



Special Issue Reprint

Micro/Nano Devices for Blood Analysis

Edited By:

Rui A. Lima

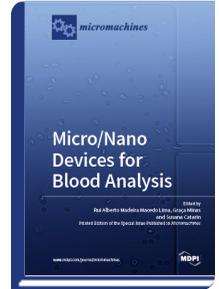
Graça Minas

Susana Catarino

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The development of micro- and nanodevices for blood analysis is an interdisciplinary subject that demands the integration of several research fields, such as biotechnology, medicine, chemistry, informatics, optics, electronics, mechanics, and micro/nanotechnologies.

Over the last few decades, there has been a notably fast development in the miniaturization of mechanical microdevices, later known as microelectromechanical systems (MEMS), which combine electrical and mechanical components at a microscale level. The integration of microflow and optical components in MEMS microdevices, as well as the development of micropumps and microvalves, have promoted the interest of several research fields dealing with fluid flow and transport phenomena happening in microscale devices. Microfluidic systems have many advantages over their macroscale counterparts, offering the ability to work with small sample volumes, providing good manipulation and control of samples, decreasing reaction times, and allowing parallel operations in one single step. As a consequence, microdevices offer great potential for the development of portable and point-of-care diagnostic devices, particularly for blood analysis. Moreover, the recent progress in nanotechnology has contributed to its increasing popularity, and has expanded the areas of application of microfluidic devices, including in the manipulation and analysis of flows on the scale of DNA, proteins, and nanoparticles (nanoflows).



Issue, we invited contributions (original research papers, review articles, communications) that focus on the latest advances and challenges in microdevices for diagnostics and blood analysis, micro- and nanofluidics technologies for flow visualization, MEMS, biochips, and lab-on-a-chip devices and their application to research and industry. We hope to provide an opportunity to the engineering and biomedical community to exchange knowledge and information and to

engineering and biomedical community to exchange knowledge and information and to bring together researchers who are interested in the general field of MEMS and micro/nanofluidics and, especially, in its applications to biomedical areas.

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