Vitae

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Education

8/1997 Doctor of Philosophy (Interdisciplinary Studies: Marine Biology), University of Alaska Fairbanks, Fairbanks, AK, USA. Dissertation title: *The development of diving behavior and physiology in juvenile Weddell seals in McMurdo Sound, Antarctica*.

8/1992 Masters of Science (Fisheries), University of Washington, School of Fisheries and Ocean Sciences, Seattle, WA, USA. Thesis title: *Environmental and biological factors that influence harbor seal haulout behavior in Washington, and their consequences for the design of population surveys.*

6/1990 A.B. Biology (conc. Marine) and Zoology (double), English minor, University of California, Berkeley, CA, USA.

8/1988 Summer term courses at Oregon Institute of Marine Biology, University of Oregon, Coos Bay, OR, USA

Work Experience

7/2020 – Current (40h/wk): Chair and Professor of Biological Sciences, Department of Biological Sciences, Texas Tech University, Box 43131, Lubbock Texas 79409.

- Oversee a department of 44 tenure track and continuance eligible faculty, conduct annual performance reviews, recommend merit raises, make recommendations for promotion and tenure. Manage a full time staff of 12, assign staff merit raises and conduct annual performance reviews. Manage a departmental budget of ~ 7 Million/year.
- Oversee departmental graduate program which serves ~150 graduate students in 4 degrees (professional science MS, Microbiology MS, Biology MS, Biology PhD). Oversee undergraduate degree programs which serve 1500+ undergraduate majors (Biology, Microbiology, and Cell and Molecular Biology tracks), and 1,000s of students in affiliated majors, plus service courses
- Responsible for departmental strategic planning, faculty hiring, retention and promotion. Member of cross-departmental and cross-college research groups focused on growing research capacity in the "One Health" arena and increasing diversity in STEM faculty and students.
- Conduct my own, externally funded research activities, by obtaining research funding, mentoring students, publishing and presenting results in peer reviewed journals and at scientific meetings.
- Ensure faculty, students, and staff remain in compliance with all TTU, IRB, animal handling, personnel and lab safety requirements and permits. Stay current on FERPA, Title IX, and OSHA/EHS trainings.
- **Supervisor:** Dr. Tosha Dupras (806.834.0618)

8/2017-5/2020 (40hr/wk): Program Director (IPA Assignment), Antarctic Integrated System Science & co-Program Director, Antarctic Organisms and Ecosystems, Office of Polar Programs, National Science Foundation, 2415 Eisenhower Av, Alexandria, VA.

- Oversaw funding and review process, participated in program planning, conduct outreach to the scientific community, and remained engaged in my own research activities.
- Managed large and diverse portfolio of ongoing funded research activities, planned future funding actions, communicated NSF goals to the broader scientific community, conducted merit review of submitted proposals, and coordinated funding actions and program priorities within Office of Polar Programs, the Geosciences Directorate, and across NSF. Annual program budget of ~ $11M.
- Worked with colleagues to maximize program reach and success, while ensuring compliance with all International and National treaties, Polar Safety and Health, and Environmental protection regulations.
- **Supervisor:** Alexandra Isern (703.292.8500)

8/2000-6/2020 (40hr/wk): Professor, Department of Biological Science, College of the Arts and Sciences, University of Alaska Anchorage, 3211 Providence Dr, Anchorage, AK.

- Hired as Assistant Professor 8/2000; Promoted to Associate Professor 8/2006; Promoted to Full Professor 8/2011.
- Conducted extramurally funded research on the evolutionary ecology of marine mammals, comparative vertebrate physiology, and conservation of marine mammals.
- Identified research priorities, submitted research proposals, managed all grant related funding and completed project reports.
- Ensured all research activities were conducted in compliance with international, federal, state, and university permit and safety requirements.
- Published research findings in peer reviewed scientific literature and presented findings at scientific conferences and to community groups.
- Mentored undergraduate and graduate (MS and PhD) students in research, oversaw thesis and dissertation research, and trained postdoctoral researchers.
- Taught undergraduate and graduate courses to students in the Biological Sciences BS and MS degrees.
- Served as Chair or Member on Departmental (Curricular, Graduate Program, Faculty Development), College (ENRI, Tenure Review), and University Committees (IACUC, Graduate School Advisory).
- Program Coordinator for the Alaska INBRE program 2016-2017; in charge of building and sustaining ties among University Campuses and Alaskan Biomedical Community.
- **Supervisor:** Dr. Khrys Duddleston (907.786.1298)

8/1997-8/2000 (40hr/wk): President's Postdoctoral Fellow, Institute of Marine Science, 1156 High Street, University of California Santa Cruz, Santa Cruz, CA.

- Conducted extramurally funded research on the physiological ecology of juvenile marine mammals.
- Identified research priorities, submitted research proposals, managed all grant related funding and completed project reports.
- Ensured all research activities were conducted in compliance with international, federal, state, and university permit and safety requirements.
- Published research findings in peer reviewed scientific literature and presented findings at scientific conferences and to community groups.

- Mentored undergraduate students in research, and taught undergraduate course.
- **Supervisor:** Dr. Daniel Costa (831.459.2786)

1993-1997 (20hr/wk): Research Assistant/PhD Candidate, School of Fisheries and Ocean Sciences, University of Alaska Fairbanks. Development of Weddell seal pup diving behavior and physiology; Health and nutritional status of Alaskan pinnipeds.

- Conducted extramurally funded research on the physiological ecology of juvenile marine mammals.
- Ensured all research activities were conducted in compliance with international, federal, state, and university permit and safety requirements.
- Published research findings in peer reviewed scientific literature and presented findings at scientific conferences and to community groups.
- **Supervisor:** Dr. Michael Castellini

1990-1993 (20hr/wk): Research Assistant/MSc student, School of Fisheries and Ocean Sciences, University of Washington. Marine mammal biology and ecology; harbor seal along the WA coast.

- Conducted research on the population ecology of juvenile harbor seals
- Ensured all research activities were conducted in compliance with federal, state, and university permit and safety requirements.
- Published research findings in peer reviewed scientific literature and presented findings at scientific conferences and to community groups.
- **Supervisor:** Dr. Robert Francis

1991-1992: Wildlife Biologist, National Marine Mammal Laboratory, Harbor seal population ecology research program, NOAA, Seattle, WA.

- Assisted in research into harbor seal population abundance in Washington
- Drafted population status reports, and assisted in field planning
- **Supervisor:** Dr. Harriet Huber

Affiliate Appointments

Associated Faculty, Department of Biological Sciences, University of Alaska Anchorage, 2020-Current.

Associated Faculty, College of Fisheries and Ocean Sciences, University of Alaska Fairbanks, 2008-Current.

Research Associate, Institute of Marine Science, University of California Santa Cruz, 2000-2015.

Auxiliary Faculty, Department of Physiology & Biophysics, University of Washington, 2004-2008.

Affiliate Assistant Professor of Biology, University of Waterloo, Waterloo, Canada, 2000-2004.

