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## **DARA N. ORBACH**

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### **EDUCATION**

*Postdoctoral fellow, Biology, Dalhousie University, Canada, July 2016-May 2018*

Advisor: Dr. Hal Whitehead

*Ph.D., Marine Biology, Texas A&M University at Galveston, USA, 2010-May 2016*

Research Interest: Coevolution of anatomy and behavior, and of inter-sexual mating strategies in cetaceans; Sexual selection

Thesis: Mating strategies of female cetaceans

Advisor: Dr. Bernd Würsig

*M.S. Biology, University of Western Ontario, Canada, 2009*

Research Interest: Sensory modality integration

Thesis: The effects of visual cues on the collisions of free-flying *Myotis lucifugus* with obstacles

Advisor: Dr. M. Brock Fenton

*B.S. Biology, University of British Columbia, Canada, 2006*

*B.A. Classic, Near Eastern, and Religious Studies, University of British Columbia, Canada, 2006*

### **BEHAVIORAL ECOLOGY RESEARCH EXPERIENCE**

**Texas A&M University at Galveston, Graduate Researcher, Behavioral ecology of small cetaceans**  
(advisor: Dr. Bernd Würsig):

- \*Longevity, abundance and associations of dusky dolphins off Kaikoura, New Zealand, 2011-present  
Developed a photo-identification catalogue amalgamating dolphin dorsal fin photographs collected since the 1980's, photographed dorsal fins for photo-identification from tourism and research vessels, processed and matched photographs using *Finscan* software, trained and mentored > 50 interns
- \*Post-copulatory mating tactics of female cetaceans, USA, 2011-2016  
Extracted female cetacean reproductive tracts during necropsies, conducted double contrast vaginograms (CT scans), dissected >120 reproductive tracts, collected morphometric data, prepared and stained tissue for paraffin histology, characterized microanatomy of tissue
- Distribution patterns of common bottlenose dolphins in the Galveston ship channel, USA, 2012-2016  
Operated research vessel during boat-based surveys, photographed dolphins for photo identification, recorded data on group composition, behavior, movement patterns

- Pre-copulatory mating behaviors of harbor porpoises in San Francisco Bay, USA, Apr 2014, 2015  
Recorded and analyzed mating behavior videos of harbor porpoises beneath the Golden Gate Bridge, spotted porpoises, photographed mating events, developed ethogram of behaviors
- \*Pre-copulatory mating behaviors of dusky dolphins off Kaikoura, New Zealand, Oct 2011-Jan 2012, Oct 2013-Jan 2014  
Recorded and analyzed mating behavior videos of dusky dolphins during group focal follows, spotted dolphins, operated research vessel, photographed and matched dorsal fins for photo-identification, developed ethogram of behaviors
- \*Sexual harassment of female swordtail fish, USA, 2012  
Set up tanks, segregated fish by sex, tagged fish, recorded and analyzed videos of sex-specific foraging patterns and socio-sexual interactions

\*indicates Principal Investigator

**Oceanwide Science Institute, Contract Acoustic Analyst, Canada, 2013**

- Analyzed Ecological Acoustic Recorder files for presence/absence of dolphin echolocation clicks and whistles using *Triton* program

**Texas A&M University at Galveston, Field Assistant, Admiralty Bay, New Zealand, 2011**

- Operated research vessel on line transect surveys, photographed dolphin dorsal fins for photo-identification, recorded behavioral and environmental data
- Operated Pythagoras software to theodolite-track dolphins from hill-top station, systematically scanned horizon for dolphins

**Curry & Kerlinger, LLC, Field Technician, USA, 2010**

- Conducted bat and bird fatality surveys on windfarm, conducted line transects, identified the species of carcasses

**Bat Conservation and Management, Inc., Field Technician, USA, 2009**

- Conducted bat distribution and abundance surveys, scouted mist-net sites by ATV, set up mist-nets, captured and removed bats, identified species, collected and recorded data on species, sex, age, weight, and morphological measurements

