

Melinda Fowler, PhD

Associate Teaching Professor of Biology
Northeastern University
Mills College
5000 MacArthur Blvd
Oakland, CA 94613

Education:

PhD-Ecology and Evolutionary Biology (2012) University of California, Santa Cruz, Thesis research focus: Regulation of lipid metabolism in fasting and lactating northern elephant seals (*Mirounga angustirostris*). Department of Ecology and Evolutionary Biology. Advisor: Dr. Dan Costa.

Master of Science-Biology (2006) Sonoma State University, Rohnert Park, California. Thesis: 'Hormonal regulation of glucose clearance in lactating northern elephant seals (*Mirounga angustirostris*).' Advisor: Dr. Dan Crocker.

Bachelor of Science-Biology (2003) Southampton College of Long Island University, Southampton, New York. Graduated *summa cum laude*, Honors Program Thesis 'Spatial distribution of male New Zealand fur seals (*Arctocephalus forsteri*) during the breeding season.'

Academic Appointments:

Associate Teaching Professor of Biology, Mills College at Northeastern University, 2024-Present

Associate Professor of Biology, Springfield College, Springfield, MA. 2021-2023

Assistant Professor of Biology Springfield College, Springfield, MA. 2015-2021

Adjunct Professor, Asnuntuck Community College Second Chance Program. Spring 2023

□ Taught introductory oceanography to inmates at Carl Robinson Correctional Facility (medium security level) in Enfield, CT as part of the Second Chance Program

Postdoctoral researcher at Simon Fraser University, Dr. Tony Williams, supervisor. Research topics: Physiological ecology and foraging behaviour of provisioning songbirds (2013-2014).

Teaching:

* writing intensive course

Mills College at Northeastern University

Fall 2024

General Biology 1 (BIOL 1111) (2 sections)

Anatomy and Physiology 1 (BIOL 2217)

Anatomy and Physiology 1 lab (BIOL 2218)

Spring 2024

General Biology 2 (BIOL 1113)

Anatomy and Physiology 2 (BIOL 2219)

Anatomy and Physiology 2 lab (BIOL 2220)

Asnuntuck Community College (adjunct)

Spring 2023

Introductory Oceanography (OCE 101)

Springfield College

Fall 2023

Bioscience I (BIOL 121), 2 sections

*Animal Biology (BIOL 230)

Evolution (BIOL 310)

*Biology Senior Capstone Seminar (BIOL 482)
Independent research (1 student project)

Spring 2023

Bioscience II (BIOL 122)
*International Tropical Field Biology (BIOL 320)
Evolution (BIOL 310)
*Biology Senior Seminar (BIOL 482)
Outdoor Pursuits Ecology: week long outdoor course in May

Fall 2022

Bioscience I (BIOL 121)
*Animal Biology (BIOL 230)
Evolution (BIOL 310)
*Biology Senior Seminar (BIOL 482)

Spring 2022

Bioscience II (BIOL 122) (2 sections)
Evolution (BIOL 310)
*Biology Senior Seminar (BIOL 482)
Independent Research (4 student projects)
Outdoor Pursuits Ecology: week long outdoor course in May

Fall 2021

Bioscience I (BIOL 121) (2 sections)
*Animal Biology (BIOL 230)
Evolution (BIOL 310)
*Biology Senior Seminar (BIOL 482)

Spring 2021 (*hybrid teaching + fully remote teaching*)

Bioscience II (BIOL 122) (2 sections)
Evolution (BIOL 310)
*Biology Senior Seminar (BIOL 482)
Honors Program Colloquium, 'Science Literacy'
Independent Research, 2 students
Outdoor Pursuits Ecology: week long outdoor course in May

Fall 2020 (*hybrid teaching + fully remote teaching*)

Bioscience I (BIOL 121)
*Animal Biology (BIOL 230)
Evolution (BIOL 310)
*Biology Senior Seminar (BIOL 482)

Spring 2020 (*half semester fully remote teaching*)

Anatomy & Physiology Concepts II (BIOL 131) (2 sections)
Bioscience II (BIOL 122)
*Biology Senior Seminar (BIOL 482)
Independent Research, 1 student

