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Education

PhD 2014 - 2020 Howard University, Department of Biology, 3.8GPA
MS 2011 - 2013 University of Alabama at Birmingham, Department of Biology, 3.5GPA
BS 2003 - 2010 Norfolk State University, Department of Biology 2.6 GPA

Research Experiences

2014 – 2019: Research Associate at the Smithsonian Institution’s National Museum of Natural History, studying the trophic ecology of invasive species (apple snails, *Pomacea canaliculata*) by processing and analyzing organic stable isotope samples at the OUSS/MCI stable isotope lab, under the direction of the principle investigator Dr. Christine France. Subsequently, these data were used in statistical analyses (Bayesian Models) in R (SIAR Stable isotope analysis in R) to determine the components invasive species diets, and other sympatric species within habitats.

2014 - 2019: Conducted ecological field collections to support research into the trophic ecology of invasive apple snails (*Pomacea* spp.) in Maldonado, Uruguay (2014-2015), Hangzhou, Zhejiang, China (2017), and Oahu, HI (2018); using stable isotopes to track trophic interactions between plant and animal constituent species of freshwater and terrestrial communities, including arthropods (such as crustaceans, insects, Myriapoda, arachnids, mollusks, and other macroinvertebrates), fish, as well as birds (using molted feathers), and specially invasive apple snail species (*Pomacea canaliculata*).

2013: Palmer Antarctic Research Station on the Antarctic Peninsula (January-April 2013)

I was a researcher at Palmer Antarctic Research Station for Ninety-three days; studying the influence of ocean acidification on the ecology and life history traits of mineralizing invertebrates (*e.g.*: Echinodermata, Isopoda, Mollusks, *et cetera*) and encrusting algae (*e.g.*: Rhodophyta, Chlorophyta, *et cetera*) funded by the National Science Foundation.

Fieldwork responsibilities included:

- Received training from the U.S. Antarctic Service on the safe operation of boating vehicles (Zodiacs) and D.A.N. certification for diver first-aid and survival in Antarctic Conditions.
- Loaded scuba gear, including tanks, regulators, lines, dive weights, *et cetera* into and/or off Zodiacs or other research vessels; while assessing and maintaining equipment before and after use.
- Maneuvered Zodiacs to and/or from dive sites, in ice flows, Open Ocean, near cliff faces, icebergs, *et cetera*.
- Catalogued dive sites using GPS technology, and nearby reference points nearby; and subsequently entering these data into a database.
- Monitored divers while submerged, for emergencies.

- Monitored threats to diver and vessel safety; such as:
 - a) Wildlife (*e.g.*: leopard seals, baleen whales, Orca, *et cetera*)
 - b) Environmental threats (*e.g.*: avalanche, falling rocks, storm fronts, icebergs, *et cetera*)
 - c) Mechanical issues (*e.g.*: motor function, fuel level, Oxygen levels in tanks, *et cetera*).
- ❖ Performed these duties nearby and away from the US Palmer station, including in the La Mare Pass; some 1,000 miles from the South Pole.

Lab work involving seawater chemistry:

- Calculated the (1) total alkalinity, (2) salinity, and (3) pH of daily seawater samples taken at the US Palmer Station using computerized acid titration system.
- Maintained a database of diurnal fluctuations for these metrics in the seawater at US Palmer Station.
- Collected and maintained (1) total alkalinity, (2) salinity, and (3) pH of seawater for mesocosm experiments containing mineralizing invertebrates and encrusting algae.
- Assured the (1) total alkalinity, (2) salinity, and (3) pH in mesocosm were equivalent to natural conditions at US Palmer Stations, and keep separate records of these conditions for juxtaposition.

2012-2013: Field research courses at UAB, taught by Drs. James B McClintock (Endowed Professor of Marine and Polar Biology) and Ken Marion (Professor Emeritus of Herpetology). Major portions of the course were taught with the Galapagos National Parks and the Darwin Conservation Foundation and at the Gerace field station on San Salvador, Bahamas respectively.