Research Focus

Over the past two decades, research in my laboratory has explored the linkages between physiology, nutrition, and performance in mammalian systems. Primarily, our work is focused on polar marine mammals, as the challenges these species face to exploit underwater food resources in a highly seasonal environment have led to multiple unique adaptations that highlight basic physiological principles. Research activities have proceeded along three main lines: 1) understanding the pattern of physiological development in juvenile marine mammals, and how it

is regulated; 2) determining how physiological condition impacts diving performance and foraging success; and 3) determining how critical life history events are influenced by, and reflective of, individual condition and prey availability and environmental conditions. These questions are particularly relevant in polar ecosystems, where climate change is reducing available habitats, and altering food webs, but they are important to all populations. Research productivity is evidenced by funding success, publications, and presentations, as indicated below.

Other relevant work-related experiences

Member, Science and Statistical Committee, North Pacific Fisheries Management Council, Dec 2010-2017. Evaluated the scientific basis of fisheries management policies and quota for federal fisheries in Alaskan waters. Provide advice relative to potential impact of fisheries management plans and policies on marine mammal and seabird populations and ensure Council is aware of recent, ongoing, and planned research activities and conservation concerns.

Member, interdisciplinary partnership with Alaska Native Harbor Seal Commission, Alaska Veterinary Pathology Services, and NOAA to strengthen harvest monitoring and biosampling of harbor seals, and stranding response network and data collection for marine mammals throughout the state.

Lead Investigator in cross-agency collaborations between UAA, Alaska Department of Fish and Game, National Marine Mammal Laboratory, and Alaska Native Organizations to conduct research into unique freshwater seal population in Iliamna Lake, Alaska. Integrated traditional ecological knowledge of seal biology and ecology with aerial surveys and laboratory analyses (genetics, diet, movements) to understand behavioral patterns relevant to species conservation goals.

Program Coordinator for the Alaska INBRE program AY2016-2017, a large ($18.5M/5yr) NIH funded award designed to enhance the biomedical research within the state through capacity building, research mentoring, and student training activities. Serve on the Administrative core team, setting policy, reviewing funding applications, drafting reports. Assist leadership in increasing and diversifying the “pipeline” of undergraduate and graduate students entering biomedical and health research related professions. Responsible for increasing integration of biomedical and training activities across the Alaska INBRE network of researchers and students.

Past Member, US GLOBEC Science Steering Committee (2004-2011), and participant in Southern Ocean GLOBEC research cruises (2001-2002). The steering committee advised NOAA and NSF on research needs relative to US participation in GLOBEC program, and oversaw collaborations with other nation’s Antarctic programs within the GLOBEC framework.

Partner with the Museum at TTU and Long-term partner with PolarTREC, and the Memphis Museum of Science & History to sustain education and outreach programs centered on polar marine mammal ecology, and to develop museum exhibits, educational materials, and children's books focused on marine sciences.

Long-term partner with PolarTREC and Pink Palace Museum in Memphis, TN, to sustain and education and outreach program centered around polar marine mammal physiology and life history. Online, in person, and web-based outreach program developed around NSF funded work to inform K-12 students about research opportunities and experiences in the Antarctic. In 2015, program reached 55 schools, 100 classrooms and over 14,000 individuals, not including online activities.

Chair or Member of Department of Biological Sciences Graduate Program Committee, which provides oversight and guidance of graduate student education within the department (hiring,

admissions, coursework, mediation). Member August 2000-2007, Chair 2007-2008, 2010-current. Member of UAA's Graduate School Action Team (GSAT) and Graduate Council, Member August 2007-2008, 2010-current, which sets overall University policies for graduate education.

Member of Department of Biological Sciences Curriculum Committee, which provides oversight of the undergraduate curricula; lead for physiology focus area during curricular revisions. Member August 2004-2006, 2010-2017, Chair 2006-2008

Editor and/or ad-hoc reviewer for manuscripts submitted to a wide range of relevant journals. In addition to serving as an ad-hoc reviewer, I am Subject Editor for Mammalian Biology (June 2013- current); a member of the Editorial Board for Frontiers in Aquatic Physiology (March 2010 – current); a member of the Advisory Board for the Journal of Comparative Physiology B (June 2011- current).

Awards and Grants Received ($6,719,369)

As PI on these awards, I was responsible for 1) identifying research needs and priorities; 2) writing and submitting research proposal for funding; 3) directing all research activities and research participants; 4) certifying that research activities were conducted in compliance with all regulations and coordinated among all participants, 6) ensuring that project deliverables were achieved on time, that project reports were submitted, and that funds were expended as allowed; 7) distributing research findings to the scientific and management communities and other interested parties through peer reviewed publications, scientific presentations, and white papers.

Pushing the Limit: Driving constraints and adaptive capacity of Alaskan pinnipeds. PIs: A. Bishop (UAF), J. Burns (TTU), M. Horning (WTF). North Pacific Research Board, $206,432.

Collaborative Research: the role of maternal iron transfer in the development of heme stores and aerobic diving capacity in grey seal pups. PI JM Burns (TTU), M. Shero (WHOI), G. Breed (UAF); IOS-2133824. 9/01/2022-8/31/2026; $960,723 to TTU (total budget 1,350,000).

Physiological and Genetic Correlates of Reproductive Success in *High*- versus *Low*-Quality Weddell seals. PI: J.M. Burns, WHOI subaward to TTU, 9/1/2020-8/31/2024, $53,396

Collaborative Research: Physiological and Genetic Correlates of Reproductive Success in *High*- versus *Low*-Quality Weddell seals. PIs: M.R. Shero (WHOI), B. Briggs (UAA), A. Hindle (UNR), J. Burns (UAA/TTU) Collaborators: Gregg Adams (U. Saskatchewan). National Science Foundation Office of Polar Programs $1,314,441

Distinguishing successful pregnancy vs implantation failure at the metabolomics level in Weddell seals. PI: J. Burns, M. Shero. Alaska INBRE 8/2017-8/2018, $15,120

Fishing for answers under the ice: do seasonal changes in Weddell seal diving patterns reflect variation in the behavior of their preferred prey? UAA PI: J Burns; Funding source: National Geographic; 1/2015-1/2017. $25,000

Differences in gene expression in anagen and telogen Weddell seal skin. PI J. Burns, Funding: NCGR/NM-INBRE & AK INBRE, 2/2016-2/2017, $8,650.

Maternal Foraging Trip Duration of Northern Fur Seals as an Index to Prey Availability in the eastern Bering Sea Ecosystem. Pollock Conservation Cooperative Research Center award (#60798) to Burns and Testa, 7/2016-6/2019, $149,956.

The cost of a new fur coat: interactions between molt and reproduction in Weddell seals. NSF-OPP ANT-1246463 PI: J.M. Burns, Co-I J.W. Testa. Collaborators A. Eilers (Pink Palace Museum, Memphis) & Gregg Adams (U. Saskatchewan). 08/2013-07/2018, $1,249,555

Continued strengthening of Alaska's marine mammal stranding program through collaborative level B and C reporting, diagnostic support and continuing education for stranding network members. NOAA Prescott Award, NA15NMF4390053. PIs: J.M. Burns & Kathy Burek, AVPS, $99,998

Harbor Seal Biosampling. PIs ANHSC, Anne Hoover-Miller, J. Burns, Eric Bortz. NOAA-NMFS-AK-2015-2004372. $135,359

Ecology of influenza viruses on the avian: marine mammal interface in Alaska. Seed Grant Funded by Environmental and National Research Institute, UAA. Dr. Eric Bortz and Jennifer Burns, Co-PIs, $20,000.

