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EDUCATION

PhD	1998	Princeton University	Department of Ecology and Evolutionary Biology
BA	1991	Amherst College	Department of Biology, <i>Magna cum laude</i>

EMPLOYMENT HISTORY

2015 –	Professor	UAF	CANHR, IAB, B & W
2009 – 2015	Associate Professor	UAF	CANHR, IAB, B & W
2004 – 2009	Assistant Professor	UAF	IAB, B & W
2003 – 2004	Assistant Professor	Wellesley College	Dept. of Biology
2001 – 2002	Visiting Assistant Professor	Swarthmore College	Dept. of Biology
2000 – 2001	Visiting Scientist	Carnegie Institution of Washington	Geophysical Laboratory
2002– 2003			
1998 – 2001	Postdoctoral Associate	Stanford University	Dept. of Biological Sciences
2002– 2003			
1996 – 1997	Harold W. Dodds Honorary Graduate Fellow	Princeton University	Dept of Ecol. and Evol Biology
1992 - 1995	NSF Graduate Fellow	Princeton University	Dept of Ecol. and Evol Biology

PUBLICATIONS

Google Scholar profile: <http://scholar.google.com/citations?user=zycsjkAAAAJ>

My NCBI Bibliography: <http://bit.ly/1TAVrqq>

73. Yun, HY†, LF Tinker, ML Neuhausser, DA Schoeller, Y Mossavar-Rahmani, LG Snetselaar, LV Van Horn, CB Eaton, RL Prentice, JW Lampe, **DM O'Brien** 2020 "The carbon isotope ratios of serum amino acids in combination with participant characteristics can be used to estimate added sugar intake in a controlled feeding study of US postmenopausal women" *Journal of Nutrition early online*, <https://doi.org/10.1093/jn/nxaa195>
72. O'Brien, DM and SB Votruba. 2020 "Reply to Mantha OL et al, "Natural isotopic abundances and markers of compliance in clinical trials" *American Journal of Clinical Nutrition* 111(5):1110-1111
71. Barst, BD†, MJ Wooller, **DM O'Brien**, A Santa-Rios, N Basu, G Kock, JJ Johnson, DCG Muir 2020 "Dried blood spot sampling of landlocked Arctic char (*Salvelinus alpinus*) for estimating mercury exposure and stable carbon isotope fingerprinting of essential amino acids" *Environmental Toxicology and Chemistry* 39(4): 893-903.
70. Maruvada, P; JW Lampe; DS Wishart; D Barupal; DN Chester; D Dodd; PC Dorrestein; LO Dragsted; J Draper; LC Duffy; JT Dwyer; NJ Emenaker; O Fiehn; YD Feunang; RE Gerszten; F Hu; RW Karp; DM Klurfeld; MR Laughlin; CJ Lynch; RR Little; SC Moore; HL Nicastro; **DM O'Brien**; JM Ordovás; SK Osganian; M Playdon; R Prentice; D Raftery; N Reisdorph; HM Roche; SA Ross; A Scalbert; S Sang; PR Srinivas; SH Zeisel 2020 "Dietary Biomarkers of Intake and Exposure: Exploration with Omics Approaches" *Advances in Nutrition* 11(2):200-215.

69. Votruba, SB, P Shaw, E Oh*, CA Venti, S Bonfiglio, J Krakoff, **DM O'Brien** 2019 "Associations of plasma, red blood cell and hair carbon and nitrogen isotope ratios with fish, meat and SSB intake in a 12-week inpatient feeding study" *American Journal of Clinical Nutrition* 110(6): 1306-1315. *Editor's Choice, subject of a commentary in the same issue
68. Choy, K†, SH Nash*, C Hill**, A Bersamin, SE Hopkins, BB Boyer, **DM O'Brien** 2019 "The nitrogen isotope ratio is a biomarker of Yup'ik traditional food intake and reflects dietary seasonality in segmental hair analyses" *Journal of Nutrition* 49(11): 1960-1966.
67. Bersamin, A, B Izumi, J Nu*, **DM O'Brien**, MJ Paschall 2019 "Strengthening adolescents' connection to their traditional food system improves diet quality in remote Alaska Native communities: results from the *Neqa Elicarvigmun* Pilot Study" *Translational Behavioral Medicine* 9(5): 952-961.
66. Smith, JS*, S Karpovich, L Horstmann, J McIntyre, **DM O'Brien** 2019 "Seasonal differences in foraging and isotopic niche width are related to size in Gulf of Alaska harbor seals" *Canadian Journal of Zoology* 97:1156-1163.
65. Rowe, AG*, K Iken, AL Blanchard, **DM O'Brien**, RD Osvik, M Uradnikova, MJ Wooller 2019 "Sources of primary production to Arctic bivalves identified using amino acid stable carbon isotope fingerprinting" *Isotopes in Environmental and Health Studies* 55(4): 366-384.
64. Yun HY†, Lampe JW, Tinker LF, Neuhouser ML, Beresford SAA, Niles KR, Mossavar-Rahmani Y, Snetselaar LG, Van Horn L, Prentice RL, **O'Brien DM**. 2018 "Serum nitrogen and carbon stable isotope ratios meet biomarker criteria for fish and animal protein intake in a controlled feeding study of a Women's Health Initiative cohort" *Journal of Nutrition* 148(12): 1931-1937 *Editor's choice, subject of a commentary in the same issue*
63. Smith, JS*, S Karpovich, GA Breed, **DM O'Brien**. 2018 "Morphological characteristics of harbor seal (*Phoca vitulina*) whiskers and their use in dietary reconstruction using stable isotope ratios" *Canadian Journal of Zoology* 96(11): 1255-1263.
62. Philip, J, TK Ryman, SE Hopkins, **DM O'Brien**, A Bersamin, J Pomeroy, KE Thummel, MA Austin, BB Boyer, K Dombrowski 2017 "Bi-cultural dynamics for risk and protective factors for cardiometabolic health in an Alaska Native (Yup'ik) population. *PLoS One* 12(11): e0183451
61. Nash, SH* and **DM O'Brien** 2017 "Stable isotope ratios as emerging dietary biomarkers", in *Advances in the Assessment of Dietary Intake*, eds. D Schoeller and M Westerterp-Plantenga. Taylor and Francis/CRC Press
60. **O'Brien, DM**, Thummel, KE, Bulkow, L, Wang, Z, Corbin, B**, Klejka, J, Boyer, BB, Hennessey, T, Singleton, R 2017 "Declines in traditional marine food intake and vitamin D levels from the 1960s to present in young Alaska Native women". *Public Health Nutrition* 20:1738-17.
59. Lee, TN*, MM Richter*, CT Williams, Ø Tøien, BM Barnes, **DM O'Brien**, CL Buck 2017 "Stable isotope analysis of CO₂ in breath indicates metabolic fuel shifts in torpid arctic ground squirrels" *Comparative Biochemistry and Physiology A* 209:10-15.
58. Oxtoby, LE*, L Horstmann, SM Budge, **DM O'Brien**, SW Wang*, T Schollmeier*, MJ Wooller 2017 "Resource partitioning between Pacific walrus and bearded seals in the Alaska Arctic and sub-Arctic" *Oecologia* 184(2): 385-398.
57. Au NT*, M Reyes, BB Boyer, SE Hopkins, J Black, **DM O'Brien**, AE Fohner, J Yracheta, T Thornton, MA Austin, W Burke, KE Thummel, AE Rettie 2017 "Dietary and genetic influences on hemostasis in a Yup'ik Alaska Native Population" *PLoS One* 12(4): e173616.
56. Lemas DJ*, Klimentidis, YC, Wiener HC **O'Brien, DM**, Hopkins, SE, Stanhope, KL, Havel, PJ, Allison, DB, Fernandez, JR, Tiwari, HK, Boyer, BB 2016 "Polymorphisms in *stearoyl CoA desaturase* and *sterol regulatory element binding protein* interact with n-3 polyunsaturated fatty acid intake to modify associations with obesity-related anthropometric and metabolic phenotypes in Yup'ik people" *Molecular Nutrition and Food Research* 60:2642-2653