**University of Western Ontario, Graduate Researcher, Behavioral ecology of bats**

(advisor: Dr. Brock Fenton):

- \*Sensory modality integration and obstacle avoidance by little brown bats, Canada, 2007-2009  
Designed and built obstacle course, captured bats in harp traps, recorded echolocation calls, video-recorded flights, analyzed flight performance in videos, analyzed echolocation calls (CallViewer)
- \*Effects of alcohol consumption on frugivorous bats, Israel & Belize, 2008-2009  
Built flight chamber and obstacle course, captured bats in mist nests, fed bats, collected morphological measurements, video-recorded flights, analyzed videos and echolocation calls

\*indicates Principal Investigator

**ACADEMIC TEACHING EXPERIENCE (University Level Courses)**

**Texas A&M University at Galveston, Teaching Assistant, Department of Marine Biology**

- Cetacean Behavior and Behavioral Ecology Laboratories, 2015: Group living, sensory biology, matriarchy, baleen whales, research techniques, conservation, intelligence, and culture of cetaceans

- Biology of Marine Mammals Laboratories, 2011-2014: Taxonomy, morphology, anatomy, acoustics, photo identification, telemetry, and theodolite tracking of marine mammals
- Introductory Biology Laboratories, 2012: Protists, plant diversity, animal diversity, shark physiology, sensory systems
- Behavioral Ecology of Marine Mammals of New Zealand (2 week international field course), 2012: Led international students on dolphin tourism vessel to collect data on vessel approach and dolphin behaviors, facilitated student research projects on fur seal distribution patterns and behaviors

**University of Western Ontario, Teaching Assistant, Department of Biology**

- Introductory Biology Laboratories and Tutorials, 2007–2009: Genetics, cell biology, ecology and evolution, bioenergetics, and plant/animal physiology
- Workshop (provided to the Ontario Ministry of Natural Resources), 2009: Taught bat monitoring and acoustic surveying techniques

### INVITED LECTURES

**Texas A&M University at Galveston, 2010-2015**

- Undergraduate Classes: Cetacean Behavior and Behavioral Ecology, Biology of Marine Mammals, Scientific Methods, Coastal Marine Biology and Geology of Alaska
- Graduate Classes: Seminar in Marine Biology, Behavioral Ecology of Marine Mammals of New Zealand

**Kaikoura Marine Centre and Aquarium, 2014**

**Oceanic Society, Belize Dolphin Excursion, 2013**

**Sea Camp, Marine Mammal Workshop, 2012**

### GRANTS, FELLOWSHIPS, AWARDS & SCHOLARSHIPS

**Dalhousie University, Izaak Walton Killam Postdoctorate Fellowship, 2016**

**Texas A&M University at Galveston, 2 Fellowships: Marine Biology Development; Boost Scholarship, 1 Award: Mooney Research Excellence (for best dissertation), 13 Grants: 6 Marine Biology mini grants, SeaSpace Inc., 3 Mooney travel, 2 Galveston Graduate Student Association travel, 2 Galveston Graduate Student Association micro, 2010-2016**

**Texas Society of Mammalogists, 2 Awards: Robert Packard Award for best overall presentation, 2015; William B. Davis Award for best presentation in classic mammalogy, 2016**

**San Francisco Bay American Cetacean Society Chapter, 2 Awards: Student Research Grant, 2014; Student Travel Grant, 2015**

**“Rethinking Lagenorhynchus” workshop of the 21<sup>st</sup> Biennial Conference of the Society for Marine Mammalogy, Travel Grant, 2015**

**Texas A&M University, 2 Awards: Dissertation Fellowship, 2015; 12<sup>th</sup> Pathways Symposium 2<sup>nd</sup> place, 2015**