Fall 2019

Anatomy & Physiology Concepts I (BIOL 130)
Bioscience I (BIOL 121)
*Animal Biology (BIOL 230)
*Biology Senior Seminar (BIOL 482)

Spring 2019

Anatomy & Physiology Concepts II (BIOL 131)
Bioscience II (BIOL 122)
Evolution (BIOL 310)
*International Tropical Field Research (BIOL 320) short term study abroad in Costa Rica, and semester research analysis
Outdoor Pursuits Ecology: week long outdoor course in May

Fall 2018

Anatomy & Physiology Concepts I (BIOL 130) (2 sections)

Bioscience I (BIOL 121)
*Animal Biology (BIOL 230)
Independent Research (1 student)

Spring 2018

Anatomy & Physiology Concepts II (BIOL 131) (2 sections)
Bioscience II (BIOL 122)
Evolution (BIOL 310)
Outdoor Pursuits Ecology: week long outdoor course in May

Fall 2017

Anatomy & Physiology Concepts I (BIOL 130) (2 sections)
Bioscience I (BIOL 121)
*Animal Biology (BIOL 230)

Spring 2017

Anatomy & Physiology Concepts II (BIOL 131) (2 sections)
Bioscience II (BIOL 122)
Evolution (BIOL 310)
Outdoor Pursuits Ecology: week long outdoor course in May

Fall 2016

Anatomy & Physiology Concepts I (BIOL 130) (2 sections)
Bioscience I (BIOL 121)
Concepts of Biology (BIOL 101)
Concepts of Biology lab

Spring 2016

Anatomy & Physiology Concepts II (BIOL 131) (2 sections)
Bioscience II (BIOL 122)
*Animal Biology (BIOL 230)
Outdoor Pursuits Ecology: week long outdoor course in May

Fall 2015

Anatomy & Physiology Concepts I (BIOL 130) (2 sections)
Bioscience I (BIOL 121)
Bioscience I lab (BIOL 122)

Guest Lectures:

- First Year Seminar course. Topic: 'Race as a Social, not a Biological, Construct'. Springfield College, 2022, 2023
- Health Science Ethics course. Topic: 'Animal Research'. Springfield College, 2016-2017
- Introduction to Environmental Studies course. Topic: 'Marine Animal Research'. Union College, May 2021

Simon Fraser University

Guest Lectures:

- Animal Physiology Course. Topic: 'Physiological strategies for extreme life history stages in seals'. 2014.
- Endocrinology Course. Topic: 'Endocrinology of extreme life history strategies in seals'. 2014.

University of California Santa Cruz

Fall 2012

Structure and Function (BIOL 20B) (co-taught, responsible for Animal related content)

Summer 2012

Structure and Function (BIOL 20B) (co-taught, responsible for Animal related content)

Fall 2010

Structure and Function (BIOL 20B) (co-taught, responsible for Animal related content)

Summer 2010

Animal Physiology (BIOL 131)
Animal Physiology Lab (BIOL 131L)

Teaching Assistant:

2011

- Animal Physiology
- Invertebrate Zoology

2009

- Human Physiology
- Biology of Marine Mammals

2007

- Structure and Function

Guest Lectures:

- Designed, prepared and led laboratory exercise for Animal Physiology course. “Lipid metabolites in northern elephant seals: using a microplate reader to measure physiological variables” 2011
- Animal Physiology. Topic: ‘Cell Signaling and Endocrinology’. 2011
- Biology of Marine Mammals, topic: ‘Osmoregulation in Marine Mammals’ 2010 & 2012

Sonoma State University

Teaching Assistant:

2004-2005

- Environmental Physiology
- Diversity, Structure and Function

Professional Teaching Development

- Springfield College Center for Excellence in Teaching, Learning, and Scholarship & Babson Library Information Literacy Fellow program, (2023)
- Springfield College Center for Excellence in Teaching, Learning, and Scholarship Davis Educational Foundation Grant -- Implementation of a Real-Time Assessment Model to Promote Student Success. (2022-2023)
- AAAS Improving Undergraduate STEM Education Initiative Workshop: Promoting Equity in Undergrad STEM (2021)
- Diversity Challenge: Making Race and Culture Work in the STEM Era; Boston College, Boston, MA (2018)
- Massachusetts STEM Summit; Worcester, MA (2017)
- Fostering Academic Success in STEM; 2 day conference. Center for Excellence & Innovation in Teaching and Learning, University of New Hampshire (2017 and 2018)
- Springfield College Writing Fellows Program: Teaching Writing (2017)
- Curriculum Transformation Workshop: Incorporating Inclusion and Diversity into Courses. Office of Diversity and Community Engagement, Springfield College (2016)
- An Introduction to Evidence Based Undergraduate STEM Teaching. Vanderbilt University and the Center for the Integration of Research, Teaching and Learning. Statement of Accomplishment earned (2014)
- Workshop: Rethinking Science and Engineering Learning and Teaching through the Institute for Scientist and Engineer Educators, University of California Santa Cruz (2009)

Publications:

- Costa, D; Holser, R; Keates, T; Adachi, T; Beltran, R; Champagne, C; Crocker, D; Favilla, A; **Fowler, M**; Gallo-Reynoso, JP; Goetsch, C; Hassrick, J; Huckstadt, L; Kendall-Bar, J; Kienle, S; Kuhn, C; Maresh, J; Maxwell, S; McDonald, G; McHuron, E; Morris, P; Naito, Y; Pallin, L; Peterson, S; Robinson, P; Simmons, S; Takahashi, A; Teuschel, N; Tift, M; Tremlay, Y; Villegas-Amtman, S; Yoda, K. (*in press*)
Two decades of three-dimensional movement data from adult female northern elephant seals. *Scientific Data-Nature*.
- Zanette, LY; Allen, MC; Williams, TD; **Fowler, MA**; Criscuolo, F; Zahn, S; Boonstra, R; and Clinchy, M. (2024)
Fear of predators reduces body and physiological condition affecting offspring survival and the ‘quality’ of the survivors. *Functional Ecology* 38:1061-1074. <https://doi.org/10.1111/1365-2435.14553>.

