Jamie L. Knaub

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Education

Bachelor of Science, Marine Biology *Forthcoming December 2017*
University of North Carolina Wilmington, Wilmington, NC
Cluster: Modelling
GPA: 3.94
Honors and Awards:
Honors College: Prevalence of the trematode *Campula* in bottlenose dolphins (*Tursiops truncatus*) in southeastern North Carolina Fall 2014 – Present
Distinguished Research Scholar Spring 2017
Dean's List Fall 2014, Fall 2015-Spring 2017

High School Diploma June 2014
Lower Dauphin High School, Hummelstown, PA
GPA: 3.91
Honors and Awards:
Distinguished Honor Roll 2010-2014
Reece Kelley Scholarship Recipient May 2014

Research Experience

Prevalence of the trematode *Campula* in bottlenose dolphins (*Tursiops truncatus*) in southeastern North Carolina January 2017-Present
Honors Thesis: Conducted under the guidance of Dr. Ann Pabst, Department of Biology and Marine Biology, University of North Carolina Wilmington

- Analyzing the prevalence of *Campula* in *Tursiops truncatus* across three time periods, relative to the 2013-2015 Mid-Atlantic Bottlenose Dolphin Unusual Mortality Event (UME), and across life history categories
- Investigating the gross effect of *Campula* on tissues such as the pancreas, liver, and bile duct
- Studying the occurrence of other parasites in conjunction with *Campula*
- Presented preliminary results at UNCW's Spring Research Showcase and 2017 SEAMAMMS

Musculoskeletal morphology in two species of kogiid whales August 2017-Present
Directed Independent Study: Conducted under the guidance of Dr. Ann Pabst, Department of Biology and Marine Biology, University of North Carolina Wilmington

- Utilizing archived morphometric and stranding data to compare axial muscle and axial skeletal masses in pygmy and dwarf sperm whales across ontogeny

Bone measurement protocol and photography atlas for *Orcinus orca* July 2017-Present
Independent Project: Conducted under the guidance of Noyo Center for Marine Science, Fort Bragg, CA

- Developing a written protocol for measuring, weighing, and photographing bones (in progress)
- Created atlas of osteological photographs with anatomical labels
- Compiled a dataset consisting of morphometric measurements and masses of 194 bones
- Assisted with articulation and installation of this killer whale skeleton

Following Food: Humpbacks, Herring, and Homer, AK May 2017-August 2017

NOAA Hollings Project: Conducted under the guidance of Kris Holderied, NOAA National Ocean Service, Homer, AK

- Analyzed anomalies in oceanographic trends such as water temperature, salinity, and wind speed from 2012-2016
- Identified both intra and inter-seasonal movement of humpback whales in the Gulf of Alaska
- Created an energetics model for humpback whales to assess the impact of predation on herring populations

Musculoskeletal design in cetaceans January 2017-May 2017

Directed Independent Study: Conducted under the guidance of Dr. Ann Pabst, Department of Biology and Marine Biology, University of North Carolina Wilmington

- Reviewed past and current literature on cetacean anatomy, muscular and skeletal morphology, and allometric relationships
- Studied major muscle groups to understand mechanics of movement and identified origins and insertions of axial muscles

Marine skeletal articulation and preparation of *Orcinus orca* August 2016-December 2016

Internship: Conducted under the guidance of Lee Post, University of Alaska Anchorage, Kenai Peninsula College, Kachemak Bay Campus, Homer, AK

- Created an osteological photographic atlas of a killer whale specimen
- Prepared skeletal remains and articulated various specimens such as killer whale, sea otter, harbor seal, Stellar sea lion, wolf, moose, caribou
- Studied osteological and anatomy of many marine and terrestrial mammals

GIS mapping of killer whale encounters in Prince William Sound August 2016-December 2016

Internship: Conducted under the guidance of Dan Olsen, North Gulf Oceanic Society (NGOS), Homer, AK

Learned basic techniques in QGIS
Created maps for killer whale encounter track lines in Prince William Sound
Reviewed and corrected errors in historical GIS maps

Relevant Work Experience

Research Technician, Dr. Ami Wilbur August 2015-Present

Shellfish Research Hatchery, University of North Carolina Wilmington Center for Marine Science

- Participate in daily procedures such as sanitation, data collection, and aquaculture care
- Process shellfish samples for conditioning and genetics testing
- Retrieve and return various shellfish groups from/to the field and partake in monthly and annual growth assessments
- Maintenance of pumps, meters, cages, and other various equipment

Outdoor Recreational Instructor November 2014-May 2017

Seahawk Adventures, University of North Carolina Wilmington Campus Recreation

- Instructed participants of various experience levels how to safely use and operate recreational outdoor equipment such as kayaks, paddleboards, canoes, surfboards, tents, camping stoves, etc.
- Trained in wilderness first aid to react to emergency situations in a professional and safe manner.
- Cleaned, maintained, and prepare equipment for personal rentals and group trips.

