Special Issue

3D Printing for Point-of-Care In Vitro Diagnostic Devices

Message from the Guest Editor

The current COVID-19 pandemic has underscored the need for rapid development and implementation of POC (point of care) tests for detecting virus infection, suitable for a wide range of venues and users. Considerable progress and innovation in laboratory-based assays offer new benchtop methods for immunoassays and nucleic-acid-based tests. However, their translation to low-cost, portable and convenient devices for field use, including home testing, and use in non-traditional settings, such as pharmacies, schools, and workplaces, remains a largely unmet need. Notably, 3D printing offers new avenues and capabilities for rapid prototyping to explore and validate designs and approaches, such as simplified immunoassays, nucleic acid tests (including both with amplification and non-amplification), optical and electrochemical detection, paper-based microfluidics, integrated sample prep, adaptions to various sample types (nasal swabs, saliva, urine), non-instrumented and minimally instrumented devices, including chemical heating, smartphone platforms, and connection with the IoMT (internet of medical things) and 5G networks.

Guest Editor

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Biosensors is a leading journal, devoted to fast publication of the latest achievements, technological developments and scientific research in the exciting multidisciplinary area of biosensors. Both experimental and theoretical papers are published, including all aspects of biosensor design, technology, proof of concept and application. Special issues are devoted to specific technologies and applications, and a selection of the most outstanding papers each year is recognized. Pushing the boundaries of the discipline, we invite original papers, as well as timely reviews on cutting edge fields within the subject area.

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