Steve Kim, Ph.D.

Steve Kim serves as a research physical scientist and a program manager within the Human Signatures Branch at the 711th Human Performance Wing, Air Force Research Laboratory. He obtained his Ph.D. in polymer science from the University of Connecticut. Kim’s work focuses on bioreceptors and device platforms that enable miniaturization and wearable electronic and electrochemical biomarker sensing. His pioneering nano material study and analytical strategy have unveiled the governing factors in the nano-bio interface.

"Biomarker Sensor Development for Human Performance and Protection"

The autonomous and artificial intelligence systems are being spotlighted for an effective man-machine teaming. In the man-machine teaming loop, the human and its decision making remains detrimental to the success of the team’s mission. Human performance monitoring and health protection has been emerging as a key element in such systems and requires precise monitoring of chemical and biochemical biomarkers. This presentation will provide an in-depth look at the factors governing biomarker sensor development. Specific attention will be given to the bio recognition element design, biotic-abiotic interface, surface BRE packing density, and the electronic/electrochemical detection mode to mitigate the challenges in biomarker sensor development.

For more information, please contact Louis Chow, Ph.D., at Louis.Chow@ucf.edu.

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