55. Oxtoby LE*, SM Budge, K Iken, **DM O'Brien**, MJ Wooller 2016 "Feeding ecologies of key bivalve and polychaete species in the Bering Sea as elucidated by fatty acid and compound specific stable isotope analyses" *Marine Ecology Progress Series* 557:161-175.
54. Aslibekyan, S., LK Vaughan, HW Wiener, BA Hidalgo, DJ Lemas*, **DM O'Brien**, SE Hopkins, KL Stanhope, PJ Havel, KE Thummel, BB Boyer, HK Tiwari 2016 "Linkage and association analysis of circulating vitamin D and parathyroid hormone identifies novel loci and interactions with dietary n-3 polyunsaturated fatty acids in Alaska Native Yup'ik people" *Genes and Nutrition* 11:23
53. Larsen, T, M Ventura, K Maraldo, X Triadó-Margarit, EO Casamayor, YV Wang, N Andersen, **DM O'Brien** 2016 "The dominant detritus-feeding invertebrate in arctic peat soils derives its essential amino acids from gut symbionts" *Journal of Animal Ecology* 85(5):1275-1285.
52. Fohner, AE*, Wang, Z, Yracheta, J, **O'Brien DM**, Hopkins, SE, Black, J, Philip, J, Wiener, HW, Tiwari, H, Stapleton, PL, Tsai, JM, Thornton, TA, Boyer, BB, Thummel, KE 2016 "Genetics, diet, and season are associated with serum 25-hydroxycholecalciferol concentration in a Yup'ik study population from Southwestern Alaska" *Journal of Nutrition* 146(2):318-32.
51. Chi, DL, S Hopkins, **D O'Brien**, L Mancl, E Orr, D Lenaker 2015 "Association between added sugar intake and dental caries in Yup'ik children using a novel hair biomarker" *BMC Oral Health* 15:121
50. **O'Brien, DM**. 2015. "Stable isotope ratios as biomarkers of diet for health research" *Annual Review of Nutrition* 35: 565-594.
49. Beaulieu-Jones, B**, **DM O'Brien**, A Bersamin, BB Boyer, JH Moore, and D Gilbert-Diamond. 2015. "Sex and adiposity modify the protective effect of marine intake on blood pressure in Alaska Yup'ik people" *Journal of Nutrition* 145: 931-938.
48. Vaughan, LK, Wiener, HW, Aslibekyan, S, Allison, DB, Havel, PJ, Stanhope, K, **O'Brien, DM**, Hopkins, SE, Lemas, DJ*, Boyer, BB, Tiwari, HK. 2015. "Linkage and association analysis of obesity traits reveals novel loci and interactions with dietary n-3 fatty acids in an Alaska native population" *Metabolism* 64: 689-697.
47. Ryman, T.*, J Philip, B. Kavanaugh, **DM O'Brien**, K Thummel, SE Hopkins, BB Boyer, M. Austin. 2015. "Characterizing Health-Related Dietary Patterns among Yup'ik Alaska Native People: Reproducibility and Reliability" *British Journal of Nutrition* 113: 634-643.
46. Savory, G*, Hunter, C, Wooller, MJ and **DM O'Brien**. 2014. "Anthropogenic food use and diet overlap by red and arctic foxes in Prudhoe Bay, AK" *Canadian Journal of Zoology* 92:657-663.
45. **O'Brien, DM**, AR Kristal, SH Nash*, SE Hopkins, BR Luick, KL Stanhope, PJ Havel, BB Boyer 2014. "A stable isotope biomarker of marine food intake captures associations between n-3 fatty acid intake and chronic disease risk in a Yup'ik study population, and detects new associations with blood pressure and adiponectin" *Journal of Nutrition* 144:706-713.
44. Nash, SH*, Kristal, AR, Bersamin, A, Choy, K, Hopkins, SE, Stanhope, KL, Havel, PJ, Boyer, BB, and **DM O'Brien** 2014. "Isotopic estimates of sugar intake are related to chronic disease risk factors but not obesity in an Alaska Native (Yup'ik) study population" *European Journal of Clinical Nutrition* 68:91-96.
43. Nash, SH*, Kristal, AR, Hopkins, SE, Boyer, BB, and **DM O'Brien** 2014. "Stable isotope models of sugar intake using hair, red blood cells and plasma, but not fasting plasma glucose, predict sugar intake in a Yup'ik study population" *Journal of Nutrition* 144:75-80.

