

James A. Fahlbusch

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 physalus

 physalus.github.io

EDUCATION

Stanford University, *PhD, Biology*, 2018-2024

Binghamton University, *Master of Business Administration, Leadership|Consulting*, 2003-2005

Binghamton University, *Bachelor of Science, Computer Science*, 2000-2003

CURRENT POSITION

Research Biologist

Jan 2025-Present

Cascadia Research

Marine mammal research in the Eastern North Pacific

- Planning and executing small boat field operations in coastal waters, specializing in deployment and retrieval of archival tags and large whale entanglement response (Level 3)
- Research focused on behavioral response studies and analysis of animal movement data

RESEARCH EXPERIENCE

Graduate Research Fellow

Sep 2018-Dec 2024

Stanford University, Goldbogen Lab

Baleen whale movement and feeding ecology

- Leveraged technological developments in the areas of biologging, hydroacoustics and remote sensing to understand the patterns and processes that underlie krill patch formation and how blue whales find and feed on them

Advisor: Jeremy Goldbogen, PhD

Research Technician

Oct 2017-Sep 2018

Stanford University, Goldbogen Lab

Tag data analysis and management, programming

- Developed Matlab tools to analyze medium-duration tag data and compiled data for an NSF-funded project focusing on the scaling of maneuverability in cetaceans

Principal Investigator: Jeremy Goldbogen, PhD

Research Technician

June 2012-Sep 2018

Cascadia Research

Marine mammal research in the Eastern North Pacific

- Major projects included SoCal Behavioral Response Study, large whale entanglement and ship-strike, marine mammal abundance and distribution, and multi-sensor tag development

Principal Investigator: John Calambokidis

Antarctic Cetacean Research Technician

Oct 2016-June 2017

Oregon State University, National Science Foundation

NSF supported Long-Term Ecological Research program at Palmer Station, Antarctica

- Collected and analyzed data to understand effects of climate and prey-driven changes on the demography, behavior, and ecology of baleen whales along the Western Antarctic Peninsula
- Conducted visual surveys, photo-ID, and biopsy sampling of baleen whales from inflatable boats and administered active acoustic surveys of krill in the region

Principal Investigator: Ari Friedlaender, PhD

PEER-REVIEWED PUBLICATIONS

Ryan, J.P., Oestreich, W.K., Benoit-Bird, K.J., Waluk, C.M., Rueda, C.A., Cline, D.E., Zhang, Y., Cheeseman, T., Calambokidis, J., **Fahlbusch, J.A.**, ... & Goldbogen, J. A. (2025). Audible changes in marine trophic ecology: Baleen whale song tracks foraging conditions in the eastern North Pacific. *PloS one*

Southall, B.L., Durban, J.W., Calambokidis, J., Casey, C., **Fahlbusch, J.A.**, Fearnbach, H. ... & Visser, F. (2024). Behavioural responses of common dolphins to naval sonar. *Royal Society Open Science*

Fahlbusch, J.A., Cade, D.E., Hazen, E.L., Elliott, M.L., Saenz, B.T., Goldbogen, J.A., Jahncke, J. (2024). Submesoscale coupling of krill and whales revealed by aggregative Lagrangian coherent structures. *Proceedings B of the Royal Society*

Markowitz, T. M., Keener, W., Webber, M. A., Payne, A. R., Lane, R. S., **Fahlbusch, J. A.**, & Calambokidis, J. (2024). New urban habitat for endangered humpback whales: San Francisco Bay. *Aquatic Conservation: Marine and Freshwater Ecosystems*

Fahlbusch, J.A., Czapanskiy, M.F., 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 B of the Royal Society*

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

Czapanskiy, M.F., Ponganis, P.J., **Fahlbusch, J.A.**, Schmitt, T.L., & Goldbogen, J.A. (2022). An accelerometer-derived ballistocardiogram method for detecting heartrates in free-ranging marine mammals. *Journal of Experimental Biology*

Palacios, D.M., Irvine, L.M., Lagerquist, B.A., **Fahlbusch, J.A.**, Calambokidis, J., Tomkiewicz, S.M., & Mate, B.R. (2022). A Satellite-linked Tag for the Long-term Monitoring of Diving Behavior in Large Whales. *Animal Biotelemetry*

Pirotta, E., Booth, C.G., Calambokidis, J., Costa, D. P., **Fahlbusch, J.A.**, Friedlaender, A.S. ... & Southall, B.L. (2022). From individual responses to population effects: Integrating a decade of multidisciplinary research on blue whales and sonar. *Animal Conservation*

Segre, P.S., Gough, W.T., Roualdes, E.A., Cade, D.E., Czapanskiy, M.F., **Fahlbusch, J.**, ... & Goldbogen, J.A. (2022). Scaling of maneuvering performance in baleen whales: larger whales outperform expectations. *Journal of Experimental Biology*

