

KELLY M. SCHEULIN, PhD-c

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EDUCATION

University of Georgia, Regenerative Bioscience Center, Biomedical and Health Sciences Institute, Athens, GA 2017 – Present

- Ph.D. Candidate in Neuroscience
- Graduate Certificate in International Biomedical Regulatory Sciences
 - Gained a scientific and technical background of new or existing products current good manufacturing practices including regulations for pharmacy compounding and international regulations for Pharmaceutical, Biologics, Medical Device, Animal Health, International Regulations, and Combination Products
- Honors: Graduate Assistantship Scholarship (full tuition and stipend) | GPA: 3.8/4.0 scale
- Graduate Coursework: Neuroanatomy; Neurophysiology; Engineering Stem Cell Therapeutics; MRI Physics; MRI Analysis (multiple semesters); MatLab for Neuroscience; Statistics for Researchers; Current Topics in Neuroscience Literature; Current Topics in Stem Cell Literature; Responsible Conduct in Research; Ethical Issues in Research; Introduction to the Pharmaceutical, Biotechnology, Medical Devices, and Animal Health Industries; Current Good Manufacturing Practices; Food and Drug Law

University of Georgia, College of Agricultural and Environmental Science, Athens, GA 2013 – 2017

- B.S.A. in Biological Sciences | B.S.A. in Animal Science | Emphasis in Animal Biology
- Honors: Dean's List; CURO Assistantship and Scholarship; Regenerative Bioscience Center (RBC) Fellow; Edgar G. Dawson Scholarship; Cordelia Anne Ellis Scholarship; HOPE Scholarship Recipient | GPA: 3.5/4.0 scale

GRADUATE RESEARCH INTERESTS

Engineering regenerative and neuroprotective therapies and precision medicine for stroke, traumatic brain injury (TBI) and rare mitochondrial diseases; more specifically: Evaluating the regenerative and protective potential of **(1)** neural stem cell therapies (induced pluripotent derived-neural stem cells (iNSCs) + loaded nanoparticle combination therapy) and (iNSC-derived extracellular vesicles) for ischemic stroke and **(2)** fecal matter transplant (FMT) for TBI in a novel porcine model, and **(3)** utilizing magnetic resonance imaging (MRI), with a special interest in functional MRI (fMRI), diffusion tensor imaging (DTI), and magnetic resonance spectroscopy (MRS) in our pig model. **(4)** Generating induced pluripotent stem cells (iPSCs) from mitochondrial disease patient fibroblasts by a non-integrating, non-viral cellular reprogramming method, as well as, utilizing this technology for embryonic stem cell generation from iPSCs from endangered animal fibroblasts in an effort to keep populations from going extinct.

PROFESSIONAL EXPERIENCE

University of Georgia, Regenerative Bioscience Center, West Laboratory, Athens, GA

Graduate Research Assistant

January 2017 – Present

- Led multi-institutional, multi-departmental, collaborative translational research teams of 15+ people focused on engineering stem cell therapeutics as a regenerative therapy for stroke, traumatic brain injury (TBI), and rare mitochondrial diseases in *in vivo* and *in vitro* models with precision, organization, and detail-oriented behavior
 - Developed and acquired preclinical large animal stroke and TBI neuroimaging acquisition and analysis protocols
 - Generated induced pluripotent stem cells (iPSCs) from patient fibroblasts with a mitochondrial DNA mutation in rare mitochondrial diseases
 - Cultured and prepared iPSC-derived neural stem cells (iNSCs) as a regenerative therapeutic for ischemic stroke
 - Directed the MRI arm of fecal matter transplant (FMT) as a neuroprotective therapy for TBI
- Presented data at 12+ local, regional, and national professional meetings to a variety of audiences comprised of academic researchers, healthcare providers, and the community, both via oral and poster presentations
- Directly contributed to 2 funded grants from the DoD and NIH
 - *Heart-on-Chip for Drug Efficacy Testing for Mitochondrial Diseases*; \$299,004
 - *Neural Stem Cell Function in a Motor Cortex TBI*; \$405,000
 - and 6 other submitted grants with potential funding ranging from \$390,500 to \$3,413,210
- Mentored graduate and undergraduate students as they conduct animal and cell culture research
- Served as president and executive members of two graduate student organizations
- Acted as an undergraduate coordinator for the West Lab, mentoring undergraduate researchers (40+ to date) as they conduct relevant research projects and pursue a career in research, resulting in 17 abstracts to date that involved one-on-one time with the undergraduate to prepare for the oral or poster presentation

Undergraduate Researcher

August 2016 – May 2017

- Studied novel regenerative therapeutics for TBI
- Cultured iPSCs and iNSCs and assisted in piglet surgeries to study neural injuries
- Moved into paid graduate research assistant role in Jan 2017 starting dissertation research, while finishing one undergraduate class