42. Aslibekyan, S, Wiener, HW, Havel, PJ, Stanhope, KL, **O'Brien, DM**, Hopkins, SE, Absher, DM, Tiwari, HK, Boyer, BB 2014. "DNA methylation patterns are associated with n-3 fatty acid intake in Yup'ik people" *Journal of Nutrition* 144: 425-430.
41. Klimentidis, YC, DJ Lemas*, HH Wiener, **DM O'Brien**, PJ Havel, KL Stanhope, S Hopkins, HK Tiwari, and BB Boyer 2014. "CDKAL1 and HHEX are associated with type-2 diabetes-related traits among Yup'ik people." *Journal of Diabetes* 6:251-259.
40. Ryman, T*, J Austin, J Phillip, S Hopkins, **DM O'Brien**, K Thummel, Boyer, B. 2014. "Using exploratory factor analysis of FFQ data to identify dietary patterns among Yup'ik people." *Public Health Nutrition* 17:510-518.
39. Choy K†, SH Nash*, AR Kristal, S Hopkins BB Boyer and **DM O'Brien** 2013. "The carbon isotope ratio of alanine in red blood cells is a new candidate biomarker of sugar-sweetened beverage intake" *Journal of Nutrition* 143:878-884 (subject of a commentary paper by D. Schoeller in the same issue)
38. Nash, SH*, AR Kristal, A Bersamin, SH Hopkins, BB Boyer, and **DM O'Brien**. 2013. "Carbon and nitrogen stable isotope ratios predict intake of sweeteners in a Yup'ik study population" *Journal of Nutrition* 143: 161-165.
37. Larsen, T†, M Ventura, N Andersen, **DM O'Brien**, U Piatsowski, MD McCarthy 2013. "Amino acid stable isotope fingerprints trace primary production sources through aquatic and terrestrial food webs" *PLOS One* 8(9): e73441 [doi: 10.1371/journal.pone.0073441](https://doi.org/10.1371/journal.pone.0073441).
36. Aslibekyan, S, Wiener, HW, Havel, PJ, Stanhope, KL, **O'Brien, DM**, Klimentidis, JC, Lemas, DJ*, Boyer, BB, Tiwari, HK 2013. "Evidence for novel genetic loci associated with metabolic traits in Yup'ik people" *American Journal of Human Biology* 25(5): 673-680.
35. Lemas DJ*, Klimentidis, YC, Wiener, HH, **O'Brien, DM**, Hopkins, S, Allison, DB, Fernandez, JR, Tiwari, HK, Boyer, BB. 2013. "Obesity polymorphisms identified in genome-wide association studies interact with n-3 polyunsaturated fatty acid intake and modify the genetic association with adiposity phenotypes in Yup'ik people" *Genes and Nutrition* 8(5): 495-505.
34. Nash, SH*, Bersamin, A, Kristal, AR, Hopkins, SA, Church, RS**, Pasker, RL*, Luick, BR, Mohatt, GV, Boyer, BB, and **O'Brien, DM**. 2012. "Stable nitrogen and carbon isotope ratios indicate traditional marine and market food intake in an indigenous circumpolar population" *Journal of Nutrition* 142: 84-90.
33. Lee, TN*, BM Barnes, CL Buck, and **DM O'Brien**. 2012. "A test of alternative models for increased tissue nitrogen isotope ratios during fasting in hibernating arctic ground squirrels." *Journal of Experimental Biology* 215: 3354-3361.
32. Van Hemert, C*, C Handel, and **DM O'Brien**. 2012. "Stable isotopes identify dietary changes associated with beak deformities in black-capped chickadees (*Parus atricapillus*)" *The Auk* 129(3): 460-466.
31. Larsen, T. †, Wooller, M.J., Fogel, M.L., and **D.M. O'Brien**. 2012. "Can amino acid carbon isotope ratios distinguish primary producers in a mangrove ecosystem?" *Rapid Communications in Mass Spectrometry* 26: 1541-1548.
30. Lemas, DJ*, Wiener, HW, **O'Brien, DM**, Hopkins, S, Stanhope, KL, Havel, PJ, Allison, DB, Fernandez, JR, Tiwari, HK, and BB Boyer. 2012. "Genetic polymorphisms in carnitine palmitoyltransferase 1A gene are associated with variation in body composition and fasting lipid traits in Yup'ik Eskimos." *Journal of Lipid Research* 53: 175-184.
29. Lee, TN*, Fridinger, RW*, Barnes, BM, Buck, CL, and **DM O'Brien**. 2011. "Estimating lean mass over a wide range of body composition: A calibration of deuterium dilution in the arctic ground squirrel." *Rapid Communications in Mass Spectrometry* 25: 3491-3496.
28. Larsen, T†, M Ventura, **DM O'Brien**, J Magid, BA Lomstein, and J Larsen. 2011. "Contrasting effects of nitrogen and amino acid limitation on nutrient turnover in three species of Collembola" *Soil Biology and Biochemistry* 43: 749-759.