Strengthening Alaska's Marine Mammal Stranding Program through improved Level B and C reporting. NOAA Prescott Award, PIs: J.M. Burns, D. Pfeiffer, & Kathy Burek, AVPS, 10/2012-9/2015, Project Amount $133,064

Iliamna Lake Freshwater Seal Study: Continued Characterizing of Local Use Patterns, Local Traditional Knowledge, and Seal Population Ecology. North Pacific Research Board Award #1116, Collaborators: Helen Chythlook, Bristol Bay Native Association; David Withrow, NOAA, Daven Holen ADFG, and David Withrow NMML. 7/2011-6/2013, $199,163.

Collaborative Research: Weddell seals as autonomous sensors of the winter oceanography of the Ross Sea. Joint with University of California Santa Cruz and Old Dominion University. National Science Foundation, Office of Polar Programs #0838892. 7/2009-6/2013, $997,003 (UAA: $196,555)

A miniaturized Acoustic transponder for Tracking Animals. J. Burns and J. W. Testa. NOAA Undersea Research Program. 5/2010-4/2011. $115,876

Iliamna Lake Freshwater Seal Study: Characterizing Local Use Patterns, Local Traditional Knowledge, and Seal Population Ecology. Joint with Bristol Bay Native Association. North Pacific Research Board Award #916. 7/2009-6/2011. $99,934 (UAA: $34,928)

Acoustic Monitoring of Beluga Whale Interactions with Cook Inlet Tidal Energy Project, Joint with Ocean Renewable Power Company, LLC, LGL, Inc., ADFG, and Devine Tarbell and Associates, Department of Energy, 11/2009-11/2011. UAA portion, $16,301

Collaborative Research: U.S. SO GLOBEC Synthesis and Modeling - Habitat Utilization and Predator-Prey interactions In Western Antarctic Peninsula. National Science Foundation Office of Polar Programs #0523338, 10/2006-9/2009. $149,024

Reproductive parameters of Alaskan Sea Otters in regions of population increase and decline. North Pacific Universities Marine Mammal Research Consortium, 7/2005-12/2007. $94,055

Pregnancy determination in Northern Sea Otters. U.S. Fish and Wildlife Services. 6-10/2005. $3,000

The role of physiological constraint in the acquisition of foraging ability: development of diving capacity in juvenile Steller sea lions. Cooperative Institute for Arctic Research. $153,924.

High-Resolution foraging behavior and movement patterns of Steller sea lion juveniles in regions of increase and decline. National Marine Fisheries Service Project # NA17FX1414. $487,981

Harbor seal use of the Bering Glacier Marine Habitat. University of Alaska Natural Resources Fund. $18,500.

Use of the Bering Glacier Marine Habitat by Pacific Harbor Seals. US Department of Interior, Bureau of Land Management. 6/2001-12/2004. $112,460

Foraging ecology of crabeater seals (*Lobodon carcinophagus*). NSF GLOBEC #0003956. 01/2001-01/2004; $368,766.

Physiological Development of hooded and harp seals. Department of Fisheries and Oceans, Canada. Logistical support of field research; Direct contract of $5000; 10% total support.

The influence of dietary iron on the health and condition of juvenile pinnipeds. Faculty Development Grant, 1/2005-6/2005. $4,100

The role of physiological constraint in the acquisition of foraging ability: development of diving capacity in juvenile harbor seals in the St. Lawrence Estuary. Collaborative research program with Department of Fisheries and Oceans, Canada. J. Schreer, J. Burns, M. Hammill. Logistical support provided valued at ~ $50,000. 6/2001-8/2002.

Harbor seal use of the Bering Glacier Marine Habitat. University of Alaska Natural Resources Fund. 6/2002-9/2003. $18,500.

Memorandum of Agreement: UAA and Alaska Native Harbor Seal Commission for freezer acquisition and facility sharing. $7,500.

Purchase of dive recorders for Tufted Puffin research. EPSCoR Physiology Group. $2,600.

Muscle Development in Hooded and Harp Seals: Might Aerobic Capacity Limit Behavioral Options? EPSCoR New Initiative (Seed) Grant. 6/2002 – 5/2003. $15,000.

Reproductive health of harbor seals: a retrospective analysis of hormone levels. Abercrombie and Kent Global Foundation, 2001. $1,050

Physiological development in juvenile phocids: a comparison of two precocial species. Institute of Marine Science Postdoctoral Fellowship, University of California Santa Cruz, 9/1999-9/2000, $15,000.

Health and Condition of Harbor Seals in Monterey Bay. Oiled Wildlife Care Network, Research Grant: 1/1999-12/1999 ($16,667).

Effects of age and condition on the physiological status and behavior of juvenile harbor seals. University of California President's Postdoctoral Fellowship. 9/1997-9/1999. $70,000.

Physiological Development of harbor seal juveniles in Prince William Sound Alaska. Alaska Department of Fish and Game Cooperative Project: 5/1998-12/1999, $5,000 + logistical support.

National Science Foundation, Division of Polar Programs, Travel Grant. 8/1998 ($1,800).

University Fellowship, University of Alaska. 1/1993 – 12/1996 ($48,000).

National Science Foundation, Division of Polar Programs, Travel Grant. 6/1994 ($1,500).

Egdvet Fellowship, School of Fisheries and Ocean Sciences, University of Washington. 9/1990-6/1991 ($15,000).

Grants Pending or In Development

Renewal Proposal: Physiological and Genetic Correlates of Reproductive Success in *High*- versus *Low*-Quality Weddell seals. PIs: M.R. Shero (WHOI), B. Briggs (UAA), A. Hindle (UNR), J. Burns (TTU) . National Science Foundation Office of Polar Programs, submitted 8/12/2024.($560,000 to TTU; ~ 2.5M total costs)

Peer Reviewed Publications (first author was: * a graduate student in my lab; • a student collaborator; ordered alphabetically within publication year)