Courses included:

- a) Lectures
- b) Laboratory and field research
- c) Diving observations of marine, estuarine, and some freshwater habitats
- d) Research reports on the diversity of endemics species and their life histories
- e) Population Dynamics, and statistical estimates of population sizes *Et cetera*

Course Description (The Ecology of the Galapagos archipelago BY-568): An overview of the ecology of the Galapagos Island, with an emphasis on the ecology of terrestrial and marine organisms. (Summer 2013)

Course Description (The tropical island Ecology of the Bahamas BY-567): An overview of the major tropical ecotypes with emphasis on ecology of terrestrial, aquatic, and marine tropical organisms. (Summer 2012)

Field research course participants snorkeled in:

- a) Mangroves
- b) Open Ocean
- c) Culdera (dead marine volcanoes)
- d) Intertidal zones
- e) Reefs
- f) *Et cetera*

Participants identified unique and endemic species of:

- a) Boney fish species (Osteichthyes)
- b) Shark and/or Ray species (Chondrichthyes)
- c) Sea Turtle species
- d) & macroinvertebrate species (*e.g.*: Echinodermata, Polycheata, Cirripedia, Cnidaria, *et cetera*)

The Galapagos Archipelago course involved symbolic species such as:

- a) Giant Galapagos Tortoises
- b) Darwin's finches
- c) Flightless Cormorants
- d) Galapagos marine iguanas
- e) The Galapagos Hawk
- f) The Galapagos Short-eared Owl
- g) *The Galapagos White Cheeked Pintail Duck*
- h) *Et cetera*

The courses covered the ecological concepts including (a) succession; by using for example: volcanic lava fields, pioneer species (*e.g.*: lava cactus), and subsequently establishing species of plants and animals to demonstrate this concept.

Other concepts such included:

- b) Ecological timescales
- c) Evolutionary timescales
- d) Speciation
- e) Ring species
- f) Sympatric versus Allopatric Evolution
- g) Convergent Evolution
- h) Niches
- i) *Et cetera*

2011-2013: Master's thesis

Title: The Preferential Feeding of the Freshwater Amphipod (*Hyalella azteca*): The roles of chemical and structural defense, and nutritional value in prey choice

This thesis investigated the trophic and chemical ecology, as well as the discriminatory feeding behavior, of a key freshwater consumer by testing the null hypothesis that the common omnivorous freshwater amphipod (*Hyalella azteca*) displays no differences in rates of prey consumption (a measure of prey palatability) or prey choice (a preference to consume for one prey over another) for a suite of sympatric prey of ecological relevance. Differences in prey palatability and pairwise prey choice were interpreted in the context of (1) measurements of prey nutritional quality (soluble protein content), (2) the possible presence of chemical (secondary metabolites), and/or (3) structural (tissue toughness) defenses.

Academic Distinctions and Awards:

2018-2019: Awarded a Teaching Assistantship from Howard University Department of Biology and Graduate School.

2017 - 2018: Awarded Inaugural Julian-Just Research Assistantship from Howard University Graduate School.

2014 – 2017: Awarded (AGEP) Alliances for Graduate Education and the Professoriate Fellowship from Howard University's Graduate School; funded by the National Science Foundation (NSF). .

2013: Inducted to Delta Epsilon Iota Academic Honor Society (lifetime member) at University of Alabama at Birmingham (UAB).

2013: Received Antarctic Service Medal for service in the US Antarctic Research Program.

2012: In 2013, Birmingham, AL celebrated the 50th anniversary of Martin Luther King's letter from the Birmingham city jail and the events of the Civil Rights Movement. As part of this celebration, UAB acknowledged outstanding African-Americans from the community, including me, to be recognized and interviewed by the UAB College of Arts and Sciences.

2012: Awarded Minority Mentor and Mentee of the Year Award at the (SREB) Southern Regional Education Board's Institute on Teaching and Mentoring.

2012: Inducted as an associate member of the Sigma Xi Scientific Research Society.

2012: Inducted as an associate member of the Society for Integrative and Comparative Biology.

2011 -2013: Awarded Bridge to Doctorate Fellowship from University of Alabama at Birmingham Graduate School; funded by the (NSF).

Grants Awarded:

2018: Awarded the Frederic Weiss Memorial Award (**\$1,870**) from the Conchologist of America's (COA) to support research on the trophic ecology of invasive apple snails (*Pomacea* spp.) in Oahu, HI (2018).

2016: Awarded Teaching as Research Grant (**\$1,500**) from the Howard University Graduate School and the Center for Integrating Research, Teaching, and Learning (CIRTL) Teaching Certificate Program to support the implementation of alternative active learning teaching methodologies to impact student learning outcomes.

Teaching Qualifications)

- 1st (15- credit hour) Teaching Certificate from the Center for Integrating Research, Teaching, and Learning (CIRTL) consortium awarded by (UAB) Graduate School. (summer 2013)
- 2nd (15- credit hour) Teaching Certificate from the (CIRTL) consortium awarded at Howard University Graduate School (spring 2020)
- TESOL (Teaching English to Speakers of Other Languages) Certificate (June 2019)

Domestic (US) Teaching Experience:

Howard University (fall and spring 2014 - 2019, and summer 2018, 2019)

I taught the following Laboratory courses at Howard University as a Graduate Fellow.