27. Makhoul, Z†, AR Kristal, R Gulati, B Luick, A Bersamin, **DM O'Brien**, SE Hopkins, CB Stephensen, KL Stanhope, PJ Havel, and BB Boyer. 2011. "Associations of obesity with triglycerides and C-reactive protein are attenuated in adults with high red blood cell eicosapentaenoic and docosahexaenoic acids" *European Journal of Clinical Nutrition* 65: 808-817.
26. Oppel, S*, AN Powell, **DM O'Brien**. 2010. "King eiders use an income strategy for egg production – a case study for incorporating individual dietary variation in nutrient allocation research" *Oecologia* 164(1): 1-12.
25. Oppel, S*, R Federer*, **DM O'Brien**, A.N. Powell, T. Hollmen. 2010. "Effects of lipid extraction on stable isotope ratios in avian egg yolk – is arithmetic correction a reliable alternative?" *The Auk* 127(1): 72-78.
24. Carsten-Conner, LD*, DR Papaj, and **DM O'Brien**. 2010. "Resource allocation to testes in walnut flies and implications for reproductive strategy" *Journal of Insect Physiology* 56(11) 1523-1529.
23. Nash, SH*, Kristal, AR, Boyer, BB, King, IB, Metzgar, JS, and **DM O'Brien**. 2009. "Relation between stable isotope ratios in human red blood cells and hair: implications for using the nitrogen isotope ratio of hair as a biomarker of eicosapentaenoic acid and docosahexaenoic acid." *The American Journal of Clinical Nutrition* 90:1642-1647. [PMC 777473](#)
22. **O'Brien, DM**, AR Kristal, MA Jeannet**, MJ Wilkinson**, A Bersamin, BR Luick. 2009. "Red blood cell $\delta^{15}\text{N}$: a novel biomarker of dietary eicosapentaenoic acid and docosahexaenoic acid intake" *The American Journal of Clinical Nutrition* 89(3) 913-919. [PMC 2646803](#)
21. Larsen T†, DL Taylor, MB Leigh, **DM O'Brien**. 2009. "Stable isotope fingerprinting: a method for identifying plant, fungal or bacterial origins of amino acids" *Ecology* 90(12):3526-3535.
20. Sears J*, SA Hatch, and **DM O'Brien**. 2009. "Disentangling effects of growth and nutritional status on seabird stable isotope ratios." *Oecologia* 159(1):41-48.
19. Wang, Y*, **DM O'Brien**, J Jenson, D Francis, and MJ Wooller. 2009. "The influence of diet and water on the stable oxygen and hydrogen isotope composition of chironomids (Chironomidae: Diptera), with paleoecological implications" *Oecologia* 160(2): 225-233.
18. Oppel, S*, AN Powell, and **DM.O'Brien**. 2009. "Using eggshell membranes as a non-invasive tool for investigating nutrient allocation to egg production." *Journal of Ornithology* 150(1): 109-115.
17. Wang, Y.*, D. Francis, **D.M. O'Brien**, and M.J. Wooller. 2008. "A protocol for preparing subfossil Chironomid head capsules (Diptera: Chironomidae) for stable isotope analysis in paleoclimate reconstruction." *Journal of Paleolimnology* 40(3) 771-781.
16. Kaufman, M.R.*, R.R. Gradinger, B.A. Bluhm, and **D.M. O'Brien**. 2008. "Using stable isotopes to assess carbon and nitrogen turnover in the Arctic sympagic amphipod *Onisimus littoralis*." *Oecologia* 158(1) 11-22.
15. **O'Brien, DM**, KJ Min, T Larsen†, and M Tatar. 2008. "Use of stable isotopes to examine how diet restriction extends *Drosophila* life span." *Current Biology* 18(4) R155-R156.
14. Wilkinson, M.J.**, Y. Yai*, and **D.M. O'Brien**. 2007. "Age-related variation in red blood cell stable isotope ratios ($\delta^{13}\text{C}$ and $\delta^{15}\text{N}$) from two Yup'ik villages in Southwest Alaska: a pilot study." *The International Journal of Circumpolar Health*, 66(1):31-41.
13. **O'Brien, D.M.** and M.J. Wooller. 2007. "Tracking human migration using stable oxygen and hydrogen isotope analyses of hair and urine." *Rapid Communications in Mass Spectrometry* 21: 2422-2430.

12. Min, K.J., M.F. Hogan**, M. Tatar, **D.M. O'Brien**. 2006. "Resource allocation to reproduction and soma in *Drosophila*: stable isotope analysis of carbon from dietary sugar." *Journal of Insect Physiology* 52(7):763-770.
11. Scott, J.H., **D.M. O'Brien**, D. Emerson, H. Sun, G.D. McDonald, A. Salgado, M.L. Fogel. 2006. "Examination of the Carbon Isotopic Effects Associated with Amino Acid Biosynthesis in Microbes." *Astrobiology* 6(6): 867-880.
10. **O'Brien, DM**, CL Boggs, and ML Fogel. 2005. "The amino acids used in reproduction by butterflies: a comparative study of dietary sources using compound specific stable isotope analysis" *Physiological and Biochemical Zoology* 78(5): 819-827.
9. Suarez, R.W., C.A. Darveau, K. Welch, Jr., **D.M. O'Brien**, D.W. Roubik, P.W. Hochachka. 2005. "Energy metabolism in orchid bee flight muscles: Carbohydrate fuels all." *Journal of Experimental Biology* 208: 3573-3579.
8. **O'Brien, D.M**, C.L. Boggs and M.L. Fogel. 2004. "Making eggs from nectar: the role of life history and dietary carbon turnover in butterfly reproductive resource allocation." *Oikos* 105: 279-291.
7. Fisher, K, **D.M. O'Brien**, and C.L. Boggs. 2004. "Allocation of larval and adult resources to reproduction in a fruit-feeding butterfly." *Functional Ecology* 18:656-663.
6. **O'Brien, DM**, CL Boggs and ML Fogel. 2003. "Pollen feeding in *Heliconius charitonius*: isotopic evidence for essential amino acid transfer from pollen to eggs." *Proceedings of the Royal Society of London: B* 270:2631-2636.
5. **O'Brien, DM**, Fogel, ML, and CL Boggs. 2002. "Renewable and non – renewable resources: amino acid turnover and allocation to reproduction in Lepidoptera." *Proceedings of the National Academy of the Sciences USA* 99(7): 4413-4418.
4. **O'Brien, D.M.** and R.K. Suarez. 2001. "Fuel use in hawkmoth (*Amphion floridensis*) flight muscle: enzyme activities and flux rates." *Journal of Experimental Zoology* 290:108-114.
3. **O'Brien, DM**, DP Schrag, and C Martínez del Rio 2000. "Allocation to reproduction in a hawkmoth: a quantitative analysis using stable carbon isotopes." *Ecology* 81:2822-2831.
2. **O'Brien, D.M.** 1999. "Fuel use in flight and its dependence on nectar feeding in the hawkmoth *Amphion floridensis*." *Journal of Experimental Biology* 202:441-451.
1. Gannes, LZ, **DM O'Brien**, C Martínez del Rio. 1997. "Stable isotopes in animal ecology: Assumptions, caveats, and a call for more laboratory experiments." *Ecology* 78:1271-1276.

