DAVID E. CADE – *CURRICULUM VITAE*

Hopkins Marine Station, Stanford University
120 Ocean View Blvd, Pacific Grove, CA 93950
Office 831.655.6234 ● Email: davecade@stanford.edu
Website: www.davidecade.com

EDUCATION

Ph.D. Biology, **Stanford University** (2019)

M.Sc. Earth, Ocean and Atmospheric Sciences, **Oregon State University** (2014)

M.A. Education, **Stanford Univeristy** (2005)

B.A. Mathematics, **Brown University** (2002) C.V. Starr fellow for public service

RESEARCH & ACADEMIC HISTORY

Oregon State University, Affiliate Graduate Faculty, 2022-present
Serve on student Ph.D. and Masters committees

Stanford University, Post-doc, Hopkins Marine Station. 2021-present
Energetics of filtration feeding in basking sharks and rorqual whales
(PI: Jeremy Goldbogen)

University of California, Santa Cruz, Post-Doc, Institute of Marine Science, 2019-2021.
Ecological lower limits to body size in Antarctic minke whales
(PI: Ari Friedlaender)

Stanford University, Hopkins Marine Station. Ph.D. program, Dept. of Biology, 2014-2019
Multi-scale drivers of efficiency in rorqual whale engulfment filtration feeding.
(Advisor: Jeremy Goldbogen)

Oregon State University, M.Sc. program, College of Earth, Ocean, and Atmospheric Sciences, 2011-2014. Detection, classification and ecology of acoustic scattering layers.
(Advisor: Kelly Benoit-Bird)

Stanford University, M.A. program. California Teaching Credential in Mathematics, 2004-2005
Using metaphors to explore the properties of exponents with 9th graders.
(Supervisor: Beth Injasoulian)

TEACHING EXPERIENCE *(listed by relevancy)*

University of San Francisco, San Francisco, CA. Adjunct Professor, Marine Biology, 2014

Summit Preparatory Charter High School, Redwood City, CA. Mathematics Teacher, All levels, 2006-2010

Cross-Cultural Environmental Leadership School (XCEL), San Francisco, CA. Mathematics Teacher, Algebra and Geometry, 2005-2006

Stanford University, Palo Alto, CA. TA for Biologging, 2016, Plant Biology, 2015

Oregon State University, Corvallis, OR. Teaching Assistant, Introductory Biology, 2014

UC Santa Cruz, Santa Cruz, CA. Inertial sensor workshop instructior (40 hrs, online), 2020

Mission High School, San Francisco, CA. Student teacher, Freshmen integrated math, 2004-2005

Various, Experiential and environmental education instructor in New Hampshire, New Mexico, Washington and Utah wilderness areas, 1999-2004

HONORS & AWARDS

Early Career Award, International Bio-logging Society, 2021, "Recognizes early-career researchers who are challenging themselves, or the field, and are making significant contributions to advancing bio-logging science through innovative projects"

Special issue invitation, Frontiers in Physiology, 2021. Invitation to contribute to "Rising stars in Physio-logging, 2022".

Anne T. and Robert M. Bass Fellowship, Stanford University, 2014-2017

Outstanding Achievement Award, Hopkins Marine Station, 2014

PUBLICATIONS (google scholar profile) (pdf links)

Nazario, E., **Cade, D.E.**, Bierlich, K.C., Czapanskiy, M.F., Goldbogen, J.A., Kahane-Rapport, S.R., van der Hoop, J.M., San Luis, M.T. & Friedlaender, A.S. (2022) Baleen whale inhalation variability revealed using animal-borne video tags. ***PeerJ,*** 10.

Gough, W.T., **Cade, D.E.,** Czapanskiy, M.F., Potvin, J., Fish, F.E., Kahane-Rapport, S.R., Savoca, M.S., Bierlich, K., Johnston, D.W. & Friedlaender, A.S. (2022) Fast and Furious: Energetic Tradeoffs and Scaling of High-Speed Foraging in Rorqual Whales. ***Integrative Organismal Biology***.

