

Shannon L. Speir

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EDUCATION

TEXAS CHRISTIAN UNIVERSITY

The College of Science & Engineering/The AddRan College of Liberal Arts
Bachelor of Science in Biology, May 2014
Bachelor of Arts in Spanish, May 2014

Fort Worth, TX

Cumulative GPA: 3.955
Cumulative GRE Score: 319

UNIVERSITY OF ARKANSAS, FAYETTEVILLE

Dale Bumpers College of Agricultural, Food, and Life Sciences
Master of Science in Crop, Soil, and Environmental Sciences, December 2016

Fayetteville, AR

Cumulative GPA: 4.00

UNIVERSITY OF NOTRE DAME

College of Science
PhD in Biological Sciences, Expected: May 2021

South Bend, IN

SCIENTIFIC RESEARCH & TEACHING EXPERIENCE

BIOLOGY 10514/10524 UNDERGRADUATE TEACHING ASSISTANT

Course Coordinators: Drs. Amanda Hale and John Horner

Fort Worth, TX

08/11-05/12

- Chosen at the end of freshman year to act as an undergraduate teacher's assistant for freshman Biology I and II based on outstanding achievement in these courses and General Chemistry I and II, as well as high performance in lab throughout freshman year
- Required weekly TA meetings (3 hours/week) as well as participation in students' lab period (additional 3 hours/week) and outside availability to students should they have any questions or need extra help
- Aided in development of communication, leadership, and teamwork skills

UNDERGRADUATE STUDENT RESEARCHER

Supervisors: Drs. Matt Chumchal and Ray Drenner

Fort Worth, TX

03/12-05/2014

- I completed an honors thesis on the movement of methyl mercury (MeHg) between aquatic and terrestrial food webs in freshwater pond ecosystems. I am using stable isotope signatures and methyl mercury data to examine the connections between emergent aquatic insects, terrestrial and aquatic vegetation, terrestrial insects, fish, tadpoles, and spiders. My manuscript has been submitted for peer review and accepted for publication in the Journal of Environmental Toxicology and Chemistry.
- Spring 2012 through Fall 2012 was spent collecting data at a pond research facility and processing my samples.
- I was awarded the TCU SERC Grant in Fall of 2012 for \$1500 to finance the processing of my samples.
- I was asked to present my undergraduate research for the Texas Christian University course entitled "Introduction to Biological Research."

M.S. STUDENT; GRADUATE RESEARCH ASSISTANT

Supervisors: Dr. J. Thad Scott

Fayetteville, AR

09/14-07/16

- Project Topic: Seasonal variation in denitrification in agriculture ditches across a gradient of nitrate concentrations
- Travel to Oxford, MS every two months to complete sediment core sampling in vegetated mesocosms simulating agricultural ditches.
- Skilled in running dissolved gas analyses on the Membrane Inlet Mass Spectrometer (MIMS) as well as a running nutrient analyses on a fluorometer.
- Presented preliminary data at the SFS Annual Meeting in Milwaukee, WI (May 2015)
- Thesis successfully defended in July 2016

PhD STUDENT

Supervisors: Dr. Jennifer Tank

South Bend, IN

07/16-Present

- Project Topic: Nitrogen cycling in agricultural watersheds
- Awarded the University of Notre Dame Notebaert Premier Fellowship

SCIENTIFIC PUBLICATIONS

JOURNAL OF ENVIRONMENTAL TOXICOLOGY & CHEMISTRY

- Manuscript Title: Methylmercury and Stable Isotopes of Nitrogen Reveal that a Terrestrial Spider has a Diet of Emergent Aquatic Insects
- Volume 33, Issue 11
- Publication Date: November 1, 2014

SCIENTIFIC PRESENTATIONS

TCU "INTRODUCTION TO BIOLOGICAL RESEARCH" COURSE

Fort Worth, TX

Undergraduate Student Presenter

November 2013

- Presentation Title: Determination of the Source of Methyl Mercury (MeHg) to Shoreline Spiders using ¹⁵N Stable Isotopes
- I was one of two undergraduate biology students selected to give a presentation on our undergraduate research. This course serves to give biology majors an introduction to the current research being done at TCU by faculty and students.

