Special Issue

Current Applications of Microfluidics for Biosensing and Diagnostics

Message from the Guest Editors

Microfluidics is rapidly emerging as a powerful tool in biosensing and diagnostics due to its ability to manipulate small volumes of fluids with high precision. Microfluidic devices equipped with sensors provide a platform to track physiological signals such as heart rate, blood glucose levels, temperature, oxygen saturation, and so on. In particular, biosensors incorporated into in vivo models can be used for the accurate and reliable predictions of biological responses to various stimuli, including drugs and toxins. Moreover, advanced data analysis techniques and AI-based decision-making algorithms play an essential role in interpreting biosensor data. By leveraging machine learning and artificial intelligence, these technologies can analyze vast amounts of data, recognize patterns, and make predictive recommendations. This improves the efficiency and reliability of diagnostics, allowing for earlier detection and more effective treatments.

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