Ryan, J., Benoit-Bird, K., Oestreich, W.k., Leary, P., Smith, K., Waluk, C.P., **Cade, D.E.**, Fahlbusch, J.A., Southall, B., Joseph, J., Margolina, T., Calambokidis, J., DeVogelaere, A. & Goldbogen, J.A. (2022) Oceanic giants dance to atmospheric rhythms: Ephemeral wind-driven resource tracking by blue whales. ***Ecology Letters***.

Cade, D.E., Kahane-Rapport, S.R., Wallis, B., Goldbogen, J. A.. & Friedlaender, A.S. (2022) Evidence for size-selective predation by Antarctic humpback whales. ***Frontiers in Marine Science*** 9 (747788).

Casey C, Weindorf S, Levy E, Linsky J.M.J., **Cade D.E.**, Goldbogen J.A., Nowacek D.P., & Friedlaender A.S. (2022). Acoustic signaling and associated behavior of Antarctic minke whales. ***Royal Society Open Science***.

Fahlbusch J.A., Czapanskiy M, Calambokidis J, **Cade D.E.**, Abrahms B, Hazen E.L., Goldbogen J.A., (2022). Blue whales increase feeding rates at fine-scale ocean features. **Proceedings of the Royal Society B: Biological Sciences**.

Matika, A.F., Jourdain, E., **Cade, D.E.**, Karoliussen, R., Torello, A., & Hammond, P.S. (2022) Diving characteristics, energetics and prey profitability in herring-feeding killer whales (*Orcinus orca*) in northern Norway. ***Marine Mammal Science.***

Nichols, R.C., **Cade, D.E.,** Kahane-Rapport, S.R., Goldbogen, J.A., Stimpert , A.K., Nowacek, D.P., Read, A.J., Johnston, D.W. & Friedlaender, A.S. (in review) Intra-seasonal variation in feeding rates and diel foraging behavior in a seasonally fasting mammal, the humpback whale. ***Royal Society Open Science***.

Segre, P.S., Gough, W.T., Roualdes, E.A., **Cade, D.E.**, et al. (2022) Scaling of maneuvering performance in baleen whales. ***Journal of Experimental Biology,*** 225: jeb243224 .

Mastick, N., Wiley, D., **Cade, D.E.**, Ware, C., Parks, S.E. & Friedlaender, A.S. (2022) The effect of group size on individual behavior of bubble-net feeding humpback whales in the southern Gulf of Maine. ***Marine Mammal Science***, 2020: 1-16.

Cade, D.E., Fahlbusch, J.A., Oestreich, W., Ryan, J., Calmbokidis, J., Findlay, K.P., Friedlaender, A.S., Hazen, E., Seakamela, S.M. & Goldbogen, J.A. (2021) Social exploitation of extensive, ephemeral, environmentally controlled prey patches by super-groups of rorqual whales. ***Animal Behaviour***, 182: 251-256.

Cade, D.E., Gough, W.T., Czapanskiy, M.F., Fahlbusch, J.A., Kahane-Rapport, S.R., Linsky, J.L., Nichols, R.C., Oestreich, W.K., Wisniewska, D.M., Friedlaender, A.S. & Goldbogen, J.A. (2021) Tools for integrating accelerometry data with video bio-loggers, including estimation of animal orientation, motion, and position. ***Animal Biotelemetry***, 9(34).

Cade, D.E., Seakamela, S. M., Findlay, K. P., Fukunaga, J., Kahane-Rapport, S.R., Warren, J., Calmbokidis, J., Fahlbusch, J., Friedlaender, A. S., Hazen, E., Kotze, D., McCue, S., Meyer, M., Oestreich, W., Oudejans, M., Wilke, C. & Goldbogen, J. A. (2021) Predator-scale spatial analysis of intra-patch prey distribution reveals the energetic drivers of rorqual whale super-group formation. ***Functional Ecology***, 35 (4): 894-908

Czapanskiy, M.F., Savoca, M.S., Gough, W.T., Segre, P.S., Wisniewska, D.M., **Cade, D.E**. & Goldbogen, J.A. (2021) Modeling short-term energetic costs of sonar disturbance to cetaceans using high resolution foraging data. ***Journal of Applied Ecology***.

