

University of Houston - Biomedical Engineering Seminar

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Via Zoom: <https://uofh.zoom.us/j/92470065206>

Wearable Electrochemical Sensors: Toward Biochemical Lab on the Body



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Abstract

Wearable sensors have received a major recent attention owing to their considerable promise for monitoring the wearer's health and wellness [1,2]. These devices have the potential to continuously and non-invasively collect vital health information from a person's body and provide this information in a timely fashion. This presentation will discuss our recent efforts toward filling the gaps toward obtaining biochemical information, beyond that given by common wrist-watch mobility trackers. Such real-time molecular information is achieved using advanced wearable electrochemical biosensors integrated directly on the epidermis or within the mouth. The fabrication and applications of such wearable electrochemical sensors will be described, along with their current status and future prospects and challenges.

Biosketch

Joseph Wang is Distinguished Professor, SAIC Endowed Chair, at the Department of Nanoengineering at UC San Diego. He is also the Director of the UCSD Center of Wearable Sensors. Prof. Wang has published more than 1175 papers, 11 books and he holds 30 patents (H Index=175, >130,000 citations). He received 2 American Chemical Society National Awards in 1999 (Instrumentation) and 2006 (Electrochemistry), ECS Sensor Achievement Award (2018) and 5 Honorary Professors from Spain, Argentina, Czech Republic, Romania, China and Slovenia. Prof. Wang is the Founding Editor of *Electroanalysis (Wiley)*, is RSC, ECS and AIMBE Fellow and a Thomson Reuters Highly Cited Researcher. His scientific interests are concentrated in the areas of bioelectronics, wearable devices, biosensors, bionanotechnology, nanomachines and microrobots, flexible materials, and electroanalytical chemistry.