Peter H. Arger Excellence in Medical Student Education Award

The Peter H. Arger Excellence in Medical Student Education Award was established in 2013. Dr Arger contributed much to the AIUM and to the growth of diagnostic ultrasound, but his true passion was ultrasound education. This annual presentation honors an individual whose outstanding contributions to the development of medical ultrasound education warrant special merit.

Amir Manbachi, PhD

Dr Amir Manbachi is an esteemed associate professor of neurosurgery and biomedical engineering at Johns Hopkins Medicine. He is renowned for his groundbreaking contributions at the intersection of the two specialties. With a wealth of experience and expertise, he has emerged as a leading researcher and teacher in the fields, spearheading innovative research initiatives aimed at revolutionizing patient care.

Dr Manbachi's academic journey began with a strong foundation in engineering. He obtained his Bachelor's degree and Master's degree in Applied Science and Engineering, followed by a PhD in Philosophy, all from the University of Toronto, where his doctoral work embodied the development of ultrasound-guided spine surgery. His multidisciplinary background equipped him with a unique perspective and a deep understanding of both engineering principles and medical applications.

At Johns Hopkins Medicine, Dr Manbachi has embraced the institution's ethos of excellence and innovation, channeling his expertise toward addressing some of the most pressing challenges in neurosurgery. His research focuses on leveraging cutting-edge technologies, particularly ultrasound, to develop novel solutions for diagnosing and treating neurological disorders. One example is that Dr Manbachi co-founded and is the director of Johns Hopkins' HEPIUS Innovation Lab, which focuses on the next generation of wearables and implantable medical ultrasound devices for spinal cord injury patients.

Dr Manbachi's work in ultrasound has garnered widespread recognition for neurosurgical interventions. He has pioneered the development of advanced ultrasound-based techniques for brain imaging, surgical guidance, and therapeutic applications. His research endeavors encompass a diverse array of projects, ranging from noninvasive neuromodulation to targeted drug delivery.

One of Dr Manbachi's seminal achievements is his work on the creation of a revolutionary ultrasound-based neuromodulation platform. This groundbreaking technology allows for precise and targeted modulation of neural activity within the brain, offering new avenues for treating conditions such as epilepsy, Parkinson's disease, and chronic pain. By harnessing focused

ultrasound waves, the platform enables clinicians to precisely stimulate or inhibit specific regions of the brain, leading to improved patient outcomes and quality of life.

In addition to his research pursuits, Dr Manbachi is deeply committed to education and mentorship, particularly regarding engineering design, medical imaging, and entrepreneurship. He plays an active role in training the next generation of scientists and engineers, instilling a passion for innovation and a commitment to excellence. Through his mentorship and guidance, he inspires students to push the boundaries of knowledge and make meaningful contributions to neurosurgery.

Dr Manbachi's extensive teaching experience and pioneering work have earned him numerous accolades and honors, solidifying his reputation as a trailblazer in neurosurgical innovation. He continues to push the boundaries of possibility, driving forward advancements that have the potential to revolutionize patient care and reshape the future of neurosurgery.

As he continues leading the next generation in groundbreaking research, Dr Amir Manbachi remains dedicated to advancing the field of ultrasound in neurosurgery through innovation and ingenuity. With his unwavering commitment to improving patient outcomes and enhancing our understanding of the brain, he is poised to leave a lasting impact on biomedical engineering and beyond. Therefore, the American Institute of Ultrasound in Medicine (AIUM) is proud to honor Amir Manachi, PhD, with the Peter H. Arger Excellence in Medical Student Education Award.