

Ryan Kurt Saylor

Bredesen Center for Interdisciplinary Research & Graduate Education
University of Tennessee, Knoxville
Aquatic Ecology Group
Environmental Science Division
Oak Ridge National Laboratory
Oak Ridge, TN 37831

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Education

Master of Science—Biology, *Department of Biology*
University of West Florida, Pensacola, FL December 2013
Cumulative GPA = 4.0

Bachelor of Science—Marine Biology, *Department of Biology*
Bachelor of Arts—Chemistry, *Department of Chemistry*
University of North Carolina at Wilmington, Wilmington, NC May 2005

Academic Honors

Magna Cum Laude, GPA 3.82
University of North Carolina at Wilmington, Wilmington, NC May 2005

Research Interests:

Fish Bioengineering

- laboratory based study of fish biomechanics as it relates to their ability to resist injury during passage through and interaction with hydropower turbines

Vertebrate Eco-Physiology

- behavioral, physiological, and biochemical adaptations of fishes to environmental stressors under natural and anthropogenic-induced changes in aquatic habitat

Science Communication & Outreach

- development and maintain relationships with local community colleges to implement new educational and mentoring opportunities that pair graduate with undergraduate students to encourage recruitment and retention in STEM fields

Relevant Experience:

Energy Science & Engineering PhD Candidate, University of Tennessee Aug '17 – Present
Bredesen Center for Interdisciplinary Research and Graduate Education
Environmental Science Division, Oak Ridge National Laboratory

- full fellowship with specialization in Environmental and Climate Sciences
- current research investigates how water-derived energy production systems (hydropower dams, hydrokinetic turbines, and thermo-electric power stations) impact regional aquatic organisms here in Tennessee

- specific research investigates how blade strike and shearing forces impact survival of native fish populations during non-volitional passage through hydropower turbines
- Project title: *“Biologically-based design and evaluation (BioDE) of the effects of riverine fishes passing through hydropower turbines”*
- Project title: *“Creating a realistic model fish surrogate for use in hydropower turbine blade strike studies”*
- Dissertation title: *“Susceptibility of fishes to turbine blade strike: Are responses taxonomically conserved or coincident among disparate taxa with similar anatomorphic functional traits?”*

Biology Technical Specialist, Department of Biology Dec '16 – Aug '17
Anne Arundel Community College, 101 College Pkwy, Arnold, MD 21012

- full-time staff position to set-up undergraduate laboratory activities, ordering and maintaining laboratory supplies, safety inspections, and aquatic husbandry
- position also included environmental research, greenhouse management, mosquitofish culture, and supervising undergraduate student workers
- Courses: General Zoology, Environmental Science, and Plant Taxonomy

Thermal Stress Modeling Consultant, Oak Ridge National Laboratories Mar – Jun 2014
Oak Ridge National Laboratories, 1 Bethel Valley Road, Oak Ridge, Tennessee 37831

- temporary sub-contractor position in charge of modeling thermal stress of resident fishes exposed to heated effluent originating from electric generating steam plant
- worked independently on literature search and thermal stress simulation modeling
- Project title: *“Thermal stress modeling of fish interactions with the Cumberland fossil plant heated discharge”*

Graduate Research Physiologist, Department of Biology Aug '07 – Dec '13
University of West Florida, 11000 University Parkway, Pensacola, Florida 32514

- thesis-track Masters student through the College of Arts and Sciences
- project focused on thermal physiology and stress accumulation modeling of non-native species to better understand and manage their spread in southern Florida
- Thesis title: *“Assessing cumulative thermal stress of Asian swamp eel, *Monopterus albus* (Zuiew, 1973), exposed to cold temperatures”*

Advisor, Directed Independent Studies, Marine Eco-Physiology Lab May – Aug '12
University of West Florida, 11000 University Parkway, Pensacola, Florida 32514

- directed undergraduate research project in eco-physiology on marine cyprinodontid fishes collected from local tidal sand flats
- aimed to determine how periods of drying affected sheepshead minnow hatch success during prolonged exposure of eggs during low tide
- Project title: *“Hatch success rates of sheepshead minnow eggs exposed to drying periods”*

Marine Research Facility Manager, Department of Biology Aug '09 – Aug '12
University of West Florida, 11000 University Parkway, Pensacola, FL 32514

