

Thomas Johnston

Education

- **Medical Doctorate (MD)** August 2020-May 2025
Southern Illinois University School of Medicine (SIUSOM)
Springfield, Illinois
Class of 2025
- **Master of Business Administration (MBA)** June 2023-May 2024
University of Illinois Springfield (UIS)
Springfield, Illinois
Class of 2024
Certificate in Healthcare Management
- **Bachelor of Science, Neuroscience** August 2016-May 2020
Saint Louis University (SLU)
Class of 2016
Minor in Biology

Research

- **SIUSOM, Graduate Education in Medicine** December 2021-Present
Research Assistant
Advisor: Dr. Richard Selinfreund
Project: Gamification of Medical Education
 - Development of AI-generated simulated patients for medical student education
 - Adaptation of problem-based learning curriculum for compatibility with AI simulation
 - Developed and programmed a web-based medical education video game
 - Created question algorithms and concept maps to assess learning
 - Analyzed medical student exam scores and simulation scores to measure learning
- **SIUSOM, Division of Pediatric Emergency Medicine**
Research Assistant
Advisor: Dr. Myto Duong
Project: Assessment of the Impact and Compliance with PECARN criteria on head CT scanning rates
 - Utilized REDCap to organize and collect data from pediatric head injuries
- **SIUSOM, Department of Neurology** June 2018-August 2018
Research Intern
Advisor: Dr. Erin Hascup
Project: Alzheimer's Disease Research
 - Created solutions daily, performed data inputs, monitored riluzole-administered mice
 - Used cryostat to section mice hippocampi for immunohistochemical staining
- **SLU, Department of Biology** August 2018-March 2020
Research Assistant
Advisor: Dr. Michael Anch
Project: Neuroscience Sleep Lab Research
 - Socialization of rat subjects, administration of perfusions, and brain extraction
 - Used microtome to section rat brains for immunohistochemical staining

Manuscripts

- *Using Generative AI to Simulate Patient History-Taking in a Problem-Based Learning Tutorial: A Mixed-Methods Study.* Mool, A., Schmid, J., **Johnston, T.**, Thomas, W., Fenner, E., Lu, K., Gandhi, R., Western, A., Seabold, B., Smith, K., Patterson, Z., Feldt, Z., Vollmer, D., Nallaveettil, R., Fanelli, A., Schmillen, L., Tischkau, S., PhD, Cianciolo, A.T., PhD, Benedict, P., MFA, Selinfreund, R., PhD. MEDRXIV 2024-306753

Presentations and Abstracts for Presentation

- *Artificial Intelligence in Education: The Integration of Voice-to-Voice Patient Simulation into Problem Based Learning.* Mool A., Schmid, J., **Johnston, T.**, Thomas, W., Robinson, D. 14th Annual Teaching and Learning Symposia, Springfield, IL. April 2024.
- *Mapping Medical Minds: Evaluating the Impact of Simulation-Based Learning on Concept Mapping and its Implications for Future Medical Training.* Lu, K., Gandhi, R., **Johnston, T.**, Thomas, W., Merriman, T., Tobon, G., Torry, D., Benedict, P., Selinfreund, R. Presented at the 14th Annual Teaching and Learning Symposia. April 11th, Springfield, IL.
- *Enhancing Medical Education: The Integration of AI for Voice-to-Voice Patient Simulation.* **Johnston, T.**, Kambhalta, A., Benedict, P., Selinfreund, R., PhD. Oral Presentation. Presented at *AAMC's Central Group on Education Affairs*, Milwaukee, WI, April 2024.
- *Recognition and Treatment of Commotio Cordis.* **Johnston, T.** Oral Presentation. Presented at *Mid-America Emergency Symposium*, Springfield, IL, September 2023.
- *Changes in Stress, Anxiety, and Self-Confidence Among Medical Students with the Introduction of Gamified Education.* Moore, J., Traylor, B., **Johnston, T.**, Fenner, E., Lambert, M., Ade, M., Green, K., Negri, C., George, E., Selinfreund, R., PhD. Short Communications. Presented at *Association for Medical Education in Europe (AMEE)*, Glasgow, Scotland, August 2023.
- *Gamification of Medical Education: A 3D Interactive Model of Bacterial Sepsis.* Ade, M., Fenner, E., George, E., Green, K., **Johnston, T.**, Lambert, M., Traylor, B., Torry, D., PhD, Benedict, P., Selinfreund, R., PhD. Poster Presentation. Presented at *International Association of Medical Science Educators*, Cancun, Mexico, 2023.
- *An Assessment of Changes in Stress, Anxiety, and Self-Confidence Among Medical Students with the Introduction of Gamified Medical Education.* Moore, J., Traylor, B., **Johnston, T.**, Fenner, E., Torry, D., PhD, Benedict, P., Selinfreund, R., PhD. Poster Presentation. Presented *SIUSOM Teaching and Learning Symposia*, Springfield, IL, April 2022.
- *Medical Education: Creating a Video Game Bridging Basic Science Mechanisms and Clinical Relevance.* Moore, J., Traylor, B., **Johnston, T.**, Torry, D., PhD, Benedict, P., Selinfreund, R., PhD. Poster Presentation. Presented *SIUSOM Teaching and Learning Symposia*, Springfield, IL, April 2022.
- *Gamification of medical education: a problem-based simulation of sepsis.* Ade, M., Fenner, E., George, E., Green, K., **Johnston, T.**, Lambert, M., Negri, C., Traylor, B., Selinfreund, R., PhD; Torry, D., PhD; Presented at *SIUSOM Teaching and Learning Symposia*, Springfield, IL, April 2022.
- *Rendering the Future of Medical Education: Creating 3D Avatars to Supplement Gamification of Medical Education.* Green, K., Ade, M., Fenner, E., George, E., Green, K., **Johnston, T.**, Torry, D., PhD, Benedict, P., Selinfreund, R., PhD. Creative Artwork Submission. Presented at *SIUSOM Teaching and Learning Symposia*, Springfield, IL, April 2022.