National Science Foundation Innovation Corps, Entrepreneurial Lead, Athens, GA

January 2019 – Present

- Communicated with veterinarians across the nation to gather information related to a delivery mechanism used in their practice
- Compiled clinical data learned and presented findings to 50+ people via oral presentation
- Worked with a veterinarian to research, develop and commercialize a seizure medication delivery product to take to market
- Gained experience in submitting a Georgia Research Alliance (GRA) proposal and exposure to the provisional patent process

Animal Medical Clinic, Veterinarian Assistant, Peachtree City, GA

May 2016 – January 2017

- Assisted in patient treatments and communicated with clients on animal care, lab results and specific animal care education
- Administered vaccines, pharmaceutical treatments and filled prescriptions
- Collected vitals and lab specimens and monitored patient surgeries and recoveries

University of Georgia Veterinary Teaching Hospital, Athens, GA

Veterinarian Assistant

July 2014 – August 2016

- Served as a team leader, managing hiring and scheduling of the evening specialty services team
- Assisted with small and large animal examinations, sedation, radiographs and rehabilitation under Jodi Seidel, RVT, CCRP
- Aided in specialty services treatments and restocked surgical supplies
- Processed cashier payments and provided genuine customer service

Large Animal Emergency Critical Care Team

November 2014 – January 2017

- On call emergency response member for large animals admitted into the hospital
- Assisted doctors and technicians at large animal vet school, attended rounds, monitored animals under treatment, observed surgeries

University of Georgia Cattle Farm, Intern and Undergraduate Researcher, Athens, GA

August 2013 – December 2015

- Dairy heifer reproductive research assistant gained experience with ultrasound, pharmaceuticals, and blood work
- Medicated, vaccinated, and heat tracked dairy cattle in the UGA Dairy cattle herd
- Played a vital role in forming the Jersey cattle herd at UGA by utilizing genetic tracing

PUBLICATIONS

Primary Author Publications

1. Samantha E. Spellicy†, **Kelly M. Scheulin**†, Emily W. Baker, Brian J. Jurgielewicz, Holly A. Kinder, Elizabeth S. Waters, Janet A. Grimes, Steven L. Stice, Franklin D. West. “*Semi-automated cell and tissue analyses reveal regionally specific morphological alterations of immune and neural cells in a porcine middle cerebral artery occlusion model of stroke.*” Front Cell Neurosci. 2021.
2. **Kelly M. Scheulin**†, Brian J. Jurgielewicz†, Samantha E. Spellicy, Elizabeth S. Waters, Emily W. Baker, Holly A. Kinder, Gregory A. Simchick, Sydney E. Sneed, Janet A. Grimes, Qun Zhao, Steven L. Stice, Franklin D. West. “*Exploring the predictive value of lesion topology on motor function outcomes in a porcine ischemic stroke model.*” Sci Rep. 2021.
3. Gregory A. Simchick†, **Kelly M. Scheulin**†, Wenwu Sun, Sydney E. Sneed, Madison M. Fagan, Savannah R. Cheek, Franklin D. West, Qun Zhao. “*Detecting functional connectivity disruptions in a translational pediatric traumatic brain injury porcine model using resting-state and task-based functional magnetic resonance imaging.*” Sci Rep. In review.
4. **Kelly M. Scheulin**, Fibi Meshrkey, Joshua C. Stabach, Raj Rao, Franklin D. West, Shilpa Iyer. “*Modeling Leigh’s Syndrome with patient iPSCs.*” In preparation.
5. **Kelly M. Scheulin**, Fibi Meshrkey, Joshua C. Stabach, Raj Rao, Franklin D. West, Shilpa Iyer. “*Characterization of MELAS iPSCs with mutations that persist throughout mRNA reprogramming process.*” In preparation.