- in charge of collection & husbandry of marine and freshwater invertebrates, fishes, and select amphibian taxa for display and research purposes in main research facility

- managed undergraduate husbandry volunteers, maintained communal husbandry equipment, assigned research space, ordered inventory, and ensured safe work space

Graduate Advisor, Techniques in Animal Husbandry May '10 – May '12
University of West Florida, 11000 University Parkway, Pensacola, Florida 32514

- co-advised undergraduate student projects concentrating on ethical husbandry practices of captive marine and freshwater fauna used for research or display purposes
- Project titles: *“Basic/Advanced Aquatic Husbandry”* and *“Elasmobranch husbandry”*

Graduate Technician, Marine Eco-Physiology Lab May 2008
University of West Florida, 11000 University Parkway, Pensacola, Florida 32514

- assisted in 5-day field research trip funded annually by the Florida Institute of Oceanography aboard the *R.V. Bellows* in Dry Tortugas National Park coral habitats
- included piloting small research vessels from main vessel to coral research sites
- Project title: *“Comparing farming and guarding behavior of algal mats by damselfishes among coral rubble and intact patch reef”*

Graduate Assistant, Department of Biology Jan '08 – April '09
University of West Florida, 11000 University Parkway, Pensacola, Florida

- assisted office staff and biology faculty with semester teaching obligations
- copied and graded quizzes and exams, delivered mail, assisted department chair, and assisted staff with official department functions on campus

Field Technician, Department of Fisheries and Wildlife Sciences Sep '06 – Aug '07
Virginia Polytechnic University, 100 Cheatham Hall, Blacksburg, Virginia 24061

- aided PhD student investigating home range size, dispersal ability, habitat utilization, and spawning habits of non-native northern snakehead in the lower Potomac River
- 1000+ hours operating small boats for radio telemetry project as well as boat, backpack, and tote barge electrofishing and whoop net collection techniques of freshwater fishes
- given side project comparing diet among resident fishes using dietary overlap analyses
- Project title: *“Diet ecology of non-native northern snakehead, Channa argus, compared to three resident predators in the lower Potomac River”*

Fisheries Technician, Virginia Department of Game and Inland Fisheries April – May '07
VDGIF Region 5, 1320 Belman Road, Fredericksburg, Virginia 22401

- assisted state biologists with American Shad Restoration Project which collects mature individuals, strips row and milt, fertilizes eggs on site, and hatches eggs in hatcheries
- actively aided and participated in the fertilization and packaging of fertilized shad eggs for transport to hatchery facilities

Field Technician, Utah State Cooperative Fish and Wildlife Research Unit June – Sep '06
Utah State University, 1400 Old Main Hill, Logan, Utah 84322

- participated in research on native bull trout in eastern Oregon streams to characterize diet, population size, tissue collection, and habitat characterization
- worked in small 3-man teams in remote field sites using e-seining collection technique and snorkeling for mark-resight study and pulsed gastric lavage to characterize diet

- Biologist Intern**, Coastal Exhibits and Moon Jellyfish Culture Dec 05' – May 06'
South Carolina Aquarium, 100 Aquarium Wharf, Charleston, South Carolina 29401
- assisted aquarist with maintenance of jellyfish, sargassum biota, sea horse & pipefishes, octopuses, various Atlantic coast fishes, and juvenile sea turtles exhibits
 - cultured and maintained moon jellyfish and sea nettle aquaculture systems
 - prepared and fed all exhibits, placed in charge of exhibit and back-up aquaria, and lead behind the scenes tours for aquarium patrons

Publications:

Peer-reviewed Journal Articles

- Saylor, R.K.**, Fortner, B.M., & Bevelhimer, M.S. (2019). Quantifying mortality and injury susceptibility for two morphologically disparate fishes exposed to simulated turbine blade strike. *Hydrobiologia* 842(1): 55-75. doi: [10.1007/s10750-019-04026-x](https://doi.org/10.1007/s10750-019-04026-x).
- Bevelhimer, M.S., Pracheil, B.M., Fortner, A.M., **Saylor, R.K.**, & Deck, Kendra L. (2019). Mortality and Injury Assessment for Three Species of Fish Exposed to Simulated Turbine Blade Strike. *Canadian Journal of Fisheries and Aquatic Sciences*. doi: <https://doi.org/10.1139/cjfas-2018-0386>.
- Lapointe, N.W.R., **Saylor, R.K.**, Angermeier, P.L. (2019). Diel feeding and movement activity of Northern snakehead (*Channa argus*). In *The First International Snakehead Symposium*, American Fisheries Society Symposium 89: 69-81.
- Saylor, R. K.**, Lapointe, N.W.R., & Angermeier, P. (2012). Diet ecology of non-native northern snakehead (*Channa argus*) compared with three co-occurring predators in the lower Potomac River, USA. *Ecology of Freshwater Fish* 21(3): 443-452.
- Saylor, R.K.**, Miller, D.L., Vandersea, M.W., Bevelhimer, M.S., Schofield, P.J., & Bennett, W.A. (2010). Epizootic Ulcerative Syndrome caused by *Aphanomyces invadans* in captive bullseye snakehead (*Channa marulius*) collected from South Florida, USA. *Diseases of Aquatic Organisms* 88: 169-175.
- Di Santo, V., O'Boyle, L.A., **Saylor, R.K.**, Dabruzzi, T.F., Covell, M.A., Kaack, K. Scharer, R. Seger, K., Favazza, N., Pomory, C.M., and Bennett, W.A. (*In review*). Coral loss alters guarding and farming behavior of dusky damselfish, *Stegastes adustus*. *Marine Biology*.
- Saylor, R.K.**, Schofield, P., & Bennett, W. (*In prep*). Thermal ecology of non-native Asian swamp eel, *Monopterus albus* (Zuiew, 1793), exposed to simulated winter temperatures indicative of southern Florida, USA.
- Saylor, R.K.**, Bevelhimer, M., & Bennett, W. (*In prep*). Thermal Stress Accumulation Modeling: A novel method of modeling stress calibrated with laboratory derived cold tolerance data on non-native Asian swamp eel (*Monopterus albus*).

Workshops or Conference Proceedings

Bevelhimer, M. & **Saylor, R.** (*In print*). How Mathematical Modeling and Meta-analysis Have Informed Environmental Assessments at Powerplant Thermal Discharges. *Fifth Thermal Ecology and Regulation Workshop-2018*, Electrical Power Research Institute, Chattanooga, Tennessee.

Technical Reports

Saylor, R.K., Bevelhimer, M.S., Fortner, A.M., & Pracheil, B.M. (2018). Species-specific susceptibility to scale loss: using simulated shear to understand among species differences in turbine passage injury. Technical Report. Environmental Science Division, Integrated Water Energy Systems, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Bevelhimer, M. & **Saylor, R.** (2015). Chapter 4: Thermal stress modeling of fish interactions with the Cumberland fossil plant heated discharge. *In: Evaluation of volitional use of a heated discharge plume at TVA's Cumberland Fossil Plant*. Technical Report. Electric Power Research Institute, Palo Alto, California.

Teaching Experience:

Adjunct Instructor, Department of Behavioral and Natural Sciences Jan '18 - Present
Pellissippi State Community College, 10915 Hardin Valley Rd, Knoxville, TN 37932

- part-time adjunct faculty instructor of General Biology II Lecture and Laboratory
- lecture: developed and made lectures, exams, and designed additional assignments within the confines of departmental syllabus and schedule
- laboratory: safely lead practical investigation of core biological concepts

Maryland Drivers Education Instructor (ID No. 35374), Maryland MVA Jun – Dec '16
Parkville Driving School, 5009 Harford Rd, Parkville, MD 21214

- MVA certified apprentice driving school instructor qualified to teach the 30-hour classroom and 6-hour behind the wheel mandatory drivers education course
- Lead teacher for two week courses offered bimonthly to a diverse group of students throughout the Baltimore Metropolitan Area

Teaching Assistant, School of Allied Health and Life Sciences May '11 – May '13
University of West Florida, 11000 University Parkway, Pensacola, FL 32514

- aided Public Health faculty with online courses through distance learning curriculum by grading discussion posts, quizzes, and exams as well as providing individual feedback
- Courses: Epidemiology of Infectious Diseases, Public Health Policy & Administration, Computer Applications in Public Health, Public Health Planning & Analysis, Scientific Basis For Public Health