Relevant Volunteer Experience

Marine Mammal Stranding Program Volunteer August 2014-Present
University of North Carolina Wilmington, Dr. Ann Pabst and Mr. William McLellan

Trained to assist in response to live and dead strandings of marine mammals.
Educated to collect data and complete necessary paperwork (Level A, Human Interaction, etc.)
Instructed to assist with necropsy protocols and sample collection.

Sea Otter Stranding Program Volunteer August 2016-August 2017
Homer Stranding Network, Alaska SeaLife Center

Trained to assist in response to live and dead sea otter strandings.
Educated to collect data and complete necessary paperwork (Level A, Human Interaction, etc.)
Instructed to assist with necropsy protocols and sample collection.

Skills and Certifications

Necropsy Experience

Marine Mammal Stranding Program – University of North Carolina Wilmington

Delphinus delphis – Common dolphin	August 2017
Chelonia mydas – Green Sea turtle	March 2016
Carcharodon carcharias – White shark	December 2015
Kogia sima – Dwarf sperm whale	November 2015
Kogia sima – Dwarf sperm whale	February 2015
Kogia breviceps – Pygmy sperm whale	January 2015

Homer Stranding Network Necropsy Training – Alaska SeaLife Center

Phoca vitulina – Harbor seal	May 2017
Enhydra lutris – Sea otter	May 2017

BLAST Workshop: Sitka Whalefest Conference – University of Alaska Southeast

Mirounga angustirostris – Elephant seal	November 2016

US Fish and Wildlife Service – Homer, AK

Orcinus orca – Killer whale	September 2016
Enhydra lutris – Sea otter	August 2016

Certifications

Red Cross CPR/AED/First Aid Certification	February 2016
PADI Whale Shark Certification	February 2015
PADI Open Water Scuba Certification	December 2012

Technical skills

QGIS 2.16 - Geographical Information System
Photography - Canon 7D Mark 2, EOS 50D, EOS 1200D
Microsoft – Word, Excel, Powerpoint, Outllook

Relevant Coursework

Animal Physiology
Biodiversity
Calculus
Cell Biology
Ecology
Environmental Studies
Genetics
Honors Bioethics
Honors Chemistry (I and II)
Honors Seminar: Evolution and Literature
Honors Seminar: Finding Your Inner Fish
Honors Thesis
Ichthyology
Internship: Introduction to GIS
Internship: Skeletal Preparation
Marine Biology
Marine Mammal Biology
Marine Mammal Conservation
Marine Phycology
Marine Skeletal Articulation
Oceanography
Organic Chemistry
Physics (I and II)
Statistics

Techniques and Methods Proficiencies

Algae sampling
ANOVA statistical analysis
Behavioral observations of marine mammals
CTD sampling
Dichotomous key use
Electrocardiography (class)
Field collection of shellfish
Field quadrat sampling
Gas Chromatography (GC)
Gel electrophoresis
High Performance Liquid Chromatography (HPLC)
Husbandry sanitation
Maintenance of aquaculture/husbandry equipment
Mass Spectrometry (class)
Microscopy
Morphometric measurements
Necropsy procedures
Photo identification
Pipetting techniques
Plankton net tows
Polymerase chain reaction (PCR)
Respirometry
Spectrophotometric assays
Thin Layer Chromatography (TLC)
Tissue collection and preparation
Transect sampling

References

Dr. Ann Pabst – University of North Carolina Wilmington: Department of Biology and Marine Biology
Honors Thesis and DIS Advisor
pabsta@uncw.edu – 910-962-7266

Dr. Ami Wilbur – University of North Carolina Wilmington: Department of Biology and Marine Biology
Director of the Shellfish Research Hatchery
wilbura@uncw.edu – 910-962-2389

Dr. Deborah Tobin – University of Alaska Anchorage, Kenai Peninsula College, Kachemak Bay Campus
Director of Semester by the Bay Program and Biology Professor
ddtobin@alaska.edu – 907-235-1607

Ms. Kris Holderied – NOAA National Ocean Service: Director of Kasitsna Bay Laboratory
Hollings Project Mentor
kris.holderied@noaa.gov – 907-235-4004