

Alumni Spotlight – Jiajian (Jason) Shen, PhD, FAAPM



Jason Shen completed the MS program in Medical Physics within the Wayne State University School of Medicine after completing a PhD in Physics at Penn State University. He completed his residency in radiation oncology physics at the University of Pennsylvania in 2010 and joined their staff immediately afterward, where he worked at the proton therapy center for 3 years. He then joined the faculty at the Mayo Clinic in Phoenix Arizona to help develop their proton therapy facility. He is currently Associate Professor for the Mayo Clinic. In addition to his professional roles, Dr. Shen continues to give back to WSU in numerous ways, including serving as a visiting professor to provide education on proton therapy physics and professional insight to our students. He was also gracious enough to provide us the interview below. Read on to learn more about his journey in medical physics.

How did you discover medical physics?

At the end of my fourth year as a PhD student at Penn State University in 2006, I made a pivotal decision to shift my career focus from Astrophysics to a more practical field, one that would still allow me to utilize my background in physics. After some research, I discovered that medical physics perfectly aligned with my aspirations. This self-directed exploration led me to uncover the field of medical physics as an ideal new career path.

Why did you choose WSU for your graduate education in Medical Physics?

The Medical Physics graduate program at Wayne State University stood out to me because of its strong clinical focus, which perfectly complemented my background, making it an obvious choice. I was particularly drawn to the program under the guidance of Dr. Jay Burmeister, the program director. His invitation to visit the campus, attend one of his classes, and speak with senior students provided invaluable insights. This on-site visit solidified my belief that Wayne State was the ideal program for me, one that I simply couldn't pass up.

Tell us a little about your career after leaving WSU.

After one year of study at Wayne State, I was recruited as a resident at the University of Pennsylvania. This opportunity not only provided me with formal training but also allowed me to reunite with my wife and our six-month-old daughter in Philadelphia. I am certain that I wouldn't have been accepted into the Penn residency without the solid medical physics education I received at Wayne State. After completing my residency in 2010, I became a staff physicist at the University of Pennsylvania's proton therapy center. Three years later, I joined the Mayo Clinic in Phoenix, Arizona, as a faculty member to assist in building their new proton center. I have remained at Mayo Clinic since then.

What is your current position and what are your roles/responsibilities?

I am a clinical medical physicist and an associate professor of radiation oncology, with key responsibilities in clinical support, research, and education. My passion for education, inspired by Dr. Jay Burmeister, drives me to emulate his excellence as an educator. I am dedicated to teaching both radiation oncology residents and medical physics residents and post-doctoral fellows.

What career accomplishments are you most proud of?

I have published nearly 70 manuscripts in peer-reviewed journals and was promoted to associate professor in 2020. I have also received multiple teaching awards from both medical physics and radiation oncology residency programs. As a special honor, and thanks to the solid education I received at Wayne State, I was elected as a Fellow of AAPM in 2024.

What personal achievements are you most proud of?

I have completed the Grand Canyon Rim-to-Rim-to-Rim hike solo in a single day twice—once on 06/17/2023 in 16.5 hours, and again on 05/11/2024 in 15 hours. Additionally, I completed a marathon in Mesa, AZ, on 02/10/2024 with a time of 3 hours and 51 minutes.

What do you love most about being a medical physicist?

As a medical physicist, I find deep fulfillment in knowing that my work helps patients in their battle against cancer.

What are your favorite medical physics duties?

I truly enjoy educating the next generation of medical physicists and working on clinically oriented research projects.

If you could leave behind a professional legacy, what would it be?

I strive to support the next generation of medical physicists, just as the senior professionals supported me.

What are some interesting talents/hobbies outside of work?

I enjoy fishing, gardening, playing basketball, running, and hiking. While I don't have any natural talent in these activities, my recent achievements in long-distance hiking are the result of small, consistent efforts and hard work overtime.

What are some unique skills that have helped you become who you are and become successful in medical physics?

I am very detail-oriented, a crucial trait for a medical physicist. I also embrace challenges in the clinic, as they provide opportunities to investigate, solve problems, and share solutions with the field through published manuscripts.

What is the most exciting thing you are working on right now?

I have recently been working on online adaptive radiation therapy and stereotactic radiosurgery using proton pencil beam scanning technique.

What do you think are the most valuable aspects of the WSU Medical Physics Graduate Program, and what aspects do you think benefitted your career the most?

The solid medical physics education I received at Wayne State is undoubtedly the most valuable aspect of the program. I must highlight that Dr. Jay Burmeister is the best teacher I've ever had—not just one of the best. He is not only an exceptional teacher but also a dedicated educator and a leader in the AAPM for education. Another significant benefit of the program is the strong alumni network. With hundreds of graduates, this network has been instrumental in my career development.

What advice would you give someone entering Medical Physics graduate education today?

Start your research project early; having an abstract or even a manuscript from your work will make you more competitive in residency applications.