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Biomimetic graphene nanosensing

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The promise of designing a platform consisting of miniaturized biomimetic nanosensor for the sensitive, selective, and label-free detection of analytes can stimulate revolutionary scientific and technological opportunities in medical, environmental, defense and aerospace applications. Graphene is a single-atom-thick, two-dimensional carbon based material with remarkable electronic and sensing properties. Biological smart materials with integrated nano-transducer can provide a general platform for highly specific nanosensors. Here, I will describe the selection of specific biomimetic materials as bioreceptors in sensors, the fabrication of graphene-based electrodes in a variety of configurations, and the electrical characterization of the biofunctionalized graphene-electrodes as specific nanosensors for detection of target analytes.

Biography

Yue Cui is an Assistant Professor at Utah State University. Her expertise is in biosensors and bioelectronics, bio-inspired nanotechnology, and biomimetic materials.

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