**Animal Behavior Society, Amy R. Samuels Cetacean Behavior & Conservation Award, 2015**

**European Cetacean Society, Student Travel Grant, 2015**

**American Museum of Natural History, Lerner Gray Memorial Fund, 2014**

**Texas Institute of Oceanography, Graduate Research Fellowship, 2014**

**Texas Sea Grant, Grants-In-Aid of Graduate Research, 2014**

**Natural Sciences and Engineering Research Council of Canada, Postgraduate Scholarship -Doctoral, 2012-2014**

**Marine Technology Society**, 2 Awards: Graduate Scholarship, 2011; Paros-Digiquatz Scholarship, 2014  
**National Geographic Society**, Research and Exploration Grant (co-PI), 2011-2012  
**University of Western Ontario**, 3 Awards: Prasanna Mohan, Graduate Thesis Research, Michelle Sweeny, 2007-2009

#### **PEER REVIEWED PUBLICATIONS**

- Orbach, D.N.** In Review. Reproductive anatomy. In: Würsig, B., Kovacs, K., and Thewissen, J.G.M., eds. Encyclopedia of marine mammals, 4th ed. Amsterdam: Elsevier Science.
- Orbach, D.N.**, Marshall, C.D., Würsig, B., and Mesnick, S.L. 2016. Variation in female reproductive tract morphology of the common bottlenose dolphin (*Tursiops truncatus*). *The Anatomical Record*. 299: 520-537. doi: 10.1002/ar.23318.
- Orbach, D.N.**, Packard, J.M., Kirchner, T., and Würsig, B. 2015. Evasive behaviours of female dusky dolphins (*Lagenorhynchus obscurus*) during exploitative scramble competition. *Behaviour* 152: 1953 – 1977. doi: 10.1163/1568539X-00003310.
- Orbach, D.N.**, Rosenthal, G.G., and Würsig, B. 2015. Copulation rate declines with mating group size in dusky dolphins (*Lagenorhynchus obscurus*). *Canadian Journal of Zoology* 93: 503-507. doi: 10.1139/cjz-2015-0081.
- Orbach, D.N.**, Packard, J.M., Piwetz, S., and Würsig, B. 2015. Sex-specific variation in conspecific-acquired marking prevalence among dusky dolphins (*Lagenorhynchus obscurus*). *Canadian Journal of Zoology* 93: 383–390. doi: 10.1139/cjz-2014-0302.
- Orbach, D.N.** and Kirchner, T. 2014. Armed escorts: Dusky dolphin (*Lagenorhynchus obscurus*) interactions with octopuses (*Pinnoctopus cordiformis*) in New Zealand. *Aquatic Mammals* 40.3: 285-292. doi: 10.1578/AM.40.3.2014.285.
- Kügler, A. and **Orbach, D.N.** 2014. Sources of notch and scar patterns on the dorsal fins of dusky dolphins (*Lagenorhynchus obscurus*). *Aquatic Mammals* 40.3: 152-165. doi: 10.1578/AM.40.3.2014.152.
- Orbach, D.N.**, Packard, J.M., and Würsig, B. 2014. Mating group size in dusky dolphins (*Lagenorhynchus obscurus*): Costs and benefits of scramble competition. *Ethology* 120(8): 804-815. doi: 10.1111/eth.12253.
- Orbach, D.N.** and Fenton, M.B. 2010. Vision impairs the abilities of bats to avoid colliding with stationary obstacles. *PLoS ONE* 5(11): e13912. doi:10.1371/journal.pone.0013912.
- Orbach, D.N.**, Veselka, N., Dzal, Y., Lazure, L., and Fenton, M.B. 2010. Drinking and flying: Does alcohol consumption affect the flight and echolocation performance of phyllostomid bats? *PLoS ONE* 5(2): e8993. doi:10.1371/journal.pone.0008993.

