

Carol Anne Blanchette

Marine Science Institute • University of California, Santa Barbara, CA 93106
805-893-7189(office) • 805-403-9561(cell) • 805-893-8062 (FAX)
blanchet@lifesci.ucsb.edu • <http://ucsb.piscoweb.org/~blanchet>

Research Interests

community ecology • conservation biology • global climate change biology • coastal ecosystems • biogeography • ocean acidification • seagrass biology • phycology • biomechanics • sustainable resource management and policy • ecological networks • science education • science communication

Education and Academic Positions

- University of California, Santa Barbara • Associate Research Biologist** 1999-present
Marine Science Institute
- University of California, Santa Barbara • Postdoctoral Fellow** 1995-1998
Advisors: Drs. Steve Gaines, Dan Reed and Sally Holbrook
My postdoctoral research focused on nearshore marine ecology and the development of effective restoration strategies for surfgrass, *Phyllospadix torreyi*
- Stanford University • Postdoctoral Fellow** 1994-1995
Advisor: Dr. Mark Denny
My postdoctoral research focused on the biomechanics of organisms inhabiting wave-swept rocky intertidal habitats and the evolutionary constraints imposed by large hydrodynamic forces
- Oregon State University • PhD, Zoology** 1994
Advisors: Drs. Bruce Menge and Jane Lubchenco
Doctoral Thesis: "The effects of biomechanical and ecological factors on population and community structure of wave-exposed, intertidal macroalgae"
- University of Notre Dame • BS, Biology** 1988
Undergraduate Advisor: Dr. Stephen Carpenter
Undergraduate Thesis: "The effects of simulated vertical migration on the fitness of *Daphnia pulex*"

Research Grants and Awards

- CA Sea Grant (pending) – "Genetic diversity and connectivity of sea stars populations across southern California following disease-induced mass mortality" (G. Hofmann – CoPI), \$249,000
- NOAA (pending) – "Community-based Learning for Environmental Action and Resilience, Building Awareness through Adolescent Youth (CLEARBAY)" (D. Arya and C. Bazerman- Co-PIs), \$495,000
- NSF (pending) – "STEM-C: Learning Network for Environmental Science Teaching Leadership" (J. Moore- Co-PI), \$725,000
- NSF – "Long Term Ecological Research (LTER) National Communications Office (LNCO)" (F. Davis, S. Rebich Hespana, J. Caselle, and M. Schildhauer - Co-PIs), \$ 3,197,985.00
- BOEM – "MARINe Rocky Intertidal Survey Program (2015-2017) \$40,000
- Packard Foundation 2015– "PISCO Science for an Informed Society" (J. Caselle – Co-PI), \$238,188
- USDI Minearals Management Service – "Maintenance, Calibration and Deployment of a Seafet 97 pH meter" (2014-2015), \$2,450
- Packard Foundation 2013-2015– "Understanding the California Current Large Marine Ecosystem under Climate Change: Delivering Sound Science for Policy" (S. Gaines, L. Washburn, R. Warner and J. Caselle – Co-PIs), \$232,045
- US Army 2012 – "Characterization of rocky intertidal, kelp forest and deep rocky and sandy ecosystems at San Clemente Island" (P. Raimondi, D. Pondella, J. Lindholm – Co-PIs) \$115,000

- NSF 2012 – “Ocean Acidification: Collaborative Research: OMEGAS II - Linking Ecological and Organismal Responses to the Ocean Acidification Seascape in the California Current System” (G. Hofmann and L. Washburn – Co-PIs), \$320,491
- CA SeaGrant – 2011 – “Integrative Assessment of baseline ecological and socioeconomic conditions and initial changes within the South Coast MPA region” (J. Caselle – Co-PI), \$265,000
- CA SeaGrant – 2011 – “Baseline Characterization and Monitoring of Rocky Intertidal Ecosystems for MPAs in the South Coast Region” (P. Raimondi (UCSC) Co-PI), \$259,856
- Packard Foundation 2009-2013 – “Understanding the California Current Large Marine Ecosystem under Climate Change: Delivering Sound Science for Policy” (S. Gaines, L. Washburn, R. Warner and J. Caselle – Co-PIs), \$1,000,000
- NSF 2010 – Ocean Acidification: Collaborative Research: Acclimation and adaptation to ocean acidification of key ecosystem components in the California current system” (G. Hofmann and L. Washburn – Co-PIs), \$473,354
- NSF 2008 – “US-Chile Planning Visit: Ecological Forecasting of Intertidal Ecosystems in Chile” (B. Helmuth, S. Place, and D. Wethey – Co-PIs) \$18,645
- CA SeaGrant 2007 - Baseline Data Collection for Rocky Intertidal Marine Protected Areas in the Central Coast of California (P. Raimondi – Co-PI) \$148,434
- CA SeaGrant 2006 - Rapid Response support for the 7th International Temperate Reef Symposium (D. Reed, A. Whitmer and S. Gaines – Co-PIs) \$5,000
- CA SeaGrant 2005 – Collecting Sea Palms: Planning For Sustainable Use In A Variable Environment (K. Nielsen – Co-PI) \$166,417
- NOAA, The Nature Conservancy 2004 - Community-Based Eelgrass Restoration and Monitoring at Santa Cruz Island, CA (J. Altstatt – Co-PI) \$46,654
- NASA 2004 - Ocean Science Data Discovery Center: Facilitating Interactive Learning, Developing Data Literacy Skills in Students and Enhancing the Value of Remotely Sensed Data to Understanding Life on Earth” (A. Whitmer, B. Caron, V. Herrity – Co-PIs) \$244,997
- NOAA, The Nature Conservancy 2003 - Community-Based Eelgrass Restoration at Santa Cruz Island, CA (J. Altstatt – Co-PI) \$114,442
- UC Center for Invasive Species Research and Statewide Inventory 2002 – “Impacts and Control of an Invasive Seaweed in California Marine Protected Areas” (J. Goddard – Co-PI) \$130,177
- NSF 2001 – “Capturing Data in the Field: An Application Framework for Easily Creating Custom Data and Metadata Entry Forms on Handheld and Desktop Computers” (S. Gaines, M. Jones, M. Schildhauer and C. Jones – Co-PIs) \$887,633