Gough, W.T., Smith, H.J., Savoca, M.S., Czapanskiy, M.F., Fish, F.E., Potvin, J., Bierlich, K.C., **Cade, D.E.,** Di Clemente, J., Kennedy, J., Segre, P.S., Stanworth, A., Weir, C. & Goldbogen, J.A. (2021) Scaling of oscillatory kinematics and propulsive efficiency in baleen whales. ***Journal of Experimental Biology.***

Potvin, J., **Cade, D.E.,** Werth, A.J., Shadwick, R.E. & Goldbogen, J.A. (2021) Baleen whale lunge-feeding energetics near and away from the kinematic threshold of optimal efficiency. ***Integrative and Organismal Biology***, 3 (1): obab005.

Pirotta, E., Booth, C., **Cade, D.E.**, Calambokidis, J., Costa, D.P., Fahlbusch, J.A., Friedlaender, A.S., Goldbogen, J.A., Harwood, J., Hazen, E.L., New, L. & Southall, B.L. (2021) Context-dependent variability in the predicted daily energetic costs of disturbance in blue whales. ***Conservation Physiology***, 9, coaa137**.**

Cade, D.E., Carey, N., Domenici, P., Potvin, J. & Goldbogen, J.A. (2020) Predator-informed looming stimulus experiments reveal how large filter feeding whales capture highly maneuverable forage fish. ***Proceedings of the National Academy of Sciences****,* 117, 472-478.

Flammang, B.E., Marras, S., Lehmkuhl, O., Anderson, E.J., Mukherjee, A., **Cade, D.E**., Beckert, M., Nadler, J.H., Houzeaux, G., Vazquez, M., Amplo, H.E., Calambokidis, J., Friedlaender, A.S. & Goldbogen, J.A. (2020) Remoras pick where they stick and surf on blue whales. ***Journal of Experimental Biology.*** 223.

Linsky, J.M.J., Wilson, N., **Cade, D.E.,** Goldbogen, J.A., Johnston, D.W. & Friedlaender, A.S. (2020) The scale of the whale: using video-tag data to evaluate sea ice concentration from the perspective of individual Antarctic minke whales. ***Animal Biotelemetry.*** 8:1-12.

Oestreich, W.K., Fahlbusch, J.A., **Cade, D.E.**, Calambokidis, J., Margolina, T., Joseph, J., Friedlaender, A.S., McKenna, M.F., Stimpert, A.K., Southall, B.L., Goldbogen, J.A. & Ryan, J.P. (2020) Animal-borne measures of behavior enable acoustic detection of migration in dispersed populations. ***Current Biology***. 30:1-7

Kahane-Rapport, S.R., Savoca, M.S., **Cade, D.E.**, Segre, P.S., Bierlich, K.C., Calambokidis, J., Dale, J., Friedlaender, A.S., Johnston, D., Werth, A.J. & Goldbogen, J.A. (2020) Lunge filter feeding biomechanics constrain rorqual foraging ecology across scale. ***Journal of Experimental Biology***, jeb.224196.

Bamford, C.C.G., Kelly, N., Dalla Rosa, L., **Cade, D.E**., Fretwell, P., Trathan, P.N., Cubaynes, H., Mesquita, A., Gerrish, L., Friedlaender, A.S. & Jackson, J.A. (2020) A comparison of baleen whale density estimates derived from overlapping satellite imagery and a shipborne survey. ***Scientific Reports***, 10, 12985.

Cade, D.E., Levenson, J.J., Cooper, B., de la Parra, R., Webb, D.H. & Dove, A. (2020) Whale sharks increase swimming effort while filter feeding, but appear to maintain high foraging efficiencies. ***Journal of Experimental Biology***, 223, jeb224402.

Hein, A.M., Altshuler, D.L., **Cade, D.E.**, Liao, J.C., Martin, B.T. & Taylor, G.K. (2020) An algorithmic approach to natural behavior. ***Current Biology***, 30, R663-675.

Potvin, J., **Cade, D.E.,** Werth, A.J., Shadwick, R.E. & Goldbogen, J.A. (2020). A Perfectly Inelastic Collision: Bulk Prey Engulfment by Baleen Whales and Dynamical Implications for the World's Largest Cetaceans. ***American Journal of Physics,*** 88:851-863.