**FIRST AUTHORED CONFERENCE PROCEEDINGS AND SYMPOSIA**

- Orbach, D.N.**, Marshall, C.D., Würsig, B, and Mesnick, S.L. 2016. Cetacean vaginal folds: An adaptation to mating in the marine environment? Poster presentation. 30<sup>th</sup> Conference of the European Cetacean Society, Madeira, Portugal (March 2016).
- Orbach, D.N.**, Keener, W., Ziltener, A., Hillhouse, J., and Würsig, B. 2016. Female mating behaviors predicted from anatomy in dolphins and porpoises. Oral presentation. 34<sup>th</sup> Annual Meeting of the Texas Society of Mammalogist, Junction, Texas (February 2016).
- Orbach, D.N.** 2016. Female mate choice strategies of cetaceans. Oral presentation. Texas A&M University's 6<sup>th</sup> Annual Graduate Program in Marine Biology Science Symposium, College Station, Texas (January 2016).
- Orbach, D.N.**, Marshall, C.D., Würsig, B, and Mesnick, S.L. 2016. Variation in reproductive tract morphology of the female common bottlenose dolphin (*Tursiops truncatus*). Oral presentation. Society for Integrative and Comparative Biology, Portland, Oregon (January 2016).
- Orbach, D.N.**, Marshall, C.D., Würsig, B, and Mesnick, S.L. 2016. Potential evolution and function of vaginal folds in cetaceans. Poster presentation. Society for Integrative and Comparative Biology, Portland, Oregon (January 2016).
- Orbach, D.N.**, Keener, W., Ziltener, A., Hillhouse, J., and Würsig, B. 2015. Size and intensity of female mating behavioral repertoire predicted from reproductive anatomy in odontocetes. Oral presentation. 21<sup>st</sup> Biennial Conference on the Biology of Marine Mammals, San Francisco, California (December 2015).
- Orbach, D.N.** and Keener, W. 2015. Mating behaviors of harbor porpoises (*Phocoena phocoena*) off the Golden Gate Bridge. Oral presentation. 21<sup>st</sup> Biennial Conference on the Biology of Marine Mammals, Harbor Porpoise Workshop, San Francisco, California (December 2015).
- Orbach, D.N.**, Packard, J.M., Piwetz, S., and Würsig, B. 2015. Differences in dorsal fin marking patterns between male and female dusky dolphins (*Lagenorhynchus obscurus*). Oral presentation. 21<sup>st</sup> Biennial Conference on the Biology of Marine Mammals, Rethinking Lagenorhynchus Workshop, San Francisco, California (December 2015).
- Orbach, D.N.**, Marshall, C.D., Würsig, B, and Mesnick, S.L. 2015. Changes in reproductive tract morphology of bottlenose dolphins across age class, reproductive state, and stock. Poster presentation. Texas A&M University System's 12th Annual Pathways Symposium, Corpus Christi, Texas (October 2015).
- Orbach, D.N.**, Rosenthal, G.G., and Würsig, B. 2015. Competition, not cooperation, among male dusky dolphins (*Lagenorhynchus obscurus*) for access to mates. Oral presentation. Abstracts of the 52<sup>nd</sup> Annual Conference of the Animal Behavior Society, Anchorage, Alaska (June 2015).