Kahane-Rapport, S.R., Czapanskiy, M.F., **Fahlbusch, J.A.**, Friedlaender, A.S., Calambokidis, J., Hazen, E.L., Goldbogen, J.A., and Savoca, M.S. (2022). Field measurements reveal exposure to microplastic ingestion by filter-feeding megafauna. *Nature Communications*

Durban, J.W., Southall, B.L., Calambokidis, J., Casey, C., Fearnbach, H., Joyce, T.W., **Fahlbusch, J.A.**, ... & Visser, F. (2022). Integrating remote sensing methods during controlled exposure experiments to quantify group responses of dolphins to navy sonar. *Marine pollution bulletin*

- Cade, D.E., **Fahlbusch, J.A.**, Oestreich, W.K., Ryan, J., Calambokidis, J., Findlay, K.P., ... & Goldbogen, J.A. (2021). Social exploitation of extensive, ephemeral, environmentally controlled prey patches by supergroups of rorqual whales. *Animal Behaviour*
- Savoca, M.S., Czapanskiy, M.F., Kahane-Rappor, S.R., Gough, W.T., **Fahlbusch, J.A.**, Bierlich, K.C., ... & Goldbogen, J.A. (2021). Baleen whale prey consumption based on high-resolution foraging measurements. *Nature*
- Cade, D.E., Gough, W.T., Czapanskiy, M.F., **Fahlbusch, J.A.**, Kahane-Rappor, S.R., Linsky, J.M., ... & Goldbogen, J.A. (2021). Tools for integrating inertial sensor data with video bio-loggers, including estimation of animal orientation, motion, and position. *Animal Biotelemetry*
- Pirotta, E., Booth, C.G., Cade, D.E., Calambokidis, J., Costa, D.P., **Fahlbusch, J.A.**, ... & Southall, B.L. (2021). Context-dependent variability in the predicted daily energetic costs of disturbance for blue whales. *Conservation physiology*
- Cade, D.E., Seakamela, S.M., Findlay, K.P., Fukunaga, J., Kahane-Rappor, S.R., Warren, J.D., Calambokidis, J., **Fahlbusch, J.A.**, ... & 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*
- Oestreich, W. K., **Fahlbusch, J.A.**, Cade, D. E., Calambokidis, J., Margolina, T., Joseph, J., ... & Ryan, J.P. (2020). Animal-Borne Metrics Enable Acoustic Detection of Blue Whale Migration. *Current Biology*
- Harrington, K.J., **Fahlbusch, J.A.**, Langrock, R., Therrien, J.F., Houtz, J.L., & McDonald, B.I. (2020). Seasonal activity levels of a farm-island population of striated caracaras (*Phalcoboenus australis*) in the Falkland Islands. *Animal Biotelemetry*
- Kahane-Rappor, S.R., Savoca, M.S., Cade, D.E., Segre, P.S., Bierlich, K.C., Calambokidis, J., Dale, J., **Fahlbusch, J.A.**, ... & Goldbogen, J.A. (2020). Lunge filter feeding biomechanics constrain rorqual foraging ecology across scale. *Journal of Experimental Biology*
- Fahlbusch, J.A.** and Harrington, K.J. (2019). A low-cost, open-source inertial movement GPS logger for eco-physiology applications. *Journal of Experimental Biology*
- Goldbogen, J.A., Cade, D.E., Calambokidis, J., Czapanskiy, M.F., **Fahlbusch, J.A.**, Friedlaender, A.S., ... & Ponganis, P.J. (2019). Extreme bradycardia and tachycardia in the world's largest animal. *Proceedings of the National Academy of Sciences*
- Friedlaender, A.S., Bowers, M.T., Cade, D., Hazen, E.L., Stimpert, A.K., Allen, A.N., Calambokidis, J., **Fahlbusch, J.**, ... & Goldbogen, J.A. (2019). The advantages of diving deep: fin whales quadruple their energy intake when targeting deep krill patches. *Functional Ecology*
- Szesciorka, A.R., Allen, A.N., Calambokidis, J., **Fahlbusch, J.**, McKenna, M.F., & Southall, B. (2019). A Case Study of a Near Vessel Strike of a Blue Whale: Perceptual Cues and Fine-Scale Aspects of Behavioral Avoidance. *Frontiers in Marine Science*
- 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 archival tags. *Frontiers in Marine Science*

Lewis, L.A., Calambokidis, J., Stimpert, A.K., **Fahlbusch, J.**, Friedlaender, A.S., McKenna, M.F., ... & Širović, A. (2018). Context-dependent variability in blue whale acoustic behaviour. *Royal Society Open Science*

CONFERENCE PRESENTATIONS

International Bio-logging Society Science Symposium 2024, Tokyo, Japan (Poster Presentation)
J. Fahlbusch, D. Cade, J. Calambokidis, J. Goldbogen. Blue whales feed at night when conditions are right.

