# Undergraduate Student Research Support Program
# AY 2014-15 Report

COAST launched the Undergraduate Student Research Support Program in AY 2014-15 in order to support more undergraduate students throughout the system than had been previously accomplished through other programs. This new program provided $2,500 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.

In AY 2014-15 COAST provided $50,000 that resulted in a total of 74 awards across 20 campuses. 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. Students below marked with an * received additional match funding from their campus.

| AY 2014-2015 Undergraduate Student Research Support Awards | | | | | |
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| **Campus** | **Recipient** | **Program/ Major** | **Advisor** | **Project Title** | **Award Amount** |
| Channel Islands | Jonathan Fausto | ESRM | Dr. Sean Anderson | Best Management Practices (BMP) installation | $950 |
| | Reily Pratt | ESRM | Dr. Simone Aloisio | Exploring the utilization of *Macrocystis pyrifera* as a biosentinel of environmental mercury | $550 |
| | Katherine Soto | Biology | Dr. Ruben Alarcon | Characterizing the native insect pollinators of Santa Rosa Island | $1,000 |
| Chico | Charles Brooke | Microbiology | Dr. Emily Fleming Nuester | Connecting mercury methylation and the iron cycle in a California estuarine system | $1,250 |
| | Ravi Shankar | Applied Mathematics | Dr. Sergei Fomin | Tsunami wave propagation over an underwater shelf | $1,250 |
| Dominguez Hills | Jaime Lopez | Biology | Dr. Jacqueline Padilla-Gamino | Exploring the intertidal: how calcareous algae can recover from a bleaching event in California- the effect of zonation (low vs. high intertidal) | $346 |
| | Araceli Meyn | Biology | Dr. Jacqueline Padilla-Gamino | Exploring the intertidal: how calcareous algae can recover from a bleaching event in California- the effect of site and temperature | $346 |

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| Dominguez Hills | Ashley Potter | Biology | Dr. Jacqueline Padilla-Gamino | Bleaching and its affects on the cnidocyte production of *Anthopleura elegantissima* | $1,245 |
| | Maria Salazar | Biology | Dr. Jacqueline Padilla-Gamino | Effects of temperature on barnacle development | $281 |
| | Jacqueline Silva | Biology | Dr. Jacqueline Padilla-Gamino | Effects of temperature on juvenile barnacles: a study using reciprocal transplants | $281 |
| East Bay | Chelsea Henderson* | Biology | Dr. James Murray | Effects of geomagnetic field on navigation in the sea slug *Tritonia tetraquetra* | $1,000 |
| | Katrina-Mari Mayol* | Biology | Dr. James Murray | Determining water flow direction during short distance navigation of the sea slug *Tritonia tetraquetra* | $1,000 |
| | Daniel Nguyen* | Biology | Dr. Tyler Evans | Common and stressor-specific responses to temperature, hypoxia and salinity in the estuarine fish *Gillichthys mirabilis* | $500 |
| Fresno | Robert Loyd | Mechanical Engineering | Dr. Ulrike Muller | Hydrophone for studying plankton predator-prey interaction | $1,250 |
| | Jason Thomas | Biology | Dr. Mamta Rawat | Analysis of gene expression in *Synechococcus elongatus* and mutants disrupted in glutathione metabolism | $1,250 |
| Fullerton | Lilian Bui* | Biological Science | Dr. Jennifer Burnaford | Evaluating the consequences of feather boa limpet (*Lottia insessa*) infection on the feather boa kelp (*Egregia menziesii*) | $250 |
| | Brittany Garces* | Biological Science | Dr. Jennifer Burnaford | The effect of low tide exposure on the susceptibility of kelp to herbivory | $1,125 |
| | Prarthana Shankar* | Biological Science | Dr. Kristy Forsgren | An assessment of the reproductive physiology of the California mussel (*Mytilus californianus*) in southern California | $1,125 |
| Humboldt | William Fairchild* | Oceanography | Dr. Jeffrey Abell | Marine boundary layers are distinct atmospheric phenomena observed at the boundary of land-sea and mediate local temperature, humidity, and cloudiness | $500 |
| | Samantha Gonzalez-Gold* | Biology | Dr. Tim Mulligan | The effect of temperature on the development and growth of dwarf cuttlefish *(Sepia bandensis)* | $250 |