Course Coordinator, Comparative Animal Physiology Laboratory Jan – May 2012
University of West Florida, 11000 University Parkway, Pensacola, FL 32514

- worked with other instructor to modify and create novel experimental protocols and apparatus needed for undergraduate laboratory activities

- created new “*Resistance to Evaporative Water Loss*” laboratory handout and helped design and create a flow-through respirometer for respirometry and Q₁₀ laboratory

Adjunct Instructor, Department of Biology Aug '11 – May '12
University of West Florida, 11000 University Parkway, Pensacola, FL 32514

- salary staff position offered to senior graduate students that have completed required graduate coursework and maintained above average GPA
- directed undergraduate laboratory activities including short background lectures, *in situ* problem-solving, one on one student interaction, and quiz/exam/practical development
- Courses: General Zoology, Biochemistry, & Comparative Animal Physiology

Biochemistry Tutor, Department of Biology Jan – May 2010
University of West Florida, 11000 University Parkway, Pensacola, FL 32514

- authorized by professor to provide one on one tutoring to interested undergraduate students enrolled in Biochemistry for help with lecture or laboratory material
- encouraged brain storming to maximize creative thinking while reviewing conceptual material and *in situ* break down of core mathematical & biochemical expressions

Instructor of Record, Department of Biology May '08 – May '12
University of West Florida, 11000 University Parkway, Pensacola, FL 32514

- position available to graduate students that completed at least 18 hours of coursework and maintained above average GPA made available through teaching assistantships
- directed undergraduate laboratory activities including short background lectures, *in situ* problem-solving, student interaction, and quiz/exam/practical development
- Courses: General Biology (non majors), General Zoology, Biochemistry I, Biochemistry II: Metabolism, and Ecology

Teaching Assistant, Department of Biology Aug '07 – May '11
University of West Florida, 11000 University Parkway, Pensacola, FL 32514

- position available to all enrolled graduate students in good academic standing made available through teaching assistantships
- aided instructor with undergraduate laboratory activities, set-up laboratory apparatus, maintained equipment, made media and chemical reagents, & graded quizzes
- Courses: Intro to Marine Biology and Oceanography, Biochemistry I, Biochemistry II: Metabolism, Microbiology, Genetics, & Comparative Animal Physiology

After School Tutor, Federal Work Study Program, Aug '01 – May '02
University of North Carolina at Wilmington, 601 S. College Rd., Wilmington, NC 28403

- after school tutoring position funded through the Federal Work Study program at UNCW in partnership with Dorothy B. Johnson Elementary School
- assisted 3rd grade students with reading, reading comprehension, and arithmetic

Science Communication & Outreach:

Science Tour Guide, Aquatic Ecology Group

July 2019 - Present

Environmental Science Division, Oak Ridge National Laboratory

- guide folks safely through active laboratory research space and talk about local biodiversity and the use of the Oak Ridge Reservation as an outdoor laboratory
- provide overview of high impact research contributed by our staff researchers to diverse groups of local, regional, or national students and community members

Seminar Series Coordinator, Fishheads Mailing Group Mar 2019 – Present*Environmental Science Division, Oak Ridge National Laboratory*

- organize weekly seminars over lunch made available to all division staff that highlights current work by researchers inside and outside ESD
- contact and schedule presenters, send out weekly email invitations to staff, and ensure content is broadly multidisciplinary to match the diverse background of staff

Rules Judge, 2019 Tennessee Regional Science Bowl February 2019*Oak Ridge Associated Universities, Pellissippi State Community College*

- assisted with annual Tennessee chapter science bowl proceedings at Pellissippi State Community College's Blount County Campus
- responsible for ensuring science bowl rules were followed during group, single elimination, and semifinal matches

Outreach Ambassador September 2018*Bredesen Center – University of Tennessee, Knoxville & Oak Ridge National Laboratory*

- participated with outreach coordinator to provide information to Virginia Tech students about research opportunities at annual recruitment event in Blacksburg, VA

Marine Science Youth Camp Instructor, Explore Summer Programs June '11 & '12*University of West Florida, 11000 University Parkway, Pensacola, FL 32514*

- participated in a two-week program that emphasized and showcased the fields of marine science/biology using creative, high energy, and competitive group activities
- in charge of ethical sampling and proper identification of marine biota at seagrass/sand flats field site for groups of elementary students enrolled in a youth summer program

