

Duke KURe Scholars



Casey Steadman, PhD
Postdoctoral Associate
Department of Biomedical Engineering
Duke University Pratt School of Engineering

Dr. Casey Steadman earned her B.S. in Biological Engineering and her M.S. in Biomedical Engineering from Mississippi State University. She then completed her PhD at the University of Louisville where she studied the effects of spinal cord injury on sexual function in a rat contusion model. In 2019, Dr. Steadman joined the Grill Laboratory at Duke University.

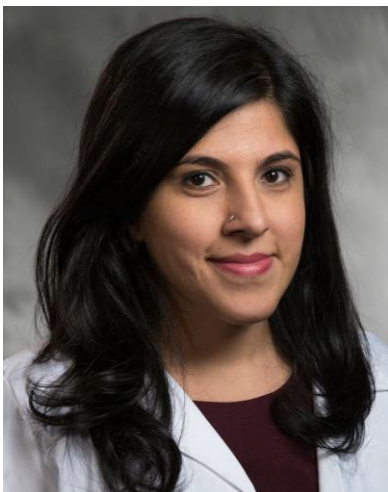
Dr. Steadman is passionate about researching top priority quality of life issues after spinal cord injury. Her current research focuses on neuromodulatory therapeutic targets for improving bladder and sexual function post-injury. Dr. Steadman seeks to practice bench-to-bedside research, in which she will take therapeutic interventions from the animal model to the patient to impact individuals with spinal cord injury under the mentorship of Dr. Helen Hoenig.



Michael R. Odom, PhD
Postdoctoral Associate
Department of Surgery, Division of Urology
Duke University Medical Center

Dr. Odom began his career as a paramedic and obtained a BS in Emergency Medical Care from Western Carolina University before transitioning into basic science research. He then earned a PhD in Physiology from East Carolina University where his research focused on neurovascular mechanisms responsible for erectile dysfunction following prostate cancer treatment. In 2020, he joined the Duke University Urinary Dysfunction Laboratory as a postdoctoral associate.

Dr. Odom's current research focus is diabetic bladder dysfunction. Inflammation mediated through NLRP3 inflammasome activation directly contributes to the progression of diabetic bladder dysfunction through unknown mechanisms. Dr. Odom strives to determine these physiologically relevant mechanisms under the guidance of Dr. J. Todd Purves and Dr. Francis "Monty" Hughes. Currently, there are no effective treatments for diabetic bladder dysfunction and NLRP3 inhibition is a promising potential therapeutic intervention.



Sonali D. Advani, MBBS, MPH
Assistant Professor of Medicine
Division of Infectious Diseases and International Health
Duke University School of Medicine

Dr. Advani is an Assistant Professor of Medicine in the Division of Infectious Diseases at Duke University School of Medicine, and the Associate Director of Duke Infection Control Outreach Network. She did her internal medicine and infectious disease training at University of Alabama at Birmingham. Prior to this, she earned her Master of Public Health degree at Johns Hopkins School of Public Health and pursued a research fellowship in infectious diseases at Johns Hopkins School of Medicine.

Dr. Advani's current research focuses on leveraging urinalyses criteria to improve the diagnosis of urinary tract infections (UTIs) in elderly patients. UTIs in older adults pose a diagnostic dilemma to most clinicians. The high incidence of asymptomatic bacteriuria and inability to express genitourinary symptoms increases the risk of inappropriate culturing and adverse events in this group. Dr. Advani's proposal for developing urinalyses criteria predictive of infection in older adults will help reduce patient harm from inappropriate antibiotic use.



Byron W. Hayes, PhD
Postdoctoral Associate
Department of Pathology
Duke University Medical Center

Dr. Hayes earned a BS degree in Biochemistry from Virginia Polytechnic Institute and State University. He then completed his PhD in Pathology at Duke University in 2021 in research focused on the interplay between the nervous and immune systems during bladder pain syndrome (BPS). Dr. Hayes subsequently continued in the Abraham Lab at Duke University as a postdoctoral associate.

Currently, Dr. Hayes is pursuing studies focused on further defining the mechanisms behind BPS following recurrent urinary tract infection (rUTI). Treatment options for BPS are limited due to poor understanding of disease pathogenesis. During his graduate studies, Dr. Hayes developed a novel animal BPS model based on rUTIs that successfully displayed symptoms similar to those observed in clinical patients. Under the mentorship of Dr. Soman

Abraham and Dr. J. Todd Purves, Dr. Hayes aims to leverage this model and other previous observations to find novel therapeutic targets for BPS patients.



Cassandra Kisby, MD
Assistant Professor
Dept. of OB/GYN
Duke University Medical Center

Dr. Kisby completed her undergraduate education at Duke University, majoring in Biological Anthropology and Anatomy, Chemistry, and Spanish. She continued her training at Duke University Medical Center for both medical school and residency. During her Obstetrics and Gynecology residency, she was recognized for both her surgical excellence and dedication to teaching. Dr. Kisby went on to complete a fellowship in Female Pelvic Medicine and Reconstructive Surgery at Mayo Clinic Rochester. She discovered an interest in translational research early in her career, conducting her first randomized controlled trial in residency. She has continued to establish a fruitful research career, earning a Master's in Biomedical Research and Certificate in Clinical and Translational Research. During fellowship, she developed a skillset in regenerative medicine and her research focused on women's health

applications of a cell-free exosome platform.

As a KUR scholar, Dr. Kisby will continue her work in women's health regenerative medicine, with the goal of translating regenerative medicine technologies to the bedside to fulfill unmet patient needs. Dr. Kisby's clinical interests include congenital anomalies, mesh complications following pelvic reconstructive surgery, postpartum pelvic floor disorders, pelvic organ prolapse, and urinary incontinence. She is also involved in efforts to create a diverse and inclusive work and patient care environment, as well as equity for women in medicine/science.