

## Bodega Marine Reserve — Current Research Projects

- 1 **Jessica Abbott, UC Davis** Characterization of how traits vary among eelgrass genotypes
- 2 **Dr. Peter Alpert, University of Massachusetts, Amherst** Environmental stress, invasion by non-native grasses and re-invasion by natives
- 3 **Jennifer Balachowski, UC Davis** Restoring for the future: Local adaptation and evolutionary potential in *Elymus glaucus* , a native California bunchgrass
- 4 **Dr. Camille Barr, University of Montana** Sex ratio evolution in *Nemophila menziesii*
- 5 **Dr. Andy Bass and Midge Marchaterre, Cornell University** Neuroethology of sound communication in midshipman fish, *Porichthys notatus*
- 6 **Andre Basset, UNAVCO, Plate Boundary Observatory** Monitoring the three-dimensional strain field resulting from active plate boundary deformation across the Western United States
- 7 **Rebecca Best, UC Davis** Temperature and predation effects on seagrass grazer communities
- 8 **Sarah Bittick, UCLA** Development of a macroalgal assessment framework to diagnose seagrass bed health
- 9 **Michael Black and Michael Changery, NOAA National Climatic Data Center** U.S. Climate Reference Network
- 10 **Bodega Marine Laboratory, UC Davis** Bodega Ocean Observing Node (BOON)
- 11 **Bodega Marine Reserve, UC Davis** Shorebird monitoring in Bodega Harbor
- 12 **Bodega Marine Reserve, UC Davis** Harbor seal monitoring at the Bodega Marine Reserve
- 13 **Bodega Marine Reserve, UC Davis** Aerial photographic monitoring of the Bodega Marine Reserve
- 14 **Bodega Marine Reserve, UC Davis** Ground-based photographic monitoring of the Bodega Marine Reserve
- 15 **Dr. Louis Botsford, UC Davis** Influence of oceanographic physical influences on subtidal invertebrates
- 16 **Dr. Scott Burgess, UC Davis** The evolution of dispersal and migration in marine life histories
- 17 **Nick Burnett, UC Berkeley** Macroalgal kinematics on wave-swept rocky shores
- 18 **Kelly Carscadden, University of Toronto** Mechanisms underpinning niche breadth in monkeyflowers

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- 19 **Helen Chmura, UC Davis** Phenology of breeding in Nuttall's White-crowned Sparrow
- 20 **Dr. Peter Connors, UC Davis** Conservation biology of showy Indian clover, *Trifolium amoenum*
- 21 **Dr. Peter Connors, Dr. Kathy Ann Miller, Jackie Sones, UC Davis and University Herbarium** Distribution and diversity of marine algae in the Bodega Head area
- 22 **Brendan Cornwell, UC Davis** Differential interaction strength and local adaptation mediated by a mutualistic symbiont in the anemone *Anthopleura elegantissima*
- 23 **Dr. Greg Crutsinger and Dr. Sharon Strauss, University of British Columbia and UC Davis** Genotype by environmental interactions and insect diversity associated with *Baccharis pilularis*
- 24 **Dr. Hall Cushman, Sonoma State University** Long-term impacts of mammalian herbivores and an abiotic stress gradient on native and exotic vegetation in coastal dune ecosystems
- 25 **Dimitri Deheyn, Scripps Institution of Oceanography** Color and biological light in nature
- 26 **Dr. Catherine deRivera, Dr. Ted Grosholz, Dr. Greg Ruiz, Portland State University, Smithsonian Environmental Research Center and UC Davis** Demonstrating potential for eradication of *Carcinus maenas* from Bodega Harbor
- 27 **Christopher Dillis, UC Davis** The effects of insect herbivory on seaside buckwheat (*Eriogonum latifolium*)
- 28 **Dr. Michele Dudash, University of Maryland** Relationship between mating system, inbreeding and outbreeding depression, and the expression of phenotypic plasticity on population persistence and expansion
- 29 **Andrew Esch and Tim Paulson, UC Santa Barbara** A Sanctuary for Science: The University of California's Natural Reserve System and the Role of Biological Field Stations in American Environmental History, 1950-2010
- 30 **Matt Ferner, Romberg Tiburon Center and San Francisco Bay National Estuarine** Small-scale hydrodynamics of benthic suspension feeding: effects of habitat complexity on feeding, growth and survival
- 31 **Dr. Graham Ferrier, UCLA** Obligate cuticular proteins trigger feeding in diverse barnacle predators
- 32 **Dr. Ian Faloona, UC Davis** Coastal monitoring of climatically active carbon and sulfur trace gases at Bodega Bay: anthropogenic and biogenic emissions from the coastal ocean

