




James A. Fahlbusch

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 physalus

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EDUCATION

Stanford University, *PhD Candidate, Biology*, 2018-Present

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

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

CURRENT POSITION

PhD Candidate

Sep 2018-Present

Stanford University, Goldbogen Lab

Baleen whale movement and feeding ecology

- Using technological developments in the areas of biologging, hydroacoustics and remote sensing to understand the patterns and processes that underlie foraging performance across a wide range of temporal and spatial scales
- Researching the prey density and distribution thresholds that determine the onset of foraging bouts in free-ranging predators and the potential mechanisms that animals use to find food

Highlights:

- American Cetacean Society Research Grant Recipient (2020)
- Salinas High School & Hopkins Marine Station Internship Program Mentor (2020)
- Ocean Sciences Meeting Session Chair – From Physics to Predators (2020)
- Excellence in Teaching Award, BIO 81: Introduction to Ecology (2019)

Advisor: Jeremy Goldbogen, PhD

RESEARCH EXPERIENCE

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 Collective

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
- Planning and executing small boat field operations in coastal waters, specializing in deployment and retrieval of archival tags
- Visual surveys and focal follows of marine mammals, photo-ID, and biopsy sampling

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

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

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

W. Oestreich, **J. Fahlbusch**, D. Cade, J. Calambokidis, T. Margolina, J. Joseph, A. Friedlaender, M. McKenna, A. Stimpert, B. Southall, J. Goldbogen, J. Ryan (2020) Animal-Borne Metrics Enable Acoustic Detection of Blue Whale Migration. *Current Biology*

K. Harrington, **J. Fahlbusch**, R. Langrock, J. Therrien, J. Houtz, B. McDonald (2020) Seasonal activity levels of a farm-island population of striated caracaras (*Phalacrocorax australis*) in the Falkland Islands. *Animal Biotelemetry*

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

J. Fahlbusch and K. Harrington (2019). A low-cost, open-source inertial movement GPS logger for eco-physiology applications. *Journal of Experimental Biology*

J. Goldbogen, D. Cade, J. Calambokidis, M. Czapanskiy, **J. Fahlbusch**, A. Friedlaender, W. Gough, S. Kahane-Rapport, M. Savoca, K. Ponganis, P. Ponganis (2019). Extreme bradycardia and tachycardia in the world's largest animal. *Proceedings of the National Academy of Sciences*

A. Friedlaender, M. Bowers, D. Cade, E. Hazen, A. Stimpert, A. Allen, J. Calambokidis, **J. Fahlbusch**, P. Segre, F. Visser, B. Southall, J. Goldbogen (2019). The advantages of diving deep: fin whales quadruple their energy intake when targeting deep krill patches. *Functional Ecology*

A. Szesciorka, J. Calambokidis, B. Southall, **J. Fahlbusch**, A. Allen, M. McKenna (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*

J. Calambokidis, **J. Fahlbusch**, A. Szesciorka, B. Southall, D. Cade, A. Friedlaender, J. Goldbogen (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*

L. Lewis, J. Calambokidis, A. Stimpert, **J. Fahlbusch**, A. Friedlaender, J. Hildebrand, M. McKenna, S. Mesnick, E. Oleson, B. Southall, A. Szesciorka, A. Sirovic (2018). Context-dependent variability in blue whale acoustic behaviour. Royal Society Open Science.

CONFERENCE PRESENTATIONS

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

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

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

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

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

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

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

Leveraged 20+ years of maritime experience to safely operate vessels in the US and abroad

- Served as Master 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, 50-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 2 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

Contributing 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