

SELENE FREGOSI

Department of Fisheries and Wildlife and
Cooperative Institute for Marine Resources Studies
Hatfield Marine Science Center, Oregon State University

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EDUCATION

PhD Wildlife Science, **Oregon State University (OSU)**, 2015-2020

Thesis: Applications of slow-moving autonomous platforms for passive acoustic monitoring and density estimation of marine mammals.

Advisors: Drs. Holger Klinck and Dave Mellinger

MSc Wildlife Science, **Oregon State University**, 2013-2015

Thesis: Development and evaluation of an animal-borne active acoustic tag to conduct minimally-invasive behavioral response studies on marine mammals.

Advisor: Dr. Holger Klinck

BA Marine Science-Biology concentration, Chemistry minor, **University of San Diego (USD)**, 2005-2009, *magna cum laude*

Senior Thesis: Comparative study of suspended sediment concentrations in runoff and bay waters, St. John, US Virgin Islands: Potential impacts on coral reef health.

RESEARCH EXPERIENCE

OSU/NOAA – Cooperative Institute of Marine Resource Studies (CIMRS), post-doctoral research assistant

June 2020-present, Supervisor: Dr. David Mellinger

Automated detection and classification of harbor porpoise clicks.

OSU/NOAA –CIMRS and Department of Fisheries and Wildlife (FW), graduate research fellow/assistant, PhD

October 2014 – present, Supervisors: Drs. Holger Klinck and David K. Mellinger

Analysis of passive acoustic recordings of marine mammals including species identification, spectral and temporal measurements of calls, noise analyses, spatial analyses, density estimation. Acoustic survey planning, deployments and piloting (Seaglider and QUEphone).

Ship time: 20-23 December 2015 and 4-6 January 2016, U.S. Navy *RSC-4*, Point Loma, CA -

Glider and float deployment and recovery; 18 July to 3 August 2016, *M/V Horizon* San Diego, CA and *M/V Vibrio*, Two Harbors, CA - Glider, float, moored hydrophone, and buoy deployment, daily repositioning, and recovery;

AUV piloting: Mar 2014, SG158 – Oregon; Oct 2014, SG607 – Oregon; Apr 2015, SG607 & Q003 – Washington; May 2015, SG607 & SG608 – Oregon; Jun-Jul 2015, SG608 – Gulf of Mexico; Dec 2015 – Jan 2016, SG158, Q001 & Q002 – Southern California; Jul-Aug 2016, SG607 & Q003 – Southern California; May 2017, SG607 & SG639 – Oregon; Jun-Jul 2017, SG607 – Gulf of Mexico; May-Jun 2018, SG639 – Gulf of Mexico; Feb-Mar 2020 – Southern California.

Southall Environmental Associates, Inc., associate scientist

March 2011 – present, Supervisor: Dr. Brandon Southall

Support on studies investigating behavioral responses of cetaceans to naval sonar. Yearly ship-based field work in Southern California, spatial analysis of CEE experiments, analysis of tag (DTAG) and drifting hydrophone (DSG) acoustic data, operation of scaled sound source. *Ship time*: 2-3 weeks/year 2012-2016, *M/V Truth*, Santa Barbara, CA and small RHIB work, whale tagging, focal follow, photo id, and passive/active acoustics.
Sept 2017 *M/V Magician*, San Pedro, CA with small RHIB work

OSU/NOAA – CIMRS and FW, graduate research fellow, Master's student
April 2013 – June 2015, Supervisors: Dr. Holger Klinck and Dr. Markus Horning
Development and evaluation of an animal-borne active acoustic tag including tag assembly, testing, calibration, animal deployment and recovery, analysis of 3D movement, depth profiles, and flow noise.

OSU – Marine Mammal Institute, research assistant
January – April 2013, Supervisor: Barb Lagerquist
Land-based observations of migrating gray whales in response to an acoustic deterrent.