Co-Author Publications

6. Erin E. Kaiser†, Elizabeth S. Waters†, Madison M. Fagan, **Kelly M. Scheulin**, Simon R. Platt, Julie H. Jeon, Xi Fang, Holly A. Kinder, Soo K. Shin, Kylee J. Duberstein, Hea J. Park, Franklin D. West. “*Characterization of tissue and functional deficits in a clinically translational pig model of acute ischemic stroke.*” Brain Res. 2020.
7. Erin E. Kaiser†, J. C. Poythress†, **Kelly M. Scheulin**, Brian J. Jurgielewicz, Nicole A. Lazar, Cheolwoo Park, Steven L. Stice, Jeongyoun Ahn, Franklin D. West. “*An integrative multivariate approach for predicting functional recovery from MRI parameters in a translational pig ischemic stroke model.*” Neural Regen Res. 2021.
8. Julie H. Jeon, Jeferson Lourenco, Erin E. Kaiser, Elizabeth S. Waters, **Kelly M. Scheulin**, Xi Fang, Holly A. Kinder, Simon R. Platt, Michael J. Rothrock Jr, Todd R. Callaway, Franklin D. West, Hea Jin Park. “*Dynamic changes in the gut microbiome at the acute stage of ischemic stroke in a pig model.*” Front Neurosci. 2020.
9. Elizabeth S. Waters†, Erin E. Kaiser†, Xueyuan Yang†, Madison M. Fagan, **Kelly M. Scheulin**, Xi Fang, Julie Jeon, Holly A. Kinder, Anil Kumar, Simon R. Platt, Kylee Jo Duberstein, Hea Jin Park, Jin Xie, Franklin D. West. “*Intracisternal administration of Tanshinone IIA-loaded nanoparticles in a porcine model of ischemic stroke.*” IBRO Reports. 2020.
10. Sydney E. Sneed, **Kelly M. Scheulin**, Erin E. Kaiser, Madison M. Fagan, Brian J. Jurgielewicz, Elizabeth S. Waters, Samantha E. Spellicy, Kylee J. Duberstein, Simon R. Platt, Emily W. Baker, Steven L. Stice, Holly A. Kinder, Franklin D. West. “*Magnetic resonance imaging and gait analysis indicate similar outcomes between Yucatan and Landrace porcine ischemic stroke models.*” Front Neurol. 2020.
11. Erin E. Kaiser†, Elizabeth S. Waters†, **Kelly M. Scheulin**, Madison M. Fagan, Anil Kumar, Xueyuan Yang, Sydney E. Sneed, Xi Fang, Julie Jeon, Soo Shin, Holly A. Kinder, Simon R. Platt, Kylee J. Duberstein, Hea Jin Park, Jin Xie, Franklin D. West. “*Tanshinone IIA-loaded nanoparticles and induced pluripotent stem cell-derived neural stem cell therapies enhance recovery in a translational pig ischemic stroke model.*” In preparation.

† these authors contributed equally to this work

LEADERSHIP & COMMUNITY OUTREACH

Team Heart, Volunteer, Virtual

November 2020 – Present

- Actively creating PowerPoint presentations to share with medical and nursing students in Rwanda on cardiovascular-related diseases
- Team Heart is a volunteer organization that provides education, cardiac care, and surgery to individuals in Rwanda

Regenerative Bioscience Center Graduate Student Association, *President and Finance Chair*, Athens, GA August 2017 – July 2020

- Co-founded and served executive roles on a graduate student-run organization that organizes events for the RBC community at UGA and extending out to the Regenerative Engineering and Medicine communities at Georgia Tech and Emory
- Planned and executed 4 successful RBC Symposiums

Graduate Students and Postdocs in Science, *Executive Board Member*, Athens, GA July 2019 – Present

- Managed an organization of 200+ graduate students and postdocs
- Planned annual career developmental events and facilitated networking throughout departments, campus and the industry

University of Georgia, *Graduate Mentor for 41 Undergraduate Researchers*, Athens, GA August 2017 – Present

Georgia Middle and High School Science Fair, Athens, GA January 2018 - April 2020

- Evaluated and provided impartial, valuable, and thorough feedback on high school science fair projects as a Senior Tier I judge
- Assisted middle school students with their science fair projects through the ASPIRE Program

STEMzone and STEMpalooza, Athens, GA June 2019 – November 2019*

- Set up stations about regenerative medicine/neuroscience to teach kids as they walk into the UGA football stadium
 - Represented the RBC to showcase our center as well as opportunities for the RBC graduate students to get involved in the classrooms at a summer conference for educators, administrators, and exhibitors from across the state
- *2020 STEMzone cancelled due to COVID-19 restrictions

AWARDS

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- National Science Foundation (NSF) Innovation Corps (I-Corps) Team Travel Award **\$3000** October 2019
 - 1st Place in Poster Presentation at RBC Fellows Symposium **\$120** April 2019
 - Franklin Foundation Neuroimaging Group Proposal Award **\$10,000** January 2019
 - Neuroscience Department, Graduate School Travel Award (G117) **\$650** October 2018

LABORATORY SKILLS

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- *In vitro*: Aseptic Cell Culture Technique; Cell Syringe Loading for in vivo Transplantation; Flow Cytometry; Fluorescence-activated cell sorting (FACS); Immunocytochemistry; Mammalian Cell Culture (human, pig, tiger, leopard); Media Preparation; Non-integrating, Non-Viral Reprogramming of Fibroblasts into iPSCs; Protein and RNA Isolation/Purification/Quantification; RT-qPCR
 - *In vivo*: Laboratory Animal Handling (including blood draws, drug administration, intubation, placing catheters, recovery); Research Animal Anesthesia Induction and Monitoring; Research Animal Surgery utilizing Aseptic Technique, Craniotomy, Stereotaxic Cell Injections and Suturing; Magnetic Resonance Imaging (MRI) Monitoring, Acquisition and Protocol Development; Emergency and Post-Operative Care Administration; Tissue Handling/Processing including Brain (pig, mouse) and Organ (pig) Extraction; Tissue Cryosectioning; Immunohistochemistry; Ex Vivo Fluorescent Imaging; Animal Behavior Testing (Novel Object Recognition Testing, Open Field Testing); Animal Gait Collection (GaitFOUR); ELISAs; Cytokine Multiplex Assays; Plasma and Serum Processing; Blood Smears and WBC Analysis