Summary of Teaching and Outreach Experience

Outreach Center for Teaching Ocean Science (OCTOS) program leader

2009-present

Since 2009 I have worked on the design and development of OCTOS programs ranging from outreach programs for K-12 students to professional development opportunities for science teachers. This work has involved proposal writing, identification and stewardship of donors, and interaction with teachers, school administrators and education researchers.

NSF - Math Science Partnership (MSP), PI and Biodiversity Strand leader

2008-present

Our MSP project is based on an environmental science literacy framework, around learning progressions within core science and mathematics concepts. We have focused on three learning strands (Carbon, Water and Biodiversity) to engage middle and high school students in developing their understanding of environmental science. I lead the Biodiversity strand, and continue to work with local middle and high school students and teachers to develop field and classroom activities.

NASA - 'Ocean Science Data Discovery Center', PI**2003-2008**

Our project focused on the development of an easy to use software platform to enable hands-on experience for students working with large data sets from a variety of sources.

University Instructor**1993-1999**

Oregon State University courses - Marine Biology and Marine Botany (1993-1996)
UCSB courses - Introduction to Ecology and Marine Ecology (1997-1999)

Mentoring

POSTDOCTORAL SCHOLARS SUPERVISED

Luz Verónica Rodríguez Villanueva, 2007-2008

GRADUATE STUDENTS SUPERVISED:

Christine Addison, Master's Marine Science, 2009
Reuben MacFarlan, Master's Candidate, Marine Science
Carola Flores, PhD Candidate, Department of Anthropology
Cat Fong, PhD Candidate, Marine Science

UNDERGRADUATE STUDENTS SUPERVISED:

[NOTE: In the course of my research career at UCSB I have been directly and indirectly involved in mentoring many undergraduate students. The list below represents only those who have completed independent or thesis-based research projects and/or substantial involvement in our research program.]

Alex Cohen, Brittany Hancock, Chris Teague, Clark Marino, Gabi Alongi, Holly Long, Jessica Chappel, Laura West, Maureen Wise, Olivia Turnross, Paula Higgerson, Scott Toyama, Skye Moret

Publications

Blanchette, CA, Teague, C, Parsons-Field, A. Gaddam, R. and P. Raimondi. **Rapid declines in populations of the intertidal keystone species *Pisaster ochraceus* across Southern California in association with Seastar Wasting Syndrome.** *In prep.*

Claissse, J, Carol Blanchette, Jennifer E. Caselle, Jonathan P. Williams, Daniel J. Pondella, Laurel A. Zahn, Chelsea M. Williams, Jenifer Dugan, James Lindholm, Ashley Knight, Dan Robinette, Meredith Elliott, Rani Gaddam, Katie Davis. **Biogeographic patterns of communities across multiple marine ecosystems in southern California.** *Marine Ecology In prep.*

Dugan, JE, Dave Hubbard, Dan Robinette and Carol Blanchette. **Distribution of birds as high trophic level indicators.** *Marine Ecology In prep.*

Friewald, J., Jennifer Caselle, Ryan Meyer, Doug Neilson, Kevin Hovel, Dina Liebowitz, Carol Blanchette, Jenny Dugan, Jessie Altstatt and Julie Bursek.. **Citizen science monitoring of marine protected areas: case studies and recommendations for integration for among monitoring programs.** *Marine Ecology In prep.*

Joubert, E.H., C.A. Blanchette and L. Washburn. **Settlement of the mussel *Septifer bifurcatus* beyond its adult distribution is mediated by wind relaxation events.** *Limnology and Oceanography In prep.*

Blanchette, CA and E. H. Joubert and SD Gaines. **Patterns of invertebrate settlement around Pt Conception, CA.** *Marine Ecology Progress Series. In prep.*

Murray, S., R.F. Ambrose, C. Bell, C.A. Blanchette, J.L. Burnaford, M.N. Dethier, J.M. Engle, M.S. Foster, C.M. Miner, K.J. Nielsen, J.S. Pearse, P. Raimondi, D.V. Richards, J.R. Smith, and S. Weisberg. *In press.* **Evaluating Ecological States of West Coast Rocky Intertidal Communities: A Best Professional Judgment Exercise.** *Ecological Indicators.*

Thakar, Heather B. M. Glassow and CA Blanchette. *In press.* **Reconsidering evidence of Human Impacts: Implications of within-site Variation of Growth Rates in *Mytilus californianus* along tidal gradients.** *Quarterly International.*