- I. **Genetics (BIOL-200):** (2 Sections, fall 2018)
- II. **Invertebrate Biology Laboratory (BIOL-305):** (fall 2017)
- III. **Gen. Biology Lab (BIOL-101):** (4 sections fall 2016 and spring 2017)
- IV. **Aquatic Ecology Laboratory (BIOL-543):** (spring 2016)
- V. **Invertebrate Biology Laboratory (BIOL-305):** (fall 2014)
- VI. **Animal Physiology (BIOL-341):** (spring 2019)

I also taught lecture courses for Howard University.

- I. **Biostatistics (BIOL-430):** (summer 2018, 2019, and 2021)

*A teaching evaluation and a STEM education graduate certificate from the Center for Integrating Research, Teaching, and Learning (CIRTL) from Howard University are available.

University of New Orleans (fall and spring 2013 - 2014)

I taught four sections of **Biodiversity lab** at the University of New Orleans. This course provided an introduction into the diversity of life and the evolutionary and/or phylogenetic relationships amongst species, including:

1. Invertebrates
2. Chordates
3. Urochordates
4. Vertebrates
5. Plants
6. Fungi
7. *Et cetera*

This course also provided a basic understanding of:

1. Statistics
2. Scientific Writing
3. and Genetics

Of all students enrolled, 96% passed the course.

*A Letter of Recommendation from the lab Coordinator at the University of New Orleans is available.

The University of Alabama at Birmingham (UAB, summer 2013)

I taught an Introduction to Human Physiology laboratory as a Graduate Fellow at the University of Alabama. The course was designed for nursing students; as such the learning objectives were geared towards understanding the integrated functions of human cells, tissues, and organ systems.

An evaluation was conducted by the lab coordinator, Mr. Raymond Odom. The average score of this evaluation was 4.85 of a possible 5.

This average is comprised of seven categories as follows:

(5 of 5 points) for:

1. Overall Knowledge
2. Policy Enforcement
3. Student Engagement
4. Punctuality
5. Promptness of work return
6. Overall impression

(4 of 5) for:

1. Clarity of lectures

Of all students enrolled 92% passed the course.

*A teaching evaluation and a STEM education graduate certificate from the Center for Integrating Research, Teaching, and Learning (CIRTL) from the University of Alabama at Birmingham are available.

United States State Department

Cultural Acclimation Counselor (summer 2010 and 2011)

As a Cultural Acclimation Counselor I worked with foreign exchange students in the summer from Yemen (2010) and Germany (2011). I assisted students in acclimating and transitioning to America. The experience taught me to communicate effectively with people from various backgrounds and walks of life. It also improved my ability to interact students for whom English is a second language. I was able to create an environment where students felt comfortable and able to improve their conversational English skills; and learn about American cultural norms.

International Teaching Experience

The Central South University of Forestry and Technology (CSUFT)

Changsha, Hunan, China; Adjunct Professor of Biology, (summer 2017)

I was hired for the summer of 2017 as an adjunct professor of Biology, teaching Biostatistics, at CSUFT. I taught two **Biostatistics** courses that provided a foundational understanding of:

1. Statistical tests
2. their appropriate applications in scientific research
3. & the installation and operation of commonly employed statistical programs & packages (*e.g.*: The R statistical Program, the R-commander package, and Microsoft Excel).

*A letter of recommendation is available from CSUFT upon request.

Auburn University at Montgomery (AUM)

International Adjunct Professor of Biology @ (CSUFT) (summer 2014, 2015, 2016, and 2017)

Via the Confucius institute, AUM and CSUFT formed a partnership by which students could earn dual degrees from both universities. This required CSUFT students to pass AUM courses in English, as a precursor to traveling to and completing their studies at AUM.

I taught **(1) Environmental Sciences, (2) Environmental Microbiology, and (3) Ecology** courses at CSUFT in English.

Aside from the specific course learning objectives, a primary goal of the program was to improve students overall English reading comprehension and retention as well as conversation skills.

Student learning outcomes improved as I acclimated to the Chinese culture, and incorporated:

- 1) spoken Chinese into lectures
- 2) open classroom dialogue and debate
- 3) active learning group activities
- 4) short graded written assignments
- 5) oral exams
- 6) and graded written exams

This led to a greater numbers of students completing their studies at AUM, and even graduate study in many cases.