COMPUTATIONAL SKILLS

-
- Programming Languages: Bash, Java (basic), MatLab, Python (basic), R (basic)
 - MRI Analysis Programs: AFNI, FreeSurfer, FSL (FSLeyes), Mango, MedInria, MRICro, OsiriX, 3D Slicer, SPM
 - Other Programs: Adobe Photoshop, BioPlex Manager, CyberDuck, Fiji, FlowJo, GraphPad Prism, ImageJ, ImagePro, JMP, MatLab, Microsoft Office, Statistical Analysis System (SAS), SPSS, R Studio, Xquartz

EQUIPMENT

Autoclave, Bio-Rad Bio-Plex Multiplex System from Luminex, Centrifuge, Continuous-Flow Anesthetic Machine, Cortical Controlled Impactor, Cryostat, Cytation5, DSU Confocal Microscope, Flex Station Plate Reader, Flow Cytometer: Acca Quanteon, Beckman Coulter CyAn and CytoFLEX, GE HDx 3T MRI System, GE Discovery MR750 3T MRI magnet, Heska Veterinary Diagnostics, IVIS Lumina II, Laminar Flow Hoods, Liquid Nitrogen Dewar, Microinjector, Micropipettes, Phase Contrast Microscope, Radiography Equipment, Stereotaxic Injector Frame, Ultrasound, Zeiss LSM 710 and 880 Confocal Microscope

SYMPOSIUMS, CONFERENCES, & NOTABLE SPEAKING ENGAGEMENTS

-
- International Stroke Conference** March 2021
- Abstract accepted on the “*A precision medicine approach to intracerebral stem cell transplantation utilizing lesion topology in a porcine model of ischemic stroke*” in a virtual format
- Georgia Bio Innovation Summit** November 2020
- Abstract accepted on the “*Inclusion of Ischemic Stroke Lesion Topology in a Translational Porcine Model Leads to Better Prediction of Functional Outcomes*” in a virtual format
- Military Health System Research Symposium** August 2020

- Abstract accepted on the “*Resting state and task based functional magnetic resonance imaging demonstrate traumatic brain injury disrupts cognitive and motor function brain networks in a translational porcine model*” in Kissimmee, FL. Meeting cancelled due to COVID-19 concerns
- Regenerative Bioscience Center Research Seminar** January 2020
- Oral presentation on the “*Magnetic resonance imaging evaluation of neural injuries in a porcine model*” in Athens, GA
- National Science Foundation (NSF) Innovation Corps (I-Corps) VII Showcase, University of Georgia** October 2019
- Oral presentation on the “*Emergency seizure treatment: An unmet veterinary medical need*” in Athens, GA
- Mitochondrial Medicine 2019** June 2019
- Poster presentation on the “*mRNA reprogramming of patient-specific mitochondrial disease fibroblasts into human induced pluripotent stem cells*” in Washington D.C.
- Graduate Students and Postdocs in Science Research Day** June 2019
- Poster presentation on the “*Mitochondrial diseased patient fibroblasts reprogrammed into induced pluripotent stem cells by mRNA reprogramming technology*” in Athens, GA
- Regenerative Bioscience Center Fellows Symposium** April 2019
- Poster presentation on the “*mRNA reprogramming of patient-specific mitochondrial disease fibroblasts into human induced pluripotent stem cells*” and **won 1st place** in Athens, GA
- Regenerative Medicine Workshop** March 2019
- Poster presentation on the “*mRNA reprogramming of Leigh’s Syndrome patient fibroblasts into induced pluripotent stem cells*” in Charleston, SC
- Georgia Clinical and Translational Science Conference** February 2019
- Oral presentation on the “*mRNA reprogramming of Leigh’s Syndrome patient fibroblasts into induced pluripotent stem cells*” in Pine Mountain, GA
- Cold Spring Harbor Meeting: The Evolving Concept of Mitochondria** October 2018
- Poster presentation on the “*mRNA reprogramming of Leigh’s Syndrome patient fibroblasts into induced pluripotent stem cells*” in Cold Spring Harbor, NY
- DevBio 2018 Fall Symposium** October 2018
- Poster presentation on the “*mRNA reprogramming of mitochondrial disease patient-specific fibroblasts into induced pluripotent stem cells*” in Athens, GA
- Regenerative Bioscience Center Research Seminar** August 2018
- Oral presentation on the “*Human neural stem cell extracellular vesicles as a therapeutic treatment for ischemic stroke*” in Athens, GA
- Regenerative Bioscience Center Fellows Symposium** March 2018
- Poster presentation on the “*mRNA reprogramming of mitochondrial disease patient-specific fibroblasts into induced pluripotent stem cells*” in Athens, GA
- Southern Translational Education and Research Conference** September 2017
- Poster presentation on the “*Longitudinal magnetic resonance imaging and histological assessment of a porcine traumatic brain injury model*” in Augusta, GA
- Regenerative Bioscience Center Fellows Symposium** April 2017
- Poster presentation on the “*Nanoparticles transport of FDA-approved drugs across the blood brain barrier in a porcine stroke model*” in Athens, GA
- UGA Center for Undergraduate Research Annual Symposium** March 2017
- Poster presentation on the “*Nanoparticles transport of FDA-approved drugs across the blood brain barrier in a porcine stroke model*” in Athens, GA

