



Prof. Young-Ho Cho

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Title:

Emotion monitoring skin patches for human mental healthcare

Abstract:

This talk presents human emotion monitoring skin patches, non-invasively measuring the physiological emotion symptoms appeared on human skin. Introduced are the motivation and technical issues involved in the development of skin-attachable multi-sensor patches for applications to non-invasive human emotion monitoring. Presented are the design, material and fabrication issues of the flexible skin patches to make conformal and trouble-free skin contacts for human emotion monitoring in daily-life. Also mentioned are the physiological symptom analysis, challenging to identify the signals effective for specific emotion and person, to evaluate personalized emotion indices, and to verify their statistical significance through human subject experiments. We discuss the relevance and difference between *mental* and *physical* healthcare issues, followed by the future directions, potential applications and importance of human mental health monitoring.

Biography :

Young-Ho Cho received his Ph.D. degree (1990), majoring in mechanical engineering and minoring in electrical engineering, from the University of California at Berkeley. Currently, Dr. Cho is the Professor of Bio and Brain Engineering Department at KAIST, where he has been active in N/MEMS research as the Director of Cell Bench Research Center as well as NanoSensuating System Laboratory at KAIST. He also leads National R&D Programs in Korea as the Directors of National Research Centers for Circulating Tumor Cells, National Laboratory for Human Emotion Monitoring Systems as well as the Head of National Growth Engine Headquarter of the Ministry of Science and ICT. For international society, Prof. Cho served as the Chairs of IEEE MEMS Conference 2003, World Micromachine Summit 2008, and International Power-MEMS Conference 2011. For Korean society, he served as the Founding Chair of MEMS Division in Korean Society of Mechanical Engineers, the Steering Committee Chair of Korea National MEMS Programs, the Executive Review Board for National R&D Programs, and the Planning and Adjustment Committee for National Science and Technology Council. Prof. Cho's research achievements and contributions have been decorated with the Science and Technology Medal of Honor (2008) and the Order of Service Merit (2015) by the Republic of Korea.