HONORS

- Sole Yale Nominee for the F99-K00 NCI transition fellowship 02/17
- Yale nominee for HHMI international student research fellowships 10/15
- Yale graduate fellowship 08/13-present
- George P. O'Leary Fellowship in Engineering. 08/13-present
- Trainee stipend, Gordon Research Conference for In Vivo Magnetic Resonance 07/14, 07/16
- Educational Stipend, International Society of Magnetic Resonance in Medicine 04/17, 04/13
- Wesleyan University BA/MA Fellowship 06/10- 05/11
- Howard Hughes Undergraduate/masters research Fellowship. 05/07- 05/10
- Wesleyan University International Student Scholarship 08/06-05/10

RESEARCH EXPERIENCE

Simultaneous imaging of drug delivery and cancer therapy, Ph.D. Project Yale University 08/13-present

- Design and synthesize novel contrast agents to image tumor microenvironment and drug delivery in animal models of brain gliomas
- Synthesize and validate MR shift agents for imaging intracellular and extracellular sodium and potassium in stroke and brain gliomas
- Design and fabricate nanocarriers and nanoparticles for targeted drug delivery and cancer therapy
- Design cancer-targeted superparamagnetic iron oxide nanoparticles for hyperthermia-based cancer therapy
- Collaborate with scientist at Yale University and across the world on novel imaging and therapy agents

Post Graduate Research Associate, Yale University School of Medicine. 06/11- 08/13

- Developed and investigated new exogenous and endogenous imaging agents for increased sensitivity and resolution in chemical saturation transfer imaging (CEST and ParaCEST) MRI.
- Designed and fabricated liposomes, polymersomes and nanoparticles for molecular imaging, signal amplification and drug delivery
- Created a library of pH and temperature sensitivities of amino acids and peptides for use as endogenous CEST contrast agents.

Howard Hughes Undergraduate fellowship and Master's Research. Wesleyan University, 07- 05/11

- Investigated the potential of Iron (III) complexes for use as smart MRI contrast agents, culminating in a masters' thesis in chemistry.
- Developed novel synthetic methods to synthesize iron and gallium (III) complexes of DOTA, DOTP and Cyclen.
- Analyzed the complexes using IR, UV-Vis, ESI/MS, NMR, Potentiometric titration, elemental analysis and X-ray crystallography.
- Presented research poster at the 2009 NOBCCHE conference at MIT – Cambridge, MA

TEACHING EXPERIENCE

Teaching Fellow, Biomedical Engineering Lab. Yale University, Biomedical Engineering department 01/14- present

- Re-designed the lab syllabus to incorporate nanoparticle fabrication and characterization and state-of-the-art molecular imaging techniques and their applications to cancer imaging
- Gave two lectures on magnetic resonance imaging MRI and NMR lab
- Supervised 30 students carry out experiments in the lab and graded weekly lab reports
- Trained students to operate the NMR spectrometer, how to acquire high quality data and analyze the data
- Trained students on a new molecular imaging platform called BIRDS and nanoparticles for imaging cancer micro-environment

Teacher for the Sprout and Splash Programs for Middle and High School students. Yale University. 04/16- present
Graduate mentor for local high school students and Yale undergraduates to do MRI research 02/14-present
Teaching Assistant, Organic Chemistry Lab. Wesleyan University, Chemistry Department. 09/08- 05/11
Teaching Assistant, Introductory Chemistry and Physics. Wesleyan Chemistry and Physics Department 09/08- 11/10
Swahili Tutor. US Air force, and Wesleyan University, Language Department. 01/09- 05/14
President. African students Association. Wesleyan University 04/09-04/10