- Fowler, M.**; Wong, JB; Harrison, A-L. (2023) Oxidative physiology of two small and highly migratory Arctic seabirds: Arctic terns (*Sterna paradisaea*) and long-tailed jaegers (*Stercorarius longicaudus*). *Conservation Physiology*. 11(1), coad060.
- Cornell, A.; **Fowler, M.**; Zimmerman, C.; Khaku, Z.; Therrien, JF. (2023) The Role of Food Quantity and Quality in Nestling Development of American Kestrels. *Journal of Raptor Research*. 57(2). DOI: 10.3356/JRR-22-10
- Cove, M.;Compton, J.A.;.....**Fowler, M.**...McShea, W. (2021), SNAPSHOT USA 2019: a coordinated national camera trap survey of the United States. *Ecology*. e03353. <https://doi.org/10.1002/ecy.3353>
- Fowler, M.**, Sirpenski, G., and Romano, T.A. (2020) Insulin and Blubber Deposition in Rehabilitating Harbor Seal Pups (*Phoca vitulina*). *Aquatic Mammals*. 46(3), 243-253, DOI 10.1578/AM.46.3.2020.243
- Fowler, M.**; Cohen, A; Legault, V Paquet, M; Williams, TD. (2018) Physiological predictors of reproductive performance in the European Starling (*Sturnus vulgaris*). *Frontiers in Zoology*. 15:45. <https://doi.org/10.1186/s12983-018-0288-3>
- Fowler, M.**; Champagne, CD; Crocker, DE. (2018) Adiposity and fat metabolism during combined fasting and lactation in elephant seals. Invited review. *Journal of Experimental Biology*, 221:1-10. doi:10.1242/jeb.161554
- Fowler, M** and Williams, TD. (2017) A physiological signature of 'cost of reproduction' associated with parental care. *American Naturalist*, 190 (6): 762-773.
- McHuron, EA; Robinson, PW; Simmons, SE; Kuhn, CE; **Fowler, M.**; Costa, DP. (2016) Foraging strategies of a generalist marine predator inhabiting a dynamic environment. *Oecologia*. 182 (4): 995-1005
- Fowler, M.**; Debier, C; Champagne, CD, Crocker, DE, Costa, DP. (2016) The demands of lactation promote differential regulation of lipid stores in fasting elephant seals. *General and Comparative Endocrinology*. 225:125-132. <http://dx.doi.org/10.1016/j.ygcen.2015.09.024>
- Fowler, M.**; Williams, TD. (2015) Individual variability in parental workload and breeding productivity: is the effort worth it? *Ecology and Evolutionary Biology*. 5(17): 3583-3599. doi:10.1002/ece3.1625
- Fowler, M.**; Kraemer, R; Shen, W-J; Crocker, DE, Costa, DP (2015) Adipose Triglyceride Lipase, Not Hormone Sensitive Lipase, is the Primary Lipolytic Enzyme in Fasting Elephant Seals. *Physiological and Biochemical Zoology*. 88(3):284-294. doi: 10.1086/680079.
- Williams, TD, **Fowler, M.** (2015) Individual variation in workload during parental care: can we detect a physiological signature of quality or cost of reproduction? *Journal of Ornithology*.1:11.doi: 10.1007/s10336-015-1213-6.
- Williams, TD; Bourgeon, S; Cornell, A; Ferguson, L; **Fowler, M.** Fronstin, RB; Love, OP. (2014) Mid-winter temperatures, not spring temperatures, predicts breeding phenology in the European starling *Sturnus vulgaris*. *Royal Society Open Science*. 2(140301)
- Crocker, DE; Champagne, CD; **Fowler, MA.**; Houser, DS. (2014) Adiposity and fat metabolism in lactating and fasting northern elephant seals. *Advances in Nutrition*. 5:57-64.
- Crocker, DE; **Fowler, MA.**; Champagne, CD; Vanderlugt, AL; Houser, DS. (2014) Metabolic response to a glucagon challenge varies with adiposity and life-history stage in fasting northern elephant seals. *General and Comparative Endocrinology*. 195 (99-106)
- Fowler, M.**; Debier, C; Crocker, DE; Costa, DP. (2013) Fatty acid mobilization and comparison to milk fatty acid content in northern elephant seals. *Journal of Comparative Physiology Part B*. 184(1): 125-135. DOI 10.1007/s00360-013-0787-7
- Naito, Y; Costa, DP; Adachi, T; Robinson, PW; **Fowler, M.**; Takahashi, A (2013) Foraging adaptation in deep water by adult female northern elephant seals. *Functional Ecology*. doi: 10.1111/1365-2435.12083
- Champagne, CD; Boaz, SM; **Fowler, MA.**; Houser, DS; Costa, DP; Crocker, DE. (2013) A profile of carbohydrate metabolites in the fasting northern elephant seal. *Comparative Biochemistry and Physiology, Part D* 8: 141-151.
- Champagne, CD; Houser, DS; **Fowler, MA.**; Costa, DP; Crocker, DE. (2012) Gluconeogenesis is associated with high rates of tricarboxylic acid and pyruvate cycling in fasting northern elephant seals." *American Journal of Physiology - Regulatory, Integrative and Comparative Physiology* **303**: R340-R352.
- Champagne, CD; **Fowler, MA.**; Houser, D; Crocker, DE. (2012) Fasting Physiology of the Pinnipeds: the challenges of fasting while maintaining high energy expenditure and nutrient delivery for lactation. Book chapter in: "The Comparative Physiology of Fasting and Starvation". pp 310-316. editor: McCue, M. Springer Publishing.

