

## CURRICULUM VITAE

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### Brian Joseph Jurgielewicz

PhD Candidate – University of Georgia

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Athens, GA  
30601

[BJurgielewicz@uga.edu](mailto:BJurgielewicz@uga.edu)

#### Education:

May 2017-Present

University of Georgia, Athens, GA

**Ph.D. in Neuroscience**

**Graduate Certificate in Entrepreneurship**

Dr. Steven Stice (Principle Investigator, Mentor)

Dr. Yao Yao (Co-Mentor)

Regenerative Bioscience Center

Sep. 2015 – May 2017

University of Georgia, Athens, GA

**MS Animal and Dairy Science - Regenerative Biosciences**

Dr. Steven Stice (Principle Investigator)

Regenerative Bioscience Center

Thesis: *Gait Analysis of a Neural Stem Cell Derived Exosome (NPEX™) Treatment in a Porcine Model of a Permanent Middle Cerebral Artery Occlusion (MCAO) Stroke*

Aug. 2011 – May 2015

Cornell University, Ithaca, NY

**BS. Biological Sciences (Physiology)**

**BS. Animal Science**

Dr. Patricia Johnson (Principle Investigator)

#### **DOCTORAL RESEARCH:**

My research focus capitalizes on the translatability and therapeutic potential of neural stem cell and human embryonic kidney derived extracellular vesicles in neurodegenerative diseases. My main objectives are to enhance the efficacy of extracellular vesicles as synergistic delivery vectors of therapeutic antisense oligonucleotides and peptides. My current research projects include analyzing the efficacy of extracellular vesicles as a therapeutic treatment for stroke in a novel porcine model, loading exogenous peptide for the treatment of Parkinson's, passively loading antisense oligonucleotides for the treatment of ALS and development of high throughput flow cytometry based assays of extracellular vesicle uptake. I have optimized an imaging flow cytometry platform to quantify extracellular vesicle uptake in vitro, which will help provide a baseline and understanding of extracellular vesicle uptake for future research and development for exosome therapeutics.

## **RELEVANT EXPERIENCES:**

### *PhD Student Researcher, Stice Laboratory, Regenerative Bioscience Center: University of Georgia*

May 2017-Present

Athens, GA

- Develop and execute studies involving the therapeutic efficacy of extracellular vesicles in different neurological diseases
- Create a novel therapeutic modality using stem cell based extracellular vesicle to deliver antisense oligonucleotides for treatment of Amyotrophic lateral sclerosis
- Establish and lead large scale biomedical porcine stroke study to identify non-invasive prognostic and predictive markers of deficits and recovery of ischemic stroke
- Optimize novel quantitative platform of extracellular vesicle uptake for both basic science and translational research on extracellular vesicles
- Assist in the large scale cell and extracellular vesicle manufacturing and identification of biomarkers for various cell lines
- Mentor 5+ graduate, 30+ undergraduate, and 3 high school students in various aspects of neuroscience, regenerative bioscience, and laboratory skills

### *Master's Student Researcher, Stice Laboratory, Regenerative Bioscience Center: University of Georgia*

August 2015-May 2017

Athens, GA

- Led large scale collaborative study with 15+ undergraduates, 5 graduate students, and 7 industry scientists to assess the therapeutic efficacy of neural stem cell derived extracellular vesicles in a porcine stroke model
- Aided in the development of functional assays assessing stroke deficits and recovery in a pig model
- Conducted magnetic resonance imaging and analysis
- Participated in large scale cell manufacturing practices for the production of extracellular vesicles from neural stem cells
- Optimized differentiation and proliferation protocols of vascularization models in vitro
- Mentored 20+ undergraduates and high school students in cell culture methods, molecular cloning, animal husbandry/handling, and writing abstracts

### *Undergraduate Student Researcher, Johnson Laboratory: Cornell University*

January 2013-May 2015

Ithaca, NY

- Assessed reproductive endocrinology and physiology utilizing the chicken as a model  
Accomplished DNA and RNA isolation and extraction from tissue and blood samples, PCR analysis, and gel electrophoresis
- Earned two consecutive Hatch Grants for outstanding undergraduate research design and execution
- Mentored undergraduate researchers in molecular biology techniques and animal handling
- Focused on the onset of ovarian cancer using the chicken model

## **MANUSCRIPTS:**

**Brian J. Jurgielewicz**, Yao Yao, Steven L. Stice. “*Kinetics and Specificity of HEK293T Extracellular Vesicle Uptake using Imaging Flow Cytometry*” *Nanoscale Research Letters* 2020.