1. *Kirkham, A.L., M.R. Shero, G.P.Adams, R. McCorkell, D. Tohompson, R.S. Beltran, S. Atkinson, **J.M. Burns**. (with coauthors). Hormones reflect the impacts of reproductive rest on subsequent pregnancy in a marine predator. Target Journal: *Functional Ecology.*
2. **Burns, J.M.,** J.S. Prewitt, M.R. Shero, D.V. Freistroffer, G. Blundell. (In Prep). Size matters: the impact of body mass on the biochemical and structural properties of harbor seal (*Phoca vitulina*) muscles. To be submitted to Journal of Comparative Physiology B.
3. *Tsai, E. DW Schwilk, M.A. Castellini, **J. M. Burns** (In Prep). Diving into the past: tools for recovering historic dive traces from film-based time depth recorders using data from Weddell seals. Animal Biotelemetry
4. *Kirkham A.L., Avery J.P., Beltran R.S., and **Burns J.M.** (Submitted) Post-lactation mass recovery and metabolic hormone dynamics in adult female Weddell seals. *General and Comparative Endocrinology*. GCE-D-24-00254
5. Shero, M.S., K. Burek, R. McCorkell, G. Frankfurter, S. Nadler, S. Naem, C.L Rzucidlo, A. Klink, A. Hidle, J.M. Burns, S. Johnson. (Submitted). Novel presentation and pathophysiology of heavy parasitic burden in Weddell seals (*Leptonychotes weddellii*) during anesthesia. BMC Veterinary Research Case Report. Ref: 8fb630d7-e461-41f7-a556-ef9238db3602.
6. Shero, M.S., D.P. Costa, **J.M. Burns**, K.T. Goetz (In Press) Breath-hold capacities limit circadian dive rhythmicity and shape optimal foraging strategies in a polar marine mammal. Communications Biology, Nature COMMSBIO-24-0845-T
7. Regney M., Kraberger S., Custer J.M., Crane A.E., Shero M.R., Beltran R.S., Kirkham A.L., Van Doorslaer K., Stone A.C., Goebel M.E., **Burns J.M**., Varsani A. 2024. Diverse papillomaviruses identified from Antarctic fur seals, leopard seals and Weddell seals from the Antarctic. Virology, 594, 110064. DOI: 10.1016/j.virol.2024.110064
8. Butkovic, A., S Kraberger, Z Smeele, DP Martin, K Schmidlin, RS Fontenele, MR Shero, RS Beltran, AL Kirkham, M Aleamotu'a, **JM Burns**, EV Koonin, A Varsani, M Krupovic, 2023. Evolution of anelloviruses from a circovirus-like ancestor through gradual augmentation of the jelly-roll capsid protein, *Virus Evolution*, 9, vead035, doi.org/10.1093/ve/vead035
9. Goetz, K. T., MS Dinniman, LA Hückstädt, PW Robinson, MR Shero, **JM Burns,** EE Hofmann, SE Stammerjohn, EL Hazen, DG Ainley, DP Costa. (2023). Seasonal habitat preference and foraging behaviour of post-moult Weddell seals in the western Ross Sea. *Royal Society Open Science*, *10*(1). https://doi.org/10.1098/rsos.220500
10. Shero, M.R., A.L. Kirkham, D.P. Costa, **J.M. Burns**. (2022). Iron mobilization during lactation reduces oxygen stores in a diving mammal. *Nat Commun* **13**, 4322 (2022). https://doi.org/10.1038/s41467-022-31863-7
11. Shero, M.R., **Burns, J.M.** (2022). The Weddell Seal: Eco-Physiological Adaptations to a High-Latitude Seasonal Environment. In: Costa, D.P., McHuron, E.A. (eds) Ethology and Behavioral Ecology of Phocids . Ethology and Behavioral Ecology of Marine Mammals. Springer, Cham. https://doi.org/10.1007/978-3-030-88923-4_13
12. *Beltran, R.S.B., G.A. Breed, T. Adachi, A. Takahashi, Y. Naito, P.W. Robinson, W.O Smith Jr., A. M Kilpatrick, A.L Kirkham, **J.M. Burns** (2021). Seasonal resource pulses and the foraging depth of a Southern Ocean top predator. Proceedings of the Royal Society B: Biological Sciences 288, 20202817, doi:10.1098/rspb.2020.2817.
13. *Merrill, G, J.W.Testa, and **J.M. Burns** (2021). Maternal foraging trip durations as a population-level index of foraging and reproductive success for the northern fur seal. Marine Ecology Progress Series. 666:217-229. DOI: https://doi.org/10.3354/meps13694
14. Patterson, Q.M., S. Kraberger, D. P. Martin, M.R. Shero, R.S. Beltran, A. L. Kirkham, M. Aleamotu'a, D. G. Ainley, S. Kim, **J. M. Burns**, Arvind Varsani. (2021). Circoviruses and

cycloviruses identified in Weddell seal fecal samples from McMurdo Sound, Antarctica. Infection, Genetics and Evolution: 95,105070. https://doi.org/10.1016/j.meegid.2021.105070

15. Hückstädt, LA., M.A., Piñones, D.M. Palacios, B.I. McDonald, M.S. Dinniman, E.E. Hofmann, **J.M. Burns**, D.E. Crocker, D.P. Costa (2020). Future shifts in the habitat of crabeater seals along the Antarctic Peninsula. Nature Climate Change 10, 472-477. https://doi.org/10.1038/s41558-020-0745-9 .
16. *Walcott, S., M. Horning, A. Kirkham, J.M. Burns (2020). Thermoregulatory costs in molting Antarctic Weddell seals: impacts of physiological and environmental conditions. Conservation Physiology. 8(1): coaa022, doi:10.1093/conphys/coaa022
17. *Shero, M.R., P.J. Reiser, L. Simonitis, **J.M. Burns.** (2019). Links between muscle phenotype and life history: Differentiation of myosin heavy chain composition and muscle biochemistry in precocial and altricial pinniped pups Journal of Comparative Physiology B. 189(6): 717-734, DOI:10.1007/s00360-019-01240-w
18. *Beltran, R.S., A.L. Kirkham, G.A. Breed, J.W. Testa, and **J.M. Burns**. (2019). Reproductive success delays moult phenology in a polar mammal. Sci.Rep.9: 5221 https://doi:10.1038/s41598-019-41635-x
19. Brennan, S.R., D.P. Fernandez**, J.M. Burns**, S. Aswad, D.E. Schindler, T.E. Cerling. (2019). Isotopes in teeth reveal a cryptic population of coastal freshwater seals**.** Conservation Biology 33(6): 1415-1425. https://doi.org/10.1111/cobi.13303
20. Frankfurter G, Beltran RS, Hoard M**, Burns JM**. (2019). Rapid Prototyping and 3D Printing of Antarctic Seal Flipper Tags. Wildlife Society Bulletin, 43(2): 313-316. https://doi.org/10.1002/wsb.964
21. *Pearson, L.E., E.L. Weitzner, J**.M. Burns**, M.O. Hammill, H.E.M. Liwanag. (2019). From ice to ocean: Changes in the thermal function of harp seal pelt with ontogeny. J. Comp. Physiology B. 189: 501-511. https://doi.org/10.1007/s00360-019-01214-y00061
22. Piñones, A., D.P. Costa**, J.M. Burns**, J.M. Klinck, E. Hofmann, M. Dinniman, F. Roquet, K. Goetz. (2019). Hydrographic variability along the inner and mid-shelf region of the western Ross Sea obtained using instrumented seals. Progress in Oceanography 174: 131-142. https://doi.org/10.1016/j.pocean.2019.01.003
23. *Beltran, R.S**., J.M. Burns**, G. Breed. 2018. Convergence of biannual moulting strategies across birds and mammals. Proc Biol Sci. 285(1878): 20180318. https://doi.org/10.1098/rspb.2018.0318
24. *Beltran, R.S., Ruscher-Hill, B. A.L. Kirkham, **J.M. Burns**. 2018. An Evaluation of Three-Dimensional Photogrammetric and Morphometric Techniques for Estimating Volume and Mass in Weddell Seals, *Leptonychotes weddellii*. PLOS One, https://doi.org/10.1371/journal.pone.0189865
25. **Burns, J.M.,** D. Withrow, J.M. Van Lanen. 2018. Freshwater Seals of Iliamna Lake. Cpt. 23 In: C. A. Woody (Ed.). Bristol Bay Alaska: Natural Resources of the Aquatic and Terrestrial Ecosystems. J. Ross Publishing, 604pp.
26. Sequeira, A.M.M., J. P. Rodríguez, V. M. Eguíluz, R. Harcourt, M. Hindell, D. W. Sims, C. M. Duarte, D. P. Costa, J. Fernández-Gracia, L. C. Ferreira, G. C. Hays, M. R. Heupel, M. G. Meekan, A. Aven, F. Bailleul, A. M. M. Baylis, M. L. Berumen, C. D. Braun, **J. Burns,** M. J. Caley, R. Campbell, R. H. Carmichael, E. Clua, L. D. Einoder, Ari Friedlaender, M. E. Goebel, S. D. Goldsworthy, C. Guinet, J. Gunn, D. Hamer, N. Hammerschlag, M. Hammill, L. A. Hückstädt, N. E. Humphries, M.-A. Lea, A. Lowther, A. Mackay, E. McHuron, J. McKenzie, L. McLeay, C. R. McMahon, K. Mengersen, M. M. C. Muelbert, A. M. Pagano, B. Page, N. Queiroz, P. W. Robinson, S. A. Shaffer, M. Shivji, G. B. Skomal, S. R. Thorrold, S. Villegas-Amtmann, M. Weise, R. Wells, B. Wetherbee, A. Wiebkin, B.