GRANTS AND AWARDS

pending	NIH R01 "Molecular Stable Isotope Profiles of Dietary Exposure II" Role: PI, with P Shaw (UPenn) and M Wooller (UAF), 4 years.
pending	NIH R01: "The impact of enculturation on the epigenetic relationship between chronic stress and hypertension in Yup'ik Alaska Native people" Role: Co-I and UAF subaward PI, with B. Boyer (PI, OHSU) and K. Dombroski (co-I, University of Nebraska)
2020-2025	NIH R01 CA119171 13A1 "Nutrition and Physical Activity Assessment Study (NPAAS IV)" Role: Co-I and UAF subaward PI, with J Lampe and M. Neuhausser (co-PIs, Fred Hutchinson Cancer Research Center)
2019-2024	International Atomic Energy Agency Coordinated Research Project (CRP) "Optimizing Nuclear Techniques to Assess Accurate Quantitative Biomarkers of Added Sugar Intake in Adults (E43034)" Role: collaborator, with Dr. Cornelia Loechl, project lead (IAEA). 5 years.
2019-2022	NIH U01 DE027629: "Reducing Sugared Fruit Drinks in Alaska Native Children", Role: Co-I and UAF subaward PI, with D. Chi (PI, UW). 3 years

- 2020-2021 NIH R01 ES019620: "Protecting the Health of Future Generations: Assessing and Preventing Exposures to Endocrine-Disrupting Flame Retardant Chemicals and PCBs in Two Alaska Native Arctic Communities on St. Lawrence Island" Role: Co-I and Subaward PI, with P Miller (PI, Alaska Community Action on Toxics). 1 year of support from a 5-year project (2016-2021).
- 2019-2020 MJ Murdock Charitable Trust "ACQUISITION OF A GAS CHROMATOGRAPH ISOTOPE RATIO MASS-SPECTROMETER: A multi-user facility to benefit teaching, health and research needs in Alaska". Role: Co-I, with M. Wooller (PI, UAF)
- 2017 NIH Nutrition Thought Leaders Panel
- 2017-2018 NIH Supplement to R01 CA197902: "Investigation of biomarkers of sugars intake – a controlled feeding study" Supplement title: "An Investigation of Breath Carbon Isotope Ratios as Biomarkers for Sugars Intake." "Role: Co-I and UAF Subaward PI, with N Tasevska (PI, Arizona State University). 1 year
- 2016-2019 Coastal Marine Institute (BOEM): "Identifying sources of organic matter to benthic organisms in the Beaufort and Chuckchi outer continental shelves" Role: Co-I, with M Wooller (PI, UAF). 3 years.
- 2016-2021 NIH P01 GM116691: "Pharmacogenetics Program Project Grant" Role: Co-I and UAF subaward PI, with K Thummel (PI, UW). 5 years
- 2016-2020 NIH R01 DK109946: "Molecular Stable Isotope Profiles of Dietary Exposure" Role: PI, with P Shaw (UPenn) and M. Wooller (UAF), co-I's. 4 years
- 2016-2020 NIH R01 DK104347: "Epigenome modification by a dietary pattern rich in polyunsaturated fatty acids" Role: Co-I and UAF subaward PI, with B. Boyer (PI, OHSU), H. Tiwari, (co-PI, UAB), and D. Absher (co-PI, Hudson Alpha). 4 years
- 2016-2018 NSF MRI: "Acquisition of a shared multi-collector inductively coupled mass spectrometer (MS-ICPMS) to benefit teaching, federal, state, and national research needs." Co-I, with M Wooller (PI) 2 years.
- 2015-2020 NIH U01 CA197902: "Investigation of biomarkers of sugars intake – a controlled feeding study" Role: Co-I and UAF Subaward PI, with N Tasevska (PI, Arizona State University). Subaward budget: 4 years
- 2015-2016 CANHR COBRE III Pilot Grant Program: "Validating the carbon isotope ratio of breath CO₂ as a biomarker of recent added sugar intake" Role: PI, with D Schoeller (co-I). 1.5 years
- 2014-2016 NIH R21 CA182674: "Validating Multiple Stable Isotope Measures of Diet in the NPAAS Feeding Study". Role: PI, with J Lampe (co-I) at the Fred Hutchinson Cancer Research Center. 2 years
- 2010-2015 NIH 1U01GM092676: "Pharmacogenetics in Underserved and Rural Populations", Co-I, with B. Boyer (UAF subaward PI) and K. Thummel (PI, UW) 5 years
- 2013-2014 University of Washington Royalty Research Fund: "Improving the oral health of Alaska Native (Yup'ik) children and adolescents: first steps in developing a community-centered intervention to reduce sugar-sweetened beverage intake" Role: Co-I and UAF subaward PI, with D. Chi (PI, UW). 1 year
- 2007 - 2012 NIH COBRE: "Investigating Obesity and Chronic Disease-Related Risk Factors of Alaska Natives" (COBRE PI: Gerald Mohatt). Project PI: "Developing a novel set of diet pattern biomarkers, based on stable isotope ratios". Project budget: 5 years
- 2011 Alaska EPSCOR Integrative Faculty Development Award: "Terrestrial arthropod ecosystem assembly on Kasatochi volcano: Population genetics and food web dynamics" Co-PI, with D. Sikes (PI) 6 months