**Brian J. Jurgielewicz**<sup>+</sup>, Kelly Scheulin<sup>+</sup>, Samantha E. Spellicy, Emily Baker. Steven L. Stice, Franklin D. West. “*Lesion topology is predictive of gait and behavior outcomes in a porcine ischemic stroke model*” (In Review) in *Scientific Reports*.

Kelly M. Scheulin, Samantha E. Spellicy, Emily W. Baker, **Brian J. Jurgielewicz**, Holly A. Kinder, Elizabeth S. Waters, Janet A. Grimes, Steven L. Stice, Franklin D. West. “*Semi-automated pipeline reveals regionally specific morphological alterations of immune and neural cells in a porcine middle cerebral artery occlusion model of stroke*” (In Review) in *Translational Stroke Research*.

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*” (In Review) at *Frontiers in Neuroscience*.

Joseph C. Poythress, Erin E. Kaiser, Kelly M. Scheulin, **Brian J. Jurgielewicz**, Nicole A. Lazar, Cheolwoo Park, Steven L. Stice, Jeongyoun Ahn, and Franklin D. West. “*An integrative multivariate approach for predicting functional recovery from MRI parameters in a translational pig ischemic stroke model*” *Neural Regeneration Research*, 2020.

Samantha E. Spellicy, Erin E. Kaiser, Michael M. Bowler, **Brian J. Jurgielewicz**, Robin L. Webb, Franklin D. West, Steven L. Stice. “*Neural stem cell extracellular vesicles disrupt midline shift predictive outcomes in porcine ischemic stroke model.*” *Translational Stroke Research*, 2019.

Erin E. Kaiser, Robin L. Webb, **Brian J. Jurgielewicz**, Samantha E. Spellicy, Simon R. Platt, Steve L. Stice, and Franklin D. West “*Neural Stem Cell Derived Extracellular Vesicle Treatment Promotes Recovery in a Porcine Model of Ischemic Stroke.*” *Stroke*, 2018.

## **LABORATORY SKILLS:**

In vitro assay development, extracellular vesicle isolation/purification, novel extracellular vesicle uptake assays, flow cytometry, imaging flow cytometry, animal modeling (porcine stroke model, mouse TBI model), animal behavior, gait analysis, cell culture (mammalian adult, neural, stem cell, etc.), iPSC generation and culture, CRISPR Cas9 genetic editing, immunohistochemistry, immunocytochemistry, PCR, RT-PCR, qRT-PCR gel electrophoresis, DNA isolation, DNA purification, necropsy, neural dissection, microfluidics devices, In Vitro Fluorescent Imaging, RNA/DNA Isolation/Purification/Quantification

## **COMPUTATIONAL SKILLS:**

IDEAS Software (ImageStreamX Analysis), INSPIRE, Nanosight, PRISM 8, SAS Code, JMP Statistical Software, Gait4Dog, Ethovision, Microsoft Office, Adobe Photoshop, Sigma Plot

**LEADERSHIP EXPERIENCE:**

*Due diligence officer/Re-Founding Member, Bio/Medical Investor Network*

Atlanta, GA

June 2020-Present

- Recruit angel investors and biomedical companies to create a synergistic angel network for the biomedical community
- Arrange and execute due diligence efforts of company's seeking early investment
- Participate in quarterly screening presentations of early stage biotechnology, medical technology and companies encompassing the greater biomedical industry

*Vice-Chair, Emerging Leaders Network, **Georgia Biotech Innovation Organization***

Atlanta, GA

April 2020-Present

- Conduct and coordinate ELN meetings, events, and collaboration between universities and industry
- Lead ELN board meetings focused on biomedical investment organizations
- Develop new ELN chapters throughout the GA to increase industry/academic engagement

*Advisory Board Member, **Experiential Professional Development***

University of Georgia, Athens GA

August 2020-Present

- Work alongside xPD staff and leaders from campus partners to provide insight into graduate student experiences
- Foster conversations around graduate student professional development and support xPD programming

*University Liaison, Emergent Leaders Network, **Georgia Biotech Innovation Organization***

Atlanta, GA

May 2019-Present

- Represent and advocate for University of Georgia students and research teams at GA BIO executive meetings
- Organize industry engagement events to enhance academic exposure to the biotechnology industry in Georgia
- Assist during the annual GA BIO innovation summit

*Vice President/Professional Development, **Neuroscience Graduate Student Association***