Marine Explorers Camp Instructor, Explore Summer Programs Aug '10 & '11*University of West Florida, 11000 University Parkway, Pensacola, FL 32514*

- participated in week long program exposing junior high school students to marine science/biology material in an actual university teaching laboratory
- co-taught marine explorers summer camp which encouraged creative thinking, collaborative small group activities, and outdoor field collection techniques

Bottom Trawl & Dredge Assistant/Lecturer, aboard the *RV Bellows* November 2010*University of West Florida, 11000 University Parkway, Pensacola, FL 32514*

- invited lecturer on cartilaginous and ray-finned fishes taxonomy and assistant to zoology professor during bottom trawling procedures in Pensacola Bay, FL

Departmental Liaison Aug '09 – Aug '12*Department of Biology, University of West Florida*

- lead future students interested in marine biology program on guided tours through teaching and research facilities including live animals on display
- interact with potential undergraduates by describing marine biology field and expectations of college students in that program
- present information about the marine biology program and student research to interested area middle and high school students during recruitment event

Education Assistant, *University of West Florida Continuing Education*

August 2008

- aided local elementary school students with collection and research on olive snails from shallow fresh and salt marsh habitats

Scientific Presentations:

Platform Presentations

Saylor, R.K., Bevelhimer, M.S., Pracheil, B.M., Fortner, A.B., & Sterling, D. Quantifying responses of morphologically distinct riverine fishes exposed to simulated turbine blade strike to better inform design of safer hydropower turbines. 2019 American Fisheries Society & The Wildlife Society Joint Annual Conference, Reno, NV, September 28 to October 3, 2019.

Saylor, R.K., Bevelhimer, M.S. Predicting lethal thermal stress to fish during both extreme heating and cooling scenarios. 5th Thermal Ecology and Regulation Workshop, Chattanooga, TN, November 13 & 14, 2018.

Saylor, R.K., Bevelhimer, M.S., Pracheil, B., & Fortner, A. Traumatic Injury and Mortality Linked to Simulated Turbine Blade Strike Among Five Species of Riverine Fishes. Innovative Fish Passage Workshop, Portland, OR, October 16 & 17, 2018.

Saylor, R.K., Lapointe, N.W.R., & Angermeier, P.L. Diet ecology of the northern snakehead (*Channa argus*) in the lower Potomac River, USA. Annual Tennessee Academy of Science Collegiate Division Meeting, Knoxville, TN, April 20, 2018.

Bevelhimer, M.S., Bracheil, B.M., Fortner, A.F., Deck, K., & **Saylor, R.S.** Simulating turbine blade strike in the laboratory to better assess injury and mortality during turbine passage. Tennessee Chapter Annual Meeting, American Fisheries Society, Knoxville, TN, January 23 – 25, 2018.

Saylor, R.K., Lapointe, N.W.R., & Angermeier, P.L. *Best Student Abstract Finalist*, Diet ecology of the non-native northern snakehead (*Channa argus*) compared to three co-occurring predators in the lower Potomac River, USA. 20th Annual Meeting for Southern Division of the American Fisheries Society, Biloxi, MS, January 26-29, 2012

Saylor, R.K. Diet ecology of the northern snakehead, *Channa argus*, compared to three resident fishes in the lower Potomac River. Department of Biology Seminar, University of West Florida, Pensacola, FL, October 23, 2009

Saylor, R.K. The northern snakehead, our newest non-native addition to the Potomac River. Trout Unlimited: Nemaquin Chapter, Savage River State Park, MD, July 28, 2007

Case Presentations

Brookins, MD, DL Miller, **RK Saylor** and MW Vandersea. Mass mortality in a captive group of bullseye snakehead fish. CL Davis Histopathology Workshop, International Association for Aquatic Animal Medicine, San Antonio, TX, May, 2009.

Miller, DL, **RK Saylor** and MW Vandersea. What killed the bullseye snakeheads (*Channa marulius*)? Southeastern Veterinary Pathology Conference, Tifton, GA, May, 2009.