Segre, P.S., Potvin, J., **Cade, D.E.**, Calambokidis, J., Di Clemente, J, Fish, F.E., Friedlaender, A.S., Gough, W.T., Johnson, M, Kahane-Rapport, S.R., Oliveira, C., Parks, S.E., Penry, G.S., Simon, M., Stimpert, A.K., Wiley, D.N., Madsen, P.T., Goldbogen J.A. (2020) Energetic and physical limitations on the breaching performance of large whales. ***eLife,*** 9, e51760.

Tackaberry, J.E., **Cade, D.E.**, Goldbogen, J., Wiley, D., Friedlaender, A.S., Stimpert, A. (2020) From a calf's perspective: Humpback whale nursing behavior on two US feeding grounds. ***PeerJ***, 8:e8538.

Goldbogen, J.A., **Cade, D.E**., Wisniewska, D.M., Potvin, J., Segre, P.S., Savoca, M.S., Hazen, E.L., Czapanskiy, M.F., Kahane-Rapport, S.R., DeRuiter, S.L., Gero, S., Tønnesen, P., Gough, W.T., Hanson, M.B., Holt, M., Jensen, F.H., Simon, M., Stimpert, A.K., Arranz, P., Johnston, D.W., Nowacek, D.P., Parks, S.E., Visser, F., Friedlaender, A.S., Tyack, P.L., Madsen, P.T. & Pyenson, N.D. (2019a) Why whales are big but not bigger: Physiological drivers and ecological limits in the age of ocean giants. ***Science***, 366**,** 1367-1372.

Goldbogen, J.A., **Cade, D.E.**, Calambokidis, J., Czapanskiy, M.F., Fahlbusch, J., Friedlaender, A.S., Gough, W.T., Kahane-Rapport, S.R., Savoca, M.S. & Ponganis, K.V. (2019b) Extreme bradycardia and tachycardia in the world's largest animal. ***Proceedings of the National Academy of Sciences***, 116, 25329-25332.

Calambokidis, J., Fahlbusch, J.A., Szesciorka, A.R., Southall, B.L., **Cade, D.E.**, Friedlaender, A.S. & Goldbogen, J.A. (2019) Differential Vulnerability to Ship Strikes between Day and Night for Blue, Fin, and Humpback Whales Based on Dive and Movement Data from Medium Duration Archival Tags. ***Frontiers in Marine Science***, 6.

Southall, B.L., DeRuiter, S.L., Friedlaender, A., Stimpert, A.K., Goldbogen, J.A., Hazen, E., Casey, C., Fregosi, S., **Cade, D.E.** & Allen, A.N. (2019) Behavioral responses of individual blue whales (Balaenoptera musculus) to mid-frequency military sonar. ***Journal of Experimental Biology**,* 222**,** jeb190637.

Friedlaender, A.S., Bowers, M.T., **Cade, D.E.**, Hazen, E.L., Stimpert, A.K., Allen, A.N., Calambokidis, J., Fahlbusch, J., Segre, P. & Visser, F. (2019) The advantages of diving deep: Fin whales quadruple their energy intake when targeting deep krill patches. ***Functional Ecology*.**

Gough, W.T., Segre, P.S., Bierlich, K., **Cade, D.E**., Potvin, J., Fish, F.E., Dale, J., di Clemente, J., Friedlaender, A.S., Johnston, D.W., Kahane-Rapport, S.R., Kennedy, J., Long, J., Oudejans, M., Penry, G.S., Savoca, M.S., Simon, M., Videsen, S., Visser, F., Wiley, D. & Goldbogen, J.A. (2019) Scaling of swimming performance in baleen whales. ***Journal of Experimental Biology***, 222, jeb. 204172..

Segre, P.S., **Cade, D.E.**, Calambokidis, J., Fish, F.E., Friedlaender, A.S., Potvin, J. & Goldbogen, J.A. (2019) Body flexibility enhances maneuverability in the world's largest predator. ***Integrative and comparative biology***, 59, 48-60.

Cade, D.E., Barr, K.R., Calambokidis, J., Friedlaender, A.S. & Goldbogen, J.A. (2018) Determining forward speed from accelerometer jiggle in aquatic environments. ***Journal of Experimental Biology**,* 221**,** jeb. 170449.