University of Georgia, Athens, GA

March 2019-Present

- Coordinate monthly neuroscience seminar series to enrich academic collaborations with external research teams
- Represent UGA neuroscience graduate students during executive meetings

- Engage and promote career development opportunities for fellow graduate students (both academic and industry related events)

*Financial Officer, Neuroscience Graduate Student Association*

University of Georgia, Athens, GA

March 2018-March 2019

- Maintained financial accounting records for graduate student association
- Participated in key executive board meetings and decisions
- Represented UGA Neuroscience graduate students

*Vice President of Service, Graduate Students & Postdocs in Science*

University of Georgia, Athens, GA

Aug 2017-Aug 2019

- Increased and advanced the service initiative of graduate students and postdocs in the community
- Organized volunteer opportunities for graduate students to assist with and judge local high school science fairs
- Developed and participated in annual GSPS Industry Day

*Public Relations Chair, Graduate Research Assistants Diversifying STEM*

University of Georgia, Athens, GA

Aug 17-Aug18

- Conducted community outreach and connection between industries and diverse graduate students
- Promoted several inclusive events for graduate students and postdocs
- Assisted in career development and industry relations symposium

**GRADUATE COURSEWORK:**

Neuroanatomy, Neurophysiology, Engineering Stem Cell Therapeutics, Neural Development, Advanced Developmental Biology, , Statistical Experimental Design (SAS Coding), Statistical Methods I & II, Principles of Physiology (Veterinary), Experimental Methods in Biotechnology

**Entrepreneurship Certificate:**

Introduction to Entrepreneurship, Funding the Entrepreneurial Venture (Finance), Critical Design Thinking (MBA), Entrepreneurship (MBA)

**First Author Abstracts:**

**Brian J. Jurgielewicz**, Yao Yao, Steven L. Stice. Extracellular Vesicles: Assessment of Uptake and Enhancing the Delivery of Therapeutics. Regenerative Bioscience Center Meeting. 2020 October: Athens, GA.

**Brian J. Jurgielewicz**, Yao Yao, Steven L. Stice. Imaging Flow Cytometry Quantitatively Measures Selective EV Uptake. Georgia BIO Innovation Summit 2019. 2019 October: Atlanta, GA

**Brian J. Jurgielewicz**, Yao Yao, Steven L. Stice. Elucidation of Selective Extracellular

Vesicle Uptake. Image Stream Users Group Meeting. 2019 May: Athens, GA

**Brian J. Jurgielewicz**, Yao Yao, Steven L. Stice. *Imaging Flow Cytometry Elucidates Selective Uptake of Extracellular Vesicles*. Regenerative Biosciences Center. 2019 May: Athens, GA

**Brian J. Jurgielewicz**, Yao Yao, Steven L. Stice. *Imaging Flow Cytometry Elucidates the Cellular Uptake and Tropism of Engineered Extracellular Vesicles*. Regenerative Medicine Workshop. 2019 March: Charleston, SC.

**Brian J. Jurgielewicz**, Yao Yao, Steven L. Stice. *Imaging Flow Cytometry elucidates the cellular uptake, internalization, and tropism of engineered extracellular vesicles*. Nanoscale Flow Cytometry for Cancer, Infection, and Disease. 2018 October: Ottawa, Canada.

**Brian J. Jurgielewicz**, Yao Yao, Steven L. Stice. *Imaging Flow Cytometry elucidates the cellular uptake of engineered extracellular vesicles to enhance their therapeutic potential*. Georgia BIO Innovation Summit 2018 October: Atlanta, GA.

**Brian J. Jurgielewicz**, Erin E. Kaiser, Samantha E. Spellicy, Robin L. Webb, Simon R. Platt, Franklin D. West, Steven L. Stice. *Extracellular Vesicle Treatment Promotes Recovery After Ischemic Stroke*. Georgia Bio Innovation Summit. 2017 October: Atlanta, GA.

**Brian J. Jurgielewicz**, Erin E. Kaiser, Samantha E. Spellicy, Robin L. Webb, Kylee Jo Duberstein, Simon R. Platt, Franklin D. West, Steven L. Stice. *NPEXTM treatment improves spatiotemporal gait parameters in a middle cerebral artery occlusion porcine stroke model*. Regenerative Bioscience Center Fellows Symposium. 2017 April: Athens, GA.

**Brian J. Jurgielewicz**, Erin E. Kaiser, Samantha E. Spellicy, Robin L. Webb, Simon R. Platt, Franklin D. West, Steven L. Stice. *Neural Stem Cell Derived Exosome (NPEXTM) Treatment in a Porcine Stroke Model*. Integrated Research and Ideas Symposium. 2017 March: Athens, GA.

