

## CURRICULUM VITAE: SETH LOMBARD DANIELSON

### **Seth Lombard Danielson, Ph.D.**

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### **Professional Preparation**

Lehigh University; B.S. Electrical Engineering, 1990, with honors  
University of Alaska Fairbanks; M.S. Oceanography, 1996  
University of Alaska Fairbanks, Ph.D. Oceanography, 2012

### **Memberships**

American Geophysical Union  
The Oceanography Society

### **Appointments**

Associate Professor of Oceanography, IMS-UAF, Fairbanks, AK, 2018-present  
Research Associate Professor of Oceanography, IMS-UAF, Fairbanks, AK, 2016-2018  
Research Assistant Professor of Oceanography, IMS-UAF, Fairbanks, AK, 2013-2016  
Research Professional, Institute of Marine Science, UAF, Fairbanks, AK, 2002–2013  
Research Analyst, Institute of Marine Science, UAF, Fairbanks, AK, 1997–2002  
Technician, Institute of Marine Science, UAF, Fairbanks, AK, 1997  
Driller, Polar Ice Coring Office, University of Nebraska, Lincoln, NB, 1996-1997  
Research Assistant, Institute of Marine Science, UAF, Fairbanks, AK, 1994-1996  
Driller, Polar Ice Coring Office, Institute of Marine Science, UAF, Fairbanks, AK, 1993-1994  
Junior Engineer, Allen Organ Company, Macungie, PA, 1990-1992

### **PEER-REVIEWED PUBLICATIONS**

#### **In Preparation**

1. Baumann, T., Polyakov, I.V., Padman, L., **Danielson, S.L.**, Fer, I., Howard, S.L., Hutchings, J.K., Janout, M.A., Nguyen, A. and Pnyushkov, A.V. Semidiurnal currents in the Arctic Ocean's eastern Eurasian Basin.
2. Bluhm, B.A., K. Brown, L. Rotermund, W.J. Williams, **S.L. Danielson**, E.C. Carmack, Filling a pan-Arctic Gap: New distribution records of Arctic kelp species in the Northwest Passage.
3. **Danielson, S.L.**, C. Mordy, D. Stockwell, Re-assessing the year-round flux of nutrients into the Arctic through Bering Strait.
4. **Danielson, S.L.**, T.D. Hennon, D. Monson, R. Suryan, R. Campbell, S. Baird, K. Holderied, and T. Weingartner. A study of marine temperature variations in the northern Gulf of Alaska across years of heatwaves and cold spells.
5. Deary, A.L., C.D. Vestfals, E.A. Logerwell, E.A., E.D. Goldstein, P.J. Stabeno, **S.L. Danielson**, F.J. Mueter, and J.T. Duffy-Anderson, in prep. Seasonal abundance, distribution, and growth of the early life stages of Polar Cod (*Boreogadus saida*) and Saffron Cod (*Eleginus gracilis*) in the US Arctic during a warm year.
6. Krause, J.W., M.W. Lomas, **S.L. Danielson**, Direct to consumers: reduced nutrient limitation and microzooplankton losses enable efficient transfer of diatom production to higher trophic levels or export during spring in the Northern Bering and Chukchi Seas
7. Lu, K., **S.L. Danielson**, T.J. Weingartner, Impacts of short-term wind events on Chukchi hydrography and sea ice retreat
8. MacKinnon, J.A., H.L. Simmons, J. Hargrove, J. Thomson, T. Peacock, M.H. Alford, B.I. Barton, S. Boury, S.D. Brenner, N. Couto, **S.L. Danielson**, E.C. Fine, H.C. Graber, J. Guthrie, J.E. Hopkins,

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S.R. Jayne, T. Klenz, C.M. Lee, Y.D. Lenn, A.J. Lucas, B. Lund, C. Mahaffey, L. Norman, L. Rainville, M.M. Smith, S. Torres-Valdes, and K.R. Wood, in review. A warm jet in a cold ocean: subduction and heat storage in the new Arctic

9. Zinkann, A.M.J. Wooler, M.B. Leigh, **S.L. Danielson**, G. Gibson, and K. Iken, Digging deep: Depth distribution of organic carbon sources in Arctic Chukchi Sea sediments

### In Review

1. Bluhm, B.A., M.A. Janout, **S.L. Danielson**, I. Ellingsen, M. Gavriilo, J.M. Grebmeier, R.R. Hopcroft, K. Iken, R.B. Ingvaldsen, L.L. Jørgensen, K.N. Kosobokova, R. Kwok, I.V. Polyakov, P.E. Renaud and E.C. Carmack, in review. The pan-Arctic continental slope: sharp gradients of physical processes affect pelagic and benthic ecosystems, *Front. Mar. Sci. Global Change and the Future Ocean*
2. **Danielson, S.L.**, Glacier Bay Oceanographic Monitoring Program Analysis of Observations, 1993-2016. Natural Resource Technical Report NPS/XXXX/NRTR—20XX/XXX. National Park Service, Fort Collins, Colorado.
3. O'Daly, S.H., **S.L. Danielson**, S.M Hardy, R.R. Hopcroft, C. Lalande, D.A. Stockwell, and A.M.P. McDonnell, Extraordinary carbon fluxes on the Pacific Arctic shelf driven by low particle-associated microbial respiration, *Front. Mar. Sci. Global Change and the Future Ocean*.

### Published

2020

1. Copeman, L., M. Spencer, R. Heintz, J. Vollenweider, A. Sremba, T. Helser, L. Logerwell, L. Sousa, **S.L. Danielson**, A. Pinchuk and B. Laurel, 2020. Ontogenetic patterns in lipid and fatty acid biomarkers of juvenile polar cod (*Boreogadus saida*) and saffron cod (*Eleginus gracilis*) from across the Alaska Arctic. *Polar Biology*
2. **Danielson, S.L.**, O. Ahkinga, C. Ashjian, E. Basyuk, L.W. Cooper, L. Eisner, E. Farley, K.B. Iken, J.M. Grebmeier, L. Juraneck, G. Khen, S. Jayne, T. Kikuchi, C. Ladd, K. Lu, R. McCabe, G.W.K. Moore, S. Nishino, S.R. Okkonen, F. Ozenna, R.S. Pickart, I. Polyakov, P.J. Stabeno, K. Wood, W.J. Williams, R.A. Woodgate, T.J. Weingartner, 2020. Manifestation and consequences of warming and altered heat fluxes over the Bering and Chukchi Sea continental shelves. Accepted for publication by *Deep-Sea Res. II: Topical Studies in Oceanogr.*, <https://doi.org/10.1016/j.dsr2.2020.104781>
3. **Danielson, S.L.**, D.F. Hill, K.S. Hedstrom, J. Beamer and E. Curchitser, 2020. Coupled terrestrial hydrological and ocean circulation modeling across the Gulf of Alaska coastal interface. *J. Geophys. Res.-Oceans*, <https://doi.org/10.1029/2019JC015724>
4. **Danielson, S.L.**, T.D Hennon, K.S.Hedstrom, A. Pnyushkov, I.V. Polyakov, E. Carmack, K.Filchuk, M.A. Janout, M. Makhotin, W.J. Williams, L. Padman, 2020. Oceanic routing of wind-sourced energy along the Arctic continental shelves, *Front. Mar. Sci. - Global Change and the Future Ocean*, DOI: 10.3389/fmars.2020.00509
5. Hauri, C., C. Schultz, K. Hedstrom, **S.L. Danielson**, B. Irving, S.C. Doney, R. Dussin, E.N. Curchitser, D.F. Hill, and C.A. Stock, in review. A regional hindcast model simulating ecosystem dynamics, inorganic carbon chemistry and ocean acidification in the Gulf of Alaska, *Biogeosci.*
6. Huntington, H.P., **S.L. Danielson**, F.K. Wiese, M. Baker, P. Boveng, J.J. Citta, A. De Robertis, D.M. Dickson, E. Farley, J.C. George, K. Iken, D.G. Kimmel, K. Kuletz, C. Ladd, R. Levine, L. Quakenbush, P. Stabeno, K.M Stafford, D. Stockwell and C. Wilson, 2020. Evidence suggests potential transformation of the Pacific Arctic ecosystem is underway. *Nature Climate Change*, 10(4), pp.342-348
7. Jakobsson, M., L.A. Mayer, C. Bringensparr, C. F. Castro, R. Mohammad, P. Johnson, T. Ketter, D. Accettella, D. Amblas, L. An, J.E. Arndt, M. Canals, J.L. Casamor, N. Chauché, B. Coakley, **S.L. Danielson**, M. Demarte, M.L. Dickson, Boris Dorschel, J.A. Dowdeswell, S. Dreutter, AC. Fremand, D Gallant, J.K. Hall, L. Hehemann, H. Hodnesdal, J. Hong, R. Ivaldi, E. Kane, I. Klaucke, D.W. Krawczyk, Y. Kristoffersen<sup>2</sup>, B.R. Kuipers, R. Millan, G. Masetti, M. Morlighem, R. Noormets, M. M. Prescott, M. Rebesco, E. Rignot, I. Semiletov, A.J. Tate, P. Travaglini, I. Velicogna, P.

