

Sarah Lillian Schantz
Graduate Research Assistant

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Education

University of Georgia, Projected Spring 2025

PhD, Neuroscience

Areas of Concentration: regenerative bioscience, large animal medicine, gait, animal behavior, Traumatic Brain Injury

University of Georgia, Spring 2021

Bachelor of Science and Art in Biological Science

Double Minor: Animal Science, Biology

Scholarship

Franklin Foundation Neuroimaging Fellow Spring 2022

Relevant Experience

Graduate Research Assistant, 2021-present

Working within the Animal and Dairy Science department, Regenerative Bioscience Center, and Neuroscience department studying restorative neural stem cell-based therapies in a swine model.

- Complete National Institute of Health funded research to evaluate the region-specific differentiation of induced neural stem cells and exercise after transplantation into a traumatic brain injury porcine model.
- Collect and critically analyze porcine gait and behavior in relation to neural injury.
- Complete National Institute of Health and Department of Defense funded research to evaluate a novel nanoparticle therapeutic into a traumatic brain injury model.
- Mentor and instruct team of 12-15 each undergraduate students each semester in gait and behavior training and data collection in a porcine neural injury model.

Large Animal Research Unit Graduate Assistant, 2021-present

Working closely with the facility manager to maintain the working condition of animal care and use facilities under strict regulations in pursuit of performing AAALAC certified animal research under NIH, USDA, and DOD funding.

- Maintain and clean AAALAC certified animal facilities
- Perform basic husbandry principles and animal care including weekends and holidays
- Assist with farrowing, neonatal intensive care, and general maternal/pediatric care

Regenerative Bioscience Center Graduate Student Association Board, Fall 2022

Participated in community outreach and social media coordination for the Regenerative Bioscience Graduate Student Association

- Propose and organize fundraiser events
- Creatively design flyers, posters, and other social media graphics for RBC events
- Support the GSA Board members in their specific roles

Technical Skills

In Vitro: aseptic cell culture technique

In Vivo: large animal handling, anesthesia induction and monitoring, jugular and peripheral blood draws and processing, animal behavior testing, animal gait collection, pre- and post-operative care, necropsy, brain extraction

Equipment/Technology: Ethovision Software, GAITFour, JMP, GraphPad Prism, Microsoft Office, Behavior Arena Construction and Optimization

Abstracts

1. Audebert, T., **Schantz, S.**, Sneed, S., West, F., Kinder, H. Assessment of induced neural stem cell therapy on behavior using an open field test in a piglet model of traumatic brain injury (2022). CAES Undergraduate Research Symposium. March. Athens, GA.

2. Cunnigham, M., **Schantz, S.**, Fagan, M., Cheek, S., Sneed, S., Kaiser, E., Duberstein, K., Kinder, H., West, F. A standardized approach for evaluating changes in motor function capability through gait analysis in a pediatric piglet traumatic brain injury model (2022). CAES Undergraduate Research Symposium. March. Athens, GA.

3. **Schantz, S.**, Fagan, M., Cheek, S., Sneed, S., Kaiser, E., Kinder, H., Duberstein, K., West, F. Addressing intra- and inter-run variability within gait analysis for evaluating motor function deficits and recovery in a pediatric piglet traumatic brain injury model (2022). RBC-ADS Research Symposium. April. Athens, GA.

4. Schifino, A.; Cosgrave, G., Rodrick, G., Davis, J., Ni, P., **Schantz, S.**, Sneed, S., Kindler, J., West, F., Call, J. Evaluating the effect of treadmill exercise on skeletal muscle function in a large-animal porcine model of traumatic brain injury (2023). Muscle Biology Conference: Advances in Skeletal Muscle Biology in Health and Disease. Gainesville, FL, 32603. 2023.

5. Emma K. Jones, Kristy L. Trung, Erin E. Kaiser, **Sarah L. Schantz**, Sydney E. Sneed, Taylor L. Hillhouse, Geffery S. Cosgrave, Savannah R. Cheek, Holly A. Kinder, Franklin D. West. Analysis of Hemisphere Volumetrics, Cerebral Blood Flow, and White Matter in a Neuroprotective Agent in A Piglet Model of Traumatic Brain Injury (2023). RBC-ADS Research Symposium. April. Athens, GA.

6. Charlie Nakatsu, Adelaide E. Thigpen, **Sarah L. Schantz**, Sydney E. Sneed, Taylor L. Hillhouse, Savannah R. Cheek, Holly A. Kinder, Franklin D. West. Assessment of Changes in Cognition and Motor Function in Response to a Proprietary Neuroprotective Agent in a Piglet Traumatic Brain Injury Model (2023). RBC-ADS Research Symposium. April. Athens, GA.

7. Taylor M. Brooks, Maria Levy, **Sarah L. Schantz**, Franklin D. West, Holly A. Kinder. Assessment of a delayed match to sample cognitive test in normal pigs. (2023). CURO Research Symposium. April. Athens, GA.

Symposium Attendance and Presentations

1. **Neural stem cell therapy significantly decreases intraparenchymal tissue damage leading to functional recovery in a piglet traumatic brain injury model.** Bridging Centers Workshop. Fall 2022. Athens, Ga
2. **Addressing intra- and inter-run variability within gait analysis for evaluating motor function deficits and recovery in a pediatric piglet traumatic brain injury model.** RBC-ADS Poster Symposium. Spring 2022. Athens, Ga
3. **Analysis of Gait and Behavior in a Swine Pediatric Traumatic Brain Injury Model.** Regenerative Bioscience Center Seminar Meeting. 2022 January. Athens, GA
4. **Evaluating Neurological Deficits Utilizing Cognition and Motor Function Analysis in Novel Large Animal Models.** Animal and Dairy Science Graduate Seminar. 2021 November. Athens, GA
5. Franklin West, **“Neuroprotective and Regenerative Stem Cell Therapies in a Pig Stroke and TBI Model.”** Spinal Cord & Brain Injury Research Center, University of Kentucky. March 2023. Lexington, KY
6. Franklin West, **“Neural Stem Cell and Microbiome Transplant Therapies in a Pediatric Pig Traumatic Brain Injury Model.”** 13th Annual Traumatic Brain Injury Conference. June 2023: Washington, DC.

Community Outreach

1. **Undergraduate Neuroscience Organization (UNO) Graduate School Panel**, Spring 2023