OSU/NOAA – CIMRS, research assistant
November 2012 - April 2013, Supervisor: Dr. Holger Klinck
Manual and detector-based acoustic analyses of glider-collected data and spatial analyses.

University of Arizona – Duckworth Laboratory, wildlife biologist
May – October 2012; May – August 2011, Supervisor: Dr. Renee Duckworth
Behavioral and evolutionary ecology of western blue birds (nest monitoring, banding, blood sample collection, in field and video behavioral trials). Field lead in 2012.

UC Santa Cruz – Pinniped Cognition and Sensory Systems Lab, research assistant
November 2011-April 2012; October 2010-March 2011, Supervisor: Dr. Colleen Reichmuth
Acoustic communication of northern elephant seals (field recordings, animal individual identification and behavioral scoring); hearing and cognition of pinniped species (lab experiments with trained captive animals).

University of San Diego – Marine Science Department, research assistant
June 2008 – May 2009, Supervisor: Dr. Sarah Gray
Effects of sedimentation on nearshore coral reefs. Small boat and SCUBA-based work.

Southwest Fisheries Science Center – Protected Resources Division, intern
June – July 2008, Supervisor: Dr. Tim Gerrodette
Photo-identification of cetaceans.

FELLOWSHIPS AND GRANTS

National Defense Science and Engineering Graduate Fellowship, American Society for Engineering Education & Office of Naval Research, 2014-2017 (\$98,500 + tuition)
Dr. Nancy Foster Scholarship, NOAA, 2014, declined (\$188,000)
Provost Distinguished Graduate Fellowship, OSU, 2013 (\$22,000 + tuition)
Markham First Year Award, OSU/Hatfield Marine Science Center (HMSC), 2013 (\$6000)
Laurel's Block Grant Tuition Scholarship, OSU, 2013 (\$6800)
Trustee Scholarship, USD, 2005 (\$48,000)
Briggs Scholarship in Biogeography, OSU, June 2019 (\$1000)

Munson Wildlife Graduate Travel Scholarship, OSU, Aug 2018 (\$500)
 Graduate Student Travel Award, OSU, Aug 2018 (\$1000)
 Student Travel Subsidy, Acoustical Society of America, Nov 2018 (\$200)
 Robert Anthony Graduate Scholarship in Population Ecology, OSU, Jun 2018 (\$2000)
 Oregon Lottery Graduate Scholarship, OSU, Apr 2018 (\$2000)
 Thomas G. Scott Grant Scholarship, outstanding FW PhD student, OSU, Jun 2017 (\$2000)
 Mamie L. Markham Research Award, HMSC, OSU, May 2017 (\$8000)
 Lylian Brucefield Reynolds Scholarship Fund Award, HMSC, OSU, May 2017 (\$1000)
 Hatfield Student Organization Travel Award, HMSC, OSU, Apr 2017 (\$400)
 Student Travel Subsidy, Acoustical Society of America, Dec 2016 (\$175)
 Mastin Student Travel Award, OSU, Dec 2016 (\$1000)
 Hatfield Student Organization Travel Award, HMSC, OSU, Dec 2015 (\$250)
 Student Travel Support, Detection, Classification, Localization, and Density Estimation of
 Marine Mammals Workshop, Jul 2015 (\$1200)
 Student Travel Support, 5th Biologging Science Symposium, Sep 2014 (\$1400)
 Mastin Student Travel Award, OSU, May 2014 (\$2000)
 Hatfield Student Organization Travel Award, HMSC, OSU, May 2014 (\$250)
 Student Travel Award, Acoustical Society of America, Dec 2013 (\$120)
 Student Travel Award, Detection, Classification, Localization, and Density Estimation of
 Marine Mammals Workshop, Jun 2013 (\$1200)

AWARDS AND HONORS

2018 Bob Moch Memorial Endowment Service Award, Hatfield Student Organization
 2018 GoMRI Scholar, Gulf of Mexico Research Initiative
 2016 Chairman's Leadership Award, OSU Department of Fisheries and Wildlife
 2009 Phi Beta Kappa, University of San Diego
 2005-2009 Dean's List, First Honors, University of San Diego
 2005 Valedictorian, St. Patrick- St. Vincent High School