Werth, A.J., Potvin, J., Shadwick, R.E., Jensen, M.M., **Cade, D.E.** & Goldbogen, J.A. (2018) Filtration area scaling and evolution in mysticetes: trophic niche partitioning and the curious cases of sei and pygmy right whales. ***Biological Journal of the Linnean Society*,** 125**,** 264-279.

Goldbogen, J.A., **Cade, D.E.**, Calambokidis, J., Friedlaender, A.S., Potvin, J., Segre, P.S. & Werth, A.J. (2017a) How Baleen Whales Feed: The Biomechanics of Engulfment and Filtration. ***Annual Review of Marine Science**,* 9**,** 1-20.

Goldbogen, J.A., **Cade, D.E.**, Boersma, A.T., Calambokidis, J., Kahane-Rapport, S.R., Segre, P.S., Stimpert, A.K. & Friedlaender, A.S. (2017b) Using Digital Tags With Integrated Video and Inertial Sensors to Study Moving Morphology and Associated Function in Large Aquatic Vertebrates. ***The Anatomical Record**,* 300**,** 1935-1941.

Findlay, K.P., Seakamela, S.M., Meÿer, M.A., Kirkman, S.P., Barendse, J., **Cade, D.E.**, Hurwitz, D., Kennedy, A., Kotze, P.G.H., McCue, S.A., Thornton, M., Vargas-Fonseca, O.A. & Wilke, C.G. (2017) Humpback whale "super-groups" – A novel low-latitude feeding behaviour of Southern Hemisphere humpback whales (*Megaptera novaeangliae*) in the Benguela Upwelling System. ***PloS one**,* 12, e0172002.

Friedlaender, A.S., Herbert-Read, J.E., Hazen, E.L., **Cade, D.E.**, Calambokidis, J., Southall, B.L., Stimpert, A.K. & Goldbogen, J.A. (2017) Context-dependent lateralized feeding strategies in blue whales. ***Current Biology**,* 27**,** R1206-R1208.

Cade, D.E., Friedlaender, A.S., Calambokidis, J. & Goldbogen, J.A. (2016) Kinematic Diversity in Rorqual Whale Feeding Mechanisms. ***Current Biology**,* 26**,** 2617-2624.

Segre, P.S., **Cade, D.E.**, Fish, F.E., Potvin, J., Allen, A.N., Calambokidis, J., Friedlaender, A.S. & Goldbogen, J.A. (2016) Hydrodynamic properties of fin whale flippers predict maximum rolling performance. ***Journal of Experimental Biology**,* 219**,** 3315-3320.

Cade, D.E. & Benoit-Bird, K.J. (2015) Depths, migration rates and environmental associations of acoustic scattering layers in the Gulf of California. ***Deep Sea Research Part I: Oceanographic Research Papers**,* 102**,** 78-89.

Cade, D.E. & Benoit-Bird, K.J. (2014) An automatic and quantitative approach to the detection and tracking of acoustic scattering layers. ***Limnology and Oceanography: Methods**,* 12**,** 742-756.

PUBLICATIONS (submitted)

Cade, D.E., Kahane-Rapport, S.R., Gough, W.T., Bierlich, K. Linsky, J., Johnson, D., Goldbogen, J.A.,, & Friedlaender, A.S. (in revision) Minimum body size constraints of engulfment filtration feeding ***Nature: Ecology & Evolution.***

MANUSCRIPTS in final preparation

Tackaberry JE, Bérubé M, **Cade D.E.**, Friedlaender A.S., Goldbogen J.A., McDonald B.I., Palsbøll P.J., Parks S.E., Robbins J, Weinrich M.T., Wiley D.N., Stimpert A.K., in prep. Humpback whale, *Megaptera novaeangliae*, feeding dynamics from the perspective of the individual: Insights from demography, life history, and bio-logging.