- Orbach, D.N.,** Packard, J.M., and Würsig, B. 2015. Female mate choice by dusky dolphins (*Lagenorhynchus obscurus*) during mating chases. Oral presentation. Abstracts of the 29<sup>th</sup> Conference of the European Cetacean Society, St. Julian's, Malta (March 2015).
- Orbach, D.N.,** Packard, J.M., and Würsig, B. 2015. Do female dusky dolphins (*Lagenorhynchus obscurus*) have the potential to exercise active mate choice? Oral presentation. Abstracts of the 118th Annual Meeting of the Texas Academy of Science, San Antonio, Texas (March 2015).
- Orbach, D.N.,** Marshall, C.D., and Würsig, B. 2015. The reproductive anatomy of female common bottlenose dolphins (*Tursiops truncatus*) from Texas. Oral presentation. 33<sup>rd</sup> Annual Meeting of the Texas Society of Mammalogist, Junction, Texas (February 2015).
- Orbach, D.N.** 2015. Behavior and female reproductive morphology of cetaceans. Oral presentation. Texas A&M University's 5<sup>th</sup> Annual Graduate Program in Marine Biology Science Symposium, College Station, Texas (January 2015).
- Orbach, D.N.,** Packard, J.M., and Würsig, B. 2015. Can female dusky dolphins exercise active mate choice? Poster presentation. Texas A&M University's 5<sup>th</sup> Annual Graduate Program in Marine Biology Science Symposium, College Station, Texas (January 2015).
- Orbach, D.N.,** Kirchner, T., and Würsig, B. 2014. Measuring the mating behaviors of free-ranging dusky dolphins (*Lagenorhynchus obscurus*). Proceedings of Measuring Behavior 2014. Editors: A.J. Spink, L.W.S. Loijens, M. Woloszynowska-Fraser & L.P.J.J. Wageningen, The Netherlands, August 27-29, 2014.
- Orbach, D.N.** 2014. Cetacean mating tactics: Relationships between behavior and female reproductive morphology. Oral presentation. Sun Yat-sen University's Workshop in Breeding System Evolution, Guangdong, China (June 2014).
- Orbach, D.N.** 2014. Mating patterns of dusky dolphins (*Lagenorhynchus obscurus*) off Kaikoura, New Zealand. Oral presentations:
- Texas A&M University's 15<sup>th</sup> Ecological Integration Symposium, College Station, Texas (March 2014).
  - Texas A&M University's 17<sup>th</sup> Student Research Week, College Station, Texas (March 2014).
- Orbach, D.N.,** Packard, J.M., and Würsig, B. 2013. Optimal mating group size of dusky dolphins (*Lagenorhynchus obscurus*). Oral presentation. Abstracts of the 20<sup>th</sup> Biennial Conference on the Biology of Marine Mammals, Dunedin, New Zealand (December 2013).
- Orbach, D.N.,** Marshall, C.D., Würsig, B., and Mesnick, S.L. 2013. Into the fold: Form and function of cetacean vaginal morphology. Oral presentation. 20<sup>th</sup> Biennial Conference on the Biology of Marine Mammals, Structural-Functional Shifts in Marine Mammals Workshop, Dunedin, New Zealand (December 2013).
- Orbach, D.N.,** Salley, A.M., Kügler, A., and Würsig, B. 2012. Do dusky dolphins form mating group associations? Oral presentations:
- Texas A&M University's 13<sup>th</sup> Ecological Integration Symposium, College Station, Texas (March 2012).
  - Texas A&M University's 15<sup>th</sup> Student Research Week, College Station, Texas (March 2012).