- Robinson, P.W.; Costa, D.P.; Crocker, D.; Gallo-Reynoso, J.P.; Champagne, C.; **Fowler, M.**; Goetsch, C.; Goetz, K.; Hassrick, J.L.; Huckstadt, L.A.; Kuhn, C.; Maresh, J.; Maxwell, S.M.; McDonald, B.; Peterson, S.; Simmons, S.E.; Teutschel, N.M.; Villegas-Amtmann, S.; Yoda, K. (2012) Foraging behavior of female northern elephant seals. *PLoS One* 7(5): e36728.
- Debier C; Crocker D; Houser D; Vanden Berghe M; **Fowler M**; Mignolet E; de Tillesse T; Rees J-F; Thomé J-P; Larondelle Y. (2012) Impact of fasting and lactation on the concentrations of fat-soluble vitamins and pollutants in northern elephant seals: a comparative approach. *Comparative Biochemistry and Physiology, Part A*. 162 (4): 323-330. doi: [10.1016/j.cbpa.2012.04.001](https://doi.org/10.1016/j.cbpa.2012.04.001)
- Boaz, SM; Champagne, CD; **Fowler, MA**; Houser, D; Crocker, DE. (2012) Metabolomics measurement of fasting serum water-soluble vitamins in northern elephant seals (*Mirounga angustirostris*) *Comparative Biochemistry and Physiology, Part A*. 161:113-121.
- Hayes, SA; Teutschel, NM; Michel, CJ; Champagne, CD; Robinson, PW; **Fowler, MA**; Yack, T; Mellinger, D; Simmons, S; Costa, DP; MacFarlane; RB. (2011) Mobile receivers: Releasing the mooring to 'see' where fish go. *Environmental Biology of Fishes*. doi: 10.1007/s10641-011-9940-x.
- Caudron AK; Negro SS; **Fowler M**; Boren L; Poncin P; Robertson BC; & Gemmell NJ; (2009) Alternative mating tactics in the New Zealand fur seal *Arctocephalus forsteri*: When non-territorial males are successful too. *Australian Journal of Zoology* 57 (6):399-408.
- Fowler, M**; Houser, D; Champagne, CD; Crocker, DE; (2008) Hormonal regulation of glucose clearance in lactating northern elephant seals (*Mirounga angustirostris*). *Journal of Experimental Biology*, 211:2943-2949.
- Fowler, M.** (2006) Hormonal regulation of glucose clearance in lactating northern elephant seals (*Mirounga angustirostris*). Master of Science Thesis. Sonoma State University, Rohnert Park, California.

Public Talks/Presentations:

Invited Talks:

- Fostering Academic Success in STEM. University of New Hampshire. Co-presenter Justin Compton. 'Application and Success of Flipped Classroom Modules in Introductory Biology'. April 2018.
- Springfield College Social Justice Summer Academy. 'Where my girls at? Pursuing a career in the sciences'. Springfield, MA, June 2017.
- Journal of Experimental Biology Symposium on The Biology of Fat. 'Adiposity and fat metabolism during combined fasting and lactation in elephant seals.' March 2017.
- Les Ecologiste Seminar Series invited presentation, Simon Fraser University. Oral presentation: 'From Seals to Songbirds: A Story of Comparative Physiology'. October 2013.
- Docent training lecture series, Invited speaker, Año Nuevo State Reserve, CA. 'Fasting physiology research in the northern elephant seal' March 2009, 2010.
- Sonoma State University Biology Colloquium, 'Hormonal regulation of glucose clearance in lactating northern elephant seals (*Mirounga angustirostris*)' **M. Fowler**, March 2006.
- BrainWash Seminar Series, Southampton College, Spatial distribution of male New Zealand fur seals (*Arctocephalus forsteri*) during the breeding season. **M. Fowler**, April 2003.

Oral Conference Presentations:

- Society for Comparative and Integrative Biology annual meeting, Austin, TX. 'Individual variation in provisioning effort does not result in larger offspring at fledging'. **M. Fowler**, TD. Williams. January 2014.
- Society for Comparative and Integrative Biology annual meeting, San Francisco, CA. 'Insulin as a differential regulator of lipid mobilization in fasting northern elephant seals' **M. Fowler**, C. Debier, CD Champagne, DE Crocker, DP Costa. January 2013.
- University of California Santa Cruz Dept of Ecology and Evolutionary Biology Graduate Student Symposium 'What do seals do with all that blubber? Regulation of lipid metabolism in northern elephant seals'. March 2012.
- 18th Biennial Conference on the Biology of Marine Mammals, Quebec City, Quebec. 'Adiposity, development and lactation impact responses to glucagon in northern elephant seals' **M. Fowler**, CD Champagne, DS Houser, DE Crocker. Oct 2009.
- 16th Biennial Conference on the Biology of Marine Mammals, San Diego, California. 'Hormonal regulation of glucose clearance in lactating northern elephant seals (*Mirounga angustirostris*)' **M. Fowler**, C.