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- 33 **Dr. Brian Gaylord, UC Davis** Effects of shear stress and carbonate saturation on mussel larval shell integrity
- 34 **Doug George, UC Davis** Transport of sediment and water around headlands: Observations and modeling with implications for beaches and
- 35 **Sarah Gravem, UC Davis** Indirect interactions in an intertidal food web mediated by an herbivorous snail, *Chlorostoma funebris*
- 36 **Patrick Grof-Tisza, UC Davis** Population dynamics of the Ranchman's Tiger Moth at the Bodega Marine Reserve
- 37 **Dr. Rick Grosberg, Dr. Brian Gaylord, and Dr. Mike Dawson, UC Davis and UC Merced** Ecological and genetic recovery from a massive invertebrate die-off along the central coast of California
- 38 **Dr. Ted Grosholz, UC Davis** Managing the impacts of the European green crab (*Carcinus maenas*) in coastal estuaries
- 39 **Dr. Ted Grosholz, UC Davis** Investigating the limits of native oyster recovery and restoration
- 40 **Dr. Ted Grosholz, UC Davis** Green crab monitoring in California
- 41 **Grace Ha, UC Davis** Effect of *Phyllaphysia taylori* on seagrass epiphyte load
- 42 **Sarah Hameed, UC Davis** Population connectivity in *Petrolisthes cinctipes*
- 43 **Dr. Brian Helmuth, Northeastern University** Environmental signal analysis: monitoring the impacts of climate change on rocky intertidal ecosystems across a cascade of scales
- 44 **Dr. Tessa Hill, UC Davis** The sedimentary record of anthropogenic influences on Tomales Bay, CA
- 45 **Dr. Tessa Hill, UC Davis** Ocean Acidification: A Research and Training Consortium
- 46 **Dr. James Holmquist, UCLA** Coastal Ecosystem Response to Climate Change
- 47 **Jessica Hosfelt, UC Davis** A new proxy for climate and environmental conditions from the California mussel, *Mytilus californianus*
- 48 **Brittany Jellison, UC Davis** Measuring diurnal patterns of carbonate chemistry in tide pools
- 49 **Brittany Jellison, UC Davis** The effect of ocean acidification on the predator avoidance behavior of *Chlorostoma funebris*

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| 50 | <b>Emily Jones, San Diego State University and UC Davis</b>  | Herbivore effects on seaweed species traits and consequences for ecosystem processes                                 |
| 51 | <b>Laura Jurgens, UC Davis</b>   | Dynamic mussel beds: Size-specific movement of juvenile mussels across opposing small-scale facilitation gradients   |
| 52 | <b>Laura Jurgens, UC Davis</b>   | HAB-related mass mortality of <i>Strongylocentrotus purpuratus</i> on the north-central California coast             |
| 53 | <b>Dr. Rick Karban, UC Davis</b>   | Understanding food web complexity by linking long term data, multiple causes and a spatial approach                  |
| 54 | <b>Barbara Keller, UC Berkeley</b>   | Coastal strand seed collection   |
| 55 | <b>Dr. Heather Kharouba, UC Davis</b>  | The influence of local scale variation in climate and phenology on <i>Platyrepia virginialis</i> population dynamics |
| 56 | <b>Allison Kidder, UC Berkeley</b>   | Differences in <i>Baccharis pilularis</i> water relations based on plant architecture                                |
| 57 | <b>Dr. Clark King, NOAA Earth System Research Laboratory</b>   | The weather/climate connection along the U.S. West Coast   |
| 58 | <b>Dr. Patrick Krug, CSU Los Angeles</b>   | Ecology and evolution of range limits in intertidal organisms  |
| 59 | <b>Dr. Dietmar Kueltz, UC Davis</b>  | Proteome imprinting of environmental exposures in marine animals   |
| 60 | <b>Chris Kwan, UC Davis</b>  | Pollution effects on chemoreception among predator and prey  |
| 61 | <b>Dr. Mark Laidre, UC Berkeley</b>  | Chemical and visual cues attracting hermit crabs   |
| 62 | <b>James Landers</b>   | 2014 Intertidal Ecology Survey   |
| 63 | <b>Dr. John Largier, Dr. Steven Morgan, Dr. Susan Williams, Dr. Vic Chow, Dr. Loo Botsford, Dr. David Kaplan, UC Davis and UC Santa Cruz</b> | Monitoring the Coastal Ocean: Central and Northern California Ocean Observing System (CeNCOOS)                       |
| 64 | <b>Dr. John Largier and Chris Halle, UC Davis</b>  | Oceanographic monitoring at Cordell Bank   |