RESEARCH GRANTS

NSF ORCC (in prep), Co-PI – Synthesis of Acoustics, Physiology, Prey, and Habitat in Rapidly changing Environments, $3 million

NSF BIO-RET (in review), lead investigator – Deepening content knowledge through wildlife science (Math in the Wild), $200K

BOEM, (in review), project collaborator – Indefinite Quantity (IDIQ) for telemetry, scientific, and engineering support services for “Whale Shark Movement Ecology”, $770K

NSF Organismal Response to Climate Change (in prep), project collaborator- Response of blue whales in two oceans to climate stressers

ONR, project collaborator, 2022- Quantifying the effect of anthropogenic noise sources on cetacean fine-scale diving biomechanics and its energetic and physiological implications, $117K

NSF-OPP grant # 1643877, project collaborator

San Francisco and Monterey American Cetacean Society Research Grants, 2017, 2016, 2015, $6k

Defense University Research Instrumentation Program, project collaborator, 2016, $350K

Meyers Ocean Trust Student Research Award, 2016, $3K

NSF Post-doctoral fellowship proposal review (not funded):

- Regarding broader impacts: "This proposal has the strongest educational and outreach components of any proposal I read. Maybe ever…. it is unreasonable to expect more from any proposal."
- Regarding research: "The PI has a unique combination of quantitative skills, field research skills, and teaching experience and interest."

ACADEMIC MENTORING

Academic Committee Member:

Kate Colson, M.Sc. candidate, University of British Columbia, 2021-

Lisa Hildebrand, Ph.D. candidate, Oregon State University, 2022-

Mentoring coordination:

Salinas High School/Hopkins Marine Station Mentoring Program Coordinator, 2015-2019

Direct supervision:

Holly Hoffbauer, University of Alaska, SE, 2022

Julie Fukunaga, Stanford Undergraduate, 2017. See Cade, Seakamela et al., 2021

Kaela Montano, Ashley Guido, Salinas High School students, 2016-2017

Julianne Eitoku, Sandra Bautista, Salinas High School students, 2015-2016

Marisa Roth, Stanford Undergraduate, 2015

Indirect supervision:

Advise and train graduate and undergraduate students at Stanford and UC Santa Cruz

PEER REVIEW

60+ peer reviews. See Web of Science profile. Journals:

Journal of Experimental Biology
Plos One
PeerJ
ICES Journal of Marine Science
Proceedings B: Biological Sciences
Marine Mammal Science
Antarctic Science
Methods in Ecology and Evolution
Zoology
Functional Ecology
Marine Ecology Progress Series
Royal Society Open Science
Oceanography
Progress in Oceanography
Endangered Species Research
Scientific Reports
Aquatic Mammals
Journal of Marine Science and Engineering

INVITED LECTURES & SYMPOSIA

NASA Ames – Earth Science Division Seminar	2022
American Cetacean Society Monterey Bay – Invited Seminar	2022
University of British Columbia – Zoology Department Seminar	2022
Trinity College, Dublin – Zoology Department Seminar	2022
Oregon State University – Hatfield Research Seminar Series	2022
University of Washington – School of Applied Fisheries Sciences Seminar	2022
CSU Monterey Bay – Biology Department Seminar	2022
Inertial sensing workshop, lead presenter/organizer	2020
Cabrillo Whale Watch Naturalist – Invited Seminar	2020
Pacific Grove Museum of Natural History – Invited Seminar	2017/2020
California Ocean Alliance – Marine Mammal Scientist Training Program (x5)	2018/2019
UC Santa Cruz – Biology of Marine Mammals Guest Lecture	2018
Moss Landing Marine Labs – Invited Seminar	2017
Aarhus University – Inertial Sensing Workshop Guest Lecture	2017
Weber State University Arts Integration Conference – Co-keynote speaker	2017
Lincoln High School (San Francisco) Marine Biology – Guest Lecture	2017
Cal State University-Monterey Bay – Polar ICE symposium panel member	2017
Point Reyes National Seashore Docent Training – Invited Seminar	2016
Biennial International American Cetacean Society Conference – Invited Talk	2016
Cal State University-Monterey Bay – Invited Seminar	2016
American Cetacean Society SF Bay – Invited Seminar	2016
American Cetacean Society Monterey Bay – Invited Seminar	2016
Cal State University-Monterey Bay – Marine Conservation Guest Lecture	2015
Moss Landing Marine Labs – Marine Acoustics Guest Lecture	2014

CONFERENCE PROCEEDINGS (SELECTED)