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- Weatherall, W. Weinrebe, J.K. Willis, M. Wood, Y. Zarayskaya, T. Zhang, M. Zimmermann, K.B. Zinglarsen, The International Bathymetric Chart of the Arctic Ocean Version 4.0, *Nature Scientific Data*.
8. Lalande, C., Grebmeier, J.M., Hopcroft, R.R. and **Danielson, S.L.**, 2020. Annual cycle of export fluxes of biogenic matter near Hanna Shoal in the northeast Chukchi Sea. *Deep-Sea Res. II: Topical Studies in Oceanogr.*, p.104730.
  9. Lovvorn, J.R., Rocha, A.R., **Danielson, S.L.**, Cooper, L.W., Grebmeier, J.M. and Hedstrom, K.S., 2020. Predicting sediment organic carbon and related food web types from a physical oceanographic model on a subarctic shelf. *Mar. Ecol. Prog. Ser.*, 633, pp.37-54.
  10. Lu, K., **S.L. Danielson**, K.S. Hedstrom, and T.J. Weingartner, 2020. Assessing the role of oceanic heat fluxes on ice ablation of the central Chukchi Sea Shelf. *Prog. in Oceanogr.*, <https://doi.org/10.1016/j.pocean.2020.102313>
  11. Polyakov, I.V., M.B. Alkire, B.A. Bluhm, K. Brown, E.C. Carmack, M. Chierici, **S.L. Danielson**, Ingrid Ellingsen, E.A. Ershova, K. Gårdfeldt, R.B. Ingvaldsen, A.V. Pnyushkov, D. Slagstad and P.F.J. Wassmann, 2020. Borealization of the Arctic Ocean in response to anomalous advection from sub-arctic seas. *Front. Mar. Sci. - Global Change and the Future Ocean*
  12. Thoman, R.L., U. Bhatt, P.A. Bieniek, B.R. Brettschneider, M. Brubaker, **S.L. Danielson**, Z. Labe, R. Lader, W.N. Meier, G. Sheffield, and J.E. Walsh, 2020. The record low Bering Sea ice extent in 2018: context, impacts and an assessment of the role of anthropogenic climate change, *Bull. Amer. Meteor. Soc.*, doi:10.1175/BAMS-D-19-0175.1
- 2019
13. Janzen, C.D., McCammon, M., **Danielson, S.L.**, Weingartner, T., Statscewich, H., Page, E. and Heim, B., 2019. Innovative Real-Time Observing Capabilities for Remote Coastal Regions. *Front. Mar. Sci.*, 6, p.176.
- 2018
14. Hauri, C., **S.L. Danielson**, A.M.P. McDonnell, R.R.H. Hopcroft, P. Winsor, P. Shipton, C. Lalande, K.M. Stafford, J.K. Horne, L.W. Cooper, J.M. Grebmeier, A. Mahoney, K. Maisch, M. McCammon, H. Statscewich, A. Sybrandy, and T. Weingartner, 2018. From sea ice to seals: A moored marine ecosystem observatory in the Arctic, *Ocean Science*, 14, 1423-1433, <https://doi.org/10.5194/os-14-1423-2018>
  15. Iken, K., F. Mueter, J.M. Grebmeier, L.W. Cooper, **S.L. Danielson**, B.A. Bluhm, 2018. Developing an observational design for epibenthos and fish assemblages in the Chukchi Sea, *Deep-Sea Res. II: Topical Studies in Oceanogr.*, <https://doi.org/10.1016/j.dsr2.2018.11.005>
  16. Batten, S.D., Raitsos, D.E., **S.L. Danielson**, Hopcroft, R., Coyle, K., McQuatters-Gollop, A., 2018. Interannual variability in lower trophic levels on the Alaskan Shelf. *Deep-Sea Res. II: Topical Studies in Oceanogr.* <http://dx.doi.org/10.1016/j.dsr2.2017.04.023>.
  17. Logerwell, E., K. Rand, **S.L. Danielson, S.**, and L. Sousa, 2018. Environmental drivers of benthic fish distribution in and around Barrow Canyon in the northeastern Chukchi Sea and western Beaufort Sea. *Deep-Sea Res. II: Topical Studies in Oceanogr.* 152, 170-181, <https://doi.org/10.1016/j.dsr2.2017.04.012>
  18. Rand K., E. Logerwell, B. Bluhm, H. Chenelot, **S. Danielson**, K. Iken, L. Sousa, 2018. Using biological traits and environmental variables to characterize two Arctic epibenthic invertebrate communities in and adjacent to Barrow Canyon. *Deep-Sea Res. II: Topical Studies in Oceanogr.*
  19. Walsh, J. E., R.L. Thoman, U.S. Bhatt, P.A. Bieniek, B. Brettschneider, M. Brubaker, **S. Danielson**, R. Lader, F. Fetterer, K. Holderied, K. Iken, A. Mahoney, M. McCammon, and J. Partain, 2018. The high latitude marine heat wave of 2016 and its impacts on Alaska [in “Explaining Extreme Events of 2016 from a Climate Perspective”]. *Bull. Amer. Meteor. Soc.*, 99 (1), S39–S43, doi:10.1175/BAMS-D-17-0105.1.

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2017

20. **Danielson, S.L.**, Eisner, L., Ladd, C., Mordy, C., Sousa, L. and Weingartner, T.J., 2017. A comparison between late summer 2012 and 2013 water masses, macronutrients, and phytoplankton standing crops in the northern Bering and Chukchi Seas. *Deep Sea Res. II: Topical Studies in Oceanogr.*, 135, pp.7-26.
21. Marsh, J.M., Mueter, F.J., Iken, K. and **Danielson, S.**, 2017. Ontogenetic, spatial and temporal variation in trophic level and diet of Chukchi Sea fishes. *Deep-Sea Res. II: Topical Studies in Oceanogr.*, 135, pp.78-94.
22. Sigler, M.F., F.J. Mueter, B.A. Bluhm, M.S. Busby, E.D. Cokelet, **S.L. Danielson**, A. De Robertis, L. B. Eisner, E.V. Farley, K. Iken, K.J. Kuletz, R.R. Lauth, E.A. Logerwell and A.I. Pinchuk, 2017. Summer zoogeography of the northern Bering and Chukchi seas, *Deep Sea Res. II: Topical Studies in Oceanogr.*
23. Weingartner, T. J., **S.L. Danielson**, R. Potter, C. Irvine, J. Trefrey and L. Sousa, 2017. Circulation and water properties in the landfast ice zone of the Alaskan Beaufort sea. *Cont. Shelf Res.* 148, 185-198

