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Special Issue Reprint

Micro/Nano Devices for Blood Analysis

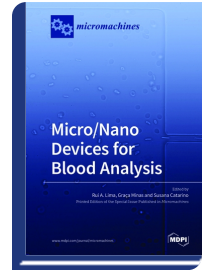
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Edited by

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).



In this Special Issue, we invited contributions (original research papers, review articles, and communications) that focus on the latest advances and challenges in micro- and nanofluidics for diagnostics and blood analysis, micro- and nanofluidic 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

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