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Micro and nanofabrication for biosensors

In recent years there is a significant development in micro and nanotechnology that has enabled fabrication of fine micro/nanostructures which are often used as building-block towards producing sensors which are specific, selective and sensitive towards number of key biomolecules. The talk will focus on how such micro/nanofabrication tools coupled with fundamental developments in physics and chemistry can create next generation sensors that can be used for monitoring deadly virus like Dengue NS1, food borne pathogen like *Listeria monocytogenes*, water borne pathogens like *E. coli* and cardiac markers like myoglobin for early diagnostics of heart attack. The talk will end with example of a translational and transformative research which allows the laboratory proto-type to be tested in field and end-user communities.

Biography

Sushanta K Mitra is a Kaneff Professor in Micro & Nanotechnology for Social Innovation at the York University, Toronto. His research interests are in the fundamental understanding of fluid flow in narrow confinements and its applications in the fields of energy, environment and bio-systems. For his contribution in science and engineering, he has been an Elected Fellow of the American Society of Mechanical Engineers, the Canadian Society for Mechanical Engineering, the Engineering Institute of Canada, the Canadian Academy of Engineering and the Royal Society of Chemistry.

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