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| Humboldt | Angela Jones* | Biology | Dr. Paul Bourdeau | Wasting effects on different life stages of *Leptasterias hexactis* | $500 |
| | Eloy Lopez* | Biology | Dr. Tim Mulligan | The effect of temperature on the development and growth of dwarf cuttlefish (*Sepia bandensis*) | $250 |
| | Johnny Roche* | Biology | Dr. Paul Bourdeau | Cancrid crab prey selection: a question of size or species identity (*Decapoda: Brachyura: Cancridae*)? | $500 |
| | Marke Sinclaire* | Biology | Dr. Sean Craig | Larval settlement patterns of a new species of invasive bryozoan, *Watersipora* spp. | $500 |
| Long Beach | Andrea Danihel | Marine Biology | Dr. Bruno Pernet | Do marine larvae feed better in simple or complex feeding environments? | $625 |
| | Priscilla Figueroa | Biology | Dr. Doug Pace | Assessing biochemical growth efficiency in *Dendraster excentricus* larvae grown at different nutrient conditions | $625 |
| | Caitlin Sojka | Marine Biology | Dr. Bruno Pernet | Effects of feeding on the growth of the larvae of polyclad flatworms | $625 |
| | Vivian Ton | Marine Biology | Dr. Kelly Young | Determining fecundity in the kelp bass, *Paralabrax clathratus* | $625 |
| Los Angeles | Juliana Lawrence | Biology | Dr. Patrick Krug | Do non-dispersive larvae decrease genetic diversity? A test using microsatellites | $938 |
| | Alissa Magaña | Geology | Dr. M. Hassan Rezaie-Boroon | Heavy metals and trace elements in water, sediment, pore water, and biomass of Ballona Creek Wetland, CA | $1,000 |
| | Ariel Sherman | Biochemistry | Dr. Patrick Krug | Is *Elysia clarki* a distinct species, or an ecotype of *E. crispata*? A test using microsatellites | $560 |
| Maritime | Hannah Foster* | Marine Transportation | Dr. Alexander Parker | Not available | $625 |
| | Austin Gearty* | Marine Transportation | Dr. Alexander Parker | Effects of inorganic nutrients on primary production | $625 |
| | Rose Hendrix* | Mechanical Engineering | Dr. Michael Holden | A student-run autonomous oceanographic research vessel | $750 |
| | William Lindsay* | Global Studies and Maritime Affairs | Dr. Ryan Dudley | Not available | $250 |

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| Monterey | April Makhukov | Biology | Dr. Cheryl Logan | Investigating the effects of ocean acidification on juvenile rockfish (*Sebastes* spp.) gene expression | $1,500 |
| | Serena Thurston | Marine Science | Dr. Kerry Nickols | Examination of crustacean larval diversity within the zooplankton communities of moving water parcels off the central California coast – a study in population connectivity | $914 |
| Northridge | Malek Al-Marayati | Marine Biology | Dr. Steven Dudgeon | Population genetic structure of *Mastocarpus* spp. | $500 |
| | Corensa Eisenlord | Marine Biology | Dr. Gretchen Boria Perez | *Vibrio cholerae* and copepods in coastal waters of southern California | $500 |
| | Alexis Estrada | Biology | Dr. Mark Steele | The effects of an invasive alga, *Sargassum horneri*, on kelp forest fishes and habitat at Santa Catalina Island, California | $500 |
| | Jayslen Serrano | Biology | Dr. Robert Carpenter | The effects of increased carbon dioxide levels and temperature on photosynthetic and calcification rates of *Montipora aequituberulata* and *Lithophyllum insipidum* in Moorea, French Polynesia | $500 |
| | Cameron Winbush | Biology | Dr. Casey terHorst | Genotypic variation in temperature tolerance of symbiotic algae | $500 |
| Pomona | Eric Breslau | Biology | Dr. Angel Valdes | Newly discovered diversity and cryptic invasion(s) of Melanochlamys sea slugs (*Gastropoda, Aglajidae*) in the North Pacific | $825 |
| | Adrianna Elihu | Biology | Dr. Angel Valdes | Possible invasive species of *Haminoea ovalis* on Catalina Island | $825 |
| | Alycia Uyeoka | Biology | Dr. Jayson Smith | Consumption rates and diet selectivity by the kelp snail (*Norrisia norrisi*) for native and non-native Sargassum seaweeds | $850 |
| San Bernardino | Lowell Iporac | Biology | Dr. John Skillman | Assessing abiotic factors and algal communities of eelgrass (*Zostera marina*) beds across California | $1,681 |
| | Madison Morris | Geology | Dr. Britt Leatham | On the biometric analysis of scaphopods of the Pleistocene Palos Verdes Formation and their indications of environmental change and sediment petrology | $819 |
| San Diego | Shay Hengen | Biology | Dr. Kevin Hovel | The feeding habits of *Alia carinata* using feeding assay, behavior analysis, and stable isotope analysis | $378 |