Champagne, D. Houser, D. Crocker, Dec 2005.

Conference Poster Presentations:

- National Association of Biology Teachers. Anaheim, CA. 'Exam Retakes Result in Modest Increase in STEM Retention in an Introductory Biology Course'. November 2024
- Ecological Society of America. Montreal, Quebec. 'Seasonal Changes in Functional Trait Distribution in a Temperate Forest Community'. Co-presenter Justin Compton. August 2022
- Ecological Society of America. Online Conference. 'Remote-camera traps and undergraduate research: Bringing the 4DEE framework to life'. Co-presenter Justin Compton. August 2021
- Ecological Society of America. Online Conference. 'The influence of retrieval practice and interleaving on an introductory natural science course'. Co-presenter Justin Compton. August 2020.
- World Marine Mammal Conference, Barcelona, Spain. 'Insulin and blubber deposition in rehabilitating harbor seal pups (*Phoca vitulina*)'. December 2019
- Ecological Society of America. Louisville, KY. 'Scaffolding Application and Theory: Bringing the 4DEE Framework to Life with International Research'. Co-presenter Justin Compton. August 2019.
- Scholars in Action, Springfield College, Springfield, MA. 'Quantifying Implicit Bias in the Springfield College Community'. Advisor of Student Club presenting. April 2017 and 2018 and 2019
- Ecological Society of America. Portland, OR. 'Prove it to yourself: A climate change exercise for non-majors'. August 2017.
- North American Ornithological Conference (NAOC). Washington, DC. 'Assessing individual variation in parental care using multiple physiological metrics'. August 2016.
- Experimental Biology, San Diego, CA. 'Lipid mobilization and milk production in lactating northern elephant seals' **M. Fowler**, D. Costa, C. Debier, DE Crocker. April 2012.
- Society for Integrative and Comparative Biology Annual meeting, Seattle, WA. 'Adiposity, development and lactation impact responses to glucagon in northern elephant seals' **M. Fowler**, CD Champagne, DS Houser, DE Crocker. January 2010.
- 15th Biennial Conference on the Biology of Marine Mammals, Greensboro, North Carolina. 'Spatial distribution of male New Zealand fur seals (*Arctocephalus forsteri*) in a breeding colony: more space allows for more variation?' **M. Fowler**, A. Caudron, LJ Boren, NJ Gemmell. December 2003.

Outreach:

Social Justice:

- Upward Bound Outreach collaboration with University of Massachusetts STEM activities for underrepresented local high school students, (2022)
- Faculty advisor for Springfield College student service trip to Cheyenne River Sioux Tribe Reservation, (2018)
- Invited speaker for Springfield College Social Justice Summer Camp (2017)
- Advisor and founder of SEED (Scientists Embracing Equality and Diversity) Club; Springfield College (2016-present); research project "Busting Up Bias" presented at Springfield College Scholars in Action Day: winner, Students' Choice (2017, 2018, 2019).
- Career presentation to Cabrillo College students as part of NSF project to engage underprepared students for careers in science and education (2010-2011)
- Graduate Students for the Enhancement of Diversity (GCDE). Helped plan and execute Science Education Day at Long Marine Lab to educate middle school children about STEM (2008, 2012).

Community assistance:

- Faculty Co-advisor and founder of Community Service Club, Mills College at Northeastern 2024-present
- Faculty advisor for Springfield College student service trip to Munro, NC Habitat for Humanity, (2019)
- Volunteer for Massachusetts Senior Olympics National Cycling Qualifying Event, Chicopee, MA, (2018)
- Springfield College Humanics in Action Service Day community outreach; reading to elementary school students (2016)
- Springfield College Humanics in Action Service Day community outreach; yard clean up in public housing (2015)

Science Communication:

- Blogged for Springfield College website about research
-Costa Rica Student research trip (2019)
<https://springfield.edu/springfield-stories/academic-stories/biol-320-international-tropical-field-research-pt-i>
- Arctic Tern and Long-Tailed Jaeger Fieldwork in the Tundra (2018)
<https://springfield.edu/news/assistant-professor-biology-melinda-fowler-phd-travels-alaska-smithsonians-migratory>
- Research presentation to undergrad intro biology lab sections, Simon Fraser University (2014)
- Developed field research internships to involve undergraduates in field research with elephant seals
- After school activities/presentations Campus Kids Connections/Outdoor Explorer Group; kids ages 7-10 years (2011-2012).
- High school biology presentations and correspondence from the field; Moniteau County C-1 School, Jamestown, Missouri (2003-2014).
- Presentation at MESA Science Day Fair; and Pacific Collegiate School Math and Science Day (middle/high school audience) (2009)
- Career day mentoring panels for several high schools in Santa Cruz (2009-2011).
- Blogged for www.TOPP.org (Tagging of Pacific Pelagics) about deployment/recovery of satellite tags on pinnipeds (2008-2009)
- Coordinated film crew for documentary segments of elephant seal tagging for PBS Nova, National Geographic and local media outreach (2009-2010)
- Docent education talks at Año Nuevo State Reserve outlining elephant seal research objectives (2009-2010)

Student Mentoring & Advising:

**student from underrepresented background
§progressed to graduate program*

Springfield College

Academic advising for Biology and Sports Biology majors, 9-14 students per year (2015-present)

Labwork and research theses

Andre Levasque	Katherine LeWine§	Christina Ready
Jacklyn Rickson§	Qi Li*§	Omar Awkal*§
Suraji Omaru*§	Kerice Kelly*	Gizzelle Abanador*
Alexandra Sims*	Alyssa Paquette	Alexis Weary
Stephan Minyayluk		

Simon Fraser University

Fieldwork, labwork and research theses

Teri Wu*	Sarah Grey
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University of California Santa Cruz

Fieldwork and labwork

Ashley Pearson§	Erin Pickett§	Jeff Sharick§
Molly McCormmley§	John Harley§	

Sonoma State University

Fieldwork and labwork

Anna Kosztowny§

Field Research Experience:

Field Leader:

- Co-leader with Justin Compton. Supervised student research projects in the rainforest in La Selva Costa Rica. Examples of projects: howler monkey vocalizations, poison dart frog abundance and coloration, soil chemistry, and camera trapping (2019, 2023)

- Physiological and behavioural determinants of reproductive success in the European starling (*Sturnus vulgaris*); Langley, British Columbia (2013-2014)
- Fasting physiology and foraging ecology in the Northern elephant seal (*Mirounga angustirostris*); Año Nuevo California (2005-2006; 2008-2010)
- Foraging ecology of the California sea lion (*Zalophus californianus*; Channel Islands, California (2008-2009)

Field Assistant:

- Migration of Long-tailed Jaegers (*Stercorarius longicaudus*), Black-bellied plovers (*Pluvialis squatarola*) and Arctic Terns (*Sterna paradisaea*) with Smithsonian Migratory Bird Connectivity Project; Alaska (2017-2018)
- Diving physiology in the Emperor penguin (*Aptenodytes forsteri*); Cape Washington, Antarctica (2011)
- Foraging ecology in the Northern elephant seal (*M. angustirostris*); San Benitos Mexico and Año Nuevo California (2005-2006; 2008, 2011)
- Foraging ecology in the California sea lion (*Z. californianus*). Channel Islands, California (2007-2008)
- Reproductive behaviour and foraging ecology of Galapagos sea lions (*Zalophus wolfebaeki*) and Galapagos fur seals (*Arctocephalus galapagoensis*); Galapagos Islands (2007 & 2010)
- Population demography and behaviour in the Hawaiian monk seal (*Monachus schauinslandi*); Laysan Island, Northwest Hawaiian Islands (2004, 2006)
- Reproductive behaviour in the New Zealand fur seal (*A. forsteri*); Kangaroo Island, Australia and Kaikoura, New Zealand (2002-2003)
- Maternal investment in the Steller sea lion (*Eumetopias jubatus*); Seward Alaska (2001-2003)

Skills Implemented in Research:

- Coordination between multiple collaborating entities (international collaborators, National Marine Fisheries Service Project, Tagging of Pacific Predators project, Marine Mammal Center)
- Field logistics and personnel management, including extensive training of field assistants
- Remote sensing equipment deployment and recovery, including camera traps and electronic tags such as VHF, satellite, time depth recorder, GPS, Crittercam, ECG recording
- Animal capture and chemical immobilization; milk, blood and tissue sampling
- Extensive physiological assay laboratory experience (hormone, metabolite, oxidative stress, radiometric assays)
- Statistical analyses in R

