

## **METABOLOMICS ON ELECTRODES – NEW ERA IN BIOSENSING TECHNOLOGIES**

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Over the past decade, a new “-omics” – metabolomics - approach has become of increasing interest to researchers and is dedicated to the global study of metabolites (the metabolome) and their dynamics, composition, interactions and responses to interventions or to changes in their environment, in cells, tissues and biological fluids. In fact, the background metabolome, with 6500-10000 metabolites, is easier to manage and holistic studies based on it have yielded approximately 25000 genes, 100000 transcripts and 1 million proteins. From a clinical point of view, the metabolomics approach is a very-effective and practical tool because it has the potential to reveal which markers or human physiological states are responsible for certain diseases. Metabolomics is having a major impact on nutritional, medicinal and drug research through the discovery of new, key biomarkers that may allow early detection of various diseases or, ideally, the pre-disease states.

The goal of this presentation is to summarize the use of electrodes and electrode arrays as a novel analytical sensing tool for metabolomics, metabolic profiling, and other metabolite related studies. Other available techniques and “omics” approaches will also be the subject of the discussion and critical evaluation.

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