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- 65 **Dr. John Largier, UC Davis** Water quality monitoring at Fort Point and the Bodega Marine Laboratory
- 66 **Dr. John Largier, Dr. William Sydeman, and Dr. Jaime Jahncke, UC Davis and Point Reyes Bird Observatory** Physical-biological interactions among the oceanography of the Gulf of the Farallones and Cordell Bank
- 67 **Dr. John Largier, UC Davis** Thermistor strings in the Gulf of the Farallones National Marine Sanctuary
- 68 **Dr. John Largier, UC Davis** Tomales Bay fluorescence distributions, groundwater seepage, and bay-ocean exchange
- 69 **Wai Leong, University of Southern California** How do environmental variables affect *Tigriopus californicus* populations in splash pools?
- 70 **Joshua Lord, University of Connecticut** Geographic variability in the response of fouling communities to climate change
- 71 **Dr. Andrew Martin, UC San Diego/Scripps** The impact of marine, agricultural and long-range transported aerosols on clouds and precipitation formation during California winter storms
- 72 **Dr. Andrew McCall, Denison University** The effects of petal herbivory and induced defense on *Nemophila menziesii* reproduction
- 73 **Cristian Monaco, University of South Carolina** Physiological mechanisms explaining thermal ecology of the interacting species *Pisaster ochraceus* and *Mytilus californianus*
- 74 **Dr. Steven Morgan, UC Davis** Does coupling between the inner shelf and surf zone regulate larval supply to intertidal populations?
- 75 **Dr. Steven Morgan and Dr. John Largier, UC Davis** Cross-shelf larval migrations regulating larval supply and connectivity in a network of marine reserves
- 76 **Dr. Steven Morgan, UC Davis** Effects of a keystone predator on boulder communities
- 77 **Erin Mullen, San Francisco State University** Precipitation effects on coastal grassland plant communities
- 78 **Dr. Karina Nielsen, Sonoma State University** Intertidal oceanographic monitoring
- 79 **Dr. Karina Nielsen, Dr. Bruce Menge, Dr. Sally Hacker, Dr. Francis Chan, Sonoma State University and Oregon State University** Scaling up from community to meta-ecosystem dynamics in the rocky intertidal — a comparative-experimental approach

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| 80 | <b>Dr. Karina Nielsen, Dr. Steven Morgan, Dr. Jenifer Dugan, Sonoma State University, UC Davis, and UC Santa Barbara</b> | Baseline monitoring of ecosystem and socioeconomic indicators for MPAs along the North Central Coast of California: Sandy Beach Ecosystems Component |
| 81 | <b>Dr. Jeanine Olsen, University of Groningen</b>  | Back to the Sea Three Times: The evolution of seagrass   |
| 82 | <b>Dr. Suzanne Olyarnik and Kathleen Kraft, UC Davis and Ocean Song Farm and Wilderness Center</b>                       | Coastal Prairie Enhancement Feasibility Study  |
| 83 | <b>Dr. Ingrid Parker and Dr. Greg Gilbert UC Santa Cruz</b>  | Effects of pathogens on native and introduced clovers  |
| 84 | <b>Hannah Perlkin, UC Santa Cruz</b>   | Sea star wasting syndrome reconnaissance   |
| 85 | <b>Dr. Pete Raimondi, UC Santa Cruz</b>  | Monitoring of rocky intertidal communities along the coast of California (MARINE Core Monitoring)  |
| 86 | <b>Dr. Pete Raimondi, UC Santa Cruz</b>  | Coastal Biodiversity Survey  |
| 87 | <b>Dr. Marilyn Ramenofsky, UC Davis</b>  | Physiological regulation of migratory traits   |
| 88 | <b>John Regus, UC Riverside</b>  | Stability in nitrogen fixing symbiosis with <i>Lotus strigosus</i>   |
| 89 | <b>Olivia Rhoades, UC Davis</b>  | Patterns of behavioral diversity in herbivores: intraspecific versus interspecific variation in herbivory and its impacts on kelp communities        |
| 90 | <b>Dr. Marc Rius, UC Davis</b>   | Succession dynamics of fouling communities in Bodega Harbor  |
| 91 | <b>Dr. Laura Rogers-Bennett, California Dept. of Fish and Game and UC Davis</b>  | Assessing red abalone and red sea urchin populations inside and outside marine protected areas in northern California                                |
| 92 | <b>Dr. Laura Rogers-Bennett, California Dept. of Fish and Game and UC Davis</b>  | Recruitment of Dungeness Crab megalopae and juveniles  |
| 93 | <b>Dr. Laura Rogers-Bennett, California Dept. of Fish and Game and UC Davis</b>  | Recruitment of larval and newly settled red abalone  |
| 94 | <b>Joseph Reustle and Olivia Turnross, UC Davis</b>  | Local scale phenotypic plasticity of barnacle cirri within mussel disturbance gaps   |
| 95 | <b>Dr. Greg Ruiz, Smithsonian Environmental Research Center</b>  | Long-term dynamics of Bodega Harbor invertebrate community   |
| 96 | <b>Dr. Mike Russell, Villanova University</b>  | Examining the interaction between purple sea urchins and the microtopography they create through bioerosion  |