CO-AUTHOR ABSTRACTS

1. Wenwu Sun, **Kelly M. Scheulin**, Sydney E. Sneed, Madison M. Fagan, Savannah R. Cheek, Christina B. Welch, Morgane E. Golan, Franklin D. West, and Qun Zhao. *Detecting functional connectivity changes in a pig traumatic brain injury model using resting-state fMRI*. ISMRM. 2021 May. Virtual.
2. Elizabeth S. Waters, Erin E. Kaiser, Xueyuan Yang, Madison M. Fagan, **Kelly M. Scheulin**, Julie H. Jeon, Soo K. Shin, Holly A. Kinder, Anil Kumar, Simon R. Platt, Kylee J. Duberstein, Hea J. Park, Jin Xie, and Franklin D. West. *Intracisternal administration of tanshinone IIA-loaded nanoparticles leads to reduced tissue injury and functional deficits in a porcine model of ischemic stroke*. Stroke. 2020 December. Virtual.
3. Karen A. Mancera, Kelly M. Scheulin, and Ross Marklein. *High throughput image-based assessment of iPSC morphology to optimize post-thaw recovery*. Biomedical Engineering Society Annual Meeting. 2020 October. Virtual.
4. Erin E. Kaiser, Elizabeth S. Waters, Brian J. Jurgielewicz, Xueyuan Yang, Madison M. Fagan, **Kelly M. Scheulin**, Samantha E. Spellicy, Julie H. Jeon, Soo K. Shin, Sydney E. Sneed, Holly A. Kinder, Simon R. Platt, Hea J. Park, Kylee J. Duberstein, Steven L. Stice, Jin Xie, and Franklin D. West. *Assessment of nanoparticle and neural stem cell extracellular vesicle therapies in a preclinical porcine neural injury model*. MHSRS. 2020 August. Kissimmee, FL. Accepted, but meeting cancelled due to COVID-19 concerns
5. Elizabeth S. Waters, Erin E. Kaiser, Xueyuan Yang, Madison M. Fagan, **Kelly M. Scheulin**, Julie H. Jeon, Soo K. Shin, Holly A. Kinder, Anil Kumar, Simon R. Platt, Kylee J. Duberstein, Hea J. Park, Jin Xie, and Franklin D. West. *Intracisternal administration of tanshinone IIA-loaded nanoparticles leads to reduced tissue injury and functional deficits in a porcine model of ischemic stroke*. SDB. 2020 July. Online Poster Session
6. Samantha E. Spellicy, **Kelly M. Scheulin**, Emily W. Baker, Caroline A. Temple, Michael M. Bowler, Elizabeth S. Waters, Brian J. Jurgielewicz, Janet A. Grimes, Holly A. Kinder, Franklin D. West, and Steven L. Stice. *Neural stem cell-derived extracellular vesicles attenuate characteristic pro-inflammatory increases in a porcine model of ischemic stroke*. American Physician Scientist Association (APSA)-American Society for Clinical Investigation (ASCI) -Association of American Physicians (AAP) joint meeting. 2020 April. Accepted, but meeting cancelled due to COVID-19 concerns