- Sagarin, R., John Adams, Carol A. Blanchette, Richard Brusca, Jon Chorover, Julia Cole, Jane Lubchenco, Fiorenza Micheli, Adrian Munguia-Vega, Chelsea Rochman, Peter Troch, Joost van Haren. *In Press*. **Between Control and Complexity: Opportunities and Challenges for Marine Mesocosms**. *Frontiers in Ecology and the Environment*.
- Lunden, J.L., Emily B. Rivest, Lydia Kapsenberg, Todd R. Martz, Philip J. Bresnahan, Jr., Chris C. Gotschalk, Margaret O'Brien, Carol A. Blanchette and Gretchen E. Hofmann. *In review*. **The Marine Ecologist's Guide to the Deployment of Durafet-based pH Sensors: From Benthos to Benthos**, PLOS ONE.
- Chan, F., J. Barth, C. Blanchette, F. Chavez, O. Cheriton, G. Friederich, B. Gaylord, T. Gouhier, T. Hill, G. Hofmann, M. McManus, B. Menge, A. Russell, E. Sanford, L. Washburn. *In review*. **Widespread detection of coastal ocean acidification across the California Current system**. *Science*.
- Benedetti-Cecchi, L., L. Tamburello, C. Mora, H. K. Lotze, K. Iken, B. Worm, J. J. Cruz-Motta, B. Konar, I. Bertocci, A.L. Schmidt, L. Airolidi, C. Blanchette, B. Best, M. Burrows, S. Fraschetti, P. Raimondi, J. Roberts, D. Schiel, A. Terlizzi, E. Wieters, K. E. Ellingsen, J. Dunne. *In review*. **Homogenization of marine biodiversity under global warming and acidification**. *Proceedings of the National Academy of Sciences*.
- Rivadeneira, Marcelo M., Alex H. Alballay, Jaime A. Villafaña, Pete Raimondi, Carol A. Blanchette, and Phillip Fenberg. 2015 **Evolutionary and Ecological Drivers of the Canonical Latitudinal Gradient of Richness of Rocky Intertidal Gastropods: the 'into the hot tropical museum' hypothesis**. *Global Ecology and Biogeography*. DOI: 10.1111/geb.12328
- Tallis, H., et al. 2014. **Towards a Diverse Conservation Ethic**. *Nature* 15:27-28.
- Pfister, C.A., AJ Esbaugh, CA Frieder, H Baumann, EE Bockmon, MM White, BR Carter, HM Benway, CA Blanchette, E Carrington, JB McClintock, DC McCorkle, WR McGillis, TA Mooney, P Ziveri 2014. **Detecting the Unexpected: A Research Framework for Ocean Acidification**. 2014. *Environmental science & technology* 48 (17), 9982-9994.
- Hofmann, G.E., T. G. Evans, M.W. Kelly, J. L. Padilla-Gamiño, C. A. Blanchette, L. Washburn, F. Chan, M. A. McManus, B. A. Menge, B. Gaylord, T. M. Hill, E. Sanford, M. LaVigne, J.M. Rose, L. Kapsenberg, and J. M. Dutton. 2014. **Exploring local adaptation and the ocean acidification seascape - studies in the California Current Large Marine Ecosystem**. *Biogeosciences* 11(4):1053-1064.
- Gaitán-Espitia, Juan Diego, Joshua R. Hancock, Jacqueline L. Padilla-Gamiño, Emily B. Rivest, Carol A. Blanchette, Daniel C. Reed & Gretchen E. Hofmann. 2014. **Interactive effects of elevated temperature and pCO₂ on early-life-history stages of the giant kelp *Macrocystis pyrifera***. *Journal of Experimental Marine Biology and Ecology* 457:51-58.
- Hofmann, G.E., Carol A. Blanchette, Emily B. Rivest, and Lydia Kapsenberg. 2013. **Taking the pulse of marine ecosystems: The importance of coupling long-term physical and biological observations in the context of global change biology**. *Oceanography* 26(3)140-148.
- Kefi, Sonia, Eric L. Berlow, Evie A. Wieters, Sergio A. Navarrete, Owen L. Petchey, Spencer A. Wood, Alice Boit, Lucas N. Joppa, Kevin D. Lafferty, Richard J. Williams, Neo D. Martinez, Bruce A. Menge, Carol A. Blanchette, Alison C. Iles and Ulrich Brose. 2012. **More than a meal... integrating non-feeding interactions into food webs** *Ecology Letters* 15:291-300.
- Buckel, Christine Addison, Carol Anne Blanchette, Robert R. Warner and Steven D. Gaines. 2012. **Where a male is hard to find: consequences of male rarity in the surfgrass *Phyllospadix torreyi*** *Marine Ecology Progress Series* 449: 121–132.
- Watson, JR, CG Hays, PT Raimondi, S Mitarai, C Dong, JC McWilliams, CA Blanchette, JE Caselle, DA Siegel. 2011. **Currents connecting communities: nearshore community similarity and ocean circulation** *Ecology* 92(6):1193-1200.
- Mislan, K.A.S., Carol A. Blanchette, Bernardo R. Broitman, and Libe Washburn. 2011. **Spatial variability of emergence, splash, surge, and submergence in wave-exposed rocky-shore ecosystems** *Limnology and Oceanography* 56(3):857-866.
- Thompson, Sarah Ann, Heather Knoll, Carol A. Blanchette and Karina J. Nielsen. 2010. **Population consequences of biomass loss due to commercial collection of the wild seaweed *Postelsia palmaeformis*** *Marine Ecology Progress Series* 413:17-

