**Jordan A. Holmes, B.S.**  
Department of Chemistry and Biochemistry

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# EDUCATION

2015 Florida State University B.S. in Environmental Chemistry

(Advisor: Dr. Thomas Miller, GPA: 3.68

Dr. William Landing) GRE: Verbal – 156 Math – 159

Minors: Mathematics, Biology

2015 - Present University of South Carolina Ph.D. in Analytical Chemistry

(Advisor: Dr. Parastoo Hashemi) GPA: 3.9

# RESEARCH EXPERIENCE

2011 **Volunteer at Orlando Regional Medical Center Pharmacy**

* Organized patient records
* Assisted pharmacists and pharmacy Technicians when creating injectable medications or dispensing drugs.
* Shadowed retail and hospital pharmacist.

2012 - 2013 **Undergraduate Research Assistant for Dr. Thomas E. Miller**

**Department of Biological Science, Florida State University**

* Researched the dynamic ecosystem within the carnivorous pitcher plant, *Sarracenia purpurea*.
* Monitored the abundance of bacteria and different species of protozoa within a community in response to nutrient spikes and predator presence.
* Collected field samples from pitcher plants in the Apalachicola National Forest.

2014 - 2015 **Undergraduate Research Assistant for Dr. William M. Landing**

**Department of Earth, Ocean and Atmospheric Science, Florida State University**

* Used ion chromatography to measure the concentration of trace metals in aerosol samples.
* Studied the solubility of trace metals in the gas phase when exposed to precipitation.

2015 – Present **Graduate Research Student for Dr. Parastoo Hashemi**

**Department of Chemistry and Biochemistry, University of South Carolina**

* Build carbon fiber microelectrodes in house grafted with a Cu(II) selective ionophore.
* Electrode surface modification and organic synthesis.
* Fast-scan cyclic voltammetry and fast-scan controlled adsorption voltammetry.
* Trace metal monitoring and on-site analysis.
* Environmental modelling using PHREEQC.

# ACTIVITIES AND HONORS

2011-2015 Florida Academic Scholarship, Bright futures

2011-2015 University Freshman Scholarship, Florida State University

2012-2013 Undergraduate Research Opportunities Program, Florida State University

2015 Graduated *Cum Laude* from Florida State University

2016-2017 Graduate Association for Brain Awareness (GABA) – a student organization dedicated to neurochemistry related outreach, University of South Carolina

2016 SERMACS Undergraduate Poster Judge

2017 Chemistry Outreach Program, University of South Carolina

2017 3 Minute Thesis Competition Finalist

# PEER REVIEWED PUBLICATIONS

**Holmes, J.A.**; Pathirathna, P.; Hashemi, P. “Recent developments in voltammetric techniques for on-site trace metal monitoring.” (In preparation – Reviews in Analytical Chemistry)

**Holmes, J.A.**; Hashemi, P. “Ionophore-grafted carbon fiber microelectrodes as on-site trace metal sensor.” (In preparation – Environmental Science and Technology)

**Holmes, J.A.**; Redden, B., Wiskur, C., Hashemi, P. “Electrochemical detection of non-electroactive neurotransmitters using ionphore-grafted carbon fiber microelectrodes” (In preparation – Analytical Chemistry)

# CONFERENCE PRESENTATIONS

***Poster***

2013 **Holmes, J.A.;** Schloth, R.; Bühler, M.; Miller, T.E. “Top-Predator Effects in Pitcher Plant Food Webs,” Florida State University Spring Undergraduate Research Symposium, Tallahassee, FL

***Talks***

2016 **Holmes, J.A.**; Pathirathna, P.; Siriwardhane, T.; Hashemi, P. “Characterization of ionophore-grafted carbon fiber microelectrodes,” SERMACS, Columbia, SC

2017 **Holmes, J.A.**; Pathirathna, P.; Siriwardhane, T.; Hashemi, P. “Ionophore-Grafted Carbon Fiber Microelectrodes as On-Site Trace Metal Voltammetric Sensor,” Pittcon Conference & Expo, Chicago, IL

***Attended***

2016 Pittcon Conference & Expo, Atlanta, GA

**TEACHING EXPERIENCE**

2015 General Chemistry 1 Honors – Dr. Scott Goode

2016 General Chemistry 2 Honors – Dr. Scott Goode

2016 Mentorship of 2 undergraduate students pursuing research