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- 97 **Dr. Eric Sanford, UC Davis** Latitudinal variation in whelk predation (*Nucella canaliculata*)
- 98 **Dr. Eric Sanford, UC Davis** Range extension of the volcano barnacle, *Tetraclita rubescens*
- 99 **Dr. Eric Sanford, UC Davis** Early life history of *Pisaster ochraceus* and recovery from seastar wasting syndrome
- 100 **Dr. Eric Sanford, Dr. Brian Gaylord, Dr. Tessa Hill, Dr. Ann Russell, UC Davis** Acclimation and adaptation to ocean acidification of key ecosystem components in the California Current System
- 101 **Dr. Eric Sanford and Jackie Sones, UC Davis** Monitoring marine invertebrates with range limits near Bodega Head
- 102 **Leslie Saul-Gershenz, UC Davis** Chemical communication system of *Habropoda* and *Anthophora* bees and its sexually deceptive nest parasite *Meloe franciscanus*
- 103 **Dr. Ellen Simms, UC Berkeley** Mechanisms maintaining cooperation in rhizobial populations
- 104 **Dr. Michael Smith, Sonoma State University** Aeolian transport assessment
- 105 **Dr. Jay Stachowicz, UC Davis** Biodiversity and ecosystem function in intertidal seaweed communities
- 106 **Dr. Jay Stachowicz, UC Davis** Long-term patterns of recruitment of sessile invertebrates in Bodega Harbor
- 107 **Dr. Jay Stachowicz, UC Davis** *Zostera* Experimental Network
- 108 **Dr. Sharon Strauss and Dr. Brian Anacker, UC Davis** To what degree does phylogenetic relatedness between species predict ecological similarity?
- 109 **Dr. Sharon Strauss, UC Davis** Clonal variation in abundances of herbivores and predators of *Erigeron glaucus*
- 110 **Dr. Sharon Strauss, UC Davis** Evolution in a community context: long-term experiments on flower color in wild radish
- 111 **Dr. Donald Strong and Dr. Alan Hastings, UC Davis** Theory and experimentation with a powerful trophic cascade: nematodes, rootfeeders, and bush lupine
- 112 **Daniel Swezey, UC Davis** Ocean acidification effects on California bryozoa
- 113 **Alicia Torregrosa, U.S. Geological Survey** Coastal fog sensor installation

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| 114 | <b>Rebecca Trinh and Dr. Mark Laidre, UC Berkeley</b>   | Hermit crab claw regeneration and signaling honesty   |
| 115 | <b>Anna Truszczyński, UC Davis</b>                      | The effects of seed predation and pollination on three <i>Cirsium</i> species : a demographic approach        |
| 116 | <b>Brian Turner, Portland State University</b>          | Evaluating overcompensation potential of <i>Carcinus maenas</i>   |
| 117 | <b>Dr. Peter Weiss, UC Santa Cruz</b>                   | Mercury in fog  |
| 118 | <b>Matt Whalen, UC Davis</b>                            | Assessing the combined effects of herbivore diversity and substrate type on seaweed recovery from disturbance |
| 119 | <b>Matt Whalen, UC Davis</b>                            | Influences of flow heterogeneity and biodiversity on water quality and species interactions                   |
| 120 | <b>Dr. John Wingfield and Dr. Thomas Hahn, UC Davis</b> | Endocrine control of breeding in diverse habitats   |
| 121 | <b>Dr. Astrid Wittmann, Colorado State University</b>   | Integration of environmental signals in hormonal regulation of decapod crustaceans                            |
| 122 | <b>Robert Zuparko, UC Berkeley</b>                      | Encyrtidae of California  |