- Blanchette, C.A., D.R. Schiel, E.A. Wieters, B.R. Broitman, and B.P. Kinlan. 2009. **Trophic structure and diversity in rocky intertidal upwelling ecosystems: A comparison of community patterns across California, Chile, South Africa and New Zealand** *Progress in Oceanography* 83:107-116.
- Blanchette, C.A., P.T. Raimondi, and B.R. Broitman. 2009. **Spatial patterns of intertidal community structure across the California Channel Islands and links to ocean temperature** Pages 161-173 in Damiani, C.C. and D.K. Garcelon (eds.) *Proceedings of the 7th California Islands Symposium* Institute for Wildlife Studies, Arcata, CA.
- Reed, D.C., S.J. Holbrook, C.A. Blanchette and S. Worcester. 2009. **Patterns and sources of variation in flowering, seed supply, and seedling recruitment in surfgrass *Phyllospadix torreyi*** *Marine Ecology Progress Series* 384:97-106
- Broitman, B.R., L. Szathmary, K.A.S. Mislan, C.A. Blanchette, and B. Helmuth. 2009. **Predator-prey interactions under climate change: the importance of habitat vs. body temperature** *Oikos* 118:219-224
- Broitman, B.R., N. Mieszkowska, B. Helmuth and C.A. Blanchette. 2008. **Climate and recruitment of rocky shore intertidal invertebrates in the eastern north Atlantic** *Ecology* 89(11):81-90
- Blanchette, C.A., C.M. Miner, P.T. Raimondi, D. Lohse, K.E.K. Heady, and B.R. Broitman. 2008. **Biogeographic patterns of rocky intertidal communities along the Pacific coast of North America** *Journal of Biogeography* 35:1593-1607
- Broitman, B.R., C.A. Blanchette, B.A. Menge, J. Lubchenco, C. Krenz, M. Foley, P.T. Raimondi, D. Lohse and S.D. Gaines. 2008. **Spatial and temporal variability patterns of invertebrate recruitment along the West coast of the United States** *Ecological Monographs* 78(3):403-421
- Wieters, Evie A., Steven D. Gaines, Sergio A. Navarrete, Carol A. Blanchette, and Bruce A. Menge. 2008. **Scales of Dispersal and the Biogeography of Marine Predator-Prey Interactions** *American Naturalist* 171:405-417
- Jones, Christopher, Carol Blanchette, Matthew Brooke, John Harris, Matthew Jones, Mark Schildhauer. 2007. **A Metadata-driven Framework for Generating Field Data Entry Interfaces in Ecology** *Ecological Informatics* 2:270-278
- Blanchette, Carol A., B. Helmuth and Steven D. Gaines. 2007. **Spatial patterns of growth in the mussel, *Mytilus californianus*, across a major oceanographic and biogeographic boundary at Point Conception, California, USA.** *Journal of Experimental Marine Biology and Ecology* 340:126-148.
- Blanchette, Carol A., and Steven D. Gaines. 2007. **Distribution, Abundance, Size and Recruitment of the mussel, *Mytilus californianus*, across a major oceanographic and biogeographic boundary at Point Conception, California, USA.** *Journal of Experimental Marine Biology and Ecology* 340:268-279.
- Helmuth, Brian, Bernardo Broitman, Carol Blanchette, Sarah Gilman, Patricia Halpin, Chris Harley Michael O'Donnell, Gretchen E. Hofmann, Bruce Menge and Denise Strickland. 2006. **Mosaic patterns of thermal stress in the rocky intertidal zone: Implications for climate change** *Ecological Monographs* 76(4):461-479.
- Nielsen, Karina J., C. A. Blanchette, B. A. Menge and J. Lubchenco. 2006. **Physiological snapshots reflect ecological performance of the sea palm, *Postelsia palmaeformis* (Phaeophyceae) across intertidal elevational and exposure gradients** *Journal of Phycology* 42:548-559.
- Blanchette, Carol A., Bernardo R. Broitman, Steven D. Gaines. 2006. **Intertidal community structure and oceanographic patterns around Santa Cruz Island, CA, USA.** *Marine Biology* 149:689-701.
- Broitman, Bernardo R., Carol A. Blanchette, Steven D. Gaines. 2005 **Recruitment of intertidal invertebrates and oceanographic variability at Santa Cruz Island, California** *Limnology and Oceanography* 50(5):1473-1479.
- Menge, B. A., G. W. Allison, C. A. Blanchette, T. M. Farrell, A. M. Olson, T. Turner, and P. van Tamelen. 2005. **Stasis Or Kinesis? Hidden Dynamics Of A Rocky Intertidal Macrophyte Mosaic Revealed By A Spatially-Explicit Approach.** *Journal of Experimental Marine Biology and Ecology* 314:3-39.
- Blanchette, Carol A., Daniel V. Richards, John M. Engle, Bernardo R. Broitman, Steven D. Gaines. 2005. **Regime Shifts, Community Change and Population Booms of Keystone Predators at the Channel Islands.** *Proceedings of the California Islands Symposium*. Vol.6:435-441.