*A letter of recommendations is available from AUM upon request.

Presentations and Conferences Attended:

- Presented analyzed data from a study of the trophic ecology of apple snails (Ampullariidae) in the genus *Pomacea* at the MAM (Mid-Atlantic Malacology) meeting at the National Museum of Natural History. (4/2017)
- Presentation at Georgetown University on the trophic ecology of apple snails (Ampullariidae) in the genus *Pomacea* at the invitation of Dr. Leslie Ries. (4/2017)
- Presented an analysis of the trophic ecology of apple snails to the Biology Department at Howard University. (4/2017)
- Presented preliminary data from a study of the trophic Ecology of apple snails (Ampullariidae) in the genus *Pomacea* at the MAM (Mid-Atlantic Malacology) meeting at the Delaware Museum of Natural History. (4/2016)
- Guest lecturer in the Evolution (BIOL 240) course at Howard University on the topic of Species and speciation. (10/2015)
- Howard University Departmental Seminar on the diversity of macroinvertebrates, between disturbed and pristine freshwater lakes in Maldonado, Uruguay. (10/2015)
- Howard University Departmental Seminar on the trophic placement of *Pomacea canaliculata* and the diversity of macro invertebrates in two lakes in Maldonado, Uruguay, at Howard University's Departmental Seminar. (4/2015)
- Attended the South American Institute for Resilience and Sustainability (SARAS), in Maldonado, Uruguay. The institute is focused on interdisciplinary research involving the impact of change and instability on natural and social environments. (12/2014)
- Attended Congresso Uruguayo de Zoologia, in Maldonado, Uruguay; organized by the zoological society of Uruguay, to discuss the national environmental interest of Uruguay for the president of Uruguay. (12/2014)
- Presented my Master's thesis research at a Howard University Departmental seminar on the preferential feeding of the freshwater Amphipod *Hyaella azteca*, at Howard University's Departmental Seminar. (11/2014)
- Research Poster presentation of Master's research on the preferential feeding of freshwater amphipods (*Hyaella azteca*) at the Society for Integrative and Comparative Biology (SICB) San Francisco, California (1/2013)
- Attended the (SREB) Southern Regional Education Board's Institute on Teaching and Mentoring (11/ 2012)
- Guest Lecturer; Chemical Ecology (BY-674), Topic: Allelopathic interactions in plants and animals, University of Alabama Birmingham (10/2012)
- Presented Master's thesis research on the preferential feeding of freshwater amphipods for sympatric vascular plants and algae at the 2012 NSF JAM Convention in Washington D.C. (6/2012)
- 2nd Place Presentation at the Alabama Louis Stoke Minority Participation (ALSAMP) Bridge to Doctorate Spring Conference at Auburn University (Bio. Sciences) (4/2012)
- Presented Master's thesis research on the preferential feeding of freshwater amphipods for sympatric vascular plants and algae at the Alabama Louis Stoke Minority Participation/ Bridge to Doctorate Winter Conference at UAB (1/2012)

Graduate Course Work:

A. Howard University (PhD Biology 2020)

BIOG-449 Population Genetics
BIOG-534 Evolution and Systematic Biology
BIOG-543 Aquatic Ecology
BIOG-533 Ecology and Environmental Biology
BIOG-532 Molecular Biology of the Cell
BIOG-502 Topics and Ecology and Evolution
BIOG-403 Recitation in Parasitology (4 courses)
BIOG-402 Topics in Protozoology

B. University of Alabama at Birmingham (M.S. Biology 2013)

BY696 Special Topics in Biology II (*Intro to Invertebrate Zoology fall 2011)
BY692 Seminar in Ecology (2 courses)
BY689 Seminar in Genetics
BY560 Advanced Invertebrate Zoology
BY655 Biometry (2nd course taken @ UAB (fall 2012) as BY796 Special Top. in Bio)
BY567 Tropical Ecology (of the Bahamas)
BY511 Molecular Genetics
BY674 Chemical Ecology
BY696 Special Topics in Biology (Ecology fall 2012)
BY568 Galapagos Ecology

C. University of New Orleans No Degree Earned

BIOS-4974 Entomology
BIOS-6063 Topics in Ecology and Environ. Science (Topic: Multivariate Statistics)
BIOS-5644 Animal Behavior
BIOS-6062 Ecology and Evolution Seminar

*Graduate transcripts available; additional coursework is listed therein.

*All documents can be downloaded from the E-portfolio URL provided:

<https://sites.google.com/view/kevin-scriber-ii-eportfolio/home>