Oluwatobi Babayemi

5814 La Crema, Missouri City, TX 77459 *Cell:* (713) 307-5077
LinkedIn: https://www.linkedin.com/in/oluwatobi-babayemi/ *Email:* ohb1@rice.edu

OBJECTIVE

To finish my PhD degree as a graduate researcher in the Sirianni Laboratory for Nanomedicine at UMass Chan.

QUALIFICATION SUMMARY

A Bioengineering PhD student at Rice University who strives for more knowledge. Highly creative; enjoys exercising imagination beyond limits. Intends to pursue a career in the bioengineering field, with a focus on utilizing diagnostic imaging technologies for the treatment CNS diseases. Areas of strength include:

- Teamwork
- Leadership
- Critical Thinking
- Writing Proficiency
- Communication Skills
- Programming Literacy
- Quantitative modelling
- NP/drug formulation
- Molecular imaging

EDUCATION

The University of Texas at Dallas, B.S. Biomedical Engineering [2014 to 2018] **GPA: 3.62**

Rice University, Bioengineering PhD Student [2019 to present] **GPA: 3.76**

Courses

- Mechanics, Transport, and Cellular Signaling *(grade of A-)*
- Extracellular Matrix *(grade of A)*
- Intro to Computational Biology *(grade of B)*
- Cancer Biology *(grade of A)*
- Tissue Engineering *(grade of B+)*
- Engineering Drug Delivery Systems *(grade of A-)*
- Applied Statistics for Bioengineering & Biotechnology *(grade of A+)*
- Biomaterials Synthesis *(grade of A)*

TECHNICAL SKILLS

Programming Languages: C/C++, MATLAB/SimBiology

Software Applications: SolidWorks, Raystation, Inveon Research Workplace (IRW)

Hardware: Siemens PET/CT scanner

NP Formulation: Drug loading and characterization of nanoparticle systems

***In-vivo* / *In-vitro* Studies:** Compound administration, tissue collection, rodent handling, 2D cell culture

Languages: Written and oral fluency in English, Intermediate level in Spanish, Beginner level in Korean

AWARDS & MEMBERSHIPS

The University of Texas at Dallas

- Recipient of the Academic Excellence Scholarship (2014 to 2018)
- Recipient of the Diversity Scholarship (2014 to 2018)
- Member, Order of The Engineer (2018 to present)

Rice University

- Member, National Society for Black Engineers (2019 to present)
- Member, Society of Women Engineers (2019 to present)
- Member, Black Graduate Student Association (2019 to present)
- Marketing Director, Black Graduate Student Association (2020 to 2021)
- Member, Society for Biomaterials (2020 to present)

RESEARCH/ACADEMIC PROJECTS

MD Anderson Cancer Center (May 2019 – August 2019)

- *Automation of Rib Metastases Detection in CT Images for Palliative Radiotherapy Treatment Planning:* Contoured healthy rib anatomy in Raystation for use in the training of a deep learning model that can auto-segment and auto-contour healthy ribs and then detect rib metastases in CT images.

Rice University, Department of Bioengineering (2019 – current)

- *Thesis research:* My thesis research is focused on quantifying intrathecal nanoparticle drug delivery to the central nervous system (CNS) using PET/CT imaging to (1) determine how nanoparticles (NPs) distribute/clear from the subarachnoid space (SAS) following different intrathecal (IT) routes of administration and (2) investigate how NP PEGylation influences the movement of IT-delivered NPs within the SAS.

PUBLICATIONS

Peer Reviewed Articles (submitted or under preparation):

- Stabenfeldt, S., Babayemi, O., Baker, Cassandra, Fowler, M., Sirianni, R., "*Surgical resection facilitates the access of intravenously administered nanoparticles to brain vasculature in mice*". *J Nanopart Res*, 2021. *(In review)*

  Preprint available:
  https://www.researchgate.net/publication/353383918_Surgical_Resection_Facilitates_the_Access_of_Intravenously_Administered_Nanoparticles_to_Brain_Vasculature_in_Mice
- Babayemi, O., Chaudhuri, S., Velasquez, C., Morton, J., Sablatura, L., Sevick-Muraca, E., Sirianni, R. "*Lymphatic fate of intrathecally delivered nanoparticles*". *(In preparation)*
- Babayemi, O., Velasquez, C., Morton, J., Sablatura, L., Sevick-Muraca, E., Sirianni, R. "*The effect of PEGylation on nanoparticle movement and clearance*". *(In preparation)*
- Larson, M., Babayemi O., et. al. *(In preparation)*

Scientific Conference Abstracts (accepted or submitted):

The Society for Biomaterials in Baltimore, MD (April 2022)

- Babayemi, O.H., Sevick-Muraca, E. Sirianni, R.W., et. al. *"The Effect of Anesthesia on Nanoparticle Fate"*. Poster Presentation. (Couldn't attend)

The Biomedical Engineering Society in San Antonio, TX (October 2022)

- Babayemi, O.H., Sevick-Muraca, E. Sirianni, R.W., et. al. *"Characterizing Nanoparticle Fate in the CNS After Intrathecal Administration: A PET/CT Imaging Approach"*. Poster Presentation.

The Society for Biomaterials: Drug Delivery Special Interest Group (November 2022)

- Sirianni, R.W., Babayemi, O.H., Sevick-Muraca, E., et. al. *"Characterizing Nanoparticle Fate in the CNS After Intrathecal Administration: A PET/CT Imaging Approach"*. Virtual Talk.

The Society for Biomaterials in San Diego, California (April 2023)

- Sirianni, R.W., Babayemi, O.H., Sevick-Muraca, E., et. al. *"Characterizing Nanoparticle Fate in the CNS After Intrathecal Administration: A PET/CT Imaging Approach"*. Oral Presentation.

The UMass Chan Medical School Department of Neurological Surgery Annual Research Symposium in Worcester, MA (May 2023)

- Babayemi, O.H., Sevick-Muraca, E., Sirianni, R.W., et. al. *"Characterizing Nanoparticle Fate in the CNS After Intrathecal Administration: A PET/CT Imaging Approach"*. Oral Presentation.

OTHER PROFESSIONAL EXPERIENCE

Rice University, the Department of Bioengineering

- Teaching Assistant, Undergraduate Tissue Culture Lab (Fall 2021)
- Teaching Assistant, Master of Bioengineering Research Seminar (Fall 2022)
- Teaching Assistant, Fundamentals of Systems Physiology (Spring 2023)

Cite Black Authors

- Founding member (2020 to present)