- Borer, Elizabeth T., Eric W. Seabloom, Jonathan B. Shurin, Kurt Anderson, Carol A. Blanchette, Bernardo Broitman, Scott D. Cooper, Benjamin Halpern. 2005. **What determines the strength of a trophic cascade?** *Ecology* 86:528-537.
- Menge, Bruce A., Carol Blanchette, Pete Raimondi, Tess Freidenburg, Steve Gaines, Jane Lubchenco, Dave Lohse, Greg Hudson, Melissa Foley, and Jacque Pamplin. 2004. **Species Interaction Strength: Testing model predictions along an upwelling gradient.** *Ecological Monographs* 74(4):663-684.
- Helmuth, Brian, Chris Harley, Patti Halpin, Michael O'Donnell, Gretchen E. Hofmann, and Carol Blanchette. 2002. **Climate change and latitudinal patterns of intertidal thermal stress: Is life always hotter, south of the border?** *Science* 298:1015-1017.
- Shurin, Jonathan B., Elizabeth T. Borer, Eric W. Seabloom, Kurt Anderson, Carol A. Blanchette, Bernardo Broitman, Scott D. Cooper, and Benjamin Halpern. 2002. **A cross-ecosystem comparison of the strength of trophic cascades.** *Ecology Letters* 5:785-791.
- Borer, Elizabeth T., Kurt Anderson, Carol A. Blanchette, Bernardo Broitman, Scott D. Cooper, Benjamin Halpern, Eric W. Seabloom, Jonathan B. Shurin. 2002. **Topological approaches to food web analyses: a few modifications may improve our insights** *Oikos* 99:397-401
- Blanchette, C. A., S. Gaines, and B. Miner. 2002. **Geographic Variability in Form, Size & Survival of *Egregia menziesii* (Turner) Areschoug around Point Conception, California.** *Marine Ecology Progress Series* 239:69-82.
- Denny, M. W. and C. A. Blanchette. 2000. **Hydrodynamics, shell shape, behavior and survivorship in the owl limpet, *Lottia gigantea*.** *Journal of Experimental Biology* 203:2623-2639.
- Holbrook, Sally J., Daniel C. Reed, Kimberly Hansen and Carol A. Blanchette. 2000. **Spatial and Temporal Patterns of Predation on Seeds of Surfgrass, *Phyllospadix torreyi*.** *Marine Biology* 136:739-747.
- Blanchette, C. A., C. Thornber, and S. Gaines. 2000. **Effects of Wave exposure on Intertidal Furoid Algae.** *Proceedings of the California Islands Symposium* 5:347-355.
- Blanchette, C. A., S. E. Worcester, D. Reed and S.J. Holbrook. 1999. **Algal Morphology, Flow, and Spatially Variable Recruitment of Surfgrass, *Phyllospadix torreyi*.** *Marine Ecology Progress Series* 184:119-128.
- Blanchette, C. A. 1997. **Size and survival of intertidal plants in response to wave action: A case study with *Fucus gardneri*.** *Ecology* 78(5):1563-1578.
- Blanchette, C. A. 1996. **Seasonal patterns of disturbance influence recruitment of the sea palm, *Postelsia palmaeformis*.** *Journal of Experimental Marine Biology and Ecology* 197:1-14.
- Menge, B. A., E. L. Berlow, C. A. Blanchette, S. A. Navarrete, and S. B. Yamada. 1994. **The keystone species concept: variation in interaction strength in a rocky intertidal habitat.** *Ecological Monographs* 64:249-286.
- Gaylord, B., C. A. Blanchette and M. Denny. 1994. **Mechanical consequences of size in wave-swept algae.** *Ecological Monographs* 64:287-313.
- Blanchette, C. A. 1994. **The effects of biomechanical and ecological factors on population and community structure of wave-exposed, intertidal macroalgae.** *Doctoral dissertation*, Oregon State University, Corvallis, OR 282 pp.

Book Chapters and Edited Volumes

- Blanchette, Carol A., M.W. Denny, J. Engle, B. Helmuth, L. Miller, K.J. Nielsen, and J. Smith. *In Press*. **Intertidal Ecosystems of California** in *Ecosystems of California—A Source Book*. Edited by Hal Mooney and Erika Zavaleta. University of California Press.
- Blanchette, Carol A., M.J. O'Donnell and H.L. Stewart. 2008. **Waves as an ecological process** In *Encyclopedia of Ecology*. Edited by Luca Palmeri and Sven Erik Jorgensen. Elsevier Publishers.
- Blanchette, Carol A. **Seagrasses**. 2007. In *Encyclopedia of Tidepools*. Edited by Steven Gaines and Mark Denny. University of California Press.

Blanchette Carol A., Jenn Caselle, Steve Gaines, Robert Warner, Pete Raimondi, Mark Carr, Mark Denny, George Somero, Bruce Menge And Jane Lubchenco. 2001. **Marine Ecological Research Of The PISCO Consortium.** *Journal of the Marine Biological Association* 28:8-10.

Technical Reports

Blanchette, Carol A., Pete Raimondi, Rani Gaddam, Jennifer Burnaford, Jayson Smith, D.M. Hubbard, J.E. Dugan, Jessie Altstatt and Julie Bursek. 2014. **Baseline Characterization of the Rocky Intertidal Ecosystems of the South Coast Study Region.** A report prepared for CA Ocean Science Trust and CA SeaGrant

Contributed Paper Presentations

- 2015 Pacific Anomalies Workshop (San Diego) Physical-chemical anomalies and associated ecological responses in southern California kelp forests (Daniel Reed, Libe Washburn Carol Blanchette and Thomas Bell)
- Eastern Pacific Ocean Conference (Fallen Leaf Lake, CA) Regional ocean circulation as a major driver of mussel recruitment around Santa Cruz Island, CA (C. Blanchette and R. Simons)
- Eastern Pacific Ocean Conference (Fallen Leaf Lake, CA) Rapid population declines in sea stars across southern California associated with sea star wasting disease and warm temperature anomalies
- 2014 Ecological Society of America (Sacramento, CA) Deconstructing the relative influence of upwelling-driven ocean acidification on field performance of the California mussel *Mytilus californianus* along the California Current Large Marine Ecosystem (Jeremy M. Rose, Carol A. Blanchette, Eric Sanford, Rachael C. Williams, Peter T. Raimondi, Bruce A. Menge)
- Ocean Sciences (Honolulu, HI) Widespread detection of coastal ocean acidification across the California Current system (Chan, F.; Chavez, F. P.; Hill, T.; Blanchette, C. A.; Mcmanus, M.)
- Ocean Sciences (Honolulu, HI); Relative Influence Of Upwelling-Driven Ocean Acidification On Growth Of The California Mussel, *Mytilus Californianus*, Along The California Current System (Rose, J. M.; Blanchette, C. A.; Sanford, E.; Raimondi, P. T.; Menge, B. A.)
- 2012 Ecological Society of America (Portland, OR) The influence of upwelling-driven ocean acidification on growth of the California mussel, *Mytilus californianus* (Jeremy M. Rose, Carol A. Blanchette, Eric Sanford, Rachael C. Williams, Peter T. Raimondi, Bruce A. Menge)
- CA Islands Symposium (Ventura, CA) Long-term climate variability and links between patterns of coastal marine invertebrate recruitment and adult abundance around Santa Cruz Island from 1995-2010
- 2011 Ocean Sciences (Portland, OR) “Ocean Sciences (Portland, Or) Variability In Ph, T, And O₂ In Nearshore Waters Of The Oregon-California Coast And Implications For Coastal Benthic Calcifiers” (A.D. Russell, C. Blanchette, F. Chan, F. Chavez, G. Friedrich, T. M. Hill, M. A. McManus, B. A. Menge, P. Raimundi, E. Sanford)
- 2008 Eastern Boundary Upwelling Ecosystems Conference, Las Palmas, Gran Canaria, Spain “Trophic structure in rock intertidal communities across the California, Humboldt and Benguela upwelling ecosystems”
- Ocean Sciences (Orlando, FL) “The propagating response of inner shelf circulation to wind relaxations in a coastal upwelling system” (Libe Washburn, Chris Melton, Chris Gotschalk, Carol Blanchette, and Cynthia Cudaback)”
- 2006 Western Society of Naturalists, Redmond, WA “Biogeographical variation in rocky intertidal community structure along the pacific coast of North America”
- International Temperate Reef Symposium, Santa Barbara, CA, USA “Latitudinal variation in rocky intertidal community structure along the west coast of North America”
- 2004 Western Society of Naturalists, Santa Rosa, CA “Recruitment dynamics and oceanographically-based linkages to community structure around Santa Cruz Island, California”