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| San Diego | Jennifer Joseph | Biology | Dr. Kevin Hovel | The effects of a predator cue on grass shrimp grazing on seagrass | $493 |
| | Chyna Lee | Anthropology | Dr. Todd Braje | Human impacts on California mussels (*Mytilus californiaus*): a 9,500 year old record from San Miguel Island, California | $423 |
| | Jaimie Savoie | Biology | Dr. Brian Hentschel | Effects of tidal current speed of feeding activity and prey selection of California killifish, *Fundulus parvipinnis* | $643 |
| San Francisco | Jaymee Chaides | Ecology | Dr. Karen Crow | Phylogeny based on Hox A11, A13, D11, D12, and D13 of cartilaginous fishes | $500 |
| | Alice Dore | Biology | Dr. C. Sarah Cohen | The distribution of *Profilicollis altmani* – a marine parasite relevant to seabird and otter health | $500 |
| | Bridget Hansen | Microbiology | Dr. Edward Carpenter | The effects of temperature on the domoic acid producing diatom: *Psuedo-nitzschia* | $500 |
| | Liam O'Malley | Biology | Dr. Karen Crow | Multiple paternity in dwarf surfperch, *Micrometrus minimus* | $500 |
| | Cristina Provencio | Biology | Dr. Karen Crow | Discovering bay pipefish: an analysis of sexual dimorphism and growth variation | $500 |
| San Luis Obispo | Yareli Alvarez* | Biological Sciences | Dr. Nikki Adams | Use of Phos-tag™ labeling to identify effects of UV radiation on phosphorylation of Chk1 in the purple sea urchin, *Strongylocentrotus purpuratus* | $250 |
| | Alice Bourgeon* | Biological Sciences | Dr. Kristin Hardy | The effect of tidal position on skeletal muscle structure and metabolism in the giant acorn barnacle, *Balanus nubilus* | $250 |
| | Megan Durham* | Biological Sciences | Dr. Elena Keeling | Quantification of telomerase activity in colonial ascidians | $383 |
| | Mary Gamboa* | Biological Sciences | Dr. Elena Keeling | Characterization and quantification of blood cell types in colonial ascidians | $234 |
| | Jennifer Greene* | Biological Sciences | Dr. Lisa Needles | Spawning, settlement, and larval biology of Pismo clams, *Tivela stultorum* | $250 |

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| San Luis Obispo | Maritza Luquin* | Biological Sciences | Dr. Lars Tomanek | Antioxidant capacity and oxidative damage in two mussel species, *Mytilus galloprovincialis* and *Mytilus trossulus*, under natural field conditions in San Francisco Bay | $250 |
| | Daniela Martinez* | Biological Sciences | Dr. Lars Tomanek | Effect of multiple environmental stressors on antioxidant capacity of two mussel congeners *Mytilus galloprovincialis* and *Mytilus trossulus* | $250 |
| | Emily Resner* | Biological Sciences | Dr. Kristin Hardy | Establishment of a working protocol for measuring citrate synthase activity in marine invertebrate muscle tissue | $250 |
| | Alex Westman | Biological Sciences | Dr. Kristin Hardy | Establishing a working protocol for measuring LDH activity in marine invertebrate muscle tissues | $383 |
| San Marcos | Eduardo Castillo | Biological Sciences | Dr. Robert Sheath | Isolation of messenger RNA from *Zygnema irregulare* | $824 |
| | Daniel Cuggedge | Biological Sciences | Dr. Betsy Read | Design of experiment: optimizing electroporation parameters for *Emiliania huxleyi* | $853 |
| | Nicole Salas | Biological Sciences | Dr. Robert Sheath | Isolation of messenger RNA from *Zygnema irregulare* | $824 |
| Sonoma | Nicholas Barron | Biology | Dr. Daniel Crocker | Impacts of the novel stress hormone aldosterone on electrolyte balance in elephant seals | $625 |
| | Jordan Lankford | Biology | Dr. Sean Place | Do global methylation patterns change with exposure to sewage effluent? | $625 |
| | Orlando Martinez | Biology | Dr. Sean Place | MDR1 expression as a bioindicator of xenobiotic exposure in *Mytilus califonianus* | $625 |
| | Andrea Reategui | Biology | Dr. Daniel Crocker | Impacts of stress on reproduction in elephant seals | $625 |
| Stanislaus | Mark Hilgers | Biology | Dr. Ritin Bhaduri | A comparative analysis of larval helminths associated with their intermediate host, the sand crab *Emerita analoga* | $1,250 |
| | Rajvir Singh | Biology | Dr. Ritin Bhaduri | A comparative analysis of larval helminths associated with their intermediate host, the sand crab *Emerita analoga* | $1,250 |