Wienecke and M. Thums. 2018. Convergence of marine megafauna movement patterns in coastal and open oceans. Proceedings of the National Academy of Sciences. 115(12): 3072-3077 doi.org/10.1073/pnas.1716137115

27. *Shero, MR, K.T. Goetz, D.P. Costa, **J.M. Burns**. 2018. Temporal changes in Weddell seal dive behavior over winter: are females increasing foraging efforts to support gestation? Ecology and Evolution. 8(23): 11857-11874. https://DOI:10.1002/ece3.4643
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Reports & Publications, not peer reviewed

Burns, J.**M**., J. Van Lanen, D. Withrow, D. Holen, T. Askoak, H. Aderman, G. O'Corry-Crowe, G. Zimpelman, B. Jones. 2016. Integrating local traditional knowledge and subsistence use patterns with aerial surveys to improve scientific and local understanding of the Iliamna Lake seals. Alaska Department of Fish and Game Division of Subsistence, Technical Report #416, Anchorage.

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Siniff, D.R., **J.M. Burns,** P.R. Olesiuk, G.R. VanBlaricom. 2006. AIBS Peer review of the Alaska SeaLife Center Steller sea lion research program.

Presentations (238 total; complete list is available upon request)

Below are the presentations given since August 2018, ordered by academic year and author. We frequently present research findings orally and as posters at local, national and international conferences and workshops. Regularly attended meetings include: Society of Marine Mammalogy, American Physiological Society, Society for Integrative and Comparative Biology, Scientific Conference on Antarctic Research, Ocean Sciences, and Alaska Marine Science Symposium, among others.

2024-2025

1. Laine, A. N. den Heyer, M. Rivard, D. Lidgard, P. Varkey,. G. Breed, M. Shero, S. Newsome, J. Burns. 2025. The Impact of Maternal Grey Seal (Halichoerus grypus) Diet on Reproductive Energetics: An Investigation with Stable Isotope Analysis. Poster to be presented at *Society for Integrative and Comparative Biology Annual Meeting, Atlanta* GA, Jan 3-7, 2025.
2. Rzucidlo, C. A. Kirkham, A. Klink, J. Rotella, A. Hindle, J. Burns, M. Shero. 2025. High cortisol and enhanced preservation of lean mass linked with lifetime reproductive success in female Weddell seals. *Society for Integrative and Comparative Biology Annual Meeting, Atlanta* GA, Jan 3-7, 2025.
3. Branan, C. M. Shero, N. den Heyer, C. Rzucidlo, G. Breed, M. Rivard, D. Lidgard, J. Burns. 2024. The role of iron in heme store development and aerobic diving capacity of grey seal pups. Poster to be presented at the Society for Marine Mammalogy biennial International Meeting, Nov 2024 in Perth, Australia.
4. Burns, J., Shero, M. A Kirkham, R. Beltran, S. Walcott. 2024. Working harder or hardly working? How differences in mass trajectories are reflected in summertime diving patterns of female Weddell seals in McMurdo Sound, Antarctica. Talk to be presented at the Society for Marine Mammalogy biennial International Meeting, Nov 2024 in Perth, Australia.
5. Klink, A, C. Rzucidlo, D. Barth, J. Burns, M. Shero, B. Briggs, A. Hindle. 2024. Genome wide association study (GWAS) identifies variation in single nucleotide polymorphisms (SNP) associated with the reproductive output of Antarctic Weddell seal's (Leptonychotes weddellii) located in Erebus Bay. Poster to be presented at the Society for Marine Mammalogy biennial International Meeting, Nov 2024 in Perth, Australia.
6. Kolda, K. J. Burns, M. Horning, C. Kuhn, A. Bishop. 2024. Deep Dive: A Look into the Adaptive Capacity and Diving Constraints of Northern Fur Seals. Poster to be presented at the Society for Marine Mammalogy biennial International Meeting, Nov 2024 in Perth, Australia.
7. Pearson, A.B,, L.A. Hückstädt, J.M. London, J.M. Burns, D.P.Costa, M.S. Tift. 2024. Diving physiology and behavior of crabeater seals along the western Antarctic peninsula during record low sea ice extent. Poster to be presented at the 11th SCAR Open Science Conference, Pucón Chile 19-23 August, 2025.
8. Rzucidlo, C. A. Klink, A. Heard, A. Hindle, J. Burns, M. Shero. 2024 Investigating linkages between adult female and pup iron stores and mobilization in Weddell seals: Implications for a diving mammal. Poster to be presented at the Society for Marine Mammalogy biennial International Meeting, Nov 2024 in Perth, Australia.
9. Shero, M. J. Burns, G. Breed, N. Den Heyer, D. Lidgard, M. Rivard, A. Heard. 2024. Selective pressures for diving drive high iron absorption and incorporation rates in pinniped pups. Poster to be presented at the Society for Marine Mammalogy biennial International Meeting, Nov 2024 in Perth, Australia.

2023-2024

10. Rivard, M. , **J Burns**, G Breed, M Shero, D Lidgard, C den Heyer. 2024. Use of Tiletamine/zolazepam or a butorphanol-midazolam combination for safe and effective field sedation of gray seal (Halichoerus grypus) mom-pup pairs and weaned pups. 2024 Annual International Aassociation for Aquatic Animal Medicine Conference, Galway, Ireland, May 19-23, 2024.
11. Shero, M., D.P. Costa, **J.M. Burns,** K. Goetz. 2024 'Breath-hold capacities limit circadian dive rhythmicity in a polar marine mammal: a 'natural experiment' across the year's changing light regimes'. *Accepted for oral presentation,* for the Ocean Sciences meeting in New Orleans, LA in Feb 2024.
12. Klink, A. C Rzucidlo, MR Shero, **JM Burns**, BR Briggs, AG Hindle. 2023. Genetic impacts on reproductive output in Antarctic Weddell Seals (Leptonychotes weddellii) in the Erebus Bay Population. 13th International Mammalogical Congress. Anchorage, AK 14-20 July 2023. Poster Presentation.

