

# CURRICULUM VITAE

Elizabeth A. McElrath

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## ACADEMIC DEGREES:

### Master's Degree in Biological Science

Texas A&M University-Commerce, USA; August 2017-August 2019

**Thesis:** The Potential of *Croton lindheimeri* to remediate Iron and Strontium contaminated medium.

Many regions of the United States have been adversely affected by heavy metals. Iron and strontium have been shown to be potential environmental risks to humans and wildlife. Compared to traditional chemical methods, phytoremediation, which uses plants to uptake metals, is a cheaper and more environmentally friendly approach. Ideal plant species should be able to adapt to a wide range of environments and have a large biomass. The species *Croton lindheimeri* belongs to the Euphorbiaceae family, which has had other genus and species that show the potential for phytoremediation. Research is currently being performed to determine the capability for *C. lindheimeri* to remediate hydroponic media contaminated with Strontium and/or Iron.

**Graduate classes:** Animal Behavior, Applied Statistics and Experimental Design, Biogeography, Bioremediation, Endocrine Toxicology, Environmental Remediation, Landscape Ecology, Microbial Physiology, Vertebrate Zoology

### Bachelor's Degree in Environmental Science

Texas A&M University-Commerce, USA; August 2014-May 2017

**Major classes:** Botany, Ecology, General Chemistry, Geospatial Mapping, Environmental Ethics & Law, Environmental Geography, Environmental Hydrology, Introduction to Environmental Science, Introduction to Environmental Toxicology, Natural Disasters, Phase I Site Assessment, Physical Geology, Risk Assessment, Soil Science, Survey of Organic and Biochemistry, Zoology.

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## **PROFESSIONAL EXPERIENCE**

**Teaching Assistant**, Department of Biological and Environmental Sciences  
Texas A&M University-Commerce, Commerce Tx, USA: August 2017 to July 2019

**Undergraduate Internship**, Cooper Lake State Park-Doctor's Creek/Texas A&M  
University-Commerce: October 2015 to August 2016

### **Major Areas of Research Interest:**

Phytoremediation, Bioremediation, Astrobiology, Ethnobiology, Ecosystem  
Restoration, Environmental Science, Wildlife Biology

### **Teaching Experience:**

Research Methods in Environmental Science lab (ENVS 303L)

Zoology lab (BSC 1413L)

Botany lab (BSC 1411L)

Field Methods in Wildlife and Conservation Lab (BSC 337L)

## **PRESENTATIONS**

McElrath, Elizabeth A. (2018) Choosing a Plant to Use for Phytoremediation.  
Presented at EcoLions Seminar. Texas A&M University-Commerce, Tx.

McElrath, Elizabeth A. (2018) "The Potential of *Croton lindheimeri* to Remediate  
Iron and Strontium Contaminated Medium." Poster presentation at Pathways  
Symposium of Texas A&M University System. 2018. West Texas A&M. Canyon,  
Tx.

McElrath, Elizabeth A. (2018) Phytoremediation: Using Green Technology to  
Remediate Contaminated Sites. Presented at Department of Biological and  
Environmental Sciences Brown Bag Seminar. 2018. Texas A&M University-  
Commerce, Tx.

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## **SCHOLARSHIPS AND AWARDS**

- First Place. Master's Environmental Science Poster Presentation. Pathways Symposium of Texas A&M University System. 2018. West Texas A&M University. Canyon, Tx.  
**“The Potential of *Croton lindheimeri* to Remediate Iron and Strontium Contaminated Medium.”**
- A&M-Commerce Supplemental Graduate Assistant Stipend. 2018. Texas A&M University-Commerce, Tx.
- Graduate Teaching Assistantship. Department of Biological and Environmental Sciences. Texas A&M University-Commerce, Tx.

## **ORGANIZATIONS**

- **Environmental Awareness Society** (TAMUC ESA Seeds Chapter)  
Texas A&M University-Commerce
  - SEEDS Liaison                      October 2016 - May 2017
  - Vice President                      May 2017 - January 2018
  - Interim President                      January 2018 - February 2018
  - Chair                                      February 2018 – January 2019