

Trends for Wearable and Medical Devices

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Abstract

An increase in world population along with a significant aging portion is forcing rapid rises in healthcare costs. The healthcare system is going through a transformation in which continuous monitoring of inhabitants is possible even without hospitalization. The advancement of sensing technologies, embedded systems, wireless communication technologies, nano-technologies, and miniaturization makes it possible to develop smart medical systems to monitor activities of human beings continuously. Wearable sensors detect abnormal and/or unforeseen situations by monitoring physiological parameters along with other symptoms. Therefore, necessary help can be provided in times of dire need. This seminar reviews the latest reported systems and the trends on wearable and medical devices to monitor activities of humans and issues to be addressed to tackle the challenges.

A short biography of Subhas Mukhopadhyay

Biography: Subhas holds a B.E.E. (gold medallist), M.E.E., **Ph.D.** (India) and **Doctor of Engineering** (Japan). He has over 30 years of teaching, industrial and research experience.

Currently he is working as a Professor of Mechanical/Electronics Engineering, Macquarie University, Australia and is the Discipline Leader of the Mechatronics Engineering Degree Programme. Before joining Macquarie he worked as Professor of Sensing Technology, Massey University, New Zealand. His fields of interest include Smart Sensors and sensing technology, instrumentation techniques, wireless sensors and network (WSN), Internet of Things (IoT), numerical field calculation, electromagnetics etc. He has supervised over 40 postgraduate students and over 100 Honours students. He has examined over 50 postgraduate theses.

He has published over **400** papers in different international journals and conference proceedings, written seven books and forty two book chapters and edited **seventeen** conference proceedings. He has also edited **thirty two** books with Springer-Verlag and twenty four journal special issues. He has organized over 20 international conferences as either General Chairs/co-chairs or Technical Programme Chair. He has delivered **327** presentations including keynote, invited, tutorial and special lectures.

He is a **Fellow** of IEEE (USA), a **Fellow** of IET (UK), a **Fellow** of IETE (India). He is a **Topical Editor** of IEEE Sensors journal. He is also an **associate editor** of IEEE Transactions on Instrumentation and Measurements. He is a **Distinguished Lecturer** of the IEEE Sensors Council from 2017 to 2019. He **chairs** the IEEE IMS NSW chapter.

More details can be available at

<http://web.science.mq.edu.au/directory/listing/person.htm?id=smukhopa>