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ULTRA-SENSITIVE GRAPHENE SENSORS FOR IOT APPLICATIONS

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Graphene has the potential for creating thin film devices, owing to its two-dimensionality and structural flatness. Assembling graphene-based building blocks into hybrid structures or composites with diverse targeted structures has attracted considerable interests for understanding its new properties and expanding the potential applications. The integration of graphene into a device always involves its interaction with supporting substrates, making this interaction critical to its real-life applications. This presentation will focus on graphene-on-polymer heterostructure based sensors. We design tiling structures in graphene, composing overlapped graphene plates and realize high sensitivity sensing. By future, combining artificial intelligence with digital signal processing, the graphene based sensing system will represent a new smart tool to classify and analyze signals in fields of vital signs monitoring, displays, robotics, fatigue detection and *in vitro* diagnostics

Biography

Hongwei Zhu has received his BS degree in 1998 and PhD degree in 2003 from Tsinghua University. After completion of his Postdoc studies in Japan and USA, he began his independent career as a Faculty Member at Tsinghua University (2008~present). He is the Vice Dean of School of Materials Science and Engineering. He has authored 3 books and over ten invited book chapters. He has received over 20 patents and published more than 200+ papers in reputed journals.

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