- Ecological Society of America, Portland, OR “Regime Shifts, Community Change and Population Booms of Keystone Predators at the Channel Islands”
- 2003 Western Society of Naturalists, Long Beach, CA “Extreme Spatial Variation in the Distribution, Abundance and Growth of the Intertidal Dominant, *Mytilus californianus*, around Point Conception California”
- Eastern Pacific Ocean Conference, Catalina Island, CA “Recruitment dynamics and oceanographically-based linkages to community structure around Santa Cruz Island, California”
- California Islands Symposium, Ventura, CA “Regime Shifts, Community Change and Population Booms of Keystone Predators at the Channel Islands”
- 2002 Eastern Pacific Ocean Conference, Mt.Hood, “Contrasting contributors to nearshore marine community structure around Pt. Conception, California”
- International Temperate Reef Symposium, Christchurch, New Zealand “Contrasting contributors to nearshore marine community structure around Pt. Conception, California”
- 2001 Ecological Society of America, Madison, WI “Cross-scale linkages between bottom-up factors and interaction strength in rocky intertidal communities” (Bruce A Menge, Carol Blanchette, Tess L Freidenburg, Steven D Gaines, Jane Lubchenco, David Lohse, Peter Raimondi)
- 1999 California Islands Symposium, Santa Barbara, CA “Effects of Wave exposure on Intertidal Fucoid Algae” (Carol Blanchette, Carol Thornber, Steve Gaines)
- 1997 International Temperate Reef Symposium, Santiago, Chile “Facilitation of surfgrass recruitment by host algal morphology and water flow
- Western Society of Naturalists, La Paz, BCS, Mexico – “Ripping knotted wrackweed down east: do breaking strengths of *Ascophyllum* vary across seasons and sites?”(Carol Blanchette, Suzanne Worcester, and Steve Gaines)
- 1996 Ecological Society of America, Providence, RI “Ripping knotted wrackweed Down East: Do breaking strengths of *Ascophyllum* vary across seasons and sites?”
- Western Society of Naturalists, Port Townsend, WA “Sea palm recruitment and the seasonal effects of mussel-clearing disturbance”
- 1994 Pacific Ecology Conference, Bamfield Marine Station, Vancouver Island, British Columbia "Going with the flow: effects of wave exposure on thallus size and growth in the intertidal alga *Fucus gardneri*."
- 1993 Western Society of Naturalists, Newport, OR “Effects of limpet grazing on sea palm size, seasonal abundance and understory community structure”
- Pacific Ecology Conference, Oregon Institute of Marine Biology, Charleston, OR “Are limpets keystone grazers in the *Postelsia* understory community?”
- American Society of Zoologists, Los Angeles, CA "Going with the flow: effects of wave exposure on thallus size and growth in the intertidal alga *Fucus gardneri*."
- 1992 Western Society of Naturalists, Santa Barbara, CA “Hydrodynamic forces on intertidal algae: the roles of velocity, drag and the acceleration reaction”
- Pacific Ecology Conference, Friday Harbor, WA “Mechanical consequences of size in wave-swept algae”
- 1990 Oregon State University Biology Graduate Student Symposium, Newport OR "Factors influencing distribution and aggregation size in *Postelsia palmaeformis*"

Invited Paper Presentations, Symposia, Seminars

- 2015 Oregon Marine Reserves Symposium (Newport, OR) “Characterizing Baseline Conditions in Rocky Intertidal Ecosystems of Southern California
- NCEAS Roundtable (Santa Barbara, CA) “Environmental Literacy for the Next Generation: Integrating science, pedagogy and communication”