- Orbach, D.N.**, Marshall, C.D., and Würsig, B. 2011. Do pseudocervical folds facilitate cryptic female choice in bottlenose dolphins (*Tursiops truncatus*)? Oral presentation. Gulf Coast Student Chapter for the Society of Marine Mammalogy 2<sup>nd</sup> Annual Student Research Symposium, Hattiesburg, Mississippi (August 2011).
- Orbach, D.N.** 2010. Functions of the dolphin pseudocervix in cryptic female choice. Poster presentation. Texas A&M University's 1<sup>st</sup> Annual Graduate Program in Marine Biology Science Symposium, Galveston, Texas (December 2010).
- Orbach, D.N.** and Boswell, R.A. 2010. Cryptic choice by female dolphins: Assessing the role of the pseudocervix. Poster presentation. Texas A&M University's 8<sup>th</sup> Annual Pathways Student Research Symposium, Canyon, Texas (October 2010).
- Orbach, D.N.** 2010. Mate-choice decisions by dusky dolphins (*Lagenorhynchus obscurus*) off New Zealand. Oral presentation. Gulf Coast Student Chapter for the Society of Marine Mammalogy 1<sup>st</sup> Annual Student Research Symposium, Galveston, Texas (August 2010).
- Orbach, D.N.** and Fenton, M.B. 2009. Free-flying bat obstacle collisions. Oral presentation. 6<sup>th</sup> Annual Earth Day Colloquium, London, Canada (April 2009).
- Orbach, D.N.** and Fenton, M.B. 2009. Flying under the influence: A case study in fruit bats. Oral presentation. 22<sup>nd</sup> Annual Western Research Forum, London, Canada (February 2009).
- Orbach, D.N.** and Fenton, M.B. 2008. Obstacle avoidance by inebriated fruit bats, *Rousettus aegyptiacus*. Oral presentation. Abstracts of the 38<sup>th</sup> Annual North American Symposium on Bat Research, Scranton, Pennsylvania (October 2008).
- Orbach, D.N.** 2008. Why do bats crash? Oral presentation. Ontario Ecology and Ethology Colloquium 2008, Guelph, Canada (April 2008).
- Orbach, D.N.** and Fenton, M.B. 2008. Distraction and light impacts on bat obstacle avoidance. Oral presentation. 21<sup>st</sup> Annual Western Research Forum, London, Canada (February 2008).

#### **CO-AUTHORED CONFERENCE PROCEEDINGS**

- Theis-Damian, S.C., **Orbach, D.N.**, and Würsig, B. 2016. Assessment of taxonomic-wide patterns in offspring-to-mother ratios at birth in cetaceans. Submitted for oral presentation. Southeast and Mid-Atlantic Marine Mammal Symposium, Savannah, Georgia (April 2016).
- Hillhouse, J., **Orbach, D.N.**, Ziltener, A., and Würsig, B. 2016. Mating interactions of Indo-Pacific bottlenose dolphins (*Tursiops aduncus*). Poster presentation. Texas Society of Mammalogists 34<sup>th</sup> Annual Meeting, Junction, Texas (February 2016).
- Mesnick, S., **Orbach, D.N.**, Danil, K., Chivers, S.J., Robeck, T.R., Montano, G.A., Gulland, F., Marshall, C.D., Dixon, A.F. 2015/2016. Coevolution of female and male reproductive tract anatomy in cetaceans:
- Oral presentation. Society for Integrative and Comparative Biology, Portland, Oregon (January 2016).
  - Oral presentation. 21st Biennial Conference on the Biology of Marine Mammals, San Francisco, California (December 2015).