PUBLICATIONS

*indicates undergraduate mentee

- Harris, DV, **Fregosi, S**, Klinck, H, Mellinger, DK, Thomas, L. (In Revision). Assessing the effect of ocean glider movement on distance sampling assumptions. Remote Sensing in Ecology and Conservation.
- Barlow, J, Fregosi, S, Thomas, L, Harris, D, Griffiths, ET. (In Review). Acoustic detection range and population density of Cuvier's beaked whales estimated from near-surface hydrophones. Journal of the Acoustical Society of America.
7. **Fregosi, S**, Harris, DV, Matsumoto, H, Mellinger, DK, Barlow, J, Baumann-Pickering, S, & Klinck, H. (In Press). Detections of whale vocalizations by simultaneously deployed bottom-moored and deep-water mobile autonomous hydrophones. Frontiers in Marine Science.
 6. **Fregosi, S**, Harris, DV, Matsumoto, H, Mellinger, DK, Negretti*, C, Moretti, DJ, Martin, SW, Matsuyama, B, Dugan, P, Klinck, H. (2020). Comparable detections of fin whale 20 Hz calls

by mobile and stationary autonomous recorders. *Journal of the Acoustical Society of America*, 147(2):961-977

5. Southall, BL, DeRuiter, S, Friedlaender, AS, Stimpert, AK, Goldbogen, J, Hazen, E, Casey, C, **Fregosi, S**, Cade, D, Allen, A, Harris, C, Falcone, E, Schorr, G, Moretti, DJ, Gailey, G, Guan, S, Calambokidis, J. (2019). Behavioral responses of individual blue whales (*Balaenoptera musculus*) to mid-frequency military sonar. *Journal of Experimental Biology*, 222(5): jeb190637. doi:10.1242/jeb.190637
4. Nieukirk, SL, **Fregosi, S**, Mellinger, DK, & Klinck, H. (2016). A complex baleen whale call recorded in the Marianas Trench Marine National Monument. *Journal of the Acoustical Society of America*, 140(3): EL1-6. DOI: 10.1121/1.4962377.
3. **Fregosi, S**, Klinck, H, Horning, M, Mellinger, DK, Costa, DP, Mann, DA, Sexton, K, Hückstädt, L & Southall, BL. (2016). An animal-borne active acoustic tag for minimally invasive behavioral response studies on marine mammals. *Animal Biotelemetry*, 4:9. DOI: 10.1186/s40317-016-0101-z.
2. Klinck, H, **Fregosi, S**, Matsumoto, H, Turpin, A, Mellinger, DK, Erofeev, A, Barth, JA, Shearman, RK, Jafarmadar, K, & Stelzer, R. (2016). Mobile autonomous platforms for passive-acoustic monitoring of high-frequency cetaceans, In A. Friebe and F. Haug (Eds.), *Robotic Sailing 2015*, Springer International Publishing, pp. 29–37. DOI: 10.1007/978-3-319-23335-2_3
1. Matsumoto, H, Haxel, J, Turpin, A, **Fregosi, S**, Klinck, H, Klinck, K, Baumann-Pickering, S, Erofeev, A, Barth, JA, Dziak, RP, & Jones, C. (2015). Simultaneous operation of mobile acoustic recording systems off the Washington Coast for cetacean studies: System noise level evaluations, *Oceans 2015 MTS/IEEE*, 19-22 October, 2015, Washington, D.C.