7. Sydney E. Sneed, **Kelly M. Scheulin**, Erin E. Kaiser, Madison M. Fagan, Brian J. Jurgielewicz, Elizabeth S. Waters, Samantha E. Spellicy, Kylee J. Duberstein, Simon R. Platt, Emily W. Baker, Steven L. Stice, Holly A. Kinder, and Franklin D. West. "Magnetic resonance imaging and gait analysis indicate similar outcomes between Yucatan and Landrace porcine ischemic stroke models." Regenerative Medicine Workshop. 2020 March. Isle of Palms, SC. Accepted, but meeting cancelled due to COVID-19 concerns
8. Samantha E. Spellicy, **Kelly M. Scheulin**, Emily W. Baker, Abby Temple, Michael M. Bowler, Brian J. Jurgielewicz, Elizabeth S. Waters, Janet A. Grimes, Holly A. Kinder, Franklin D. West, and Steven L. Stice. *Attenuation of stroke associated pro-inflammatory responses through neural stem cell derived extracellular vesicle treatment*. Regenerative Medicine Workshop. 2020 March. Isle of Palms, SC. Accepted, but meeting cancelled due to COVID-19 concerns
9. Sydney E. Sneed, **Kelly M. Scheulin**, Erin E. Kaiser, Madison M. Fagan, Brian J. Jurgielewicz, Elizabeth S. Waters, Samantha E. Spellicy, Kylee J. Duberstein, Simon R. Platt, Emily W. Baker, Steven L. Stice, Holly A. Kinder, and Franklin D. West. "Magnetic resonance imaging and gait analysis indicate similar outcomes between Yucatan and Landrace porcine ischemic stroke models." Georgia Bio. 2019 October. Atlanta, GA
10. Anna L. Zukowski, **Kelly M. Scheulin***, Sydney E. Sneed, Madison M. Fagan, Savannah R. Cheek, Holly A. Kinder, and Franklin D. West. *White matter evaluation after moderate traumatic brain injury in a gyrencephalic pig brain*. CURO Symposium. 2020 April. Athens, GA
11. Bridgette A. Pronesti, **Kelly M. Scheulin***, Sydney E. Sneed, Madison M. Fagan, Savannah R. Cheek, Holly A. Kinder, and Franklin D. West. *Investigation of functional connectivity by functional magnetic resonance imaging in the acute stage post traumatic brain injury*. CURO Symposium. 2020 April. Athens, GA
12. Sungjae Cho, Gregory A. Simchick, **Kelly M. Scheulin***, Franklin D. West, and Qun Zhao. *Mapping of neurological activities of pigs with traumatic brain injury using functional magnetic resonance imaging and electrical muscle stimulation*. CURO Symposium. 2020 April. Athens, GA
13. Bridgette A. Pronesti, **Kelly M. Scheulin***, Gregory A. Simchick, Sydney E. Sneed, Wenwu Sun, Madison M. Fagan, Savannah R. Cheek, Erin E. Kaiser, Holly A. Kinder, Kylee J. Duberstein, Qun Zhao, and Franklin D. West. *Functional magnetic resonance imaging patterns demonstrate altered functional connectivity between brain networks in a porcine traumatic brain injury model*. CAES Undergraduate Research Symposium. 2020 April. Athens, GA
14. Kristin J. Dennard, **Kelly M. Scheulin***, Sydney E. Sneed, Madison M. Fagan, Savannah R. Cheek, Erin E. Kaiser, Holly A. Kinder, Kylee J. Duberstein, and Franklin D. West. *Pediatric traumatic brain injury results in cerebral changes in a translatable pre-clinical porcine model*. CAES Undergraduate Research Symposium. 2020 April. Athens, GA
15. Julie H. Jeon, Jefferson Lourenco, Erin E. Kaiser, Elizabeth S. Waters, **Kelly M. Scheulin**, Madison M. Fagan, Xi Fang, Holly A. Kinder, Simon R. Platt, Kylee Jo J Duberstein, Todd Callaway, Franklin D. West, and Hea Jin Park. *Dynamic changes of gut microbiome and immune response during the acute stage of stroke in a pig model*. Nutrition 2019 Conference. 2019 June. Baltimore, MD
16. Sowmya Radhakrishnan, **Kelly M. Scheulin***, Madison M. Fagan, Erin E. Kaiser, Elizabeth S. Waters, Xueyuan Yang, Anil Kumar, Julie H Jeon, Xi Fang, Holly A. Kinder, Simon R. Platt, Hea Jin Park, Jin Xie, Kylee J. Duberstein, and Franklin D. West. *Analysis of magnetic resonance imaging and spatiotemporal gait parameters in response to Tanshinone-IIA loaded nanoparticle treatment in a pig model of ischemic stroke*. CAES Undergraduate Research Symposium. 2019 April. Athens, GA ****Student won 1st place in poster presentation**
17. Mackenzie L. Snyder, **Kelly M. Scheulin***, Madison M. Fagan, Erin E. Kaiser, Elizabeth S. Waters, Xueyuan Yang, Anil Kumar, Julie H Jeon, Xi Fang, Holly A. Kinder, Simon R. Platt, Hea Jin Park, Jin Xie, Kylee J. Duberstein, and Franklin D. West. *Tanshinone-IIA loaded nanoparticle treatment demonstrates increased diffusivity, white matter integrity and improved motor function in a pig model of ischemic stroke*. Regenerative Bioscience Center Fellows Symposium. 2019 April. Athens, GA
18. Caroline A. Temple, **Kelly M. Scheulin***, Samantha S. Spellicy, Elizabeth S. Waters, Holly A. Kinder, Steven L. Stice, and Franklin D. West. *White blood cell counts post-stroke in yucatan minipigs: Male vs Female*. CURO Symposium. 2019 April. Athens, GA
19. Mariafernanda Alcalde, **Kelly M. Scheulin***, Madison M. Fagan, Erin E. Kaiser, Elizabeth S. Waters, Xueyuan Yang, Anil Kumar, Julie H Jeon, Xi Fang, Holly A. Kinder, Simon R. Platt, Hea Jin Park, Jin Xie, Kylee J. Duberstein, and Franklin D. West. *Analysis of magnetic resonance imaging and spatiotemporal gait parameters in response to Tanshinone-IIA loaded nanoparticle treatment in a pig model of ischemic stroke*. CURO Symposium. 2019 April. Athens, GA
20. Madison M. Fagan, Erin E. Kaiser, Elizabeth S. Waters, Xueyuan Yang, Anil Kumar, **Kelly M. Scheulin**, Julie H. Jeon, Xi Fang, Holly A. Kinder, Simon R. Platt, Hea Jin Park, Jin Xie, Kylee Jo Duberstein, and Franklin D. West. *Assessment of spatiotemporal changes in response to Tanshinone-IIa nanoparticle administration in a pig model of ischemic stroke*. Regenerative Medicine Workshop. 2019 March. Charleston, SC
21. Gina A. Kim, Jennifer Mumaw, **Kelly M. Scheulin**, Brian J. Jurgielewicz, Elizabeth S. Waters, Lisa H. Williamson, Tamas Nagy, Franklin D. West, and Stephen B. Harvey. *Lameness in a Yucatan Minipig*. American Association for Laboratory Animal Science (AALAS). 2018 November. Baltimore, MD
22. Gina A. Kim, Jennifer Mumaw, **Kelly M. Scheulin**, Elizabeth S. Waters, Elizabeth W. Howerth, Franklin D. West, and Stephen B. Harvey. *Complications in a Stroke Model in Yucatan Minipigs*. American Association for Laboratory Animal Science (AALAS). 2018 November. Baltimore, MD
23. Ajibola Bakare, Olivia Kolenc, **Kelly M. Scheulin**, Harrison E. Grace, Raj R. Rao, Edward J. Lesnefsky, Kyle P. Quinn, Franklin West and Shilpa Iyer. *Creating patient-specific stem cell models and characterizing metabolic changes in Leigh's Syndrome*. Bioenergetics Conference. 2018 August. Budapest, Hungary
24. Caroline "Abby" Temple, **Kelly M. Scheulin***, Elizabeth S. Waters, and Franklin D. West. *Human neural stem cell derived extracellular vesicles as a therapeutic treatment for stroke*. CURO Summer Fellowship Symposium. 2018 August. Athens, GA
25. Laurel Parker, **Kelly M. Scheulin***, Monika Saini, and Franklin D. West. *mRNA reprogramming of Leigh's Syndrome fibroblasts into induced pluripotent stem cells*. CURO Symposium. 2018 April. Athens, GA
26. Hend K. Rasheed, **Kelly M. Scheulin***, and Franklin D. West. *Neural stem cells cultured in Neurobasal media exhibit increased survival and proliferation compared to NeuroCult media*. CURO Symposium. 2018 April. Athens, GA
27. Shuchi Patel, **Kelly M. Scheulin***, Monika Saini, and Franklin D. West. *Efficiency of induced pluripotent stem cell derived neural stem cells to differentiate and the effects of DiR-labeling on cell viability and cytotoxicity*. CURO Symposium. 2018 April. Athens, GA