- Hillhouse, J., **Orbach, D.N.**, Ziltener, A., and Würsig, B. 2015. Mating tactics of free-swimming female Indo-Pacific bottlenose dolphins (*Tursiops aduncus*). Poster presentation. Texas A&M University System's 12th Annual Pathways Symposium, Corpus Christi, Texas (October 2015).
- Mattson, E., **Orbach, D.**, Piwetz, S., Würsig, B., Highfield, W., Marshall, C. 2015. Potential oil spill effects on behavior and group size of common bottlenose dolphins (*Tursiops truncatus*) in Galveston Ship Channel. Poster presentation. Oil Spill and Ecosystem Science Conference. Houston, Texas (February 2015).
- Schotten, M., Würsig, B., **Orbach, D.**, Sexton, K., Piwetz, S., and Lammers, M. 2013. Who is vocalising? Acoustic localisations of broadband clicks plotted onto video recordings of individual dusky dolphins (*Lagenorhynchus obscurus*) in New Zealand. Poster presentation. 6th International Workshop on Detection, Classification, Localization and Density Estimation of Marine Mammals using Passive Acoustics, St. Andrews, Scotland (June 2013).
- Schotten, M., Würsig, B., **Orbach, D.**, Sexton, K., and Piwetz, S. 2013. Broadband acoustic/video recordings and localisations of dusky dolphins (*Lagenorhynchus obscurus*) and short-beaked common dolphins (*Delphinus delphis*) in New Zealand. Oral presentation. Abstracts of the 27th Conference of the European Cetacean Society, Setúbal, Portugal (April 2013).
- Pennacchi, A.M., **Orbach, D.N.**, and Würsig, B.G. 2013. Behavior of bottlenose dolphins (*Tursiops truncatus*) relative to boat traffic in the Galveston Ship Channel, Texas. Posters presentations:
- 44<sup>th</sup> Annual Conference of the International Association for Aquatic Animal Medicine, Sausalito, California (April 2013).
  - Southeast and Mid-Atlantic Marine Mammal Symposium, Jacksonville, Florida (March 2013).
  - Texas A&M University's 16<sup>th</sup> Student Research Week, College Station, Texas (March 2013).
  - Texas Society of Mammalogists 31<sup>st</sup> Annual Meeting, Junction, Texas (February 2013).
- Mendez, A.J., Würsig, B., **Orbach, D.** 2013. Dolphin mating behaviors: Dusky dolphin (*Lagenorhynchus obscurus*) and bottlenose dolphin (*Tursiops truncatus*) comparisons. Poster presentation. Abstracts of the American Society of Limnology and Oceanography 2013 Aquatic Sciences Meeting, New Orleans, Louisiana (February 2013).
- Kügler, A., **Orbach, D.**, and Würsig, B. 2012. Identifying ecological threats using natural marks on dusky dolphins (*Lagenorhynchus obscurus*). Poster presentation. Abstracts of the 26<sup>th</sup> European Cetacean Society Conference, Galway, Ireland (March 2012).

#### **POPULAR SCIENCE COMMUNICATIONS & PUBLICITY**

- Pennisi, E. 2016. Female organs revealed as weapons in sexual arms race. **Science Magazine** 351(6270): 214-215. DOI:10.1126/science.351/6270/214.
- Wiley Online Library. Marine mammal populations, behavior, and habitats virtual issue, January 2016.
- Hardt, M. "Inner chambers: influencing sex from the inside out", **Sex in the Sea**, St. Martin's Press. February 2016.
- Kelly, D.A. "This is what a dolphin's vagina looks like", **Gawker (THROB)**, July 2015.



Reidenberg, J., Evans, M., Doust, R., Neaves, K., Fison, P., and Hunt-Grubbe, C. "Sex in the wild: The biology of mating", **A Windfall Films Production** for PBS in Association with Channel 4. August 2014.

Hardt, M. "Getting to know whale vaginas in 7 steps", **Scientific American**, July 2014.

"Don't challenge a fruit-eating bat to a drinking contest", **The scorpion and the frog**, July 2012

"Drunken Bats", radio interview, **Quirks and Quarks**, November 2011

**Orbach, D.N.** "Flying under the influence", **Bat Conservation International**, BATS magazine, 28 (3) Fall 2010 p.12-13.

Kaufman, R. "Bats crash more when they rely on vision", **National Geographic News**, November 2010.

Dell'Amore, C. "'Drunk' bats fly right--discovery surprises scientists", **National Geographic News**, February 2010.

Bleicher, A. "Flying under the influence: Boozing bats are still expert fliers", **Scienceline**, February 2010

#### **RECENT COMMUNITY SERVICE AND MENTORSHIP**

**Project Supervisor** for 8 undergraduate and 7 graduate field assistants (University of Western Ontario and Texas A&M University at Galveston), 2008-2016

**Intern Coordinator/Project Manager** for 61 undergraduate interns from 7 universities, *Marine Mammal Behavioral Ecology Group* (Texas A&M University at Galveston), 2010-2016

**Peer-reviewed journal reviewer**, *Aquatic Mammals, Behavioural Processes, PLoS One*, 2014-present

**Dolphin Necropsy and Live Animal Volunteer**, *Texas Marine Mammal Stranding Network*, 2011-2016

**Department Representative** for Honor Council, *Graduate Student Association* (Texas A&M University at Galveston), 2013-2016

