

# CELEBRATING 40 YEARS TOGETHER

DEPARTMENT OF MEDICAL PHYSICS

UNIVERSITY OF WISCONSIN-MADISON

## In the Spotlight

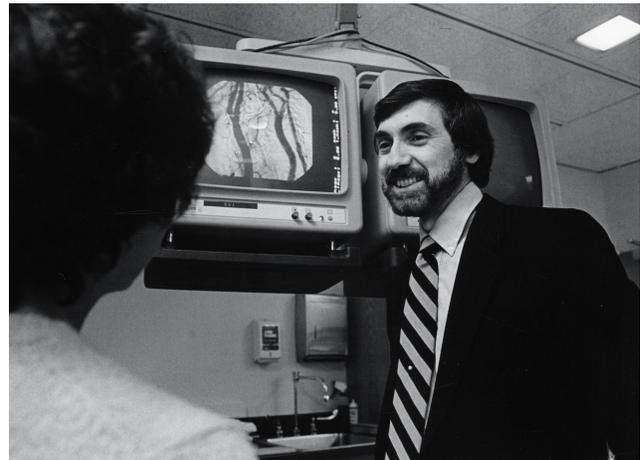
# Dr. Chuck Mistretta

Many people contributed to the history of the Department of Medical Physics, and field as a whole, and Emeritus Professor Chuck Mistretta is notable among them. Dr. Mistretta is best known for his work on Digital Subtraction Angiography, his sixty four patents, and nearly fifty years of research and teaching here at the UW. However, without a strange twist of fate, he may not have become a medical physicist at all.

Dr. Mistretta came to the UW in 1968 as a postdoc after completing his PhD in high energy physics at Harvard. When he was unsuccessful finding a faculty position in high energy physics at the end of his postdoc appointment, he was prepared to leave UW. It was then that a large group of students from his pre-med physics courses, upset by the news, marched on the Graduate School and insisted that Dean Kleene create a position for him.

Upon learning of this, Dr. Cameron introduced him to Medical Physics. “He asked me what I did for my thesis, and I told him electron-proton scattering,” explains Dr. Mistretta. “He asked me if I was interested in Medical Imaging. I said, ‘What’s that?’”

Dr. Cameron described the basics of Medical Imaging to him, “and I said ‘I think I might be able to do that.’” Dr. Cameron and Dr. Juhl (of the Department of Radiology) were able to secure Dr. Mistretta an assistant professorship in Radiology, and the rest, as they say, is history.



*1984, Dr. Chuck Mistretta looks at an image of blood vessels on a monitor.*

Not long after that, in 1971, Dr. Mistretta began his work on dual energy X-ray imaging, which eventually led to the development of a real-time digital image processor. That breakthrough opened the doors for Digital Subtraction Angiography (DSA). This technique paved the way for interventional radiology, and became the “gold standard” for image quality for new angiographic imaging techniques.

Around 1988, Dr. Mistretta’s interests turned toward Magnetic Resonance Imaging, where he continued to make innovations. One of the innovations he is most proud of, and considers to have made the greatest impact, is TRICKS (Time Resolved Imaging of Contrast KineticS), which is essentially the MR version of DSA. With all his contributions, it’s hard to imagine the state of medical imaging without Dr. Mistretta’s influence, but thankfully, we don’t have to.

# Paul DeLuca, PhD Scholar Fund

Make your lasting gift today.



The Paul DeLuca, PhD Scholar Fund has been officially established with the UW Foundation! This fund will support the broad educational and professional development of Medical Physics select graduate students giving them the freedom to pursue innovative projects wherever they may lead. Those interested in contributing towards the fund may do so [here](#).

## JOIN US!

Wisconsin  
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Virtual Reception

Monday, July 26, 2021  
6:00 - 8:00PM (EDT)

Details to come.

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