

DANIEL K. OKAMOTO, PHD

Applied Ecologist & Quantitative Biologist

ASSISTANT PROFESSOR

DEPARTMENT OF BIOLOGICAL SCIENCE

FLORIDA STATE UNIVERSITY

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RESEARCH INTERESTS

Quantitative population dynamics. Natural resource & fisheries management & conservation. Statistical & Bayesian methods in biology & ecology. Ecology of marine invertebrates, algae & fish. Trade-off analysis & social-ecological systems modeling. Subtidal marine community ecology.

EDUCATION

PhD 12/2014 Ecology, Evolution & Marine Biology, University of California, Santa Barbara
MS 9/2009 School of Fisheries & Ocean Sciences, University of Alaska Fairbanks
BS 5/2005 Dept. of Biology & minor in Fisheries Science, University of Washington

EMPLOYMENT

2018 - current Assistant Professor, Department of Biological Science, Florida State University
2015-2017 Post-Doctoral Researcher, School of Resource & Environmental Management, Simon Fraser University

BOOK CHAPTERS

L Rogers-Bennett & **DK Okamoto**. In Press. *Mesocentrotus franciscanus & Strongylocentrotus purpuratus*. In: *Sea Urchins: Biology & Ecology*. JM Lawrence (Ed). Elsevier.

PEER REVIEWED PUBLICATIONS

Okamoto, DK, M Hessian-Lewis, JF Samhuri, AO Shelton, A Stier, PS Levin, AK Salomon. Accepted. Spatial variability within exploited metapopulations obscures risk of collapse. *Ecological Applications* preprint: <https://www.biorxiv.org/content/10.1101/315481v2>.

Okamoto, DK, M Poe, T Francis, AE Punt, PS Levin, AO Shelton, D Armitage, JS Cleary, S Dressel, R Jones, H Kitka, LC Lee, AD MacCall, JA McIsaac, S Reifentstahl, JJ Silver, JO Schmidt, TF Thornton, R Voss, J Woodruff. 2019. Attending to spatial social-ecological sensitivities to improve trade-off analysis in natural resource management. *Fish and Fisheries*. [PDF](#)

Kline, DI, L Teneva, **DK Okamoto**, K Schneider, K Caldeira, T Miard, A Chai, M Marker, RB Dunbar, BG Mitchell, S Dove, O Hoegh-Guldberg. 2019. In Situ Study Shows Living Coral

Provides Resilience to Ocean Acidification. *Nature Ecology & Evolution*. PDF

Salomon, AK, AE Quinlan, G Pang, **DK Okamoto**, L Vazquez-Vera. Quantifying social-ecological resilience reveals opportunities for transforming environmental governance. *Ecology and Society*.

Armitage, DA, **DK Okamoto**, JJ Silver, TB Francis, PS Levin, AE Punt, IP Davies, JS Cleary, S Dressel, RR Jones, H Kitka, L Lee, A MacCall, J McIsaac, M Poe, S Reifensuhl, AO Shelton, J Schmidt, T Thornton, R Voss, J Woodruff. 2019. Integrating governance and natural resource management strategy evaluation (MSE) to improve social and ecological outcomes. *Bioscience*

Burt, JM, TB Tinker, **DK Okamoto**, KW Demes, K Holmes AK Salomon. 2018. A mesopredator alters the resilience of alternative states through complementarity with a keystone predator. *Proceedings of the Royal Society B*. PDF

Pau, S, **DK Okamoto**, O Calderòn, SJ Wright. 2018. Long-term increases in tropical flowering activity across growth forms in response to rising CO₂ and climate change. *Global Change Biology*. 24, 2105-2116. <https://doi.org/10.1111/gcb.14004>
<http://onlinelibrary.wiley.com/doi/10.1111/gcb.14004/full>

MacCall, A, TB Francis, DR Armitage, JS Cleary, SC Dressel, RR Jones, H Kitka, LC Lee, JA McIsaac, PS Levin, **DK Okamoto**, MR Poe, Punt, AE, S Reifensuhl, AO Shelton, M Siple, JJ Silver, JO Schmidt, TF Thornton, R Voss & J Woodruff. 2018. A heuristic model of learned migration behavior exhibits distinctive spatial and reproductive dynamics. *ICES Journal of Marine Science*.