PEER-REVIEWED REPORTS

- Mellinger, DK & **Fregosi, S**. (2019). Assessment of ocean ambient sound levels in the northern Gulf of Mexico, May – June 2018. Preliminary Report. Prepared for the Bureau of Ocean Energy Management (BOEM), United States Department of the Interior under Contract No. M17PC00001, Task Order M17PD00011, issued to HDR Inc., Vienna, VA, USA. Prepared by Oregon State University, Newport, OR, USA. February 2019.
- Klinck, H, Nieukirk, SL, **Fregosi, S**, Klinck, K, Mellinger, DK, Lastuka, S, Shilling, GB, & Luby, JC. (2016). *Cetacean Studies on the Kona Coast in March 2010: Passive Acoustic Monitoring of Marine Mammals Using Gliders – Results from an Engineering Test*. Final Report. Prepared for Commander, U.S. Pacific Fleet, Environmental Readiness Division, Pearl Harbor, HI. Submitted to Naval Facilities Engineering Command (NAVFAC) Pacific, Pearl Harbor, HI under Contract No. N62470-10-D-3011, Task Order KB25, issued to HDR Inc., Honolulu, HI. Prepared by Oregon State University, Newport, OR, and the Applied Physics Laboratory of the University of Washington, Seattle, WA. April 2016. 36 pages.
- Klinck, H, Nieukirk, SL, **Fregosi, S**, Klinck, K, Mellinger, DK, Lastuka, S, Shilling, GB, & Luby, JC. (2016). *Cetacean Studies in the Gulf of Alaska Temporary Maritime Activities Area in July-August 2015: Passive Acoustic Monitoring of Marine Mammals Using Gliders*. Final Report. Prepared for Commander, U.S. Pacific Fleet, Environmental Readiness Division, Pearl Harbor, HI. Submitted to Naval Facilities Engineering Command (NAVFAC) Pacific, Pearl Harbor, HI under Contract No. N62470-10-D-3011, Task Order KB25, issued to HDR

- Inc., Honolulu, HI. Prepared by Oregon State University, Newport, OR, and the Applied Physics Laboratory of the University of Washington, Seattle, WA. March 2016. 44 pages.
- Klinck, H, Nieukirk, SL, **Fregosi, S**, Klinck, K, Mellinger, DK, Lastuka, S, Shilling, GB, & Luby, JC. (2016). *Cetacean Studies on the Mariana Islands Range Complex in March-April 2015: Passive Acoustic Monitoring of Marine Mammals Using Gliders*. Final Report. Prepared for Commander, U.S. Pacific Fleet, Environmental Readiness Division, Pearl Harbor, HI. Submitted to Naval Facilities Engineering Command (NAVFAC) Pacific, Pearl Harbor, HI under Contract No. N62470-10-D-3011, Task Order KB25, issued to HDR Inc., Honolulu, HI. Prepared by Oregon State University, Newport, OR, and the Applied Physics Laboratory of the University of Washington, Seattle, WA. March 2016. 52 pages.
- Klinck, H, Nieukirk, SL, **Fregosi, S**, Klinck, K, Mellinger, DK, Lastuka, S, Shilling, GB, & Luby, JC. (2015). *Cetacean Studies on the Quinault Range Site in June 2012: Passive Acoustic Monitoring of Marine Mammals Using Gliders – Results from an Engineering Test*. Final Report. Prepared for Commander, U.S. Pacific Fleet, Environmental Readiness Division, Pearl Harbor, HI. Submitted to Naval Facilities Engineering Command (NAVFAC) Pacific, Pearl Harbor, HI under Contract No. N62470-10-D-3011, Task Order KB25, issued to HDR Inc., Honolulu, HI. Prepared by Oregon State University, Newport, OR, and the Applied Physics Laboratory of the University of Washington, Seattle, WA. November 2015. 33 pages.
- Klinck, H, Nieukirk, SL, **Fregosi, S**, Klinck, K, Mellinger, DK, Lastuka, S, Shilling, GB, & Luby, JC. (2015). *Cetacean Studies in the Hawaii Range Complex in December 2014–January 2015: Passive Acoustic Monitoring of Marine Mammals Using Gliders*. Final Report. Prepared for Commander, U.S. Pacific Fleet, Environmental Readiness Division, Pearl Harbor, HI. Submitted to Naval Facilities Engineering Command (NAVFAC) Pacific, Pearl Harbor, HI under Contract No. N62470-10-D-3011, Task Order KB23, issued to HDR Inc., Honolulu, HI. Prepared by Oregon State University, Newport, OR, and the Applied Physics Laboratory of the University of Washington, Seattle, WA. October 2015. 58 pages.
- Klinck, H, Nieukirk, SL, **Fregosi, S**, Klinck, K, Mellinger, DK, Lastuka, S, Shilling, GB, & Luby, JC. (2015). *Cetacean Studies on the Mariana Islands Range Complex in September–November 2014: Passive Acoustic Monitoring of Marine Mammals Using Gliders*. Final Report. Prepared for Commander, U.S. Pacific Fleet, Environmental Readiness Division, Pearl Harbor, HI. Submitted to Naval Facilities Engineering Command (NAVFAC) Pacific, Pearl Harbor, HI under Contract No. N62470-10-D-3011, Task Order KB25, issued to HDR Inc., Honolulu, HI. Prepared by Oregon State University, Newport, OR, and the Applied Physics Laboratory of the University of Washington, Seattle, WA. August 2015. 50 pages.

