

# Special Issue

## Advances in Organ-on-Chip

### Message from the Guest Editor

Dear colleagues, The extracellular matrix, neighboring cells, and mechanical stimuli resulting from flow, concentration gradients, and motion all provide molecular signals to the cellular microenvironment to which cells are highly adapted. The 3D environment can be recreated by seeding cells more densely on the scaffold. However, this increased cell density requires careful consideration of food and oxygen delivery, especially for long-term culture experiments. Media flow can be included to overcome this limitation, but it complicates the design of cell culture chambers so that flow-induced stress can be predicted and controlled. When dealing with flow systems, it is also important to address practical issues, such as preventing leaks and blockages. The increased flow enables the coupling of multiple chambers, allowing the construction of more complex co-culture models and the study of crosstalk between different tissues. For this special issue, we are looking for submissions that fit the theme that any type of cell can be used for novel methods using 3D environmental models to overcome the limitations of 2D in vitro cell culture platforms.

### Guest Editor

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### Deadline for manuscript submissions

closed (31 December 2023)



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The International Journal of Molecular Sciences (*IJMS*, ISSN 1422-0067) is an open access journal, which was established in 2000. The journal aims to provide a forum for scholarly research on a range of topics, including biochemistry, molecular and cell biology, molecular biophysics, molecular medicine, and all aspects of molecular research in chemistry. *IJMS* publishes both original research and review articles, and regularly publishes special issues to highlight advances at the cutting edge of research. We invite you to read recent articles published in *IJMS* and consider publishing your next paper with us.

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### Editor-in-Chief

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