- MARINe Annual Meeting (Moss Landing, CA) “Rapid population declines in sea stars across southern California”
- 2014 Ocean Institute (Dana Point, CA) “Coastal climate change and ocean acidification”
- MARINe Annual Meeting (Newport, CA) Characterizing Baseline Conditions in Rocky Intertidal Ecosystems of Southern California
- Newport Yacht Club (Newport Beach, CA) “Our changing coastal ocean”
- Math Science Partnership Program (Santa Barbara, CA) “Life on the rocks”
- Pacific Ocean Education Team Webinar “What biologists and resource managers need to know about ocean acidification”
- 2013 National Park, Shore to Sea Speaker Series (Ventura, CA), “Marine Protected Areas of the CA coast”
- Moss Landing Marine Labs (Moss Landing, CA) Our changing coastal ocean: How are nearshore ecosystems are changing, and what does the future hold?
- 2012 Orange County Marine Protected Areas Council (Newport Beach, CA) “Characterizing Baseline Conditions in Rocky Intertidal Ecosystems of Southern California”
- Channel Islands National Marine Sanctuary Advisory Council (Santa Barbara, CA) “Baseline monitoring of MPAs in the South Coast Region”
- 2011 NOAA Ocean Acidification Workshop (Santa Barbara and Ventura, CA) “Ocean Acidification: The other CO₂ Problem”
- Ocean for Life Symposium (Santa Barbara, CA) “Ocean Acidification and it’s effects on the California Current”
- 2010 Western Society of Naturalists, (Monterey, CA) invited graduate symposium speaker: "Web 2.0 and the future of Science"
- Hollister Ranch Association (Gaviota, CA) “Present and Future PISCO Research along the CA current ecosystem”
- 2008 California Islands Symposium (Oxnard, CA) invited symposium speaker: “Spatial patterns of intertidal community structure across the California Channel Islands and links to ocean temperature”
- California State University, Fullerton (Fullerton, CA) “Biogeography, ecology and natural history of the Channel Islands Intertidal communities”
- 2007 Western Society of Naturalists, (Ventura, CA) invited symposium speaker: "Intertidal communities of the CA Channel slands: ecology and natural history” “A Natural History of the Channel Islands” symposium
- 2006 University of South Carolina (Columbia, SC) “35 Degrees of Separation: Latitudinal Variation In Rocky Intertidal Community Structure Along The West Coast Of North America”
- 2005 Western Washington University (Bellingham, WA) “Coastal Connections: Exploring Linkages between nearshore biological patterns and oceanographic variability”
- California Estuarine Research Society (Santa Barbara, CA) “Large-scale marine ecological studies of the US west coast by the PISCO consortium”
- 2004 White Mountain Research Station (Bishop, CA) “The PISCO project: A new approach to addressing large-scale, long-term marine ecological questions”
- 2003 Phycological Society of America (Gleneden Beach, OR) “Beyond Biogeography: Large scale patterns of distribution and abundance of intertidal marine algae along the US West Coast”
- Southern Connections Conference (Cape Town, South Africa) “Extreme Spatial Variation in the Distribution, Abundance and Growth of the Intertidal Dominant, *Mytilus californianus*, around Point Conception California”
- 2002 Western Society of Malacologists (Monterey, CA) “Large-scale marine ecological studies of the US west coast by the PISCO consortium”

- California World Oceans (Santa Barbara, CA) “Long-term, large-scale patterns in rocky intertidal communities: Connecting pattern and process”
- Western Society of Naturalists, (Monterey, CA) invited symposium speaker: "Large Scale Variation in Larval Recruitment" "Marine Ecological Patterns at the Large Scale" symposium
- 2001 *Exxon Valdez* Oil Spill Trustee Council Annual Workshop – Gulf of Alaska Ecosystem Monitoring and Research Program (Anchorage, AK), invited keynote speaker “Nearshore Monitoring by PISCO on the US West Coast”
- 2000 PISCO-Mellon Symposium, (Corvallis, OR): Coast-wide Patterns of Invertebrate Settlement: Abrupt Transitions Between Oceanographic Regimes (Steven D. Gaines, Carol Blanchette, Jenn Caselle, Brian Grantham, Bruce Menge, Pete Raimondi)
- Cross-scale Linkages between Bottom-up Factors and Interaction Strength in Rocky Intertidal Communities (Bruce A. Menge, Carol Blanchette, Tess L. Freidenburg, Steven D. Gaines, Jane Lubchenco, David Lohse, and Peter Raimondi)
- Temporal Change in Rocky Intertidal Community Structure (Pete Raimondi, Carol Blanchette, Dave Lohse, and Melissa Wilson)
- Spatial and Seasonal Patterns Of Physical Processes Around Point Conception, CA: Implications For Larval Transport (Cynthia Cudaback, Brian Gaylord, Libe Washburn, and Carol Blanchette)
- Bottom-up Effects on Macrophyte Assemblages in Relation to Upwelling Intensity (Carol Blanchette, Steve Gaines, Tess Freidenburg, Karina Nielsen, Patti Halpin, Gary Allison, Bruce Menge and Bernardo Broitman)
- Methods for Monitoring the Body Temperatures of Intertidal Invertebrates: Why Thermal Stress is Organism-specific (Brian Helmuth, Chris Harley, Patti Halpin, Gretchen Hofmann, Gary Allison, Michael O'Donnell, Carol Blanchette, Clara Svedlund and Kristi Gardner)
- Linking PISCO's Science and Policy Work: A focus on West Coast marine reserve activities (Heather Leslie, Renee Davis-Born, Jane Lubchenco, Carol Blanchette, Jenn Caselle, Mark Carr, Steve Gaines, and Bob Warner)
- PISCO Policy and Outreach Accomplishments: 99-00 (Renee Davis-Born, Carol Blanchette, Jennifer Caselle, Heather Leslie, Mark Carr, Steven Gaines, Jane Lubchenco, Peter Raimondi, and Robert Warner)
- 1998 California State University, (Northridge, CA), invited seminar "Opening the Black Box: Exposing the coupling between coastal and oceanic ecosystems"
- Western Society of Naturalists, (Monterey, CA) invited symposium speaker: “What can Biomechanics contribute to our understanding of community ecology” “Biomechanics and Ecology: Is the Marriage Working?”
- Mellon Workshop, Estación Costera de Investigaciones Marinas (ECIM)(Las Cruces, Chile): Linking benthic ecology and nearshore oceanography. “Benthic-pelagic links: phytoplankton, macrophytes, and sessile filter feeders.”
- 1997 University of California, (Santa Cruz,CA), invited seminar "Taking biomechanics to the field: Pattern and process in wave swept plant communities"
- 1995 Stanford University, Hopkins Marine Station (Pacific Grove, CA), invited seminar “Taking biomechanical models to the field: effects of wave forces on size and survival of intertidal plants”
- 1994 Western Society of Naturalists, (Monterey, CA) invited symposium speaker: "Biomechanics of intertidal plants: the effects of wave exposure on algal size, growth and morphology" “New Frontiers in Biomechanics” symposium
- Hatfield Marine Science Center, (Newport, OR), invited seminar “Life in the surf zone: the effects of biomechanical and ecological factors on wave-swept intertidal plants”

