# Rachel E. Baine

(210) 978-3106 • rebaine96@gmail.com • rebaine@tamu.edu

Resident Address:
3150 Finfeather Rd. Apt. 136
Bryan, TX 77801

Office Address:
Texas A&M University
Dept. of Psychological and Brain Sciences
ILSB BLDG Rm: 3149
301 Old Main Dr.
College Station, TX 77843

## Education:

**Texas A&M University** **College Station, TX**

Bachelors of Science Aug. 2014 – May 2018
Major in Biomedical Sciences
Minor in Neuroscience
*Graduated May 2018*

Masters of Public Health Aug. 2018 – May 2020
Concentration in Health Policy and Management
*Expected graduation May 2020*

## Research Experience:

**Texas A&M University** **College Station, TX**

Undergraduate Research Assistant Oct. 2016 – May 2018
*Laboratory of James Grau, Ph.D.*
- Explored effects of pain on recovery after spinal cord injury
- Assisted in activities including animal acclimations, surgical procedures, and cellular assays

Undergraduate Thesis Sep. 2017 – Apr. 2018
*Laboratory of James Grau, PhD*
- Examined the differences between male and female rats in long-term recovery following spinal cord injury
- Conducted experiment using locomotor function and estrous cycles as markers of recovery after receiving pain following spinal cord injury

Graduate Research Assistant Jun. 2018 – Present
*Laboratory of James Grau, PhD*
- Explored the effect of pain following spinal cord injury and the detrimental outcomes of secondary injury on recovery
- Assisted in managing laboratory operations including animal care, surgical procedures, and cellular assays

## Training

### Laboratory

- Histology:
  - Hematoxylin and eosin staining
  - Cryostat sectioning
  - Tissue collection and preparation
  - Protein extraction
  - Bradford assay
- Small animal surgery:
  - Use of gas (isoflurane) anesthesia in rats
  - Intracardial perfusion
  - Cervical spinal cord transection and sham operations
  - Thoracic spinal cord contusion and sham operations
  - Sciatic nerve dissection and transection
- Behavioral testing:
  - BBB locomotor scoring
  - Beam and ladder
- Pain testing:
  - Von Frey filament (plantar and girdle)
  - Non-invasive blood pressure and heart rate assessment

## Awards

First Place Undergraduate Poster in Veterinary Medicine & Biomedical Sciences Category
- Texas A&M University Student Research Week, April 2018
- "The Effect of Sex on Spinal Cord Injury Recovery Following Noxious Input"

## Abstracts and Presentations

### Undergraduate

"Female rats show protection against shock-induced hemorrhage following spinal cord injury"
TAMIN Symposium, College Station, Texas — Apr. 2017

"The effect of sex on spinal cord injury recovery following noxious input"
SfN Local Chapter Symposium, College Station, Texas — Dec. 2017

"The effect of sex on spinal cord injury recovery following noxious input"
Mission Connect Conference, Houston, Texas — Dec. 2017

"The effect of sex on spinal cord injury recovery following noxious input"
Texas A&M Student Research Week, College Station, Texas — April 2018

"The effect of sex on spinal cord injury recovery following noxious input"
TAMIN Symposium, College Station, Texas — April 2018

### Graduate:

"Pain input after spinal cord injury increases tissue loss and impairs long-term recovery: A comparison of male and female rats"
Society for Neuroscience, San Diego, California — November 2018