- 2007 - 2010 NSF OPP EF-07-32755: "Collaborative research: IPY: Extremes of hibernation physiology: Patterns of expression, regulation, and limits". PI, with Loren Buck (UAA PI) and Brian Barnes (UAF co-PI). 3 years
- 2008 NSF MRI: "Acquisition of a Stable Isotope Ratio Mass Spectrometer for analyzing specific organic compounds to promote a vigorous isotopic research and teaching program" Co-PI, with M. Wooller (PI). 2 years
- 2006 - 2007 NSF IOB 05-52014: "SGER: Stable Isotope Fingerprinting: a novel approach for identifying amino acid biosynthetic sources, using stable isotope variation among amino acids" (PI). 1 year
- 2003 Wellesley College Faculty Research Award: 1 year
- 1999 – 2002 NSF IBN-99-83044: "Nutrient allocation to flight and reproduction in the Lepidoptera". Role: postdoc and primary author (*Stanford University did not permit PI or co-I status for postdocs*) with C. Boggs (PI) 3 years
- 1997 - 1998 Princeton University Harold W. Dodds Honorific Graduate Fellowship, 1 year
- 1995 - 1998 NSF IBN 95-20626: Dissertation Improvement Grant: "Fuel use and metabolic architecture of a hawkmoth, *Amphion floridensis*" (Graduate student PI), with H. Horn (Faculty PI). 2 years
- 1992 - 1995 National Science Foundation Graduate Fellowship, 3 years

TEACHING

Course	Level	Institution	Years taught
Animal Stable Isotope Ecology	Graduate	UAF	S18, S14, S12, S11, S09, S07, S06
Fundamentals of Biology I	Undergrad, 1 st year	UAF	F19, F18, F16, F15, F14, F13, F11, F09, S08
Fundamentals of Biology II	Undergrad, 1 st year	UAF	F06
Animal Physiology	Undergrad, 3 rd year	UAF	F04, F05
Animal Ecological Physiol.	Undergrad, 3 rd year	Wellesley College	2003, 2004
Stable Isotope Ecology	Undergrad, 4 th year	Wellesley College	2003
Human Biology	Undergrad, 1 st year	Wellesley College	2003
Introductory Biology	Undergrad, 1 st year	Swarthmore College	2002
Diet and Metabolism	Undergrad, 4 th year	Swarthmore College	2002
Animal Physiology	Undergrad, 3 rd year	Swarthmore College	2001

MENTORING

Postdoctoral scholars

Dr. Laura Oxtoby	2018-2020	Evaluating carbon isotope ratios of plasma and adipose tissue fatty acids as biomarkers of meat, fish and soda intake
Dr. Hee Young Yun	2015-2018	Validating serum amino acid carbon isotope ratios as biomarkers of meat and sugar intake in the NPAAS Feeding Study
Dr. Kyungcheol Choy	2011-2013	Evaluating amino acid carbon isotope ratios as dietary biomarkers in an Alaska Native (Yup'ik) population
Dr. Thomas Larsen	2007-2009	Stable Isotope Fingerprinting: Evaluating amino acid carbon isotope ratios as markers for biosynthetic source

Graduate student advisees

Jessica J. Johnson	PhD in progress	Molecular stable isotope profiles of dietary exposure
Justin Smith	MS 2017	Assessing seasonal diet use by harbor seals using stable isotope ratios of vibrissae
Sarah Nash	PhD 2013	Developing stable isotope biomarkers of Yup'ik traditional and market foods to detect associations with chronic disease risk
Garrett Savory	MS 2013	Anthropogenic food use by red and arctic foxes and the effects of an oil field and sea ice use on arctic fox survival on the arctic coastal plain of Alaska.
Trixie Lee	PhD 2012	Expression and mechanisms of hibernation in the arctic: the Alaska marmot and the arctic ground squirrel
Caroline van Hemert (co-advised with T. O'Hara)	PhD 2012	Epizootic of beak deformities in Alaska: investigation of an emerging avian disease
Justine Sears	MS 2007	Rhinoceros auklet developmental responses to moderate food restriction

Undergraduate research advisees

Cheyenna Schafer	BS in progress	UAF
Sammer Dia	BS in progress	UAF
Courtney Hill	BS 2019	UAF
Sean Merriman	BS 2018	UAF
Diane Murph	BS 2018	UAF
Kjersten Williams	BS 2018	UAF
Sarah Hartmann	BS 2018	UAF
Katie Roseberry	BS 2018	UAF
Brittany Corbin	BS 2017	UAF
April Mustard	BS 2015	UAF
Rebecca (Church) Wilbur	BS 2011	UAF
M. Alyssa (Jeannet) Terra	BS 2008	UAF
Michael Wilkinson	BS 2007	UAF
Kelsey (Alexander) Gregg	BS 2006	UAF
Meghan Hogan	BA 2005	Wellesley College
Madeleine deBlois	BA 2004	Wellesley College
Tsiri Agbenyega	BA 2003	Swarthmore College

GRADUATE STUDENT COMMITTEES

Student	Degree	Advisor
Devin Johnson	PhD in Biological Sciences, in progress	C. Williams
Karen Carlson	PhD in Biological Sciences, in progress	K Duddleston & T. Kuhn
Michelle Johanssen	PhD in Biological Sciences, in progress	K. O'Brien & R. Oliver