CONFERENCE PRESENTATIONS (selection)

- Fregosi, S**, Harris, D, Mellinger DK, Barlow, J, Thomas, L, Klinck, H. (2018). Detection probability of Cuvier's beaked whale clicks from a glider and a deep-water float. 174th Meeting of the Acoustical Society of America, Victoria, BC, Canada, 4-10 Nov 2018. (Oral presentation) ***Invited speaker***
- Fregosi, S** (2017). Underwater gliders and floats as passive acoustic survey tools. 23rd Annual Markham Marine Science Research Symposium, Hatfield Marine Science Center, Newport, OR, USA 22 June 2017. (Poster presentation) ***Award for best presentation***

- Fregosi, S**, Klinck, H., Matsumoto, H, Turpin, A, Martin, SW, Matsuyama, BM, Helble, TA, Henderson, EE, Moretti, DJ, Morrissey, RP, and Mellinger, DK. (2016). Simultaneous recordings of marine mammal calls by a glider, float, and cabled hydrophone array. 172nd meeting of the Acoustical Society of America, Honolulu, HI, USA 28 Nov – 3 Dec 2016. (Oral presentation)
- Fregosi, S**, Klinck, H, Horning, M, Mellinger, DK, Costa, DP, Mann, DA, Sexton, K, Hückstädt, L & Southall, BL. (2015). Turn down for what: Animal-borne controlled exposure as an innovative tool for dive manipulation in free-ranging marine mammals. 21st Biennial Conference on the Biology of Marine Mammals, San Francisco, CA, USA, 12-18 December 2015. (Oral presentation)
- Fregosi, S**, Klinck, H, Matsumoto, H, Turpin, A, Mellinger, DK, & Baumann-Pickering, S. (2015). Field comparison of PAM capabilities between a commercially available glider, a float, and a bottom-moored system. The 7th International Detection, Classification, Localization, and Density Estimation Workshop, La Jolla, CA, USA, 13-16 July 2015. (Oral presentation)
- Fregosi, S**, Klinck, H, Horning, M, Mellinger, DK, Costa, DP, Mann, DA, Sexton, K, Hückstädt, L & Southall, BL. (2014). Integration of an active acoustic playback system with an animal-borne sensor suite for behavioral response studies. 5th International Bio-logging Science Symposium, Strasbourg, France, 22 - 27 September 2014. (Poster)
- Fregosi, S**, Klinck, H, Horning, M, Mellinger, DK, Costa, DP, Mann, DA, Sexton, K, & Hückstädt, L. (2013). Use of an animal-borne active acoustic tag to conduct minimally-invasive behavioral response studies. 166th Meeting of the Acoustical Society of America, San Francisco, USA, 2-6 December 2013. (Oral presentation)
- Fregosi, S**, Klinck, H, Mellinger, DK, Bogue, NM, & Luby, JC. (2013). Acoustic observations of mid-frequency cetaceans in the eastern North Pacific using a glide. Sixth International Workshop on Detection, Classification, Localization, and Density Estimation of Marine Mammals using Passive Acoustics, 12-15 June 2013, St. Andrews, Scotland. (Poster)
- Fregosi, S**, White, B, & Gray, S. (2009): Comparative study of suspended sediment concentration in run-off and bay waters, St. John, US Virgin Islands: potential impacts on coral reefs. University of San Diego Creative Collaborations Undergraduate Symposium, April 2009, San Diego, CA, USA. (Poster)