First author presentations

Society for Marine Mammalogy, Florida, Virtual	2022
The 7th International Bio-logging Science Symposium, Virtual	2021
Ocean Sciences meeting, San Diego, CA	2020
Society for Integrative and Comparative Biology, Austin, TX	2020
World Marine Mammal Conference, Barcelona, SP	2019
Society for Integrative and Comparative Biology, San Francisco, CA	2018
Biennial Conference of the Biology of Marine Mammals, Halifax, NS	2017
CA Student Chapter of the Society for Marine Mammalogy, Moss Landing, CA	2017
Biennial Conference of the Biology of Marine Mammals, San Francisco, CA	2015
NW Student Chapter of the Society for Marine Mammalogy, Corvallis, OR	2015

Acoustics Society of America, Indianapolis, IN 2014

First author posters

The 6th International Bio-logging Science Symposium, Konstanz, Germany 2017

Co-authored presentations

(7) The 7th International Bio-logging Science Symposium, Virtual
(4) Ocean Sciences meeting, San Diego, CA 2020
Society for Integrative and Comparative Biology, Austin, TX 2020
(13) World Marine Mammal Conference, Barcelona, SP 2019
(2) Society for Integrative and Comparative Biology, San Francisco, CA 2018
(6) Biennial Conference of the Biology of Marine Mammals, Halifax, NS 2017
Acoustics Society of America, Honolulu, HI 2016

RELEVANT FIELD EXPERTISE

Current CI on US NMFS marine mammal permits 23095, 20430, and 21678

- Authorized to conduct cetacean field research in US and Antarctic waters
- 8+ years experience with operating and supervising suction cup and dart-attached tagging, biopsy sampling, UAV work, behavioral observation and small boat operation around protected marine mammals
- Placed, processed and/or supervised over 400 video/accelerometer tag deployments
- Level II disentanglement response training

Chief scientist/PI for cetacean field studies

Antarctic, 2020,2022 Monterey Bay, 2016-2018

Ten years of field studies in diverse environments collaborating with 15+ institutions including:

Antarctic (3 seasons) 2018-2020
Washington (4 seasons) 2015-2021
Cape Cod, MA (3 seasons) 2015-2017
Svalbard, Norway (1 season) 2016
Western South Africa (1 season) 2015
Oregon Coast (2 seasons) 2012
Monterey Bay, CA (7 seasons) 2014-2021
Azores, Portugal (4 seasons) 2015-2021
So. California (5 seasons) 2013-2017
Andenes, Norway (1 season) 2016
Newfoundland Coast (1 season) 2015
Gulf of California (1 season) 2011

Wilderness First Responder (WFR) and CPR certification (WMI/Stanford), exp June 2021

SCUBA certification (assistant instructor, NAUI)

4 seasons research diving with REEF check (2008-2010, 2015)

SELECTED MEDIA COLLABORATIONS

Consultant: Herschel the sea lion, slate.com, 2022

Giants of the sea, Titan films, 2022, primary investigator

Consultant: California Science Center/IMAX, 2022

Consultant: Our Great National Parks: Monterey Bay (Netflix, April 2022)
Consultant: Wild Kratts (PBS, 2022)
OceanX (collaborating investigator, 2022)
Our Changing World, NHNZ, 2020, primary investigator
American Museum of Natural History (curriculum) (videos)
The loneliest whale (collaborating investigator) (IMDB)
Media for PNAS anchovy manuscript: (NPR) (phys.org) (others)
Media for PNAS heart rate manuscript: (quirks and quarks) (San Jose Mercury news) (>200 other)
Media for Cade et al 2016: (video abstract) (Stanford) (Daily Planet Canada) (Gizmodo)
Others: (Monterey local) (Santa Cruz local) (Science Magazine for SMM 2017) (Monga Bay)
Passive acoustics work with MBNMS: (local news link) (outreach video)

REFERENCES

Jeremy Goldbogen, Assistant Professor of Biology, Stanford University
Email: jergold@stanford.edu

Elliott Hazen, Research Ecologist, NOAA Southwest fisheries, Adjunct Professor, UCSC
Email: elliott.hazen@noaa.gov

Fleur Visser, Chief Scientist, Kelp Marine Research
Email: fleurvisser@gmail.com

Jean Potvin, Professor of Physics, St. Louis University
Email: jean.potvin@slu.edu

John Calambokidis, Director, Cascadia Research Collective
Email: calambokidis@cascadiaresearch.org