Robin Andrews	PhD in Biological Sciences, in progress	R. Ruess & D. Sikes
Audrey Rowe	MS in Marine Biology, 2018 Estimates of primary production sources to Arctic bivalves using amino acid stable carbon isotope fingerprinting	M. Wooller
Roxanne Beltran	PhD in Biological Sciences, 2018 Bridging the gap between pupping and molting phenology: Behavioral and ecological drivers in Weddell Seals	G. Breed
Tim Spivey	MS Wildlife Biology and Conservation, 2017 Seasonal variation in the health of high-latitude urban wintering mallards (<i>Anas platyrhynchos</i>)	M. Lindberg
Laura Oxtoby	PhD in Marine Biology, 2016 Carbon sources and trophic connectivity in seafloor food webs in the Alaska arctic and sub-arctic	M. Wooller
Brian Robinson	MS Wildlife Biology and Conservation, 2016 Feeding ecology of black oystercatcher (<i>Haematopus bachmani</i>) chicks	A. Powell
Heather Craig	MS Wildlife Biology and Conservation 2015 Breeding ecology of Smith's longspurs (<i>Calcarius pictus</i>) in the Brooks Range, Alaska	A. Powell
Chris Barger	MS Wildlife Biology and Conservation, 2013 Resource Partitioning in Seabirds	S. Kitaysky
Neil Lehner	MS Wildlife Biology and Conservation 2012 Arctic fox winter movement and diet in relation to industrial development on Alaska's North Slope	B. Pearson/K. Kielland
Dominick Lemas	PhD Biochemistry 2012 Gene-diet interactions and obesity among Yup'ik people living in Southwest Alaska	B. Boyer
Katrina Knott	PhD Biological Sciences 2012 Contaminant exposure and biological responses in Southern Beaufort Sea polar bears	T. O'Hara
Steffen Oppel	PhD Biological Sciences 2008 King Eider migration and seasonal interactions at the individual level	A. Powell
Laura Carsten-Conner	PhD Ecology and Evolutionary Biology, University of Arizona 2007 The role of context in investment into reproductive tissue and implications for mating	D. Papaj
Yiming Wang	PhD Geology and Geophysics 2008 The development and application of stable oxygen and hydrogen isotope analyses of Chironomideae (Diptera) as indicators of past environmental change	M. Wooller
Matthew Urschel	MS Biology 2008 Molecular basis of mitochondrial form and function in the hearts of Antarctic notothenioids that vary in the expression of hemoglobin and myoglobin	K. O'Brien
Mette Nielson-Kaufmann	MS Marine Biology 2006 Estimating ¹³ C and ¹⁵ N turnover rates in the arctic amphipod <i>Onisimus litoralis</i> : potential applications for analyzing the transfer of sea ice production to under-ice fauna.	B. Bluhm

CONFERENCES & WORKSHOPS *(Includes only conferences attended, not a list of abstracts)*

2019	Alaska INBRE Annual Retreat	Talkeetna, AK	NA
2019	NIH-NIDDK New R01 PI Workshop	Bethesda, MD	NA
2019	NUTRITION 2019: The American Society of Nutrition	Baltimore, MD	2 abstracts
2018	The 11th International Conference on Applications of Stable Isotope Techniques to Ecological Studies (ISOECOL 11)	Vina del Mar, Chile	Plenary, 2 abstracts
2018	NIH-NIDDK Workshop on Biomarkers of Dietary Intake and Exposure	Bethesda, MD	1 invited talk
2017	Alaska Native Health Conference	Anchorage, AK	1 invited talk
2017	Experimental Biology: The American Society of Nutrition	Chicago, IL	1 abstract
2016	Experimental Biology: The American Society of Nutrition	San Diego, CA	1 abstract
2015	NIH IDEa Western Regional Conference	Cour d'Alene, ID	1 invited talk
2015	Experimental Biology: The American Society of Nutrition	Boston, MA	1 abstract
2012	15 th International Congress on Circumpolar Health	Fairbanks, AK	4 abstracts
2012	Experimental Biology: The American Society of Nutrition	San Diego, CA	4 abstracts
2010	The 7th International Conference on Applications of Stable Isotope Techniques to Ecological Studies (ISOECOL7)	Fairbanks, AK <i>(Organizer)</i>	3 abstracts
2009	The Alaska Native Health Conference	Anchorage, AK	2 abstracts
2008	The 6th International Conference on Applications of Stable Isotope Techniques to Ecological Studies (ISOECOL6)	Honolulu, HI	6 abstracts
2007	University of Alaska Biomedical Research Conference	Fairbanks, AK	2 abstracts
2006	American Physiological Society	Virginia Beach, VA	1 invited talk
2006	NIH National IDEa Symposium of Biological Research Excellence	Washington, DC	1 abstract
2006	5th International Conference on Application of Stable Isotope Techniques to Ecological Studies (ISOECOL5)	Belfast, N Ireland	2 abstracts
2005	The Society for the Study of Evolution	Fairbanks, AK	2 abstracts
2004	3rd International Conference on Comparative Biochemistry and Physiology	Ithala, South Africa	1 abstract
2004	4th International Conference on Application of Stable Isotope Techniques to Ecological Studies (ISOECOL4)	Wellington, New Zealand	2 abstracts
2002	The Society for Integrative and Comparative Biology	Anaheim, CA	1 abstract
2002	3rd International Conference on Application of Stable Isotope Techniques to Ecological Studies (ISOECOL3)	Flagstaff, AZ	
2000	The Society for Integrative and Comparative Biology	Atlanta, GA	1 abstract
2000	2nd International Conference on Application of Stable Isotope Techniques to Ecological Studies (ISOECOL2)	Braunschweig, Germany	1 abstract
1999	The Society for Integrative and Comparative Biology	Denver, CO	1 abstract
1998	The Ecological Society of America	Baltimore, MD	1 abstract
1998	The Society for Integrative and Comparative Biology	Boston, MA	1 abstract
1998	3 rd International Butterfly Ecology and Evolution Symposium	Crested Butte, CO	1 abstract