2016

24. Hunt, G. L., K. F. Drinkwater, K. Arrigo, J. Berge, K. L. Daly, **S.L. Danielson**, M. Daase, H. Hop, E. Isla, N. Karnovsky, K. Laidrea, E. J. Murphy, F. Mueter, P. E. Renaud, W. O. Smith, Jr., P. Trathan, and D. Wolf-Gladrow, 2016. Advection in polar and sub-polar environments: Impacts on high latitude marine ecosystems. *Prog. Oceanogr.*, 149, 40  
81, <https://doi.org/10.1016/j.pocean.2016.10.004>
25. Stabeno, P.J., **S.L. Danielson**, D. Kachel, N. B. Kachel, and C. W. Mordy, 2016. Currents and transport on the eastern Bering Sea shelf. resubmitted to *Deep-Sea Res. II: Topical Studies in Oceanogr.*
26. Stabeno PJ, Bell S, Cheng W, **Danielson S.L.**, Kachel NB, Mordy CW., 2016. Long-term observations of Alaska Coastal Current in the northern Gulf of Alaska. *Deep Sea Res. II: Topical Studies in Oceanogr.* <http://dx.doi.org/10.1016/j.dsr2.2015.12.016>
27. Whitehouse, G.A., T.W. Buckley and **S.L. Danielson**, 2016. Diet compositions and trophic guild structure of the eastern Chukchi Sea demersal fish community, *Deep Sea Res. II: Topical Studies in Oceanogr.*

2015

28. **Danielson, S.L.**, E. L. Dobbins, M. Jakobsson, M. A. Johnson, T. J. Weingartner, W. J. Williams, and Y. Zarayskaya, 2015. Sounding the northern seas, *Eos*, 96, doi:10.1029/2015EO040975.
29. Grebmeier, J. M., B. A. Bluhm, L. W. Cooper, **S.L. Danielson**, K. R. Arrigo, A. L. Blanchard, J. T. Clarke, R. H. Day, K. E. Frey, R. R. Gradinger, M. Kedra, B. Konar, K. J. Kuletz, S. H. Lee, J. R. Lovvorn, B. L. Norcross, S. R. Okkonen., 2015. Ecosystem Characteristics and Processes Facilitating Persistent Macrobenthic Biomass Hotspots and Associated Benthivory in the Pacific Arctic, *Prog. Oceanogr.*, V136, pp. 92-114, doi:10.1016/j.pocean.2015.05.006
30. Lu, K., T. J. Weingartner, **S.L. Danielson**, P. Winsor, E. Dobbins, K. Martini, and H. Statscewich, 2015. Lateral mixing across ice meltwater fronts of the Chukchi Sea shelf, *Geophys. Res. Lett.*, 42, 6754–6761, doi:10.1002/2015GL064967.
31. Wood, K. R., N. A. Bond, **S.L. Danielson**, J. E. Overland, S. A. Salo, P. Stabeno, J. Whitefield, 2015. A decade of change in the Pacific Arctic region, *Prog. Oceanogr.*, V136, pp 12-31., doi:10.1016/j.pocean.2015.05.005

2014

32. Cross, J.N., J. T. Mathis, K. E. Frey, C. E. Cosca, **S.L. Danielson**, N. R. Bates, R. A. Feely, T. Takahashi and W. Evans, 2014. Annual sea-air CO<sub>2</sub> fluxes in the Bering Sea: Insights from new autumn and winter observations of a seasonally ice-covered continental shelf, *J. Geophys. Res.*, DOI: 10.1002/2013JC009579

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33. **Danielson, S.L.**, T. W. Weingartner, K. Hedstrom, K. Aagaard, R. Woodgate, E. Curchitser, and P. Stabeno, 2014. Coupled wind-forced controls of the Bering–Chukchi shelf circulation and the Bering Strait through-flow: Ekman transport, continental shelf waves, and variations of the Pacific–Arctic sea surface height gradient. *Prog. Oceanogr.* [http://dx.doi.org/ 10.1016/j.pocan.2014.04.006](http://dx.doi.org/10.1016/j.pocan.2014.04.006)

2013

34. Pickart, R.S., L.M. Schulze, G.W.K. Moore, M.A. Charette, K. R. Arrigo, G. van Dijken, and **S.L. Danielson**, 2013. Long-term trends of upwelling and impacts on primary productivity in the Alaskan Beaufort Sea, *Deep Sea Res. Part I: Oceanographic Research Papers*, Volume 79, September 2013, <http://dx.doi.org/10.1016/j.dsr.2013.05.003>.
35. Weingartner, T. E. Dobbins, **S. Danielson**, P. Winsor, R. Potter, H. Statscewich, 2013. Hydrographic variability over the northeastern Chukchi Sea shelf in summer-fall 2008–2010, *Cont. Shelf Res.* ISSN 0278-4343, <http://dx.doi.org/10.1016/j.csr.2013.03.012>

2012

36. **Danielson, S.**, T. Weingartner, K. Aagaard, J. Zhang, and R. Woodgate, 2012. Circulation on the central Bering Sea shelf, July 2008 to July 2010, *J. Geophys. Res.*, 117, C10003, doi:10.1029/2012JC008303.
37. **Danielson, S.**, K. Hedstrom, K. Aagaard, T. Weingartner, and E. Curchitser, 2012. Wind-induced reorganization of the Bering shelf circulation, *Geophys. Res. Lett.*, 39, L08601, doi:10.1029/2012GL051231.

2011

38. **Danielson, S.L.**, E. N. Curchitser, K. S. Hedstrom, T. J. Weingartner, and P. J. Stabeno, 2011. On ocean and sea ice modes of variability in the Bering Sea, *J. Geophys. Res.*, doi:10.1029/2011JC007389
39. **Danielson, S.**, L. Eisner, T. Weingartner, and K. Aagaard, 2011. Thermal and haline variability over the central Bering Sea shelf: Seasonal and inter-annual perspectives, *Cont. Shelf Res.*, 31, 539–554, doi:10.1016/j.csr.2010.12.010.
40. Sigler, M.F., M. Renner, **S.L. Danielson**, L.B. Eisner, R.R. Lauth, K.J. Kuletz, E.A. Logerwell, and G.L. Hunt Jr., 2011. Fluxes, fins, and feathers: Relationships among the Bering, Chukchi, and Beaufort Seas in a time of climate change. *Oceanography* 24(3): 250–265, <http://dx.doi.org/10.5670/oceanog.2011.77>.
41. Statscewich, H., T. Weingartner, **S. Danielson**, B. Grunau, G. Egan, and J. Timm, 2011. A High-Latitude Modular Autonomous Power, Control, and Communication System for Application to High-Frequency Surface Current Mapping Radars, *Mar. Tech. Soc. J.*, 45:3, pp 59-68

2010

42. Janout, M.A., T.J. Weingartner, T. C. Royer, **S.L. Danielson**, 2010. On the nature of winter cooling and the recent temperature shift on the northern Gulf of Alaska shelf, *J. Geophys. Res.*, 2009JC005774R, DOI: 10.1029/2009JC005774.

2009

43. Wu, J., A. Aguilar-Islas, R. Rember, T. Weingartner, **S. Danielson**, and T. Whitledge, 2009. Size-fractionated iron distribution on the northern Gulf of Alaska, *Geophys. Res. Lett.*, 36, L11606, doi:10.1029/2009GL038304.

2008

44. Weingartner, T. J., L. Eisner, G. L. Eckert, **S.L. Danielson**, 2008. Southeast Alaska: oceanographic habitats and linkages (p 387-400), *J. of Biogeography*, DOI: 10.1111/j.1365-2699.2008.01994.x.

2006

45. Aagaard, K., T. J. Weingartner, **S.L. Danielson**, R. A. Woodgate, G. C. Johnson, and T. E. Whitledge, 2006. Some controls on flow and salinity in Bering Strait, *Geophys. Res. Lett.*, 33,

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L19602, doi:10.1029/2006GL026612.

46. **Danielson, S.**, K. Aagaard, T. Weingartner, S. Martin, P. Winsor, G. Gawarkiewicz, and D. Quadfasel, 2006. The St. Lawrence polynya and the Bering shelf circulation: New observations and a model comparison, *J. Geophys. Res.*, 111, C09023, doi:10.1029/2005JC003268.

