

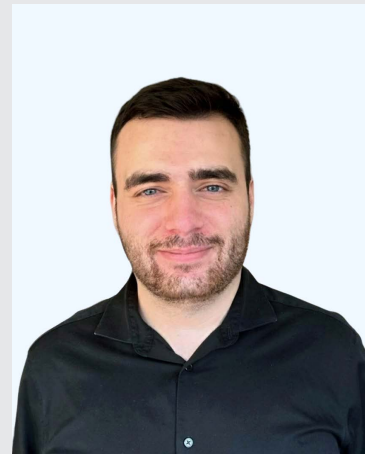
Page Morton Hunter Distinguished Seminar Series



Clemson
Greenville
Charleston

“Medical Physics: An Introduction to the Field and Glimpse into Clinical Research and Practice” Justin Napolitano, M.S.

Justin M. Napolitano is a PhD candidate in Medical Physics at Wake Forest University under the mentorship of Dr. J. Daniel Bourland. He earned his BS in Bioengineering from Clemson University, where he investigated low-dose radiation bioeffects under Dr. Delphine Dean. After graduating, he joined Clemson’s REDDI Lab to ultimately lead data analytics and protocol development efforts during the COVID-19 pandemic. While pursuing his MS at Wake Forest, Justin developed his doctoral project aiming to optimize isocenter designation in linear accelerator-based radiosurgery treatment planning for patients with multiple brain metastases—work that has led to a provisional patent and multiple awards. Justin has also contributed to many other endeavors by applying his engineering, technical, and computational background to advance radiation science in academic and government spaces. He has also held key leadership positions, such as President of the Wake Forest Graduate Student Association.



*Doctoral Candidate in
Medical Physics*

Medical Physics is a specialized field at the intersection of patient care and research. Board-certified physicists apply their technical expertise in radiation therapy and diagnostic imaging to ensure safe, accurate, and effective treatment of patients. Most physicists primarily focus on ensuring the proper functionality of clinical machinery and the design, review, and quality assurance of various types of treatment plans. The role of a physicist often extends beyond the clinic, where they translate clinical experience into innovative research that solves key practical problems, optimizes treatment, and improves patient outcomes.

During this seminar, I will introduce the field of Medical Physics, including the pathway to the clinic and alternative career opportunities. I will especially focus on what life is like as a Medical Physicist working in a clinic, and the pros and cons of a career in the field. Following the introduction, I will cover my journey through the field and lessons I learned along the way. Finally, I will discuss the types of research opportunities that present themselves to medical physicists and provide an overview of my research aiming to improve the treatment of multiple brain metastases through radiosurgery.

DATE: October 23, 2025 at 3:30 p.m.

LOCATION: 111 Rhodes Research Center, Clemson University

(Zoom link: <https://clemson.zoom.us/j/9667360648?omn=98410262820>)



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