hypsypops rubicundus*	$625
	Karine Moreno	Biology	Dr. Ángel Valdés	The invasion of the red slugs *Vayssierea felis* (Collingwood 1881) in the Northeastern Pacific	$625
	Sierra Sutton	Biology	Dr. Jayson Smith	Investigating the influence of thallus size on conceptacle density of the rockweed, *Silvetia compressa*	$625
	Lauren Tucker	Biology	Dr. Frank Ewers	Comparison of coastal and inland California black walnut trees in their capacity to absorb water from fog and to regenerate following severe drought condition	$625
Sacramento	Lizvette Ayala-Valdez	Biological Sciences	Dr. Lani Gleason	Repeated epipodial tissue sampling to correlate gene expression and heat stress survival in the intertidal marine snail *Chlorostoma fune*	$500
	Amanda Bedolla	Biological Sciences	Dr. Lani Gleason	Repeated tissue sampling to correlate gene expression and heat stress survival in the intertidal marine snail *Chlorostoma funebralis*	$500
	Laura Givens	Biological Sciences	Dr. Ron Coleman	Influence of temperature on coral symbiotic zooxanthellae	$500
	Christine Hughes	Geology	Dr. Amy Wagner	Implications of land use practices on aquatic ecosystems as determined via geochemical properties in corals of Salt River Bay, St.Croix, USVI	$500
	Ethan Roberts	Biological Sciences	Dr. Timothy Davidson	Investigating the effects of burrow microhabitats created by a non-native isopod on the survivorship of marine invertebrate species in the rocky intertidal	$500
San Diego	Gabriel Greenberg-Pines	Biology	Dr. Jeremy Long	The effect of competition for aboveground resources on salt marsh plants	$504
	Eric Surratt	Geology	Dr. Jillian Maloney	Reconstructing coastal events recorded in ancient San Diego River delta deposits	$935
	Wendi White	Biology	Dr. Jeremy Long	Competition between two dominant plants impacts salt marsh soils	$504

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San José	Lindsey Huffman	Geology	Dr. Ryan Portner	Volcanic glass sediment characterization from the East Pacific Rise	$1,000
	Maria-Luisa Ponce De Leon	Biological Sciences	Dr. Luke Miller	The effects of low tide heat exposure on the internal body temperatures of California mussels (*Mytilus californianus*) in an artificial mussel bed	$1,500
San Luis Obispo	Erick Balde	Biochemistry	Dr. Elena Keeling	Investigation of blood cell populations in the development and regeneration of *Botrylloides vidaceus*	$500
	Kasey Cordova	Biological Sciences	Dr. Sean Lema	The insulin-like growth factor (IGF) system as an indicator of growth rate in juvenile copper rockfish	$165
	Robert (Frank) Fabela	Biological Sciences	Dr. Lars Tomanek	Ciliary response in the mussel, *Mytilus californianus*, to food availability and sirtuin inhibition	$280
	Silvano Gonzalez	Psychology	Dr. Lars Tomanek	Changes in the clearance rate of *Mytilus californius* in relation to food availability and heat stress	$390
	Zachary Kucinski	Agricultural Business	Dr. Dean Wendt	A potential new source of groundfish age and growth data	$90
	Olivia Lewis	Biological Sciences	Dr. Sean Lema	Sequencing of the northern anchovy mitogenome	$165
	Edwin Rainville	Mechanical Engineering	Dr. Ryan Walter	The influence of a rocky reef and giant kelp on the cross-shelf propagation of nearshore internal bores	$500
	Chandler Skinner-Horne	Environmental Management and Protection	Dr. Dean Wendt	A potential new source of groundfish age and length data: a pilot study of pre- and post-fillet length from commercial passenger fishing vessels	$90
	Zachary Taylor	Biological Sciences	Dr. Christopher Kitts	Microbiome of microbial fuel cells	$500
San Marcos	Amanda Bauer	Biology	Dr. Diego Sustaita	A comparison of swimming performance between the salt marsh harvest mouse and coexisting rodents in the Suisun Marsh, California	$625
	Brooke Harrington	Biology	Dr. Diego Sustaita	Comparison of climbing performance of salt marsh harvest mice and coexisting wetland rodent species in the Suisun Marsh, CA	$625

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San Marcos	Kathleen Moorman	Chemistry	Dr. Jacqueline Trischman	Antimycobacterial compounds from marine bacterium found on the surface of *Ulva californica* collected off the coast of San Diego, CA	$625
	Karneshia Taylor	Arts and Technology	Dr. Lucy Solomon	Mother nature and her data	$625
Sonoma	Jordan Ashby	Biology	Dr. Daniel Crocker	Immune responses in breeding adult male elephant seals	$1,000
	Mitchel Bomben	Biology	Dr. Mackenzie Zippay	Gradients in metabolic performance across the intertidal zone: a comparative analysis of mussels and barnacles	$1,000
	Yelba Ortiz	Biology	Dr. Sean Place	Expression of antioxidant genes in the heart muscle of thermally stressed fish	$500
Stanislaus	Andre Davis	Geology	Dr. Horacio Ferriz	Nitrate in groundwater in Stanislaus County	$400
	Larissa Harter	Geology	Dr. Horacio Ferriz	C2VSim modeling of the groundwater and surface water influxes into the San Joaquin estuary	$525
	Chris Kightlinger	Geology	Dr. Horacio Ferriz	Nitrate in groundwater in San Joaquin County	$500
	Loyd McKern	Geology	Dr. Horacio Ferriz	Nitrate in the San Joaquin, Stanislaus, Mokelumne, Cosumnes, and Sacramento Rivers	$675
	Kimberly Munguia	Organismal Biology	Dr. Ritin Bhaduri	Impact of acanthocephalan parasitism on the fecundity of the pacific mole crab, *Emerita analoga*	$740
	Joseph Sada	Biological Sciences	Dr. Ritin Bhaduri	Impact of acanthocephalan parasitism on the fecundity of the pacific mole crab, *Emerita analoga*	$370
	Royal Sandhu	Biological Sciences	Dr. Ritin Bhaduri	Impact of acanthocephalan parasitism on the fecundity of the pacific mole crab, *Emerita analoga*	$740
	Taiga Yamaguchi	Biological Sciences	Dr. Ritin Bhaduri	Impact of acanthocephalan parasitism on the fecundity of the pacific mole crab, *Emerita analoga*	$370