Technical Training:

Maryland Boating License (Certificate No. 2436586CT) July 2014

- completed online course and received certificate in boating education and safety
- approved by the Maryland Department of Natural Resources & United States Coast Guard

Educators Aquatics Species Collecting Workshop Feb '11 – '13

- hosted by Florida Marine Science Educators Association, regional chapter NMEA
- how to properly collect and transport marine organisms for educational purposes

Wildlife Disease Histology Workshop March 2010

- hosted by Dr. Debra Miller D.V.M. PhD, Veterinary Pathologist, University of Georgia
- identify vertebrate tissues, abnormal/infected tissues, and select vertebrate pathogens

IWorx Systems, Kennesaw State University, Marietta, Georgia March 2009

- integrated computer-physiology teaching equipment for laboratory use
- instructed on proper use in order to maximize performance and fully utilize available online resources during laboratory customization

Snorkel Certification May 2008

- hosted and delegated by Marine Services, University of West Florida
- assessed if participants had adequate physical capabilities needed for sustained swimming in open water environments during snorkeling surveys

Stella® Modeling and Simulation Software April 2008

- hosted by Mark Bevelhimer at Oak Ridge National Laboratories
- introduced to software with specific emphasis on thermal stress accumulation modeling to understand core mathematical relationships, model parameterization and validation

Hazardous Waste and Materials Disposal Aug '07 – Aug '12

- annual training required for Instructors and Teaching Assistants campus wide
- how to prevent, properly clean-up, and report chemical spills in teaching laboratories

S.C.U.B.A. – Open Water Certification

March 2005

Grants:**\$1495.00 – Bredesen Center Scholar Grant** May 2018*Bredesen Center for Interdisciplinary Research and Graduate Education, U. of TN, Knoxville*

- policy grant to attend the 2018 Washington Maymester Program, Washington, D.C.

\$500.00 – Regina Murray Scholar Grant May 2018*Howard H. Baker Jr. Center for Public Policy, University of Tennessee, Knoxville*

- policy grant to attend the 2018 Washington Maymester Program, Washington, D.C.

\$300.00 – Original Research Grant February 2012*American Society for Microbiologists, Student Government Association, U. of West Florida*

- research granted awarded to active members for original research projects

\$180.00 – Scholarly Travel Grant January 2012*American Society for Microbiologists, Student Government Association, U. of West Florida*

- travel grant to active members giving platform presentations on original research

\$300.00 – Primary Research Grant (Type 1) November 2010*Marine Ecology Research Society, Student Government Association, U. of West Florida*

- grant offered to active society members to be used on original research projects

\$500.00 – Scholarly and Creative Activities Committee (Type B) October 2008*Office of Research and Sponsored Programs, U. of West Florida*

- secondary, follow-up research grant offered to continue and finalize graduate research
- highly competitive application and review process for all university graduate students

\$1000.00 – Scholarly and Creative Activities Committee (Type A) March 2008*Office of Research and Sponsored Programs, U. of West Florida*

- primary research grant offered to thesis track graduate students
- highly competitive application and review process for all university graduate students

Awards:**Outstanding Graduate Student Leadership** 2010 – 2011*Office of Student Affairs, University of West Florida*

- awarded to a nominated graduate student characterized by their prominent leadership skills and dedicated service to the university and surrounding community

Scholarships:**\$110.00/credit-hr – Matriculation Fee Waiver** Aug '07 – Jul '11*College of Arts & Sciences, University of West Florida*

- awarded to biology graduate student instructor of records and teaching assistants

- received monies every semester it was available until becoming an adjunct instructor

\$250.00/sem – Pace Merit Scholarship

Aug '07 – Jan '09

Department of Biology, University of West Florida

- granted to full-time (6+ credit-hrs/sem) graduate students with highest cumulative GPA
- awarded five sequential semesters by maintaining 4.0 GPA

Society Affiliations:

FOSEP , Forum on Science Ethics and Policy	Jan '16 – Present
ESA , Ecology Society of America	Feb '14 – Dec '15
AFS , American Fisheries Society (Southern Division – Tennessee Chapter)	Oct '11 – Present
SET , Students Ending Tobacco (UWF Tobacco Task Force) – <i>Treasurer</i>	Aug '11 – Aug '12
FMSEA , Florida Marine Science Educators Association	Feb '11 – Feb '13
ASM , American Society for Microbiologists (Southeast Chapter)	Aug '10 – Aug '12
ASIH , American Society of Ichthyologists and Herpetologists	Jan '08 – Dec '14
GSA , Graduate Student Association	Jan '08 – Jan '09
MERS , Marine Ecology Research Society	Aug '07 – Aug '12
<ul style="list-style-type: none"> • <i>President Elect; Aug 09' – July 10'</i> 	