2005

47. **Danielson, S.L.**, and Z. Kowalik, 2005. Tidal currents in the St. Lawrence Island region, *J. Geophys. Res.*, 110, No. C10, C10004, 10.1029/2004JC002463.
48. Weingartner T. J., K. Aagaard, R. A. Woodgate, **S.L. Danielson**, Y. Sasaki, and D. Cavalieri., 2005. Circulation on the north central Chukchi Sea shelf, *Deep-Sea Res. II*, 52 (24-26): 3150-3174.
49. Weingartner, T. J., **S.L. Danielson**, T.C. Royer, 2005. Fresh Water Variability in the Gulf of Alaska: Seasonal, Interannual and Decadal Variability, *Deep-Sea Res. II*, 52 (1-2): 169-191.

2003

50. Okkonen, S.R., T.J. Weingartner, **S.L. Danielson**, D.L. Musgrave and G.M. Schmidt, 2003. Satellite and Hydrographic Observations of Eddy-Induced Shelf-Slope Exchange in the Northwestern Gulf of Alaska, *J. Geophys. Res.*, 108 (C2): Art. No. 3033

1999

51. Weingartner, T.J., **S.L. Danielson**, Y. Sasaki, V. Pavlov and M. Kulakov, 1999. The Siberian Coastal Current: A wind- and buoyancy-forced Arctic coastal current, *J. Geophys. Res.*; V104; No. C12; 29,697-29,713.

### Other Publications

2020

52. **Danielson, S.L.**, Hennon, T., Monson, D., Suryan, R., Campbell, R., Baird, S., Holderied, K., and Weingartner, T., 2020. Chapter 1: A study of marine temperature variations in the northern Gulf of Alaska across years of marine heatwaves and cold spells. In M.R. Suryan, M.R. Lindeberg and D.R. Aderhold, eds. *The Pacific Marine Heatwave: Monitoring During a Major Perturbation*, Tech. rep., Exxon Valdez Oil Spill Trustee Council, Anchorage, AK.

2018

53. Curchitser, E.N., K.S. Hedstrom, **S.L. Danielson** and J. Kasper, 2018. Beaufort Sea Circulation Model Integrations. Final Report. U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Environmental Studies Program, Herndon, VA. OCS Study BOEM 2013-202, 82pp.

2017

54. **Danielson, S.L.**, L. Cooper, J. Grebmeier, C. Hauri, K. Iken, R.R. Hopcroft, J. Horne, C. Lalande, A.M.P. McDonnell, K. Stafford, P. Winsor, 2017. Collaborative approaches to multi-disciplinary monitoring of the Chukchi shelf marine ecosystem: Networks of networks for maintaining long-term Arctic observations. *IEEE OCEANS-Anchorage 2017*, 1-7
55. Kontoes C., R. Flagg, G. Gawarkiewicz, F. Bahr, P. Winsor, **S.L. Danielson**, 2017. Wi-Fi enabled CTDs in citizen science. *IEEE Oceans-Anchorage 2017*

2016

56. **Danielson, S.L.**, K. S. Hedstrom and E. Curchitser, 2016. Cook Inlet Model Calculations, Final Report to Bureau of Ocean Energy Management, M14AC00014, University of Alaska Fairbanks, Fairbanks, AK, 149 pp.

2013

57. Curchitser, E.N., K.S. Hedstrom, **S.L. Danielson** and T.J. Weingartner, 2013. Adaptation of an Arctic Circulation Model. U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Environmental Studies Program, Herndon, VA. OCS Study BOEM 2013-202, 82 pp.

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59. Weingartner, T.J., **S.L. Danielson**, L. Dobbins, and R. Potter, 2012. Physical Oceanographic Measurements in the northeastern Chukchi Sea: 2011. Chukchi Sea Environmental Studies Program Annual Report. University of Alaska. 38 pp.
60. **Danielson, S.L.**, 2012. Glacier Bay oceanographic monitoring program analysis of observations, 1993–2009. Natural Resource Technical Report NPS/SEAN/NRTR—2012/527. National Park Service, Fort Collins, Colorado.

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61. Weingartner, T.J., **S.L. Danielson**, L. Dobbins, and R. Potter, 2011. Physical Oceanographic Measurements in the Klondike and Burger survey areas of the Chukchi Sea: 2008-2010. Chukchi Sea Environmental Studies Program Annual Report. University of Alaska. 89 pp.

2010

62. **Danielson, S.**, W. Johnson, L. Sharman, G. Eckert, and B. Moynahan, 2010. Glacier Bay National Park and Preserve oceanographic monitoring protocol: Version OC–2010.1. Natural Resource Report NPS/SEAN/NRR—2010/265. National Park Service, Fort Collins, Colorado.
63. Weingartner, T.J. and **S.L. Danielson**, 2010. Physical Oceanographic Measurements in the Klondike and Burger survey areas of the Chukchi Sea: 2008 and 2009. Chukchi Sea Environmental Studies Program Annual Report. University of Alaska. 50 pp.
64. Curchitster, E.C. K. S. Hedstrom, **S.L. Danielson**, and T.J. Weingartner, 2010. Modeling of Circulation in the North Aleutian Basin, final report prepared for BOEM contract M07PC13368, OCS Study BOEMRE 2010-028

2009

65. Weingartner, T. J., **S.L. Danielson**, J. L. Kasper and S. R. Okkonen, 2009. Circulation and Water Property Variations in the Nearshore Alaska Beaufort Sea, prepared for MMS, Contract M03PC00015, 155 pp.

2007

66. **Danielson, S.L.**, and T. J. Weingartner, 2007. Estimates of Oil Spill Dispersion Extent in the Nearshore Alaskan Beaufort Sea Based On In-Situ Oceanographic Measurements, prepared for ADEC, 154 pp.

### ACADEMIC EXPERIENCE

#### Theses

- Danielson, S.L., 2012. Variability In The Circulation, Temperature, And Salinity Fields Of The Eastern Bering Sea Shelf In Response To Atmospheric Forcing, Doctoral dissertation. University of Alaska Fairbanks, Fairbanks, AK, 204 pp.
- Danielson, S.L., 1996. The Chukchi Sea tidal currents: model and observations, Master's thesis. University of Alaska Fairbanks, Fairbanks, AK

#### Ph.D. Committee

- Dr. Thomas J. Weingartner (chair)  
Dr. Knut Aagaard  
Dr. Kenneth O. Coyle  
Dr. Katherine S. Hedstrom  
Dr. Zygmunt Kowalik

## CURRICULUM VITAE: SETH LOMBARD DANIELSON

### **M.S. Committee**

Dr. Thomas J. Weingartner (chair)  
Dr. Mark A. Johnson  
Dr. Andrey Proshutinsky  
Dr. Bruce Finney

### **Teaching**

MSL 620, Fall 2019: Physical Oceanography  
MSL F494, Spring 2019: Computer Programming for Scientific Applications  
MSL F494, Spring 2017: Computer Programming for Scientific Applications  
MSL F494, Spring 2015: Computer Programming for Scientific Applications  
MSL F697, Spring 2014: Independent Study: Chukchi Sea Ocean and Ice Dynamics and Kinematics

### **Graduate Student Committees (active)**

Delaney Coleman, M.S. Oceanography  
Silvana Gonzalez, PhD. University of Washington Fisheries  
Brittany Jones, PhD. Marine Biology  
Annie Kandel, M.S. Oceanography  
Heidi Mendoza-Islas, M.S. Oceanography  
Emily Ortega, M.S. Oceanography  
Alexandra Poje, M.S. Oceanography  
Isaac Reister, PhD. Oceanography (Chair)  
Savannah Sandy, M.S. Oceanography (Chair)  
Akila Sampath, Ph.D. Atmospheric Science