**Conference Volunteer**, *Society for Integrative and Comparative Biology*, 2016; *Society for Marine Mammalogy Meeting*, 2013, 2015; *Animal Behavior Society Meeting*, 2015; *European Cetacean Society Meeting*, 2015; *Texas Academy of Science Meeting*, 2014; *Measuring Behavior Meeting*, 2014

**Scuba Dive Volunteer**, *Moody Gardens Aquarium*, 2016

**Rainforest and Naturalist Volunteer**, *Moody Gardens Aquarium*, 2014- 2015

**Science Moderator**, *Texas Sea Grant's National Ocean Sciences Bowl Dolphin Challenge*, 2012, 2015

**Panel speaker**, *TriBeta Honors Society* (Texas A&M University at Galveston), 2014

**Expert scientist** for documentary on animal reproduction, *Windfall Films*, 2013-2014

**Judge**, *TAMUS Pathways Symposium*, 2015; *Texas Society of Mammalogist Meeting*, 2015; *Ball High School Science Expo*, 2015; *Texas A&M University's Student Research Week*, 2012, 2014; *Texas A&M University's Ecological Integration Symposium*, 2012, 2014; *Creation Care Study Program* (New Zealand), 2013; *Galveston Texas Science Olympiad*, 2012; *Galveston County Science and Engineering Fair*, 2012; *Austin Middle School*, 2012; *Weiss Middle School*, 2011

**Grant Reviewer**, *Society for Marine Mammalogy Gulf Coast Student Chapter*, 2010-2012

**Department Representative** for Diversity Steering Committee, *Graduate Student Association* (Texas A&M University at Galveston), 2011-2012

**Program Coordinator** for NSF's Research Experience for Undergraduates program and project supervisor of 2 interns (Texas A&M University at Galveston), 2012

**Facilitator** of interactive science lessons for children from inner-city schools, *Girls Only Science Club* (Texas A&M University at Galveston), 2010–2011

**Penguin Husbandry Volunteer**, *Moody Gardens Aquarium*, 2010–2011

**Department Representative** for Discrimination Appeals Board, *Graduate Student Association* (Texas A&M University at Galveston), 2010–2011

**Organizer** of monthly Marine Mammal Meetings (Texas A&M University at Galveston), 2011

### **PROFESSIONAL AFFILIATIONS**

American Cetacean Society  
American Society of Mammalogists  
Animal Behavior Society  
European Cetacean Society  
Golden Key International Honour Society  
Marine Technology Society  
Sigma Xi  
Society for Integrative and Comparative Biology  
Society for Marine Mammalogy  
Texas Academy of Sciences  
Texas Marine Mammal Stranding Network  
Texas Society of Mammalogists

### **SOFTWARE PROFICIENCIES**

Microsoft Office: Word, Excel, Powerpoint, Access  
Statistics: SPSS, JMP, SOCPROG  
Image Processing: Adobe Photoshop, Adobe Lightroom, Microsoft Paint, ACDSee, GIMP, Image J, Scope Advanced  
Fin-matching: Finscan  
Sound Analysis: Triton, CallViewer, BatsoundPro, Avisoft, Raven  
GPS: Mapsource, Pythagoras

### **TRAINING/CERTIFICATIONS**

DAN Diving First Aid Pro (2015)  
Professional Certification in Online Teaching, Texas A&M University (2014)  
Red Cross, CPR, First Aid, AED (2014)  
PSO training course BOEM/BSEE NTL (2012)  
Boater ED, Texas Parks & Wildlife (2011)  
Pleasure Craft Operator boat driving license (experience operating Rigid-hull inflatable boats, Boston Whaler, Flatbottom Jon boats, jetboats)  
PADI advanced SCUBA certificate