Grants/Awards/Honors:

- Springfield College Office of Multicultural Affairs Student Scholarship Travel Funding (\$1000), 2021
- Inducted into TriBeta Biological Honor Society, 2018
- Advisor of the Year; Springfield College Student Government Association. 2016-17
- Springfield College Faculty Research Grant, 2017
- Springfield College Faculty Travel Grant, 2016, 2017, 2019
- University of California Santa Cruz President's Dissertation Year Fellowship 2011-2012
- Achievement Reward for Collegiate Scientists Foundation Fellowship 2011
- Friends of Long Marine Lab Student Research and Education Award 2008
- Mildred E. Mathias Graduate Student Research Award 2008
- Lerner-Gray Fund for Marine Research 2008
- STEPS Fellowship, University of California Santa Cruz 2007-2012
- Graduate Equity Fellowship, Sonoma State University 2006-2007
- John and Delores Headley Scholarship, Sonoma State University 2005-2006
- Yvette M. Fallandy Scholarship Sonoma State University 2004-2005
- Edgar and Beulah Dryden Fund Scholarship Sonoma State University 2004-2005

Institutional Service:

Northeastern University

- Faculty Lead for Instructional Assistants for College of Science undergraduate programs (2024-present)
- Department of Biology Undergraduate Curriculum Committee, 2024-present

- Teaching Professor Promotion Committee, *2024-present*

Springfield College

- Honors Program Advisory Committee, *2022 -2023*
- Pre-Med Committee, *2020 -2023*
- Department of Biology/Chemistry Biology Major Program Coordinator, *2020-2023*
- Academic Dismissal Appeals Committee, *2018-2023*
- First Generation Mentorship Program *2020-2022*
- Co-Chair of Boyer Scholarship Committee, *2020 -2022*
- Scholars in Action Committee, *2017-2021*
- Capstone/E-portfolio Committee, *2019-2021*
- Life and Health Sciences Living Learning Advisor, *2017-2020*
- School of Arts, Sciences and Professional Studies Faculty Development and Status Committee *2018-2019*
- School of Arts, Sciences and Professional Studies Curriculum Committee member, *2016-2017, co-chair 2017-2018*
- Biology/Chemistry Department Internship Committee Chair, *2016-2017*
- Office of Inclusion and Diversity Engagement Education and Training Task Force member, *2015-2016*
- Organized annual McCabe Speaker, Springfield College, *2016, 2017*

Search Committees

□ Chair:

Department of Biology and Chemistry, Cell/Molecular Faculty Search *2018 & 2020*

Department of Biology and Chemistry, Microbiology Faculty Search *2018*

□ Member:

Department of Biology and Chemistry, Anatomy & Physiology Faculty Search *2021, 2022*

Department of Biology and Chemistry, Environmental Science Faculty Search *2019*

Department of Biology and Chemistry, Laboratory Manager Search *2018*

Department of Exercise Science and Sport Studies, Applied Exercise Science Faculty Search *2017*

Department of Biology and Chemistry, Microbiology Faculty Search *2016*

University of California Santa Cruz

- Controlled Substances Manager and liason between Costa Lab and University of California Santa Cruz EH&S Department *2008-2012*
- Institutional Animal Care and Use Committee (IACUC) member and alternate for Dan Costa; University of California Santa Cruz; *2011*

Reviewer for:

Journals:

- Aquatic Mammals
- Frontiers in Marine Science
- Veterinary Research Communications
- Journal of Experimental Biology
- Marine Mammal Science
- Journal of Comparative Physiology
- General and Comparative Endocrinology
- Functional Ecology
- Society for Marine Mammalogy abstracts
- Science of the Total Environment
- Comparative Biochemistry and Physiology
- Frontiers in Aquatic Physiology
- Proceedings of the Royal Society B

Textbook:

- Principles of Life, Third Edition

Grants:

- North Pacific Research Board
- National Science Foundation

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