### **Graduate Student Committees (graduated)**

Rachel Lekanoff, M.S. Oceanography, 2020  
Yang Yang, PhD, Atmospheric Science, 2020  
Ann Zinkann, PhD, Marine Biology, 2020  
KoFan Lu, Ph.D. Oceanography (Co-chair), 2019  
Faith Stemmler, M.M.A. Oceanography, 2018  
Jennifer Marsh, Ph.D. Fisheries, 2019  
Alyssa Lind, M.S. Marine Biology, 2016  
Stacey Reisdorph, M.S. Oceanography, 2015  
Carlos Serratos, M.S. Marine Biology, 2015  
Greg Deemer, M.S. Sea Ice Geophysics, 2014

### **Undergraduate mentorship**

Ayanda Brydie, LTER-REU intern, summer 2019

### **Post-doctoral scholar mentorship**

Dr. Tyler Hennon, 2019-present

### **Faculty mentorship**

Dr. Will Burt, 2020-present

### **Awards and Honors**

2020 CFOS Deans Recognition Award: Outstanding Researcher  
2019 Inductee to the 2019 Alaska Innovators Hall of Fame State by Alaska Committee for Research  
2017 Mentor Award for dedication to the "Scientists in the Classroom" mentorship program  
2016 American Geophysical Union Editor's Citation for Excellence in Refereeing



## CURRICULUM VITAE: SETH LOMBARD DANIELSON

2016 Deep-Sea Research Certificate of Outstanding Contribution in Reviewing  
2015 Mentor Award for dedication to the "Scientists in the Classroom" mentorship program  
2014 Mentor Award for dedication to the "Scientists in the Classroom" mentorship program  
2013 University of Alaska Top Scholar Award  
1990 Instrumentation Society of America student award for design of Electronic Flow Meter

### SYNERGISTIC ACTIVITIES

#### UAF and CFOS Service

2019-present: UAF Faculty Senate  
2019-present: Faculty Senate Research Advisory Committee  
2019: UAF VCR Research Outreach Event for Alaska Legislators  
2017-2020: Support of UAF-NOAA Cooperative Institute planning  
2017: CFOS Dean's Committee on drafting a UAF Science Technology Center white paper  
2016-2019: Design and procurement of UAF SMC coastal research vessel *R/V Nanuq*  
2016: UAF VCR Research Outreach event for Alaska Legislators  
2014-2016: UA Center for Salmon and Society Planning Team  
2015: UAF VCR Research Outreach event for Board of Regents  
2015: NSF Director's tour of R/V Sikuliaq  
2014: UAF hosting of Secretary of the Navy Mabus  
2014: GAK1 Endowment  
2014: SFOS Web Committee  
2012: Marinette Sikuliaq Science Workshop  
2007: SFOS Search Committee for Marine Superintendent at the Seward Marine Center  
2004: UAF Search Committee for SFOS Dean  
2003: IARC Search Committee for Marine Technician

#### Professional Service

2020-ongoing: National Marine Fisheries Service (NMFS) Investigative Team for *Ice Seal Unusual Mortality Event* (UME)  
2020: Chair, Scientific Conference Session: *Ecosystem structure and processes in a changing Arctic, Ocean Sciences Meeting*, San Diego, CA, February 2020  
2020: Organizer and panelist, Town Hall Meeting: *Scientific Response to an Ever Faster Changing Arctic: Making the Most of Our Collective Research Efforts*  
2019-present: Guest editor for Deep Sea Research II: Topical studies in oceanography - Understanding ecosystem processes, timing, and change in the Pacific Arctic  
2018-present: US component of the Synoptic Arctic Survey Science Steering Committee  
2018-present: Alaska SeaLife Center Science Advisory Committee  
2018: Chair, Scientific Conference Session: *Linkages Between Environmental Drivers and Structure of Arctic Ecosystems*, Ocean Sciences Meeting, Portland, OR, February 2018  
2016-present: Science Steering Committee, Arctic Integrated Ecosystem Research Program  
2015: Lead author, workshop results pamphlet *Sustaining the Yukon River Chinook System – A Resilience Approach*  
2014-present: GEBCO Sub-Committee on Regional Undersea Mapping  
2014: Co-convenor, ICES Annual Meeting Special Session: *Physical and biological consequences of North Atlantic circulation patterns*, A Coruña, Spain  
2013-2014: UAF Chapman Chair workshop organizing committee "Fostering Yukon Chinook Resilience"  
2010: WHOI ad hoc committee to select manufacturers for the OOI buoy power system.  
2008: NSF reviewer for the technical final design review (FDR) panel for the NSF-funded Ocean Observatories Initiative (OOI)

## CURRICULUM VITAE: SETH LOMBARD DANIELSON

### Scientific journal peer reviews

- *Climate Dynamics*
- *Continental Shelf Research*
- *Deep-Sea Research II: Topical Studies in Oceanography*
- *EOS*
- *Frontiers in Marine Science*
- *Geophysical Research Letters*
- *Journal of Geophysical Research: Biogeosciences*
- *Journal of Geophysical Research: Oceans*
- *Journal of Oceanography*
- *Journal of Physical Oceanography*
- *Nature*
- *Progress in Oceanography*

### Public Service, Outreach, and Media

2020

- Contribution to Gizmodo Earther article [Bering Sea Ice Hasn't Been This Low in at Least 5,500 Years](#), (B. Kahn, 2 Sept. 2020)
- Presentation at Alaska Eskimo Whaling Commission meeting, Online, Jul. 2020
- Contribution to NSF blog post: [Ocean research in the time of COVID-19: Expedition to the Gulf of Alaska keeps vital research and data collection on course](#), (12 June 2020)
- Contribution to EOS article *What it's like to social distance at sea* (J. Duncombe, 12 May 2020) <https://doi.org/10.1029/2020EO144098>
- Contribution to Sea Technology article *RV Sikuliaq completes cruise using COVID-19 precautions* (29 May 2020)
- Radio interview: Hometown Alaska program on Alaska Public Media with Kathleen McCoy (30 Mar. 2020)
- Contribution to El Pais article *Arctic life has already changed due to climate change* (M. Raised, 26 Feb. 2020)
- Contribution to UAF press release *Scientists document striking changes to Pacific Arctic ecosystems* (A. Bailey, 25 Feb. 2020)
- Contribution to Alaska Public Media article *Dramatic ocean changes are coming 'a couple decades too early,' scientists say* (W. Early, 24 Feb. 2020)
- Contribution to Eye on the Arctic blog post *Scientists sound alarm on striking transformation of Bering and Chukchi ecosystems as ocean warms* (E. Quinn, 24 Feb. 2020)

2019

- Presentation at Inuvialuit Game Commission meeting for Atautchikkun Ilitchisukluta project, Inuvik, Canada, December 2019
- Contribution to Science News article *Vanishing Bering Sea ice threatens one of the richest U.S. seafood sources* (W. Cornwall, 15 May 2019)
- Contribution to Fairbanks Daily News-Miner article *UAF researchers delve into the deep waters of the Chukchi Sea* (K. Long, 22 Apr. 2019)
- Contribution to Associated Press article *Pace of Bering Sea change startles scientists* (D. Joling, 13 Apr. 2019)
- Contribution to The Nome Nugget article *Slight Uptick in Cesium-127 Heralds Arrival of Fukushima Plume in Northern Bering Sea* (D. Haecker, 9 Mar. 2019)
- Organizer, lecturer for Osher Lifelong Learning Institute (OLLI) fall lecture series *Marine Science*

## CURRICULUM VITAE: SETH LOMBARD DANIELSON

2018

- Interview on local radio KIAK with Peter Van Nort, Fairbanks AK, Nov, 2018
- Presentation at Arctic Waterways Safety Commission meeting, Anchorage, AK, Oct. 2018
- Presentation at Alaska Eskimo Whaling Commission meeting, Fairbanks, AK, Jul. 2018
- Contribution to The Nome Nugget article *UAF Research Vessel Sikuliaq Visits Nome* (J. Mason, 29 Jun. 2018)