2022-2023

13. **Burns, J.M.,** Shero, M.R., C. Clark, C. den Heyer, D. Lidgard, and G.A. Breed. 2022. Rolling in the deep – does red pelage coloration in grey seal females (*Halichoerus grypus*) reflect diet or foraging habitat? *Society for Marine Mammalogy biennial International Meeting*, *Aug 2022 in West Palm, Florida*.
14. Rzucidlo, C.*, A. Kirkham, **J. Burns,** M.R. Shero. 2022. Balancing lipid and lean store use during reproduction in Weddell seals: Implications for investments in current versus future offspring. *Society for Marine Mammalogy biennial International Meeting*, *Aug 2022 in West Palm, Florida*.
15. Tsai, E., Schwilk, D., Castellini, M., Burns, J. 2022. Diving into the past: recovering historic dive records to address modern questions. *Society for Marine Mammalogy biennial International Meeting*, *Aug 2022 in West Palm, Florida*.
16. Kirkham, A., Walcott, S. , Beltran, R., Burns, J., 2022. Reduced haulout time slows molt in postpartum Weddell seals," International, peer-reviewed/refereed. *Society for Marine Mammalogy biennial International Meeting*, *Aug 2022 in West Palm, Florida*.

2020-2022 [COVID Years]

17. **Burns, J.M.** 2021. NSF: Perspectives from both sides of the curtain. Office of Research Integrity, TTU.
18. **Burns, J.**M. 2020. Long days and long nights: How extreme seasonality influences the annual life cycle of Weddell seals in McMurdo Sound, Antarctica. Guest Lecture to Maggie L. Walker Governor's School Honors Science Course, Dec 7, 2020

2019-2020

19. Goetz, K.T., T. Iwata, M. Shero, R. Harcourt, S. Michael, M. O'Toole, R. Holser, A. Takahashi, C. McMahon, **J. Burns,** D. Costa, M. Pinkerton. 2019 . World Marine Mammal Conference. An in-depth look at the movement and foraging behavior of post-partum Weddell seals during two distinct time periods. Dec 2019 in Barcelona, Spain.
20. Kirkham, A.L., M.R. Shero, , G. Adams, R, McCorkell, D.L. Thompson, R.S. Beltran, S. Atkinson **J.M. Burns.** 2019. Hormones Reflect Impacts of Reproductive Rest on Subsequent Pregnancies in Weddell Seals. World Marine Mammal Conference. December 2019, Barcelona, Spain. Oral presentation.

21. Merrill, G.B., J.W. Testa, **J.M. Burns**. 2019. Maternal Foraging Trip Durations: Establishing a Monitoring Index of Prey Availability for the Northern Fur Seal. Poster session to be presented at: World Marine Mammal Conference. Dec 2019; Barcelona, Spain.
22. Merrill, G.B., J.W. Testa, J.M. **Burns.** 2019. Establishing an index of habitat quality and reproductive success for the northern fur seal. Poster session presented at: Alaska Marine Science Symposium; January 28- February 1; Anchorage, Alaska, USA.
23. Shero, M.R., G.P. Adams, R.B. McCorkell, A.L. Kirkham, **J.M. Burns**. 2019. If all pinniped species are supposed to have embryonic diapause, then why might not this one?. The Third International Symposium on Embryonic Diapause, in Ascona, Switzerland. Invited presentation; Award for Best Contribution

2018-2019

24. Beltran, R.S, A.L. Kirkham, G.A. Breed, J.W. Testa, **J.M. Burns**. 2018. Molt phenology mediates colony attendance in Weddell seals. POLAR (Scientific Committee on Antarctic Research/Arctic Summit), 2018, Switzerland. Poster Presentation
25. **Burns, J.M.** 2018. From Pole to Pole: why research in Antarctica is relevant to Alaskans. Invited talk Alaska Professional Communicators, Anchorage, AK Jan 4. Oral Presentation.
26. Costa, D.P., L. Huckstadt, K. Goetz, M. Shero, **J. Burns**. 2018. Dive behavior and stable isotopes: index to foraging specialization in seals? POLAR2018 SCAR/IASC Open Science Conference. June 2018, Davos, Switzerland. Oral presentation
27. Kirkham, AL., R.S. Beltran, S.M. Walcott, M.R. Shero, D.L. Thompson Jr, J. Avery, **J.M. Burns.** 2018. How do hormones and the skin transcriptome drive molt in a polar pinniped? POLAR2018 SCAR/IASC Open Science Conference. June 2018, Davos, Switzerland. Poster presentation
28. Kirkham, AL., R.S. Beltran, S.M. Walcott, M.R. Shero, D.L. Thompson Jr, J. Avery, **J.M. Burns.** 2018. The Weddell seal skin transcriptome reflects local mechanisms in endocrine regulation of molt. American Physiological Society Intersociety Meeting. October 2018, New Orleans, Louisiana. Oral Presentation.
29. Kirkham, A.L., M.R. Shero, G.P. Adams, R.B. McCorkell, R.S. Beltran, D.J. Thompson, **J.M. Burns.** 2018. Seasonal cycles in Antarctic Weddell seals: ovulation and molt relate to midsummer prolactin declines. International Union of Physiological Sciences World Congress. August 2018, Rio de Janeiro, Brazil. Oral presentation
30. Klink, A., J. Esquible, K. Burek, S. Atkinson, **J.M. Burns**, E. Bortz, A. Bishop. 2018. Susceptibility of Alaskan marine mammals to acute RNA viruses. Alaska Marine Science Symposium; 2018 January 22-26; Anchorage, Alaska, USA. Poster Presentation.
31. Melovidov, CA., A.L. Kirkham, **J.M. Burns**. 2018. Body condition and mass changes in Weddell seals: links to reproduction and hair cortisol level. Society of Integrative and Comparative Biology Annual Meeting. January 2018, San Francisco, CA. Poster presentation
32. Melovidov, CA., A.L. Kirkham, **J.M. Burns**. 2018. Testing a new method for measuring nutritional stress in an ice seal: Linking hair cortisol to body condition. Alaska Marine Science Symposium; 2018 January 22-26; Anchorage, Alaska, USA. Poster presentation
33. Merrill, G.B., J.W. Testa, **J.M. Burns.** 2018. Maternal foraging trip duration of the northern fur seals: an index to prey availability in the Eastern Bering Sea. Pollock Conservation Cooperative Research Center PI Symposium; 26 January; Anchorage, Alaska USA. Oral Presentation.

