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Sensors in Bioreactors for Tissue Engineering

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Message from the Guest Editors

Key elements to be used for the monitoring of cultivation processes in tissue engineering are sensor systems. Various kinds of sensors are demanded to fulfil the diverse requirements of different cultivation strategies. Among those, biosensors are used for monitoring of metabolites, nutrients and pH, inertial sensors for the positioning, e.g., of a rotating bioreactor, sensors for physical strength impacting cells, acoustic sensors for cellular attachment, optical sensors for detection of cell layers and ultrasonic sensors for the detection of cell growth and tissue structures. For all of these sensor systems, it is essential to prove the function and to analyze the sensor signals using specialized software. Available technologies are based on electrochemical, physical or optical sensor principles.

This Special Issue aims to highlight advances in the development, testing, and modelling of such sensor systems on components, as well as on the system level. Topics include, but are not limited to:

- Sensors for bioreactors in tissue engineering
- New sensor technologies
- Embedded sensor signal processing
- Sensor data communication
- Case studies for the application of sensor sets



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Special Issue



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Message from the Editor-in-Chief

Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. *Sensors* organizes Special Issues devoted to specific sensing areas and applications each year.

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