Professional Memberships

Ecological Society of America (ESA)
 Phycological Society of America (PSA)
 Association for Women in Science (AWIS)
 Western Society of Naturalists (WSN)
 American Institute of Biological Sciences (AIBS)
 Association for the Sciences of Limnology and Oceanography (ASLO)

Reviewing and Refereeing Activity

MANUSCRIPT REVIEWER FOR:

Ecology
 Botanica Marina
 Aquatic Botany
 Marine Biology
 Aquatic Ecology
 Revista Chilena
 American Naturalist
 Journal of Phycology
 Ecological Monographs
 Limnology and Oceanography
 Marine Ecology Progress Series
 Estuarine Coastal and Shelf Science
 Journal of Experimental Marine Biology and Ecology
 Journal of the Marine Biological Association

PROPOSAL REVIEWER FOR:

NASA
 UC MEXUS
 North Pacific Research Board
 Exxon Oil Spill Trustee Council
 National Science Foundation
 Ocean Protection Council

Special Appointments

Secretariat and Webmaster of the Western Society of Naturalists (2000-2003)
 Science Panel of MARINE (Multi-Agency Rocky Intertidal Network)
 Scientific review committee for National Park Service
 Santa Barbara Coastal (SBC) LTER Co-Director of Education
 Biodiversity Strand Leader of NSF-sponsored Math Science Partnership Project
 UCSB Marine Science Institute, Co-Director of Education and Outreach

University, Professional and Community Service

Co-chair of MSI Website Committee, 2012
 MSI Advisory Committee, UCSB, 2011-present
 Scientific review committee for National Park Service
 Science Panel of MARINE (Multi-Agency Rocky Intertidal Network)
 Academic Advisor and Science Board member of the Coastal Fund, UCSB
 Marine Science Career Day, featured scientist, 2006, 2008
 Santa Barbara Partners in Education, AVID speaker, 2008-present

Co-chair, Organizing Committee 7th International Temperate Reef Symposium, Santa Barbara, CA, 2006
 La Colina Junior High School Science Day – presenting scientist, 2005-present
 Santa Barbara Channelkeeper, Volunteer, 2003-present
 Santa Barbara Museum of Natural History – Ty Warner Sea Center, featured scientist 2003-present
 Secretariat and Webmaster of the Western Society of Naturalists (2000-2003)
 Project Oceanography, scientific consultant and featured scientist 2000-2002
 UCSB Women's Center, member and invited speaker, 1999, 2000, 2002
 Channel Islands Marine Science Committee Member, 2000-present
 Jason project scientist 1999
 Judge for Best Student Paper Competition, Western Society of Naturalists, 1999-present
 Research Mentor, Research Mentorship Program 1998, 1999, 2000, 2001
 [I served as a mentor for 2 high school students each summer in the Research Mentorship program. This is a hands-on program for highly motivated high school students interested in participating in the conduct of academic research in the social, life or physical sciences.]
 Science-By-Mail, Scientific correspondent, 1992-1995
 President of the OSU Zoology Graduate Student Association 1992-1993

Field Course Experience

Seagrass Biology, University of Washington, Friday Harbor Laboratories, 1997
 Biomechanics of Intertidal Organisms, Stanford University, Hopkins Marine Station, 1991
 Advanced Invertebrate Zoology, University of Washington, Friday Harbor Laboratories, 1990
 Marine Phycology, University of Washington, Friday Harbor Laboratories, 1989
 Practical Aquatic Biology, University of Notre Dame, 1987

Related Knowledge, Training and Skills

TAXONOMIC SKILLS:

Trained in systematics of marine and aquatic algae, plants, invertebrates and fishes
 Familiarity with most species of Pacific nearshore marine algae, invertebrates, fishes and mammals

COMMUNICATION TRAINING:

COMPASS science communication training (2005-2009)
 COMPASS Advanced ocean acidification and policy training, 2014
 Alan Alda Center for Science Communication, Summer Institute, 2014
 Lawrence Hall of Science, Instructor Training - Communicating Ocean Science 2010, Communicating Climate Science 2015, Ocean Science Sequence Teacher Professional Development Leader 2013, 2014

COMPUTER:

Working knowledge of Mac, Windows and unix-based operating systems
 Knowledge of HTML, CVS and skilled in web page design, and implementation
 Experience with data analysis and statistics in JMP/SAS, R, PRIMER and MATLAB
 Experience with databases, data management and metadata using EML and OPeNDAP

SCUBA:

Certified open-water SCUBA diver (PADI, 1988)
 University of the Virgin Islands research-certified SCUBA diver (1992)
 Stanford University research-certified SCUBA diver (1995)
 University of California research-certified SCUBA diver (1996-present)

SAFETY, WATER, AND BOATING SKILLS:

Trained in advanced lifesaving, First-Aid, wilderness first responder and CPR
 Trained in climbing techniques, avalanche safety and swift-water rescue
 Experience with small boat operation (small outboard and diesel)