2017

- Contribution to Ketchikan Daily News article *UAF vessel launches Bering research program* (E. Granger, 31 Jul. 2017)
- Contribution to KNOM article *UAF research Vessel Begins Ecosystem Study in Bering and Chukchi Seas* (D. Hovey, 3 Jul. 2017)
- Contribution to KNOM article *Scientists Study Spring Transition in Bering Strait Waters* (G. Colombo, 27 Jun. 2017)
- Contribution to Fairbanks Daily News Miner article *UAF research vessel launches Bering research program, finds warmer Arctic waters* (E. Granger, 22 Jul. 2017)
- Alaska Eskimo Whaling Commission meeting, Fairbanks, AK, Jul. 2017
- Discussions with Bering Strait region tribally nominated village representatives, Jan. 2017

2016

- Discussions with Kotzebue Sound region tribally nominated village representatives, Dec. 2016
- Discussions with Native Village of Gambell Tribal Council on St. Lawrence Island, Nov. 2016
- Discussions with Native Village of Savoonga Tribal Council representatives on St. Lawrence Island and by phone, Nov. 2016
- Presentation at meeting of the Indigenous Peoples Council on Marine Mammals, Oct. 2016
- Presentation to Alaska Eskimo Whaling Commission meeting, Anchorage, AK, Jul. 2016

2015

- Contribution to The Nome Nugget article *Harmful algal toxin found in stranded minke whale* (D. Haecker, 19 Nov. 2015)

2014

- UAF Museum of the North's Ocean Science Discovery Day
- Osher Lifelong Learning Institute (OLLI) fall 2014 lecture series *Dive into Ocean Science*
- Fairbanks Golden Heart Rotary Club function invited speaker, Fairbanks, AK, Apr. 2014
- Classroom visit, Pearl Creek Elementary School to talk about oceanography, Mar. 2014
- UAF Museum of the North Sikuliaq display - interviews and display contributions
- Pribilof Island *Bering Sea Days* week of ocean exploration for St. Paul Island and St. George Island students and community members

2013

- Kawerak Corporation's workshop *Indigenous Knowledge and Use of Bering Strait Region Ocean: Currents*, Nome, AK, Nov. 2013
- Elementary Public school assistance: project on tidal energy, Mar. 2013
- Pribilof Island *Bering Sea Days* week of ocean exploration for St. Paul Island and St. George Island students and community members

2012

- Pribilof Island *Bering Sea Days* week of ocean exploration for St. Paul Island and St. George Island students and community members

## CURRICULUM VITAE: SETH LOMBARD DANIELSON

2011

- Pribilof Island *Bering Sea Days* week of ocean exploration for St. Paul Island and St. George Island students and community members

2010

- BEST/BSIERP Professional Development Workshop in Anchorage, AK

2009

- Center for Ocean Science Education Excellence (COSEE) “Salmon in the Classroom” teacher workshop, Fairbanks AK.

1997-present: Creator of numerous outreach-directed marine science web pages, including:

- Beyond Just Science: <http://mather.sfos.uaf.edu/~seth/BeyondJustScience/>
- Retrospective analysis of Norton Sound benthic communities: [www.ims.uaf.edu/NS/](http://www.ims.uaf.edu/NS/)
- GAK1 long-term oceanographic monitoring timeseries: [www.ims.uaf.edu/gak1/](http://www.ims.uaf.edu/gak1/)

### RESEARCH EXPERIENCE

#### Presentations and Workshop Participation

(Lead author citations only; solid bullet denotes by invitation)

2020

- Enhancing Coastal and Ocean Observing and Innovation: OAR and IOOS Pacific Regional Workshop, Online, August 2020, Invited Moderator
- Poster presentation, Heat over the Pacific Arctic Continental Shelves: Recent Changes in Content, Surface Fluxes and Throughput, Ocean Sciences meeting, San Diego, CA, February 2020
- Poster presentation, Heat over the Pacific Arctic Continental Shelves: Recent Changes in Content, Surface Fluxes and Throughput, Alaska Marine Science Symposium, January 2020
- Oral presentation, Coordinating Future Research Efforts in the Bering Sea/Strait and Adjacent Regions, Alaska Marine Science Symposium Workshop, Anchorage, AK, January 2020

2019

- Oral presentation, Danielson Lab Updates, AOOS Board of Trustees, Anchorage AK, December 2019
- Oral presentation, 21<sup>st</sup> Century Oceanography in the Last Frontier, RVTEC Keynote Speaker, Fairbanks, AK, October 2019
- Oral presentation, Long-term changes in heat content, salinity and stratification over the Pacific Arctic and Subarctic continental shelves, Japan Geoscience Union Meeting 2019, Makuhari Messe, Chiba, Japan, May 2019
- Oral presentation, Changing stratification over Alaska region continental shelves suggests altered diapycnal mixing and nutrient fluxes, OMIX Workshop, Tokyo, Japan, May 2019
- Oral presentation, Impacts of recent warming on benthic and pelagic growth, respiration and deposition over the Northern Bering and Chukchi Sea continental shelves., Woods Hole Oceanographic Institute Seminar, Falmouth, MA, May 2019
- Oral presentation, Retooling Alaska’s Ice and Brine Factory, FOS Seminar, April 2019
- Oral presentation, The Arctic Integrated Ecosystem Research Program: Observations of 2017-2018 conditions and consequences, Alaska Marine Science Symposium, January 2019
- Oral presentation, Recent surface heat fluxes and thermal and sea ice conditions of the Bering-Chukchi Continental Shelf, Alaska Marine Science Symposium, January 2019

2018

- Oral presentation, On the Thermal and Sea Ice Conditions of the Bering-Chukchi Continental Shelf, AGU Fall Meeting, Washington DC, December 2018

## CURRICULUM VITAE: SETH LOMBARD DANIELSON

- Oral presentation, Rate Experiments of the Arctic Integrated Ecosystem Research Program, IARPC Ecosystem Collaboration Team meeting, November, 2018
  - Poster presentation, Acrobat Observations along the Gulf of Alaska Hydrographic Tightrope, Monterey, CA, LTER All-hands meeting, October 2018
  - Oral presentation, National Academies of Science, Engineering, and Medicine: Ocean Studies Board, Fairbanks, AK, September 2018
  - Participant, National Ecosystem Mooring Workshop, March 2018, Seattle, WA
  - Oral Presentation within: To unpathed waters, undreamed shores: Current and future marine research in the Gulf of Alaska Workshop on the Gulf of Alaska, Ocean Sciences Meeting, Portland, OR, February 2018
- 2017
- Oral presentation, Ice floes to seals, waves to whales. Linking high latitude marine ecosystem studies and researchers through physics. Sitka Whale Fest 2017, Sitka, AK, November 2017
  - Oral presentation, AIERP Update to the Pacific Arctic Group, Seattle WA, November 2017
  - 4<sup>th</sup> Pan-Arctic Marine Synthesis Workshop, Motovun, Croatia, October 2017
  - U.S.-Canada Northern Oil and Gas Research Forum, Anchorage, AK, October 2017
  - Recap of 2017 Arctic Integration Ecosystem Research Program field season to NPRB Board of Trustees, Cordova, AK, September 2017
  - Oral presentation, Attempting Multi-Disciplinary Measurements at Biologically & Physically Relevant Time & Length Scales, Gordon Research Conference, Ventura, CA, March 2017
- 2016
- Oral presentation, Oceanography of the North Pacific and Pacific Arctic: A mechanistic view of atmospheric drivers, oceanic pathways and change through time, RACArctic, Hakodate, Japan, March 2016
  - Oral presentation, A Comparison Between Late Summer 2012 and 2013 Water Masses, Macronutrients, and Phytoplankton Standing Crops in the Northern Bering and Chukchi Seas. AGU-ASLO Ocean Sciences Meeting February 2016
  - Oral presentation, A Northeastern Chukchi Shelf Ecosystem Observatory: Year 1 Results and Year 2 Build-out. AMSS January 2016
  - Poster presentation, 1970 to 2015 Thermal and Haline Anomalies on the Northern Gulf of Alaska Continental shelf. Pacific Anomalies Workshop - II. 2016, January 2016
- 2015
- Oral presentation, Physical oceanography of Barrow Canyon in August 2013, Shelf Habitat and EcoLogY of Fish and Zooplankton (SHELFZ) PI meeting, January 2015
  - Oral Presentation, Gulf of Alaska 2015 Anomalous Conditions: Oceanography, Workshop at Alaska Marine Science Symposium, January, 2015
  - Poster presentation, 1970 to 2015 Thermal and Haline Anomalies on the Northern Gulf of Alaska Continental Shelf, Pacific Anomalies Workshop, Seattle, WA, January 2015
- 2014
- Oral presentation, Coupled wind-forced controls of the Bering-Chukchi shelf circulation and the Bering Strait throughflow: Ekman transport, continental shelf waves, and variations of the Pacific-Arctic sea surface height gradient, AGU Fall Meeting, San Francisco, CA, December 2014
  - Oral presentation, GEBCO Sub-Committee on Regional Undersea Mapping workshop, Google Headquarters, Mountain View, CA, December 2014
  - Oral Presentation to National Academies' Polar Research Board, November 2014
  - Oral presentation, Ramifications of a longitudinally shifting Aleutian Low, ICES Fall Meeting Sustainability in a Changing Ocean, A Coruna, Spain, September 2014
  - Oral presentation, Northern Bering and Chukchi Sea Physics, Nutrients, and Chlorophyll of late summer 2012 and 2013. ArcticEIS PI meeting, Juneau, AK, June 2014