Punt, AE, **DK Okamoto**, A MacCall, AO Shelton, DR Armitage, JS Cleary, IP Davies, SC Dressel, TB Francis, PS Levin, RR Jones, H Kitka, LC Lee, JA McIsaac, MR Poe, S Reifensuhl, JJ Silver, JO Schmidt, TF Thornton, R Voss & J Woodruff. 2018. When are estimates of spawning stock biomass for small pelagic fishes improved by taking spatial structure into account? *Fisheries Research*.

Voss, R, MF Quaasa, JO Schmidt, MT Stoeven, TB Francis, PS Levin, DR Armitage, JS Cleary, RR Jones, LC Lee, *DK Okamoto*, JJ Silver, TF Thornton, SC Dressell, AD MacCall, AE Punt. 2018. "Quantifying the benefits of spatial fisheries management? An ecological-economic optimization approach." *Ecological Modelling* 385 (2018): 165-172.

Kapsenberg, LK*, **DK Okamoto***, JM Dutton & GE Hoffman. 2017. Sensitivity of sea urchin fertilization to pH varies across a natural pH mosaic. *Ecology & Evolution*.
<http://onlinelibrary.wiley.com/doi/10.1002/ece3.2776/full>

* Authors contributed equally.

Keeling, B, M Hessing-Lewis, C Housty, **DK Okamoto**, E Gregr, & AK Salomon. 2017. Factors driving spatial variation in egg survival of an ecologically and culturally important forage fish.

Aquatic Conservation: Marine and Freshwater Ecosystems. 27:814-827.

<https://doi.org/10.1002/aqc.2757>

Okamoto, DK. 2016. Competition among eggs shifts to cooperation along a sperm supply gradient in an external fertilizer. *The American Naturalist*. 187:5, E129-E142.

<http://www.journals.uchicago.edu/doi/pdfplus/10.1086/685813>

Krumhansl, K, **DK Okamoto** et al. 2016. Global patterns of kelp forest change over the past half-century. *Proceedings of the National Academy of Sciences*.

<https://doi.org/10.1073/pnas.1606102113>

Okamoto, DK, RJ Schmitt, & SJ Holbrook. 2016. Stochastic density effects on adult fish survival and implications for population fluctuations. *Ecology Letters*, 9:153 -162.

<http://dx.doi.org/10.1111/ele.12547>.

Okamoto, DK, MS Stekoll, & GL Eckert. 2013. Coexistence despite recruitment inhibition of kelps by subtidal algal crusts. *Marine Ecology Progress Series*, 493:103-112.

<http://dx.doi.org/10.3354/meps10505>

Okamoto, DK, RJ Schmitt, SJ Holbrook, & DC Reed. 2012. Fluctuations in food supply drive recruitment variation in a marine fish. *Proceedings of the Royal Society B*, 279(1747):4542-4550. <http://dx.doi.org/10.1098/rspb.2012.1862>

Britton-Simmons, KH, B Pister, I Sanchez, & **DK Okamoto**. 2011. Response of a native, herbivorous snail to the introduced seaweed sargassum muticum. *Hydrobiologia*, 661(1):187-196.

Britton-Simmons, KH, G Foley, & **DK Okamoto**. 2009. Spatial subsidy in the subtidal zone: utilization of drift algae by a deep subtidal sea urchin. *Aquatic Biology*, 5(3):233-243.

In Review

Okamoto, DK, DC Reed, SC Schroeter. Effects of Ocean Climate on Spatiotemporal Variation in Sea Urchin Settlement and Recruitment. *In Review in Limnology & Oceanography*

preprint available at <https://www.biorxiv.org/content/10.1101/387282v2>.

N Zampieri, **DK Okamoto**, S Pau. The impact of Hurricane Michael on longleaf pine habitats in Florida. *In review in PLOS One*.