**Brian J. Jurgielewicz**, Erin E. Kaiser, Samantha E. Spellicy, Robin L. Webb, Kylee Jo Duberstein, Simon R. Platt, Franklin D. West, Steven L. Stice. *Quantitative gait analysis in a porcine stroke model assessing the effects of a stem cell therapy*. Regenerative Medicine Workshop. 2017 March: Hilton Head, SC.

**Brian J. Jurgielewicz**, Austin Passaro, Jordan Whisler, Roger Kamm, Steven Stice. *Neurovascular interactions and co-differentiation*. EBICS Annual Retreat. 2017 July: Chicago, IL.

### **MENTORSHIP EXPERIENCE:**

McNair Scholars Student Research Mentor, **McNair Scholarship Foundation**  
Athens, GA

August 2018-May 2019

- Guided and trained undergraduate first-generation college students basic laboratory skills including cell culture and molecular cloning

- Assisted students with weekly reporting, abstract writing, and other scientific communications
- Provided insights into graduate school experience and guidance for graduate school applications

Young Scholars Student Research Mentor, **University of Georgia Young Scholars Program**

Athens, GA

June 2018-August 2018

- Instructed exceptional high school students in basic wet laboratory skills including cell culture, exosome isolation, exosome tagging, and flow cytometry
- Contributed advice and edits for final project abstracts and poster presentation
- Assisted with personal development and undergraduate application essays

RBC Fellows Student Research Mentor, **University of Georgia Regenerative Biosciences Center Undergraduate Fellows Program**

Athens, GA

January 2018-Present

- Trained and lead a team of more than 30 undergraduate researchers in both in vitro and in vivo (pig stroke model) settings
- Taught essential laboratory skills allowing students to develop, conduct, and present entire research projects
- Assisted students with data analysis, data interpretation, and scientific writing

**VOLUNTEER EXPERIENCE:**

*Emergency Room Volunteer, Piedmont Athens Regional Hospital*

Athens, GA

September 2015 –August 2019

- Triage emergency room patients according to their chief complaint
- Worked alongside physicians, nurses, technicians, and social workers to ensure efficient emergency room experiences for patients and guests
- Managed visitors for 45 bed emergency room

*BIO International Convention 2018 Volunteer, Biotech Innovation Organization (BIO)*

Boston, MA

June 2018

- Applied to and accepted as student volunteer for international convention of more than 16,000 attendees from biotechnology and pharmaceutical companies
- Assisted in the coordination of educational talks by helping prepare speakers, organize rooms, and maintain smooth flow of conference attendees
- Represented University of Georgia and Georgia BIO on exhibition floor to engage industry and academic collaboration

*Clark County Science and Engineering Fair Judge, Clarke County Middle School*

Athens, GA

January 2018-Present

- Met with more than 50 high school students to evaluate and provide feedback on high school science fair projects
- Worked with educators to develop novel projects and increase scientific engagement

*Head Soccer Coach: Co-Ed Under-9, Athens Clarke County Leisure Services*

Athens, GA

March 2016- June 2016

- Coached and led a team of 15, 8-year old boys and girls
- Led bi-weekly practices and games
- Focused on soccer fundamentals and teamwork initiatives

**HONORS & AWARDS:**

Regenerative Engineering and Medicine Grant (\$100,000, contributor)

Georgia Research Alliance Funding 2015-Present (Tuition and Stipend)

Nanoscale Flow Cytometry Travel Award for Best Abstract (\$500)

Cornell University Hatch Grant, 2009 (\$1,000)

Cornell University Hatch Grant, 2010 (\$1,000)

**PROFESSIONAL ORGANIZATIONS:**

Biomedical Investor Network (GA BIN)

Georgia Biotechnology Innovation Organization (GA Bio)

International Biotechnology Innovation Organization (BIO)

International Society for Extracellular Vesicles (ISEV)

International Society Cell and Gene Therapy (ISCT)

**CERTIFICATES & TRAINING:**

Business of Biotechnology, **RA Capital**

Boston, MA

July-August 2020

NSF Innovation Corps, **University of Georgia Innovation Gateway**

Athens, GA

August-October 2019

Design Thinking, **Design Academy**

Athens, GA

May 2018

Gene Editing iPSC (Induced Pluripotent Stem Cells) with CRISPR/Cas9, **BioTrac**

Germantown, MD

January 2018

**REFERENCES:**

Available upon request