Related Volunteer Research Experience:**Fisheries Technical Aid**

February 2019

Aquatic Ecology Group, Oak Ridge National Laboratory

- participated in boat electrofishing survey from the P1 remediation pond on the Oak Ridge Reservation including identification and removal of target species

Fisheries Technical Aid

April 2018

Aquatic Ecology Group, Oak Ridge National Laboratory

- assisted multi-year collection project on Brushy Creek by helping biologists backpack electrofishing and recording habitat parameters for historical reference site

Molecular Genetics Aide

December 2018

Breast Cancer Research Laboratory, Johns Hopkins School of Medicine

- assisted PhD student with cell line propagation and drug treatment assays on 10A and IMEC human cell lines

Aquatic Plant Technician

July 2018

Environmental Center, Anne Arundel Community College

- helped aquatic plant biologists from Anne Arundel Community College and Maryland Department of Natural Resources collect seeds for multi-year aquatic restoration project

Molecular Genetics Aide

December 2017

Breast Cancer Research Laboratory, Johns Hopkins School of Medicine

- assisted PhD student with scratch assays by photographing and cataloging data

Molecular Genetics Aide

December 2014

Breast Cancer Research Laboratory, Johns Hopkins School of Medicine

- assisted PhD student with molecular cloning of exon-34 of the Notch1 human gene, techniques used: transformation, PCR, as well as digestion/ligation

Field Collection Aide, Department of Biology, University of West Florida

July 2012

- aided developmental biology professor with collection of variegated sea urchin for use in invertebrate embryology undergraduate laboratory experiment

Husbandry Aide

June 2012

Marine Invertebrate Zoology Laboratory, University of West Florida

- monitored water quality parameters and fed lettuce sea slugs used in a respirometry and biochemical analysis thesis research project

Field Collection, Marine Research Facility, University of West Florida

May 2012

- lead collection of local brown, green, and red alga for use in outreach display tanks

Electro-fishing Trip,

October 2011

Marine Research Facility & Marine Ecology Research Society, U. West FL

- organized and lead backpack electro-fishing trip meant to collect freshwater wetland fishes and instruct undergraduate in proper use of battery powered fishing units

Field Collection, Marine Research Facility, University of West Florida

September 2011

- lead collection of benthic macro-invertebrates from seagrass beds and sand flats for use marine science education programs and departmental display tank

Field Support Technician

June 2011

Marine Eco-physiology Laboratory, University of West Florida

- assisted with the collection of Atlantic stingrays from seagrass beds and sand flats and helped withdraw blood samples for testosterone analysis

Support Technician, Marine Research Facility, University of West Florida

December 2010

- assisted graduate student with Atlantic stingray blood sample collection related to project investigating effects of temperature and photoperiod on dental plasticity

Husbandry Aide

July 2010

Marine Eco-physiology Laboratory, University of West Florida

- monitored water quality, animal health, and fed chained and Gulf pipefish during acclimation protocols for use in thermal tolerance trials

Field Collection Aide,

June 2010

Marine Eco-physiology Laboratory, University of West Florida

- aided with collection of Atlantic stingrays for thesis research using small water craft and combination seine-dip netting in shallow seagrass beds and sand flats

Research Aide

Oct – Dec 2009

Marine Eco-physiology Laboratory, University of West Florida

- provided husbandry/research support for undergraduate student investigating the effects of fiddler crab foraging rates related to temperature and sex

Biodiversity Collection

November 2009

Marine Eco-physiology Laboratory & MERS, University of West Florida

- organized and lead trip to collect salt marsh invertebrates and fishes for use in marine education outreach and departmental display tank

Field Collection Aide

October 2009

Marine Invertebrate Zoology Laboratory, University of West Florida

- assisted collection of brown shrimp from local sea grass beds for use in thesis research project investigating effects of habitat type and shrimp density on shrimp growth