STUDENTS

2019 -	Matthew Schumm	FSU PhD student primary supervisor
2018 -	Anthony Cappellino	FSU undergraduate mentor
2018 -	Nate Spindel	FSU PhD student primary supervisor
2015	Markus Thompson	SFU MS student co-supervisor
2013 - 2014	Stephanie Saccardi	UCSB undergraduate mentor (won Worster Summer Research Award)
2013 - 2014	Evan Barba	UCSB undergraduate mentor (won Dean Bazzi Memorial Award)
2007	Michael Pantalos	Cornell undergraduate mentor via UAF

GRANTS*, FUNDING AND AWARDS

2018	Parks Canada Conservation & Restoration Grant. \$157,000 CAD subaward to FSU.
2018	FSU First Year Assistant Professor Award. \$20,000
2016	Mitacs Accelerate (IT07195) \$30,000 CAD PI: A. Salomon.
2014	Best Student Presentation (Hon. Mention) - International Temperate Reefs Symposium
2013	Worster Summer Research Award
2013	UCSB Graduate Division Dissertation Fellowship
2013	Charles A. Storke Graduate Fellowship
2013	UC Affiliates Graduate Dissertation Fellowship
2009	UCSB Block Grant fellowship
2008	Dr. H. Richard Carlson Scholarship - University of Alaska Fairbanks
2006	Howard Hughes Medical Institute Scholarship, Friday Harbor Laboratories
	*PI status conferred in 2018

INVITED LECTURES & SESSIONS

2019	Oregon Institue of Marine Biology Seminar - Coos Bay, Oregon
2018	Gwaii Haanas Series - Haida Gwaii, British Columbia, Canada
2018	NOAA - Monster Jam - NWFSC, Seattle, WA
2018	Tribeta Guest Seminar - Florida State University
2015	Ecology & Evolution Seminar - Florida State University
2015	Geography Departmental Colloquium - Florida State University
2013	Guest Lecture - "Statistical Power Analysis" - Florida State University
2012	Invited Session - American Fisheries Society - St. Paul, MN, USA
2008	Guest Lecture - "Marine Ecology" - University of Alaska Southeast

SCUBA CERTIFICATIONS

- 2004 - present AAUS/CAUS science diver
2002 - present PADI Rescue, NITROX, Oxygen Administration, CPR, First Aid, DAN⁺ O₂

INVITED WORKING GROUP PARTICIPATION

- 2016 - present Ocean Modeling Forum Herring Working Group
<http://oceanmodelingforum.org/working-groups/pacific-herring/>
2013 - present NCEAS Global Impacts of Climate Change on Kelp Forest Ecosystems
<https://www.nceas.ucsb.edu/featured/byrnes>

COMMITTEES & PANELS

- 2017-2018 Reviewer for San Francisco Bay Pacific Herring fishery management plan
2017-current Scientific Advisory Committee: Northern Shelf Bio-region MPA network

TEACHING

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|----------------|--|----------------------|
| 2020 | Advanced Statistical Methods (scheduled grad course) | FSU |
| 2018, '19 | Introductory Biology 2 Instructor | FSU |
| 2012, '13 | Applied Marine Ecology (TA) | UC Santa Barbara |
| 2010, '11, '12 | Introduction to Ecology (TA) | UC Santa Barbara |
| 2009 | Applied Marine Ecology Lab (TA) | UC Santa Barbara |
| 2009 | Aquatic Community Ecology (TA) | UC Santa Barbara |
| 2009 | Multivariate Data Analysis in Community Ecology (TA) | University of Alaska |
| 2009 | Fisheries Population Dynamics (TA) | University of Alaska |
| 2008 | Marine Ecology (TA) | University of Alaska |
| 2008 | Regression & ANOVA (TA) | University of Alaska |

CONFERENCE ORAL PRESENTATIONS

- 2008, '09, '13, '14, '16, '17, '18, '19 Western Society of Naturalists
2008, '14, '16, '19 International Temperate Reefs Symposium
2016 Salish Sea Ecosystem Conference, Vancouver, BC
2015 International Congress for Conservation Biology, Montpellier
2013 West Coast LTER Graduate Student Symposium - La Jolla, CA
2012 American Fisheries Society - St. Paul, MN
2011, '12, '13 SBC LTER All Scientists Meeting - Santa Barbara, CA
2011, '12, '13 UCSB EEMB Graduate Student Symposium - Santa Barbara, CA
2011 American Fisheries Society - Seattle, WA
2007, 2008 American Fisheries Society, Alaska Chapter - Juneau, AK