Biennial Conference on the Biology of Marine Mammals 2022, Palm Beach, FL (Poster Presentation) **J. Fahlbusch**, M. Czapanskiy, W. Oestreich, W. Gough, J. Goldbogen, J. Calambokidis. Ecological Implications of Multi-Day Behavioral Synchrony and Physiological Variation in a Blue Whale Pair.

Ecological Society of America Annual Meeting 2021, (Oral Presentation). **J. Fahlbusch**, M. Czapanskiy, B. Abrahms, D. Cade, J. Calambokidis, E. Hazen & J. Goldbogen. Linking Blue Whale Feeding to Sub-Mesoscale Environmental Features

Ocean Sciences Meeting 2020, San Diego, CA (Oral Presentation). **J. Fahlbusch**, M. Czapanskiy, D. Cade, J. Calambokidis, J. Goldbogen. Fine-scale Oceanographic Drivers of Foraging in California Blue Whales.

Biennial Conference on the Biology of Marine Mammals 2019, Barcelona, Spain (Oral Presentation) **J. Fahlbusch**, M. Czapanskiy, D. Cade, J. Calambokidis, J. Goldbogen. Fine-scale Oceanographic Drivers of Foraging in California Blue Whales.

Society for Conservation GIS Annual Conference, 2019, Pacific Grove, CA (Oral Presentation) **J. Fahlbusch**, M. Czapanskiy, J. Calambokidis, J. Goldbogen. Using animal-borne sensors to identify oceanographic features associated with foraging hot spots

Biennial Conference on the Biology of Marine Mammals 2017, Halifax, Nova Scotia (Oral Presentation) **J. Fahlbusch**, D. Cade, J. Goldbogen, A. Friedlaender, A. Stimpert, J. Calambokidis. Intra and Inter-Species Interactions Among Humpback Whales in Monterey Bay: Competition and not just Cooperation.

VOLUNTEER EXPERIENCE

California Whale Rescue, *Level 3 Disentanglement Responder*, 2016-Present

National Ocean Sciences Bowl – Central & Northern CA, *Volunteer*, 2020

Greater Farallones National Marine Sanctuary, *Beach Watch Surveyor*, 2014-2017

Hawk Mountain Sanctuary, *Falkland Islands Raptor Research Volunteer*, 2015-2016

Oiled Wildlife Care Network, *Oiled Wildlife Responder*, 2014-2016

Golden Gate National Recreation Area, *Alcatraz Waterbird Docent*, 2014-2015

The Marine Mammal Center, *Animal Care Volunteer*, 2010-2012

ADDITIONAL PROFESSIONAL EXPERIENCE

US Coast Guard Licensed Captain

2009-Present

Leveraging 25+ years of maritime experience to safely operate vessels in the US and abroad

- Served as captain of research vessels for multi-week offshore projects including the SOCAL Behavioral Response Study 2012 and white shark tagging at the Farallon Islands 2012-2014
- Delivered yachts domestically and internationally from Thailand to Egypt, Tortola to Baja and on the US East and West Coasts, logging over 20,000 ocean miles

Nonprofit Consultant **2006-2009**

Helped nonprofit organizations use data to implement change and inform decisions

- Led a 12-month data management project to track donations to the TriBeCa Film Institute
- Analyzed and assessed program effectiveness at Teach for America to determine the impact of several variables on hiring outcomes
- Developed a relational database system for City Harvest to track food rescue partners in NYC

CERTIFICATIONS AND QUALIFICATIONS

US Coast Guard Licensed Captain, 100-ton near-coastal waters, towing and sailing endorsements

Professional Certificate in Geographic Information Science and Environmental Analysis

PADI Open Water Diver with 4 years commercial diving experience

Spanish Proficiency with over 3 years living and traveling in Spanish-speaking countries

CPR/First Aid certified (15 years of continuous certification)

Programming experience in Java, C/C++, Python, SQL, Visual Basic, R and Matlab

ACHIEVEMENTS AND HONORS

Received a Graduate Assistantship in Information Systems at Binghamton University 2004-2005

Inducted into Beta Gamma Sigma - National Business Honor Society 2005

Led Binghamton University Men's Swimming and Diving Team as Team Captain 2003

Member of 2003 America East Division I Conference Championship team title

Traveled through 40 countries on 6 continents and cycled 11 months in South America

PROFESSIONAL MEMBERSHIP

American Cetacean Society

American Association for the Advancement of Science

Society for Integrative & Comparative Biology

Society for Marine Mammalogy