

Topical Collection

Microsystems for Cell Cultures

Message from the Collection Editors

Microsystems are being increasingly utilized in biotechnological, biomedical, and pharmaceutical research and development as a replacement for in vitro cell cultures and animal experiments. Platforms such as organ-on-chip (OoC) can be designed to recapitulate biochemical and biophysical conditions and replicate the natural microenvironment of living cells and tissues. In addition to OoC platforms, microbioreactors have become versatile bioprocess engineering tools used for microbial and mammalian cell cultivation. Such cell culture technologies are often equipped with miniaturized sensors that provide feedback, allow process monitoring and control, and ensure the necessary cell culture conditions are maintained. This Special Issue aims to assemble a collection of novel microsystems for cell cultivation. Advances in the areas of system design, sensor integration, as well as target applications are welcome.

Collection Editors

Prof. Dr. Iordania Constantinou

Institute of Microtechnology, Technische Universität Braunschweig,
38124 Braunschweig, Germany

Dr. Thomas E. Winkler

Institute of Microtechnology & Center of Pharmaceutical Engineering,
Technische Universität Braunschweig, 38106 Braunschweig, Germany



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Biosensors
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
biosensors@mdpi.com

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Editor-in-Chief

Prof. Dr. Giovanna Marrazza

Department of Chemistry "Ugo Schiff", University of Florence, Via della
Lastruccia 3, 50019 Sesto Fiorentino, Italy

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