34. Merrill, G.B., J.W. Testa, **J.M. Burns.** 2018.Foraging Trip Duration: an index of prey availability & reproductive success in a depleted marine mammal - northern fur seals (*Callorhinus ursinus*). Alaska Marine Science Symposium; January 22-26; Anchorage, Alaska, USA. Poster Presentation
35. Merrill, G.B., J.W. Testa, **J.W., Burns** . 2018. Establishing an index of habitat quality and reproductive success for the northern fur seal. Poster session presented at: American Physiological Society Comparative Physiology Meeting; 2018 October 25-28; New Orleans, LA, USA.
36. Shero, M.R., A.L. Kirkham, D.P. Costa, **J.M. Burns**. 2018. Iron mobilization during lactation draws from aerobic dive capacities in Weddell seals: A previously unexplored cost to a capital-breeding system. Oral presentation, Society for Integrative and Comparative Biology, January 2018, Oral Presentation.
37. Shero, M.R., A.L. Kirkham, G.P. Adams, R.B. McCorkell, **J.M. Burns**. 2018. Metabolomics profiles reveal that upregulation of protein degradation and nicotinamide pathways are linked with successful pregnancy in Weddell seals. American Physiological Society Intersociety meeting in New Orleans, October 2018. Oral Presentation.
38. Shero, M.R., G.P. Adams, R.B. McCorkell, A.L. Kirkham, K.T. Goetz, D.P. Costa, **J.M. Burns.** 2018. From "-omics" to behavior of reproduction in a top Antarctic predator. POLAR 2018 SCAR/IASC Open Science Conference. June 2018, Davos, Switzerland. Oral presentation
39. Walcott, S., A.L. Kirkham**, J.M. Burns.** 2018. Environmental and physiological influences to the annual molt in Weddell seals. Ocean Science Symposium. May 2018, Seward AK. Speed Talk.
40. Walcott, S., A.L. Kirkham, **J.M. Burns**. 2018. The Weddell seal molting paradox: keeping the skin warm in the cold. 22nd Biennial Marine Mammal Conference, Halifax Canada. October Poster Presentation.
41. Walcott, S., A.L. Kirkham, R.S. Beltran, **J.M. Burns**. 2018. Environmental influences on the thermal flux of a molting polar pinniped. POLAR2018 SCAR/IASC Open Science Conference. June 2018, Davos, Switzerland. Poster presentation.
42. Walcott, S., R.S. Beltran, A.L. Kirkham, **J.M. Burns**. 2018. Assessing summertime thermoregulatory properties across the pelage molt in a polar pinniped: the Weddell seal. American Physiological Society Intersociety Meeting. October 2018, New Orleans, Louisiana. Oral Presentation.

Teaching Experience

As Instructor of Record for these courses, I was responsible for 1) setting the syllabi and grading criteria; 2) presenting lectures and running discussion sections; 3) responding to student questions in a timely and complete fashion; 4) assigning grades and evaluating performance 6) ensuring that course content meets curricular standards and requirements set by the department, program, and state.

Going Viral #SciComm and Social Media (HONS 1301). Designed and co-taught (with faculty from College of Media and Communications) an Introductory seminar course to honors college freshmen. Course focused on scientific literacy, and evaluation and production of scientific communication to the public via blogs, tweets, video, and oral presentations.

Animal Behavior (ZOOL 4312). Fall 2024. Designed and taught animal behavior course via synchronous distance delivery to undergraduate students in Lubbock and Waco, Tx. Course

covered basic principles of the animal behavior, with a focus on evolution, natural selection, optimality and game theory.

Marine Biology (BIOL 4392) and Advanced Marine Biology (BIOL 6392), Spring 2021. Designed and taught marine biology in person and via distance delivery to graduate and undergraduate students in Lubbock and Waco, Tx. Course covered basic principles with a focus on Gulf of Mexico issues.

Principles and Methods of Biology (BIOL A108), Fall 2015, Spring 2016, Spring 2017. Designed and taught third module in new introductory course for Biology majors structured around Vision and Change in Undergraduate Biology Education Curricula.

Antarctic Ecology (BIOL A490), Fall 2014. Designed and taught upper division elective course focused on Antarctic Biology and Ecology. Final third of the course completed from McMurdo Station, Antarctica with guest lectures by research scientists and presentations by students on conservation issues.

Marine Biology (A378), Fall 2001, 2003, 2006, 2007, 2009, 2010, 2011; 2013, 2015. Taught upper division elective course to ~25 undergraduates. Designed course structure, which combined lectures with student led discussions. Wrote all exams and assigned final grades. In 2009 redesigned course to meet University capstone GER requirements for upper division students.

Comparative Animal Physiology (A415) and Advanced Comparative Animal Physiology (A615), Spring Semester 2001, Fall Semester 2002, Spring 2005, 2007, Fall 2010, Spring 2013, Fall 2016 Designed and taught this new advanced course to undergraduates and graduate students. Designed structure and assignments for lecture and discussion portions of the course, assigned all final grades. Added laboratory Section in Fall 2002 so students could become familiar with physiological research techniques.

Marine Mammal Biology (A430) and Advanced Marine Mammal Biology (A630), Fall Semester 2002, 2004, 2006, 2009. Designed and taught this new advanced course to undergraduates and graduate students. Designed structure and assignments for lecture and laboratory portions of the course, assigned all final grades. Added laboratory section in Fall 2004 so students could become familiar with marine mammal research techniques. In 2006, taught course in Anchorage simultaneously with distance delivery to Fairbanks campus.

Fundamentals of Biology (A105, renamed A116), University of Alaska Anchorage, Fall Semester 2000, 2001, 2003, Spring 2005, Fall 2005. Taught introductory course to 45 pre-major biology students. Designed structure and assignments for lecture portion of the course, assigned all final grades.

Directed Research (A698) and Thesis (A699) for graduate students in my laboratory. Oversaw progress towards degree for students and held discussion groups to present topics relevant to marine mammal ecology and physiology.

Undergraduate Individual Research (A497), Selected Topics (A485) and Individual Research (A497). Oversaw individual research projects conducted by undergraduates in my laboratory. Reviewed research results and evaluated final project reports.

Field Methods in for the Study of Animal Biology, University of California Santa Cruz. Winter Quarter 2000. Taught 25 students practical methods of studying the behavior, physiology, and ecology of wild mammals, using the northern elephant seals at Año Nuevo as the study animal. Lectures, field participation, and data analysis directly involve undergraduate students in the on-going research activities on elephant seals.

Biology of Marine Mammals and Seabirds, University of Southern California's Wrigley Institute for Environmental Studies, Summer Session, 1998. Taught an immersion course in the biology, ecology, behavior, and evolution of marine mammals and seabirds at marine

laboratory on Catalina Island. Lectures, laboratories, and field research for undergraduate students.

Teaching Assistant, Physiology of Marine Organisms, University of Alaska Fairbanks, Spring Semester 1995. Graduate level class. Gave selected lectures, exam review sessions, assisted students.

Teaching Assistant, Field Problems in Marine Invertebrate Biology, Kasitsna Bay Field Laboratory, University of Alaska Fairbanks, Summer Session 1993. Graduate level class. Assisted students with field research projects, statistical analyses, project proposals and final reports.

Introduction to Fisheries and their Management, University of Washington, Summer Quarter 1992. Predoctoral Instructor in Undergraduate course for non-fisheries majors. Approximately 40 students enrolled. Lectured 5 days a week, responsible for course design and organization, wrote and graded all homework, quizzes, and exams, tutored students, and assigned final grades.

Teaching Assistant, Introduction to Fisheries and their Management, University of Washington, Spring Quarter 1992. Undergraduate course for non-fisheries majors. Approximately 350 students enrolled. Taught weekly discussion/quiz section, graded quizzes, wrote exams, tutored students, and summarized course lectures for campus note-taking service.

Committee Memberships and Service Activities

Member, TTU College of Arts and Sciences, Student Credit Hour Funds Allocation Committee. Working to develop improved allocation method for SCH return to departments that allows predictable budgeting.