28. Laurel Parker, **Kelly M. Scheulin***, Monika Saini, and Franklin D. West. *mRNA reprogramming of leigh's syndrome fibroblasts into induced pluripotent stem cells*. Regenerative Bioscience Center Symposium. 2018 April. Athens, GA
29. Shuchi Patel, **Kelly M. Scheulin***, Monika Saini, and Franklin D. West. *Efficiency of induced pluripotent stem cell derived neural stem cells to differentiate and the effects of DiR-labeling on cell viability and cytotoxicity*. Regenerative Bioscience Center Symposium. 2018 April. Athens, GA
30. Sonia Punja, Monika Saini, W. Matthew Henderson, **Kelly M. Scheulin***, Vivian W. Lau, Emily W. Baker, Harrison E. Grace, Holly A. Kinder, Simon R. Platt, and Franklin D. West. *Induced pluripotent stem cell derived neural stem cell treatment leads to a more normal metabolomic profile in a porcine stroke model*. Regenerative Bioscience Center Symposium. 2018 April. Athens, GA
31. Hend K. Rasheed, **Kelly M. Scheulin***, and Franklin D. West. *Neural stem cells cultured in Neurobasal media exhibit increased survival and proliferation compared to Neurocult media*. Regenerative Bioscience Center Symposium. 2018 April. Athens, GA
32. Zachary T. Jones, Erin E. Kaiser, Elizabeth S. Waters, **Kelly M. Scheulin**, Madelaine N. Wendzik, Holly A. Kinder, Simon R. Platt, and Franklin D. West. *Magnetic resonance imaging T2 Weighted sequences demonstrate acute changes in cerebral hemisphere, ventricle, and lesion volumes in a pig model of ischemic stroke*. Regenerative Bioscience Center Fellows Symposium. 2018 April. Athens, GA
33. Neil K. Doshi, Erin E. Kaiser, Elizabeth S. Waters, **Kelly M. Scheulin**, Madelaine N. Wendzik, Holly A. Kinder, Simon R. Platt, and Franklin D. West. *Magnetic resonance imaging assessment in a porcine model of ischemic stroke demonstrates reduced diffusivity and white matter damage*. Regenerative Bioscience Center Fellows Symposium. 2018 April. Athens, GA
34. Zachary T. Jones, Erin E. Kaiser, Elizabeth S. Waters, **Kelly M. Scheulin**, Madelaine N. Wendzik, Holly A. Kinder, Simon R. Platt, and Franklin D. West. *Magnetic resonance imaging T2 Weighted sequences demonstrate acute changes in cerebral hemisphere, ventricle, and lesion volumes in a pig model of ischemic stroke*. Center for Undergraduate Research Opportunities Symposium. 2018 April. Athens, GA
35. Neil K. Doshi, Erin E. Kaiser, Elizabeth S. Waters, **Kelly M. Scheulin**, Madelaine N. Wendzik, Holly A. Kinder, Simon R. Platt, and Franklin D. West. *Magnetic resonance imaging assessment in a porcine model of ischemic stroke demonstrates reduced diffusivity and white matter damage*. Center for Undergraduate Research Opportunities Symposium. 2018 April. Athens, GA
36. Zachary T. Jones, Elizabeth S. Waters, Madelaine N. Wendzik, Kimberly D. Haight, **Kelly M. Scheulin**, Monika Saini, and Franklin D. West. *Acute induced neural stem cell transplantation may reduce blood brain barrier permeability in a porcine traumatic brain injury model*. Georgia Undergraduate Research Conference. 2017 October. Milledgeville, GA
37. Elizabeth S. Waters, Kimberly D. Haight, Madelaine N. Wendzik, Monika Saini, **Kelly M. Scheulin**, and Franklin D. West. *Acute induced neural stem cell transplantation may reduce blood brain barrier permeability in a porcine traumatic brain injury model*. Southern Translational Education and Research Conference. 2017 September. Augusta, GA
38. Kimberly D. Haight, Madelaine N. Wendzik, Elizabeth S. Waters, Monika Saini, **Kelly M. Scheulin**, and Franklin D. West. *Effect of acute iNSC transplantation on BBB leakage in a novel porcine controlled cortical impact TBI model*. Merial-NIH National Veterinary Scholars Symposium. 2017 July. Bethesda, MD