OTHER INVITED AND PUBLIC TALKS (selection)

- Fregosi, S.** (2018). The How and Why of Using Underwater Gliders to Listen for Whales, Oregon Chapter of the American Cetacean Society, Newport Public Library, Newport, OR, USA 10 February 2018.
- Fregosi, S**, Nelson, D, & Diogou, N. (2015). #SciComm: The Social Media – Science Connection. Monday Tech Talk, HMSC, Newport, OR, USA 2 February 2015.
- Fregosi, S** & Diogou, N. (2014). Do you speak whale? Oregon Chapter of the American Cetacean Society, Newport Public Library, Newport, OR, USA 13 December 2014.
- Fregosi, S.** (2014). An animal-borne active acoustic tag: A new paradigm for conducting behavioral response studies? Fisheries and Wildlife Graduate Student Association, OSU, Corvallis, OR, USA, 9 January 2014. ***Award for Best Presentation.***

Fregosi, S., Reichmuth, C, Casey, C, Charrier, I, Mathevon, N, & Southall, BL. (2012). Ongoing behavioral field studies of vocal signaling among male northern elephant seals. Marine Mammal Institute, OSU, Newport, OR, USA, 26 April 2012.

Reichmuth, C, Southall, BL, Casey, C, & **Fregosi, S.** (2012). Bioacoustics of northern elephant seals. Año Nuevo State Park Docent Seminar, Año Nuevo, CA, USA, January 2012.

PRESS

Acoustical Society of America (ASA). "Bioacousticians test passive acoustic monitoring to capture sounds of marine life." ScienceDaily. ScienceDaily, 1 December 2016. www.sciencedaily.com/releases/2016/12/161201094452.htm

Oregon State University. "New, complex call recorded in Mariana Trench believed to be from baleen whale. News and Research Communication, Oregon State University 14 December 2016. <http://oregonstate.edu/ua/ncs/archives/2016/dec/new-complex-call-recorded-mariana-trench-believed-be-baleen-whale>

TEACHING/MENTORING EXPERIENCE

September – December 2019: Teaching Assistant, FW317-Mammalogy, OSU

October 2019: Guest Lecturer, FEW-875 Bioacoustics, University of Wisconsin, Madison

January 2016 – Present: Research mentor, OSU FW Undergraduate Mentorship Program

Christina Negretti, bioacoustics data analysis (Sep 2017 - present)

Derek Garcia, bioacoustics data analysis (Sep 2017 - present)

Chris Lundeborg, Fin whale call measurement (Sep 2016-Jun 2017)

Laura McCourt, Fin whale call measurement (Sep 2016-Jun 2017)

Liz Marquez, Classification of dolphin whistles recorded from a glider (Jan-Jun 2016)

January 2017 – June 2017: Research mentor, FW401

Ciera Edison, Identification of whale species from acoustic glider data

July 2013-2017: Guest lecturer, BI373-Biology and Conservation of Marine Mammals
OSU/HMSC, Newport, OR

