

Single-cell impedance spectroscopy for label-free diagnostics

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The aim of this talk is to give an overview of the present status, challenges and future prospects of single-cell impedance spectroscopy. It is a label-free technique for the electrical characterization of single particles as they flow through a microchannel with integrated electrodes, and has applications in different biological assays including particle sizing and counting, cell phenotyping and disease diagnostics (see, e.g., the reviews [1,2]). In the last decade, novel concepts and ideas, coupled with the development of micro and nano technologies, have enhanced the sensitivity and specificity of the technique (see, e.g., the reviews [3,4]). However, some interdisciplinary challenges have to be addressed in order to allow a full exploitation of the research results at the industry level, accounting for the different market segments and the relevant end-users needs.

References

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