

2020 IUPAP Young Scientist Award in Medical Physics



Name: **Jaydev K Dave, PhD**

City/Country: **Mumbai, India**

Email:

“For his pioneering work in utilizing subharmonic signals from ultrasound contrast agents (encapsulated microbubbles) for non-invasive real-time in vivo cardiac pressure estimation.”

Jaydev Dave was born in Mumbai, India. He earned his B.E. degree in Biomedical Engineering from Mumbai University, India, in 2006, and his M.Sc. and Ph.D. degrees in Biomedical Engineering from Drexel University, Philadelphia, PA, in 2008 and 2012, respectively. He is currently an Associate Professor of Radiology at Thomas Jefferson University in Philadelphia, PA. Jaydev is actively involved in ultrasound and applied physics research.

Dr. Dave’s extensive research portfolio spans different areas of medical physics. The primary focus of his research has been in a non-traditional application that he has engineered – using subharmonic ultrasound technology with microbubble contrast agents to perform non-invasive real-time pressure estimation, as a means for replacing manometer-tipped catheters, especially for cardiac applications. As a principal investigator, he has led and completed two national clinical trials investigating the use of subharmonic signals for cardiac pressure estimation. For his research, Dr. Dave has received funding and support from the National Institutes of Health, the American Heart Association and industry partners. Additionally, his scientific research is also related to his clinical imaging physicist role, majorly looking at the interplay between radiation dose and image quality. To date, his research has accumulated to several conference abstracts (100+), published conference proceedings (18), and peer-reviewed publications (35).

In addition to his research, Dr. Dave has been active in mentoring and teaching, with national and international teaching appointments/visiting professorships. He serves as a scientific reviewer for 17 scientific journals and has also been called upon to act as an expert reviewer for national and international foundation grants, inter-society consensus documents, and draft standards. He has received numerous awards including the award for “Research excellence in recognition of outstanding dedication and achievement in heart disease and stroke research” from the American Heart Association (2015), “Dean’s award for excellence

in education at Sidney Kimmel Medical College” from the Thomas Jefferson University (2017), and “Young Alumni – Emerging Leader Award” from the Drexel University (2020).

He is currently a member of the American Association of Physicists in Medicine, the American College of Radiology, the American Heart Association, the American Institute of Ultrasound in Medicine, the IEEE and IEEE Ultrasonics, Ferroelectrics, and Frequency Control Society, the International Contrast Ultrasound Society and the Society of Photo-Optical Instrumentation Engineers. In his free time, he enjoys open-water long-distance swimming!