

III. Device Concepts & Sensor Functionality

(C1) Nanostructure-Molecular Interface Science and Signal Transduction Phenomena

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Nanostructure-Molecular Interface Science and Signal Transduction Phenomena is a rapidly developing, multidisciplinary research area with potential revolutionary applications and innovations. This session will highlight the most recent progress in establishing functional interfaces between manmade nanostructures and molecules, including biomolecules. In addition, talks dealing with novel approaches to the transduction of signals in molecules as well as with manmade-nanostructure-biomolecule complexes will be covered in the session. Recent developments in nanoelectronic applications of biomolecules as well as sensing of biomolecules using nanoscale semiconductors will also be highlighted in this session. Underlying topics such as noise and parasitics in these manmade-nanostructure-biomolecule complexes will be covered in this session. This session also includes allied research fields, such as bio-nano energy systems, modeling, testing and characterization of molecular nanostructure interfaces.