June-August 2013: Intern Supervisor, OSU/NOAA CIMRS, Carlissa Salant

Passive acoustic monitoring of mid-frequency cetaceans off the Oregon coast

January –May 2007; August –December 2008: Teaching Assistant

Introduction to Earth Systems course, University of San Diego

SERVICE

Reviewer for Scientific Reports, Animal Biotelemetry, Marine Ecology Progress Series

Wild About Wildlife Summer Camp, OSU, planning committee (Spring/Summer 2017, 2018)

Growing Engineers and Marine Scientists, instructor (Jan – Mar 2018)

Discovering the Scientists Within, instructor (Mar 2017, Mar 2018)

Hatfield Marine Science Center, Marine Science Day, scientist volunteer (2013-2017)

Careers in Science Investigation, instructor (Mar 2017)

Oregon Coast Renewable Energy Challenge, judge (Apr 2016, Feb 2017)

Designing our World, engineering role-model (Oct 2016, Jun 2017)

Girls in Engineering and Marine Science, mentor (Aug 2016)

SeaGlide Educator Workshop, instructor (Nov 2015, Mar 2016)
Winter Wonderings (science camp), instructor (Feb 2014)
Newport Science Fair, mentor (Jan-Feb 2013)

ASSOCIATIONS/LEADERSHIP

Acoustical Society of America, Animal Bioacoustics Technical Committee
Society of Marine Mammalogy (including Northwest Student Chapter)
Marine Technology Society
Treasurer (2017- 2018), Community Outreach Coordinator (2014-2017), Hatfield Student Organization, HMSC
Communication's Officer (2014-2017), Fisheries and Wildlife Graduate Student Association

SPECIAL COURSES

11-24 Aug 2017: PhD Summer Course in Acoustic Communication, SNAK, University of Southern Denmark, Odense, DK: Advanced theoretical and practical course covering topics of terrestrial and marine animal acoustic communication.
31 Oct/7 Nov 2016: Designing Our World Training, Newport, OR.
Kick-off workshop for NSF program to engage young girls in engineering and science.
23-27 June 2014: Seaglider Pilot Training, Kongsberg UTI, Lynnwood, WA.
Intensive hands-on training course for piloting Kongsberg Seagliders.
16-20 June 2014: SeaBASS (BioAcoustics Summer School), National Conference Center
One-week foundational graduate course on marine animal biology and acoustics.
January-March 2013: Introduction to Animal Bioacoustics, OSU
Graduate special topics course covering range of bioacoustics topics including sound recording and analysis, source-medium receiver theory, animal behavior and acoustic communication
12-24 August 2012: Methods in Marine Bioacoustics, Duke University Marine Laboratory
Two-week course on basics of active and passive marine bioacoustics methodology including theory and hands on equipment and software training

SKILLS/CERTIFICATIONS

- *Experienced MATLAB and R programmer
- *Acoustic analysis of low and high-frequency data, using various software and automated detection (Osprey, Ishmael, Raven, Triton, Pamguard, Adobe Audition)
- *Spatial analyses in ArcGIS
- *Pilot for underwater AUV's including Seaglider and APEX float
- *American Boating Certification; experience with small boat driving, maintenance, and towing (including open ocean research activities)
- *Physiological sample collection for avian and pinniped species including blood collection
- *Captive marine mammal husbandry, behavioral observation, and health assessment

REFERENCES

Dr. Holger Klinck: Director, Center for Conservation Bioacoustics, Cornell Lab of Ornithology. Major advisor for master's and PhD.
holger.klinck@cornell.edu, 607.254.6250

Dr. David K. Mellinger: Associate Professor/Senior Research, Bioacoustics Program, Oregon State University and NOAA's Cooperative Institute for Marine Resources Studies. Co-advisor and GRA supervisor for PhD.

david.mellinger@oregonstate.edu, 541.867.0372

Dr. Brandon Southall: President and Senior Scientist, Southall Environmental Associates, Inc. Supervisor and collaboration on multiple projects regarding ocean noise and marine mammals; committee member for master's degree.

brandon.southall@sea-inc.net, 831.661.5177