An overview of advanced proteomic technologies: Case studies on brain tumors

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Venue: Seminar Room 1

Time: 04:00 pm – 05:00 pm

About the Talk:

The spectacular advancements achieved in the field of proteomics research during the last decade have propelled the growth of proteomics for life science research. Proteomics data comprehensively measure multi-layered molecular networks and provide a comprehensive overview of biological processes in a cell or organism. Omics studies are essential for the systemic investigation of biological systems, an endeavor that is crucial to improve our ability to manage and cure diseases, identify drug targets, understand regulatory cascades, and predict ecosystem responses to environmental changes. Our group at IIT Bombay, and other studies have provided novel insights not previously possible, including early indications of vulnerabilities to specific diseases. In the near future personal omics studies will become routine and will inevitably result in vast and diverse volumes of omics data. My presentation would provide an overview of latest proteomic technologies such as iTRAQ/TMT, MRM, Protein Microarrays, Label-free proteomics using mass spectrometry and biosensors as well as latest targeted proteomics tools. Further, I would discuss its application in brain tumors and how proteomics helps to decipher panel of putative classifier proteins and provides an in-depth understanding into the pathobiology of the disease.

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