Facility Liaison,

Aug '09 – Aug '12

Marine Research Facility & Environmental Protection Agency

- in charge of organizing filtered seawater collection from local EPA research facility in Gulf Breeze, FL for communal use during marine research and husbandry operations

Husbandry Volunteer Coordinator

Aug '09 – July '10

Department of Biology, University of West Florida

- coordinated undergraduate volunteers with marine invertebrate and vertebrate collection and husbandry of departmental display tank

Bottom Trawl Aide, Fisheries Laboratory, University of West Florida

November 2007

- assisted graduate student with identification and field collection of juvenile gray snapper from local seagrass beds using bottom trawl

Field Collection Aide

September 2007

Marine Eco-physiology Laboratory, University of West Florida

- aided graduate student with collection of Atlantic stingrays from shallow seagrass and sand flats for use in a digestion, absorption, and respirometry experiment

Husbandry Aide

September 2007

Marine Invertebrate Zoology Laboratory, University of West Florida

- assisted graduate student with water quality measurements and tank cleaning for a brown shrimp growth related to shrimp and seagrass density

Field Collection Aide

August 2007

Marine Eco-physiology Laboratory, University of West Florida

- aided graduate student with collection of mosquitofish and sheepshead minnow to be used in salinity tolerance experimentation

Support Technician, Virginia Polytechnic and State University April 2007

- assisted with surgical implantation of radio tags into grass carp for a telemetry study in a Virginia reservoir

Fisheries Technician, September 2006*Utah State University, United States Fish & Wildlife Service*

- assisted regional chapter meeting resource managers with characterizing bull trout habitat and field sampling in Columbia River tributaries near Vancouver, Washington

Trout Nursery Technician, Pennsylvania Fish and Boat Commission May – Sep 2002

- participated in trout husbandry & maintained nursery property

University & Community Service:**Daycare Touch Tank, Department of Biology, University of West Florida** July 2012

- organized and lead a touch tank exhibit and discussion of local marine invertebrates and fishes at an area daycare center for young children

Great American Smoke Out, November 2011*Escambia County Health Department & Students Ending Tobacco, UWF*

- helped SET president organize and set-up campus event to promote smoking cessation

Scenic Bluffs Clean-up, November 2011*SCUBA Club and Marine Ecology Research Society, UWF*

- participated in a joint venture between academic clubs cleaning up trash and debris

Anti-Shark Finning Petition, December 2010*Department of Biology & Marine Ecology Research Society*

- distributed/collected signatures from students, faculty, and staff to stop shark finning

AIDS Awareness Rally, Student Counseling and Welfare Services, UWF December 2010

- participated in rally by representing Department of Biology

New Orleans Aquarium Trip, as acting MERS president, UWF April 2010

- organized member trip to aquarium including behind the scenes access to exhibit and back-up facilities available to all active society members for free

Conservation Night II, as acting MERS president, UWF April 2010

- organized to raise awareness of overexploitation of marine fisheries and gather donations for a nationally recognized and actively invested conservation group

Marine Outreach, Festival on the Greens, University of West Florida April '10 & '11

- interacted with community during annual festival exposing participants to local marine fauna through touch tanks

Breast Cancer Walk, *American Cancer Society*

Oct '10 & '11

- participated in walk with other students representing Department of Biology

Little Hands Big Hearts, *Latin American Fundraising Group*

Jan – June 2010

- helped combine collections around campus and transported donations to headquarters in Miami, Florida used for underprivileged children in Latin American countries

Graduate Student Seminar, *as Acting MERS president*

November 2009

- organized and arranged faculty to discuss the process of choosing and applying to graduate programs available to society members and general student body

Shark Conservation Night I, *as Acting MERS president with SEAS*

November 2009

- organized event with student environmental action society (SEAS) to raise awareness about the wasteful practice of shark finning and made donation to *SeaShepard* group

Curriculum Vitae Seminar, *Marine Eco-physiology Laboratory & MERS, UWF*

October 2009

- organized and arranged faculty member to discuss developing curriculum vitas available to society members and general student body

Science Fair Judge, *West Panhandle Regional Science & Engineering Fair*

January 2008

- judged area high school students science projects with other students and faculty meant to pick exemplary research projects for entrance into state-tier competition

Elementary Outreach, *Salisbury-Elk Lick Elementary School*

March 2007

- discussed careers in marine biology to area 5th grade elementary students