Member, TTU Provost Search Committee, Spring 2020. Resulted in successful hire.

Member, TTU President's Leadership Institute, Academic Year 2021-2022.

Member, TTU Advance Chairs' Training program, Academic Year 2021-2022.

Program Coordinator, Alaska INBRE. Administrative core member, July 2016 – 2017.

Member, Science and Statistical Committee, North Pacific Fisheries Mgmt Council, 2010- 2017.

Science Steering Committee, US GLOBEC (Global Ocean Ecosystem Dynamics) Research Program, 2004-2011.

Prince William Sound Regional Citizen's Advisory Scientific Advisory Council Member. 2005-09.

Biological Sciences Promotion and Tenure Committee; member 2013; chair 2014-15.

Biological Sciences Curriculum Committee, Member August 2004-06; 2010-17, Chair 2006-08.

Biological Sciences Graduate Program Committee, Member 2000-07, Chair 2007-08, 2011-17.

Biological Sciences Executive Committee, Member 2011-2017.

Graduate School Council, Member August 2007-2008, 2010-2017.

Angus Gavin Memorial Bird Research Grant Committee, UA Foundation, 2003-Current.

Institutional Animal Care and Use Committee, Chair 2001-06, Member 2000, 2006-09.

Research Advisory Council (RAC), University of Alaska Statewide, Member 2002-04.

University Honors Program Committee, University of Alaska Anchorage, Member 2000-03.

Memberships / Editorship

Subject Editor, Mammalian Biology, June 2013 – current

Member, Editorial Board, Frontiers in Aquatic Physiology, March 2010 – current

Member, Advisory Board, Journal of Comparative Physiology B, June 2011 – current

Member, Society of Marine Mammalogy, American Society of Mammalogists, American Physiology Society, American Geophysical Union, Society for Integrative and Comparative Biology, The Wildlife Society, Sigma Xi

Collaborators

Dr. Gregg Adams, University of Saskatchewan Veterinary College
Dr. Michael Berenbrink & Dr. Scott Mirceta, University of Liverpool, UK
Dr. Amy Bishop & Dr. Brandon Briggs, University of Alaska Anchorage
Dr. Greg Breed, University of Alaska Fairbanks
Ms. Alex Eilers, Museum of Science and History, Memphis, TN
Dr. Nell den Heyer, Department of Fisheries and Oceans, Canada
Dr. Dr. Lars Folkow, Department of Arctic Biology, Tromsø, Norway
Dr. Daniel Costa & Dr. Terrie Williams, University of California Santa Cruz
Dr. Frances Gulland, The Marine Mammal Center, Sausalito, CA / Marine Mammal Commission
Dr. Mike Hammill, Department of Fisheries and Oceans, Canada (retired)
Dr. James Harvey, Moss Landing Marine Laboratories, San Jose State University, CA
Dr. Allyson Hindle, University of Nevada Las Vegas
Dr. Marcus Horning, Wildlife Technology Frontiers, AK
Dr. Damian Lidgard, Department of Fisheries and Oceans, Canada
Dr. Heather Liwanag, California State University, San Luis Obispo, CA
Dr. Robert McCorkell, University of Calgary Veterinary College
Dr. Jo-Ann Mellish, North Pacific Research Board
Dr. Michelle Shero, Woods Hole Oceanographic Institute
Dr. J. Ward Testa, National Marine Mammal Laboratory, NOAA (retired)
Dr. Steven J. Trumble, Baylor University

Advisees

Current Advisees:

- Graduate supervisor for 2 continuing MS students (Caroline Branan, Briley Krouse), one research technician (Dr. Nicholas Wolpert), and 1 PhD (Annaleigh Laine)
- Committee member: 2 TTU Professional Science Masters (Garry Don Moore, Olivia Enriquez), 1 TTU PhD Student (Emily Larson), 1 WHOI PhD student (Caroline Rzucidlo), 1 UNCW student (), 1 UAA MSc (Kyle Kolby).

Previous Advisees

- Post-doctoral Researchers: Michelle Shero (2015-2018), Amy Bishop (2015-2016)
- Ph.D. Students: Lead advisor: Amy Kirkham (2022), Michelle Shero (2015) Linnea Pearson (2015), Roxanne Beltran (2018). Committee member for Rick Bernhardt (2008), Kalb Stevenson (2009), Carley Lowe (2021)
- M.Sc. Students: Cheryl Clark (2004), Danielle Savarese (2004), Julie Richmond (2004), Michael Rehberg (2005), Vanessa von Biela (2007), Jill Prewitt (2008), George Esslinger (2011), Roxanne Beltran (2015), Greg Merrill, Jr. (2019), EmmaLi Tsai (2022), Skyla Walcott (2019). Committee member: Shannon Fowler (UCSC) Jennifer Lapierre (2004, University of Waterloo, Canada), Denise Greig (Moss Landing Marine Laboratory), Danielle

Greaves (2003, University of Waterloo, Canada), Anthony Carnahan (2011), Robert Fridinger (2011), Yoko Kugo (2014), Kerry Kubly (2017), Krystina Stolberg, Kevin Fitzpatrick (2021), Madeline Knauss (2022).

- International Students: Veronika Cox (Germany, 2010), Samuel Geisler (Norway, 2010)
- Undergraduate Student Researchers in Lab: Marina Rivera, UC CAMP program (1999-2000), Leslie Sarten (2000-2001), Danielle Love (2002), Nick Bronson (2004-2005), Dana Jenski (2005-2006), Nicollete Skomp (2007-2009), Nancy Bishop (2007-2009), Mallory Givens (2009-2011), Kattrina Crouch (2010-2011), Shane Ralls (2010-2011), Lena Hummell (2012), Chelsea DeStefano (2015), Concepcion Melovidov (2017-2018).
- NSF- Sponsored Summer REU students: Ryan Langendorf (2008), Michelle Shero (2009, 2010), Katie Robbins (2011), Kathleen Robertson (2012), Lauren Simonitis (2013), Jessica Espinosa (2014), Clara Wollner (2015).
- Mentored 3 high school students who participated in NIH-NIDDK program at UAA (Josh Proper, Juan Aparicio, Sijo Smith)

Advisors

Postdoctoral Supervisor: Dr. Daniel Costa, University of California Santa Cruz

PhD. Advisor: Drs. Michael Castellini and J. Ward Testa, University of Alaska Fairbanks

M.Sc. Advisor: Dr. Robert Francis, University of Washington

References

Name	Employer	Title	Phone	Email
Dr. Tosha Dupras (*)	TTU	Dean, College of Arts and Sciences	806.834.6439	tosha.dupras@ttu.edu
Dr. Angela Lumpkin (*)	TTU	Professor and Chair	806.834.6935	angela.lumpkin@ttu.edu
Dr. Lauren Gollahon (*)	TTU	Professor and Associate Chair	806.834.3287	lauren.gollahon@ttu.edu
Ms.Stephanie Eggeling (*)	TTU	Business Manager	806.834.3852	stephanie.eggeling@ttu.edu
Dr. Michelle Shero (*)	WHOI	Research Scientist	301.367.0135	mshero@whoi.edu
Dr. Daniel Costa (*)	UCSC	Professor	831.459.2786	costa@biology.ucsc.edu

(*) Indicates professional reference.