

Remote Health Monitoring through Flexible, Wearable, and Disposable Wireless Sensing Systems

Guest Speaker Seminar

Prof. Atif Shamim

Director, Integrated Microwaves Packaging Antennas & Circuits
Technology(IMPACT)

Electrical and Computer Engineering Program

King Abdullah University of Science and Technology (KAUST)



About This Talk

This talk will explore recent advances in wearable and flexible sensors for remote health monitoring, in particular covering topics like additive manufacturing technologies such as inkjet and screen printing to realize these sensor systems. The ability to create inks for various sensing materials and then print them on unconventional mediums such as plastics, papers, and textiles has opened up a plethora of new sensing applications.

In this talk, we present many examples, such as, a Bluetooth Low Energy (BLE) enabled skin temperature monitoring system, a smart bandage with detachable BLE wireless readout for chronic wounds monitoring, a wearable wireless ECG system, and a Lactate sensing system for fitness monitoring. The promising results of these designs indicate that the day when these low-cost sensors will be worn on a regular basis for remote health monitoring is not far off.

Atif Shamim (IEEE Fellow) serves as the Professor in the Electrical and Computer Engineering Program at KAUST (King Abdullah University of Science and Technology), Saudia Arabia. He is the Director of IMPACT Lab.

He is an author/co-author of 1 book, 3 book chapters and over 400 international publications, an inventor on 40. His research interests are in innovative antenna designs and their integration strategies with circuits and sensors for flexible and wearable wireless sensing systems through a combination of CMOS and additive manufacturing technologies.

He is a Fellow of IEEE, founded the first IEEE AP/MTT chapter in Saudi Arabia (2013) and is currently serving as the Editor-in-Chief of IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology (J-ERM). He served as the AdCom member for IEEE AP-S (2025), and is founding Chair of IEEE AP-S TC-8 (wireless Communication), Vice Chair of IEEE APS MGA Committee, member of IEEE APS Fellows committees and leads the student travel grants committee.