## CURRICULUM VITAE: SETH LOMBARD DANIELSON

- Oral presentation, Ocean physics: relevant mechanisms, length scales, and time scales. Fostering Resilience of Yukon Chinook Chapman Chair workshop, Fairbanks AK, April 2014
  - Oral presentation, Fairbanks Golden Heart Rotary Club function, Fairbanks, AK, 18 April 2014
  - Oral presentation, Coupled wind-forced controls of the Bering-Chukchi shelf circulation and the Bering Strait throughflow. AGU/ASLO Ocean Sciences Meeting, Honolulu, HI, February 2014
  - Oral presentation, What's New in Bering Strait 2013 and Remote forcing of Bering Strait Transport. RUSALCA PI Meeting, Honolulu, HI, February 2014
  - Oral presentation, Coupled wind-forced controls of the Bering-Chukchi shelf circulation and the Bering Strait throughflow: Ekman transport, continental shelf waves, and variations of the Pacific-Arctic sea surface height gradient. Alaska Marine Science Symposium, Anchorage, AK, January 2014
  - Participant, AOOS workshop at Alaska Marine Science Symposium on ocean modeling in Alaskan waters, Anchorage, AK, January 2014
- 2013
- Oral presentation, Kawerak Corporation's workshop "Indigenous Knowledge and Use of Bering Strait Region Ocean Currents" in Nome, AK, November 2013
  - Oral presentation, Bureau of Ocean Energy Management Model Review Board on results and validation of Arctic circulation-ice modeling, Herndon, VA, June 2013
  - Participant, Wakefield symposium workshop *Toward a Conceptual Model for Arctic Shelf Ecosystems*, Anchorage, AK, March 2013
  - Participant, Chukchi Sea Synthesis of Arctic Research (SOAR) Benthic System Analysis workshop, Anchorage, AK, March 2013
  - Participant, Bering Sea Synthesis Workshop on population dynamics of large crustacean zooplankton, Friday Harbor, WA, February 2013
  - Poster presentation, Alaska Marine Science Symposium on the Alaska Region Bathymetric Digital Elevation Model (ARDEM), Anchorage AK, January 2013
- 2012
- Oral presentation, Seminar on Bering Sea circulation given at Institute of Ocean Science, Victoria, BC, Canada, November 2012
  - Oral presentation, US-Canada Northern Oil and Gas Research Forum in Anchorage, AK, November 2012
  - Oral presentation, PICES meeting Ecosystem Studies of Subarctic Seas (ESSAS) workshop on Arctic-Subarctic interactions, Hiroshima, Japan, October 2012
  - Participant, BEST Synthesis workshop at Bermuda Institute of Ocean Science: Impact of sea-ice on bottom-up and top-down controls of crustacean zooplankton and the mediation of carbon and energy flow in the eastern Bering Sea, Bermuda, February 2012
  - Oral presentation, AGU/ALSO Ocean Science meeting, Circulation Dynamics of the central eastern Bering Sea shelf, Salt Lake City, UT, February 2012
- 2011
- Oral presentation, Oceanography of the Eastern Bering Sea Shelf: Important Processes, Inter-Annual Variability and Linkages to the Greater Ecosystem, American Fisheries Society (AFS) national meeting, Seattle WA, September 2011
  - Oral presentation, Evaluation of a numerical model and application of results to understanding modes of variability in the Bering Sea ice/ocean/ecosystem, Ecosystem Studies of Sub-Arctic Seas (ESSAS), Comparative Studies of Climate Effects on Polar and Sub-Polar Ecosystems: Progress in Observation and Prediction, Seattle WA, May 2011
- 2010
- Oral presentation and participant, Bering Sea Ecosystem Professional Development Workshop: transforming BEST-BSIERP science into educational resources, Anchorage, AK, September 2010

## CURRICULUM VITAE: SETH LOMBARD DANIELSON

- Poster presentation, Thermal and haline variability over the central Bering Sea shelf: Seasonal and inter-annual perspectives. AGU/ASLO Ocean Sciences meeting, Portland, OR, February, 2010
- Poster presentation, Seasonal and inter-annual temperature and salinity variability over the eastern Bering Sea shelf. Alaska Marine Science Symposium, Anchorage, AK, January 2010

2009

- Oral presentation, 2009 Alaska Marine Science Symposium, Anchorage, AK: Danielson, S., T. Weingartner, T. Reeve, W. Jones, 2009. A satellite-tracked drifter perspective of the nearshore Bering Sea: science and outreach.
- Oral presentation, 2009 Kuskokwim Area Interagency Fisheries Meeting, Anchorage, AK: S. Danielson, T. Reeve, T. Weingartner, W. Jones: Kuskokwim Bay current study
- Oral presentation, October 2009 Center for Ocean Science Education Excellence (COSEE) "Salmon in the Classroom" teacher workshops in Fairbanks, AK.

2008

- Poster presentation, 2008 Alaska Marine Science Symposium: Danielson, S., L. Eisner, K. Hedstrom, T. Weingartner, Z. Kowalik, 2008. A look at the summer evolution of stratification over the central Bering Sea shelf under changing climate conditions.
- Poster presentation, 2008 Alaska Marine Science Symposium, Anchorage, AK: Danielson, S., M. Johnson, S. Solomon and W. Perrie, 2008. 1 km Gridded Bathymetric Dataset Based on Ship Soundings: A research tool for the waters of eastern Russia, Alaska & western Canada.
- Poster presentation, 2008 AGU/ASLO Ocean Sciences meeting in Orlando, FL: Danielson, S., L. Eisner, K. Hedstrom, T. Weingartner, Z. Kowalik, 2008. A look at the summer evolution of stratification over the central Bering Sea shelf under changing climate conditions.
- Oral presentation, the 2008 North Pacific Anadromous Fish Commission (NPAFC) International Symposium on Bering-Aleutian Salmon International Surveys (BASIS): Climate Change, Production Trends, and Carrying Capacity of Pacific Salmon in the Bering Sea and Adjacent Waters, Seattle, WA: Danielson, S., L. Eisner, and T. Weingartner, 2008. Physical oceanographic conditions over the Bering Sea shelf, 2002-2007

### SPONSORED PROJECTS AND COMMISSIONS (Title, funder, award, role)

#### In Review

1. Collaborative Research: Taking the Pulse of the Arctic Ocean System from the shelves to the Pole - A US Contribution to the International Synoptic Arctic Survey, NSF, In review, "\$343,401", CoPI
2. Coastal Modeling Infrastructure Capacity Building, NOAA-CIMES, In review, "\$100,000", PI