TEXAS ACADEMY OF SCIENCE 117TH ANNUAL MEETING

Galveston, TX

Undergraduate Student Presenter

March 7, 2014

- Presentation Title: Methyl Mercury in Emergent Aquatic Insects and Terrestrial Spiders Reveals Linkages between Aquatic and Terrestrial Ecosystems
- I received an honorable mention award for my presentation.

SENIOR HONORS THESIS PRESENTATION

Fort Worth, TX

Undergraduate Student Presenter

April 8, 2014

- Presentation Title: Methyl Mercury in Emergent Aquatic Insects and Terrestrial Spiders Reveals Linkages between Aquatic and Terrestrial Ecosystems
- Selected as a finalist to compete in the 2014 Boller Award Competition for Senior Honors Thesis Presentation and awarded \$250 cash prize.

JOINT AQUATIC SCIENCES MEETING

Portland, OR

Undergraduate Student Presenter

May 18-23, 2014

- Presentation Title: Methyl Mercury in Emergent Aquatic Insects and Terrestrial Spiders Reveals Linkages between Aquatic and Terrestrial Ecosystems

UNIVERSITY OF ARKANSAS STREAM ECOLOGY COURSE

Fayetteville, AR

Guest Presenter

December 4, 2014

- Presentation Title: Mercury Contamination on a Global Scale

SOCIETY FOR FRESHWATER SCIENCE ANNUAL MEETING

Milwaukee, WI

Graduate Student Poster Presenter

May 17-21, 2015

- Poster Title: Quantifying Denitrification Rates as a Function of Nitrate Availability in Vegetated Agricultural Ditches

SOCIETY FOR FRESHWATER SCIENCE ANNUAL MEETING

Sacramento, CA

Graduate Student Presenter

May 21-26, 2016

- Presentation Title: Seasonal Patterns in Nitrogen Fluxes as a Function of Nitrate Availability in Vegetated Agricultural Ditch Sediments

HONORS

- University of Notre Dame Notebaert Premier Fellowship
- Phi Beta Kappa – inducted as a Junior
- Big XII Dr. Prentice Gautt Postgraduate Scholarship
- Big XII Dr. Gerald Lage Award – The Big 12 Conference's Highest Academic Honor
- TCU Greek Woman of the Year 2013
- TCU John V. Roach Honors College Boller Award Finalist for Outstanding Senior Honors Thesis Presentation
- TCU Antonio Rivarés Award for Outstanding Achievement in Spanish – awarded to one graduating major student
- TCU Faculty Choice Award for Excellence in Spanish
- TCU Clark Society Scholar – Awarded for character, leadership, and sense of service

- TCU SERC Research Grant Recipient
- TCU John V. Roach Honors College
- Order of Omega – Greek Leadership Honor Society
- Academic All-Big 12 Scholar – First Team (2012-2013 & 2013-2014)
- Mountain West Scholar-Athlete Honor
- Mountain West All-Conference Academic Honor
- TCU Dean’s Scholarship
- TCU College of Science & Engineering Dean’s List
- Alpha Lambda Delta – Freshmen Honor Society
- Gamma Sigma Alpha – National Greek Academic Honor Society
- National Society of Collegiate Scholars

EXTRACURRICULAR INVOLVEMENT

TCU CROSS COUNTRY AND TRACK & FIELD TEAM

Fort Worth, TX

Walk-On Athlete

08/11-05/14

- Walked on as a sophomore, competed through the end of my senior year
- Twice daily practice and weight lifting as well as traveling obligations on weekends
- Required high level of time management to maintain success in both the athletic and academic realms

5TH AND 6TH ANNUAL DOWN & DIRTY 5K

Fayetteville, AR

Race Director

09/15-04/16

- Selected as race director for the University of Arkansas’s Crop, Soil, and Environmental Science Graduate Student Club Down & Dirty 5K for the 2015 and 2016 race
- Coordinate duties of the executive committee and volunteers
- Manage the race registration page, Facebook page, and website
- Gain sponsors and promote the race throughout the University of Arkansas and Fayetteville community

ALPHA CHI OMEGA

Fort Worth, TX

Vice President of Intellectual Development

12/11-12/12

Vice President of Chapter Relations and Standards

12/12-12/13

- Ensure the high academic achievement of all members of Alpha Chi Omega through the development of scholarship plans to aid struggling members and the planning of events to honor academic success
- Hold weekly standards board meeting and ensure each member is upholding our membership criteria and expectations
- Work with executive board and president to ensure our chapter of 230 women runs smoothly and follows national bylaws