

# DANIEL K. OKAMOTO, PHD

*Applied Ecologist & Quantitative Biologist*

ASSISTANT PROFESSOR

DEPARTMENT OF BIOLOGICAL SCIENCE

FLORIDA STATE UNIVERSITY

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## RESEARCH INTERESTS

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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

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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

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2018 - current Assistant Professor, Department of Biological Science, Florida State University  
2107 Post-Doctoral Researcher, Florida State University (Andrew Rassweiler)  
2015-2017 Post-Doctoral Researcher, School of Resource & Environmental Management,  
Simon Fraser University (Anne Salomon)

## BOOK CHAPTERS

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L Rogers-Bennett & **DK Okamoto**. 2020. *Mesocentrotus franciscanus & Strongylocentrotus purpuratus*. In: *Sea Urchins: Biology & Ecology*. JM Lawrence (Ed). Elsevier.

## PEER REVIEWED PUBLICATIONS

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### In Review/Submitted

Rassweiler, A, . **Okamoto, DK** Reed, DC, Kushner, D, Schroeder, D, Lafferty, K. Improving the ability of a BACI design to detect impacts within a kelp-forest community. Submitted to Ecological Applications.

Lee, LL, Gwiisihlgaa (McNeill, D), Ridings, P, Featherstone, M, . **Okamoto, DK., Spindel, NB**, Galloway, AEW, Saunders, GW, Adamczyk, EG, Reshitnyk, L, Pontier, O, Post, M, Irvine, R, Gulxa taa'a gaagii ng.aang (Wilson, N) and SGIids Kung (Bellis, V). Chiixuu Tll iinasdll: Indigenous Ethics and Values Lead to Ecological Restoration for People and Place in Gwaa Haanas. Submitted to Ecological Restoration.

## 2020

Zampieri, N, Pau, S. **Okamoto, DK**. The impact of Hurricane Michael on longleaf pine habitats in Florida. *Scientific Reports*

Dee, LE, **Okamoto, DK**, Gardmark, A. Montoya, J, Miller SJ. In Press. Temperature variability alters stability and collapse of interacting species populations. *Philosophical Transactions of the Royal Society B*

**Okamoto, DK**, DC Reed, SC Schroeter. In Press. Effects of Ocean Climate on Spatiotemporal Variation in Sea Urchin Settlement and Recruitment. *Limnology & Oceanography* preprint: <https://www.biorxiv.org/content/10.1101/387282v2>.

**Okamoto, DK**, M Hessing-Lewis, JF Samhouri, AO Shelton, A Stier, PS Levin, AK Salomon. 2020. Spatial variability within exploited metapopulations obscures risk of collapse. *Ecological Applications* 30( 3):02051 <https://esajournals.onlinelibrary.wiley.com/doi/abs/10.1002/eap.2051>.

## 2019

**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 Reifenstuhel, 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. Living coral tissue slows skeletal dissolution related 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 Reifenstuhel, 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*

## 2018

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 CO<sub>2</sub> 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 Reifenstuhel, 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 Reifenstuhel, 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.

## 2017 and prior

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.

## STUDENTS

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2019 -	Matthew Schumm	FSU PhD student primary supervisor
2018 -	Nate Spindel	FSU PhD student primary supervisor
2019 -	Kara Thornton	FSU undergraduate mentor
2019 -	Sofia Perez	FSU undergraduate mentor
2019 -	Trever Alspach	FSU undergraduate mentor
2018 -	Anthony Cappellino	FSU undergraduate mentor
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\* (AWARDED OR IN REVIEW), FUNDING AND AWARDS

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- 2020 National Science Foundation, Biological Oceanography (in review).
  - 2020 Parks Canada Conservation & Restoration Grant (co-pi) \$1,290,115 CAD (\$170K to FSU)
  - 2020 Council of Haida Nation. \$10,000 CAD to FSU.
  - 2020 FSU Committee on Faculty Research Support (COFRS) grant. \$14,000
  - 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

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

## SCUBA CERTIFICATIONS

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2004 - present	AAUS/CAUS science diver
2002 - present	PADI Rescue, NITROX, Oxygen Administration, CPR, First Aid, DAN <sup>+</sup> O <sub>2</sub>

## INVITED WORKING GROUP PARTICIPATION

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

## COMMITTEES, PANELS & SERVICE

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2020	Diversity, Equity and Inclusion Committee, Dept. of Biological Science, FSU
2017-current	Scientific Advisory Committee: Northern Shelf Bio-region MPA network
2017-2018	Reviewer for San Francisco Bay pacific Herring fishery management plan

## TEACHING

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2020	Advanced Statistical Methods (QM2)	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

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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 Scientistis 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