#### Funded

3. Deep Plankton Imager —For oceanography and Alaska marine ecosystem research, MJMCT, 2020, "\$325,700", CoPI
4. Arctic Marine Biodiversity and Ecosystem Structure Data Synthesis and Analysis, BOEM-CMI, 2020, "\$54,189", PI
5. Underwater Autonomous Vehicle missions in support of an Ecosystem Based Approach to Alaska fisheries management, AOOS/IOOS, 2020, "\$440, 168", PI
6. Demonstrating operational readiness of AUV-based ecosystem monitoring through a field program supporting the International Year of the Salmon, NOAA, 2020, "\$189, 559", CoPI
7. Ecosystem monitoring and detection of wind and ice-mediated changes through a year-round physical and biogeochemical mooring in the Northeast Chukchi Sea Phase II, NPRB, 2020, "\$549, 168", PI
8. Western Beaufort and Chukchi Sea Surface Current Analysis, BOEM-CMI, 2019, "\$77, 640", CoPI
9. Landfast Ice Climatology within the Arctic OCS, BOEM, 2019, "\$1, 699, 293", CoPI
10. Collaborative Oceanographic Monitoring in Southeast Alaska Parks, NPS, 2019, "\$415,000", PI
11. A sustainable integrated AMBON in the Chukchi Sea, NOAA, 2019, "\$420,000", CoPI

## CURRICULUM VITAE: SETH LOMBARD DANIELSON

12. Atautchikkun Iitichisukluta: Coming together to learn: Co-producing knowledge across the Northwest Passage, NSF, 2019, "\$240,937", CoPI
13. Bering Strait High Frequency Radar, AOOS/IOOS, 2019, "\$1,108,286", PI
14. North Slope Alaska High Frequency Radar, AOOS/IOOS, 2019, "\$624,000", PI
15. An Arctic marine mammal observing system, AOOS/IOOS, 2018, "\$125,000", CoPI
16. LTER: Resilience in the Environmental Mosaic of the Northern Gulf of Alaska (NGA) Shelf Ecosystem, NSF, 2017, "\$5,635,000", CoPI
17. Three-dimensional structure of Arctic tides and near-inertial oscillations and their role in changing the Arctic Ocean and ice pack, NSF, 2017, "\$397,974", CoPI
18. Coastal hydrographic physical dynamics and oceanography assessments, NPS, 2017, "\$219,460", PI
19. Northern Gulf of Alaska Marine Ecosystem Monitoring, MJMCT, 2017, "\$392,000", PI
20. Arctic and Sub-Arctic Moored Ecosystem Observatory, AOOS, 2017, "\$450,000", PI
21. "ASGARD: Arctic Shelf Growth Advection, Respiration and Deposition Rate Experiments", NPRB, 2016, "\$3,401,002", PI
22. ASGARD vessel funding, ASP, 2016, "\$1,200,000", PI
23. Long-term Monitoring: Ecosystem Drivers Component Project: Long-term Monitoring of Oceanographic Conditions in the Alaska Coastal Current from Hydrographic Station GAK-1, EVOSTC, 2016, "\$665,486", PI
24. UAF technical support at Amchitka Island Underground Nuclear Test Site for AK Department of Environmental Conservation, ADEC, 2016, "\$152,000", CoPI
25. Unraveling controls of inorganic carbon in the Gulf of Alaska, NSF, 2016, "\$533,077", CoPI
26. Development of a Very High-resolution Regional Circulation Model of the Beaufort Sea Nearshore Areas, BOEM, 2016, "\$364,926", CoPI
27. Glacier Bay Oceanographic Investigations, NPS, 2015, "\$64,806", CoPI
28. Initiating an Arctic Marine Biodiversity Observing Network (AMBON), NOAA-NOPP, 2015, "\$3,728,899", CoPI
29. Arctic Gadids in a Changing Climate, NPRB, 2015, "\$264,054", CoPI
30. Circulation and Hydrographic Structure of Kotzebue Sound, NVK, 2015, "\$30,879", PI
31. Measuring the pulse of the Gulf of Alaska: Oceanographic observations along the Seward Line, NPRB, 2014, "\$997,500", CoPI
32. Ecosystem monitoring and detection of wind and ice-mediated changes through a year-round physical and biogeochemical mooring in the Northeast Chukchi Sea., NPRB, 2014, "\$540,168", PI
33. NE Chukchi Sea Ecosystem Moorings, AOOS, 2014, "\$400,000", PI
34. Collaborative Research: Natural and anthropogenic controls on the inorganic carbon dynamics in the Chukchi Sea, NSF, 2014, "\$534,671", CoPI
35. Improvements to bathymetric digital elevation models spanning Alaska region waters, NPRB, 2014, "\$99,000", CoPI
36. Ecosystem monitoring and detection of wind and ice-mediated changes through a year-round physical and biogeochemical mooring in the Northeast Chukchi Sea, NPRB, 2014, "\$542,000", PI
37. Northeast Chukchi Sea Physical and Chemical Mooring, AOOS, 2014, "\$450,000", PI
38. Ecology of Forage Fishes in the Arctic Nearshore, CAASP, 2014, "\$1,500,000", CoPI
39. Coastal Community Ocean Observers (C2O2): A network of community-driven coastal ocean observations, NPRB, 2014, "\$182,000", CoPI
40. The southern Chukchi Sea, response to variations in Bering Sea circulation pathways, NPRB, 2014, "\$165,000", PI
41. Cook Inlet Circulation Model Calculations, BOEM, 2014, "\$499,000", PI
42. Shelf Habitat and EcoLogY of Fish and Zooplankton (SHELfZ), CIAP, 2013, "\$44,000", CoPI
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## CURRICULUM VITAE: SETH LOMBARD DANIELSON

### BIOGRAPHICAL SKETCH

Seth Danielson's research focuses on the physical hydrography and circulation of high-latitude continental shelves. He earned a BS in Electrical Engineering from Lehigh University in 1990, M.S. and Ph.D. degrees in Oceanography from the University of Alaska Fairbanks (UAF) in 1996 and 2012. Danielson is presently an Associate Professor of Oceanography at UAF's College of Fisheries and Ocean Sciences. His research informs a more complete understanding of the mechanisms that regulate high latitude continental shelf environments, with particular emphasis on drivers of ecosystem structure and variability. Ongoing studies include the NSF's Long-Term Ecological Research (LTER) site in the Northern Gulf of Alaska (NGA), maintaining the now 49-year-old GAK1 hydrographic time series, and overseeing a network of moored physics-to-whales ecosystem observatories that are distributed across Alaska's Arctic and sub-Arctic continental shelves. Danielson leads the Arctic Shelf Growth, Advection, Respiration and Deposition (ASGARD) rate experiments component of the North Pacific Research Board's Arctic Integrated Ecosystem Research Program. Field work regularly takes him to Gulf of Alaska, the Bering Sea, and Arctic study sites, including the Chukchi Sea and the Northwest Passage in the Canadian Arctic Archipelago. Time in the field includes over 200 days at National Science Foundation facilities in Antarctica and Greenland between 1993 and 1997 and dozens of research cruises totaling nearly 500 days at sea between 1995 and 2020. Danielson serves on the Science Advisory Council of the Alaska Sea Life Center in Seward, AK, on the North Pacific Research Board's Arctic Integrated Ecosystem Research Program's Science Steering Committee, and on the US component of the Synoptic Arctic Survey's Science Steering Committee. He provides scholarly reviews for research proposals, book chapters, and peer-reviewed journal articles. Danielson oversees vessel-mounted ADCP, profiling and towed undulating CTD, Slocum glider, HF radar, and mooring operations that are based out of oceanography labs located in Seward and Fairbanks, AK. He plays clawhammer style banjo, is a founding member of the contradance and festival band *Ice Jam*, and resides with his family in Fairbanks, AK, in a self-designed and self-built wind and solar powered home.