Leadership and Professional Experience

- **Emergency Medicine Resident Physician, SIU** July 2025-Present
 - Resident physician in training for Emergency Medicine
- **Co-Chair, EMRA Leadership Academy** November 2025-Present
 - Development of curriculum and guidance of residents and medical students participating in leadership development program
- **EMRA Leadership Academy, Participant** January 2025-October 2025
 - Participated in ERMA's leadership development program and developed capstone project on AI simulation in medical student curriculum
- **Emergency Medicine Resident Association, Medical Student Council**
Great Plains Regional Representative January 2024-January 2025

- Organized and maintained a list of medical school contacts
 - Assisted in the outreach for local EMIGs
 - Served on the EMRA Simulation Committee
- **Student Progress Committee, SIUSOM**
 Student Representative September 2020-June 2023
 - Assisted in making committee decisions for fellow medical students in matters of academic performance, academic promotion, professional conduct, and disciplinary action
- **Resident Advisor, SLU**
 Lead Resident Advisor August 2019-May 2020
 Learning Community Resident Advisor January 2018-May 2019
 - Assisted in the coordination of a university residence hall of 500 first- and second-year students
 - Assisted in the development and training of a staff of 16 resident advisors and 6 peer mentors
 - Developed and implemented a residential curriculum for students living in the building
- **Knight's Action Park, Springfield, IL** 2017-2018
 Maintenance and Groundskeeping
 - General maintenance and repair of go-karts, Ferris wheel, groundskeeping, pool pumps, and chemicals upkeep
- **Mid-America Karate, Kenpo-Jitsu** 2003-2017
 Black Belt karate instructor at Mid-America Karate 2012-2017
 - Taught and assisted with the instruction of youth, teen, and adult karate and self-defense classes
 - Attended biweekly class and learned the foundations and applications of Kenpo-Jitsu Karate

Extracurriculars

- SIU SOM House Staff Board of Directors July 2026-Present
 - Attend meetings discussing institutional GME policies and resident wellness at local institution
- Emergency Medicine Interest Group August 2020-May 2025
 - Attended meetings to discuss and learn about topics and procedures
 - Participated in high-fidelity training simulations and local competitions
- Medical Students with Chronic Illness and Disabilities June 2023-July 2024
 - Treasurer and founding member of MSCID at SIUSOM
- Saint Louis University Neuroscience Club 2017-2020
 - Vice-President, Treasurer, and founding member of the neuroscience club at SLU
 - Attended and planned monthly meetings with faculty about neuroscience topics

Community Service

- Stop the Bleed Instructor October 2025-Present
 - Instructor for local Stop the Bleed events to foster community health engagement
- Enos Park Cleanup SIUSOM Day of Service April 2022, 2023, May 2024
 - Removed debris and litter from surrounding parks and alleyways
- Enos Elementary School Shoes That Fit Program December 2021, 2022
 - Collected, distributed, and fit new shoes for children at Enos School
- SLU Global Brigades January 2018, 2019
 - President and Vice-President of medical brigades at SLU
 - Attended Global Medical Brigades to Nicaragua and Honduras- provided medical aid to impoverished families in rural communities

- University of Illinois Springfield Biology Club 2017-2019, 2023-2024
 - Performed prairie conservation and management, including prairie burns, removal of invasive plant species, and the replanting of native species

Awards, Honors, Achievements

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| • Black Belt in Kenpo-Jitsu Karate | 2012 |
| • Eagle Scout of the Boy Scouts of America | 2015 |
| • Nu Rho Psi Member- National Honor Society in Neuroscience | 2019 |
| • El Camino de Santiago (The Way of St. James) Pilgrimage | 2019 |
| • Residence Hall Leadership Award | 2020 |
| • Beta Gamma Sigma- International Business Honor Society | 2024 |
| • Resident Excellence in Teaching | 2026 |

Interests

- Traveling, My Cats, Reading, Hiking, Gardening, and Model Building/Painting