INVITED SEMINARS

2019	Fred Hutchinson Cancer Research Center, Seattle, WA
2018	Plenary speaker at The 11th International Conference on Applications of Stable Isotope Techniques to Ecological Studies (ISOECOL), Vina del Mar, Chile
2018	International Atomic Energy Agency, Nutrition Group, Vienna, Austria
2017	National Institutes of Health, Nutrition Research Task Force Meeting
2015	University of Wisconsin, Madison, Department of Nutritional Sciences
2010	Fred Hutchinson Cancer Research Center, Seattle, WA
2009	NIH-NIDDK, Obesity and Diabetes Clinical Research Section, Phoenix, AZ
2005	Brown University, Ecology and Evolutionary Biology

2003 University of Arkansas, Dept. of Biology
 2003 University of Montana, Dept of Biology
 2003 University of British Columbia, Dept of Zoology
 2003 University of New Mexico, Dept of Biology
 2002 Wellesley College, Dept of Biology
 2002 University of Alaska, Fairbanks, Institute of Arctic Biology
 2002 University of California, Riverside, Ecology and Evolutionary Biology
 2001 Carnegie Institution of Washington, Geophysical Laboratory
 2001 Swarthmore College, Department of Biology
 2001 University of Alaska Anchorage, Dept of Biology
 2001 University of Cincinnati, Dept of Biology
 2000 State University of New York, Stony Brook, Department of Ecology and Evolutionary Biology
 1999 Macalester College, Dept of Biology
 1999 University of California, Irvine, Dept of Ecology and Evolutionary Biology

SERVICE

2016 – present Deputy Director, Institute of Arctic Biology (IAB)
 2014 – present Deputy Director, Center for Alaska Native Health Research (CANHR)
 2018 – present Alaska INBRE Management Advisory Committee
 2017 – present Irving-Scholander Memorial Lecture Series Organizing Committee
 2020 - present Biology BA revitalization committee
 2020 - present Faculty mentor to Dr. Donna Hauser (GI, UAF)
 2019 – present Faculty mentor to Dr. Beth Feingold (SUNY Albany)
 2009 - present Biology and Wildlife Unit Peer Review Committee
 2019 – 2020 UAF Academic Leadership Institute
 2019 External review of promotion file (Professor), University of Redding, UK
 2018 Workshop organizer: “Approaches to improve the reproducibility of amino acid stable isotope analyses”, ½ day workshop following the 7th International Conference on Applications of Stable Isotope Techniques to Ecological Studies
 2019, 2017 Member, ZRG1-EMNR-50G Special Emphasis Panel (NIH Study Section)
 2017 External examiner for PhD candidate, Ms. Devonia Kruimer, University of Otago
 2017 Member, Nutrition Thought Leaders Panel, NIH Strategic Plan for Nutrition
 2016 – 2018 Chair, Biology and Wildlife Unit Peer Review Committee
 2017 External review of tenure and promotion file, University of New Mexico
 2017 UA Strategic Pathways III: Social and Natural Sciences Review panel
 2015 Graduate student poster judge, *Experimental Biology* (American Society of Nutrition)
 2014 Graduate Admissions Policy Review Committee, Chair
 2013 – 2014 Committee to review the Biology and Wildlife Fundamentals of Biology series
 2013 – 2014 Search Committee for CANHR Program Coordinator
 2012 – 2015 Faculty mentor for Dr. Trey Coker
 2012 – 2015 Faculty mentor for Dr. Andrej Podlutzky
 2010 – 2012 CANHR: Search Committee Chair, Joint Health Science positions
 2011 IAB Summer Graduate Research Fellowships Review Committee
 2011 – 2016 Faculty mentor to Dr. Andrea Bersamin
 2010 – 2011 CANHR: Interim Core Leader, Biostatistics and Epidemiology Core Resource
 2009 – present Biology and Wildlife Unit Peer Committee
 2009 - 2010 Lead Organizer, the 7th International Conference on Applications of Stable Isotope Techniques to Ecological Studies. Fairbanks, AK August 8-13, 2010

2008 - 2012	Center for Global Change Scientific Steering Committee
2008 - 2009	CANHR: Biostatistician Search Committee, Chair
2007 - 2008	CANHR: Nutritionist Search Committee
2007 – 2014	Faculty mentor to Dr. Karsten Hueffer
2007	Alaska EPSCOR Summer Research Fellowship Award Committee
2006 – 2008	Arctic Health Research Building remodel, Users Committee
2006 - 2008	B&W: Teaching Advisory Committee
2006	Scholander Award Judge, American Physiological Society Comparative Physiology 2006: Integrating Diversity (Virginia Beach, VA)
2006	IAB Summer Graduate Research Fellowships Review Committee
2006	Alaska State High School Science Symposium: Student paper reviewer
2004 - 2006	IAB/B&W: Infectious Disease Microbiologist search committee
2004 - 2006	IAB/B&W: General Microbiologist search committee
2005	National Science Foundation panelist: Doctoral Dissertation Improvement Grants
2005 - 2006	Alaska EPSCOR Equipment Grant Committee
2003 - 2004	Wellesley College: Budget Advisory Committee
2003 - 2004	Wellesley College: Howard Hughes Medical Institute Curriculum Development Committee

REVIEWING

Auk, American Journal of Clinical Nutrition, American Journal of Human Biology, British Journal of Nutrition, Canadian Journal of Fish and Aquatic Sciences, Earth and Planetary Science Letters, Ecology, Entomologia Experimentalis et Applicata, European Journal of Nutrition, Food Control, Functional Ecology, Geochimica Cosmochimica Acta, Isotopes in Environmental Health Studies, Journal of Comparative Physiology B, Journal of Experimental Biology, Journal of Human Biology, Journal of Insect Physiology, Journal of Nutrition, Nutrition Reviews, Oecologia, Philosophical Transactions B, Physiological and Biochemical Zoology, Proceedings of the National Academy of Sciences USA, Proceedings of the Royal Society of London B, Rapid Communications in Mass Spectrometry, Soil Biology and Biochemistry