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As EVP of Engineering and Chief of Engineering Research at the West Wireless Health Institute, Dr. Mehregany is driving engineering research and academic initiatives to accelerate the emerging field of wireless health. His groundbreaking work in microsystems is particularly critical for the industry.

Dr. Mehregany has over 300 publications describing his work, holds 18 U.S. patents and is the recipient of a number of awards and honors. He received his Ph.D. in Electrical Engineering from the Massachusetts Institute of Technology in 1990. From 1986 to 1990, he was a consultant for pioneering developments in microelectromechanical systems at the Robotic Systems Research Department at AT&T Bell Laboratories. In 1990, he joined the Department of Electrical Engineering and Computer Science at Case Western Reserve University where he has served as a faculty member, center director and department chair, and held distinguished endowed chairs including the Goodrich Professor of Engineering Innovation.

Dr. Mehregany is an innovator and entrepreneur who has founded, financed and managed a number of technology start-ups. His interest centers on novel technology-enabled products and new innovation models for broader enterprise impact. Launched in 2009, the West Wireless Health Institute is one of the first medical research organizations in the world supporting the exploration and application of wireless technologies to advance human health and wellbeing.

The West Wireless Health Institute aims to move emerging wireless health technologies quickly into the hands of doctors, healthcare organizations and end-users - ensuring along the way that life-enhancing and lifesaving devices and products are safe, secure, reliable and cost-effective.

The Institute will enable inventors, medical device makers and others to hatch, nurture and refine their ideas for wireless health innovations. It will be a center for biomedical and biomechanical research, for validation of emerging technologies, and for delivering the outcomes that are needed to pave the way for reimbursement. It will also be the training ground for the next generation of leaders in this emerging field and a global resource for education.

Wireless health is a vanguard solution to improve the overall quality of our healthcare and our quality of life. We believe we can help create a connected healthcare system, with solutions that are predictive, preventive, and personalized. The West Wireless Health Institute is headquartered in La Jolla, California - the global hub for wireless life science research and development.

Research at the Institute

Under the leadership of Eric J. Topol, M.D., biomedical and biomechanical research at the Institute will focus on the development of wireless sensors - wearable, implantable and ingestible - for health and wellness applications. This research will require extensive collaboration between physician scientists and biomedical engineers. Particular expertise in biomechanical research will be necessary, so that wireless sensors can be developed and refined that will offer reliable and pragmatic means of capturing key physiologic data.

The development of such sensors and wireless system technologies will require rigorous validation through randomized clinical research trials. This requires design and execution of prospective clinical research in multicenter networks, as well as testing whether the new wireless technology achieves better clinical outcomes (such as preventing death, heart attack and stroke) compared to current standards of care therapy. Every sensor being investigated by and in development at the Institute will go through such validation.

The prototype for this research is the use of the wireless continuous electrocardiogram (ECG) recording, which had to be compared with the traditional Holter 24-hour monitor in a randomized trial before this technology was accepted for routine use by the medical community.