*Served as Graduate Student Mentor

CONTRIBUTIONS TO SCIENCE

1. Erin E. Kaiser and Franklin D. West. *Large animal ischemic stroke models: replicating human stroke pathophysiology*. Neural Regen Res. 2020.

PROPOSALS SUBMITTED

- The Franklin Foundation Neuroimaging Group (**awarded, \$10,000**) January 2019
"A longitudinal assessment of the functional and structural connectivity of the visual and auditory cortices using functional magnetic resonance imaging in anesthetized piglets"
- Innovative and Interdisciplinary Research Grants for Doctoral Students, Graduate Student Grant Program February 2019
"A longitudinal assessment of functional and structural connectivity of the piglet brain using functional magnetic resonance imaging"

MEETING ATTENDANCE

- Georgia Bio Innovation Summer, *Virtual* November 2020
- Life Science's Industry Day, *Virtual* September 2020
- Sports Neuropsychology Society 2020, *Virtual* July 2020
- United Mitochondrial Disease Foundation (UMDF) Power Surge 2020, *Virtual* June 2020
- ISSCR 2020, The Global Stem Cell Event, *Virtual* June 2020
- Veterinary Meeting and Expo, *Orlando, FL* January 2020
- Georgia Bio Innovation Summit, *Atlanta, GA* October 2019
- Life Sciences Industry Day, *Athens, GA* September 2019
- Society for Neuroscience, *Washington D.C.* November 2017
- Center for Molecular Medicine, *Athens, GA* October 2017

COURSE ATTENDANCE

- Python Basics, University of Georgia, *Athens, GA* March 2019
- AFNI Bootcamp, MRI Analysis Training (DTI and fMRI), National Institutes of Health, *Bethesda, MD* October 2018
- FreeSurfer, MRI Analysis Training, Martinos Center for Biomedical Imaging, Harvard University, *Boston, MA* September 2017
- Linux Training, University of Georgia, *Athens, GA* August 2017
- Sapelo2 Cluster Training, University of Georgia, *Athens, GA* August 2017

MENTORING/TEACHING EXPERIENCE

- Graduate mentor for 41 undergraduate researchers to date
- Invited panelist for Introduction to Regenerative Bioscience course
- Courses: ADSC 4960/4970/4980, BCMB 4960(H)/4970(H)/4980(H), BIOL 4960/4960(H)/4970(H), BTEC 4960/4970(H), CBIO 4960(H)/4970/4980(H), GENE 4960(H), HONS 4960(H)/4970(H)

PROFESSIONAL AFFILIATIONS

Member of:

- | | |
|--|----------------|
| ▪ National Neurotrauma Society (NNS) | 2020 – Present |
| ▪ International Society for Stem Cell Research (ISSCR) | 2019 – Present |
| ▪ Society for Neuroscience | 2017 – 2019 |
| ▪ Regenerative Engineering and Medicine | 2017 – Present |
| ▪ Regenerative Bioscience Center | 2017 – Present |

REFERENCES

Available upon request