Microengineered Physiological Systems for Disease Modeling and Drug Testing

Guest Editor:

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Deadline for manuscript submissions:
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Message from the Guest Editor

Microengineered physiological systems is a 3D microfluidic tissue culture system that represents functional units of living human organs and simulates the physiological response for better predictive drug development and mechanistic disease modeling, ultimately contributing to rapid clinical translation of drugs and bringing drugs to market more quickly. This Special Issue aims at reviewing the current state-of-the-art and presenting perspectives of further development. Contributions related to organ-on-a-chip approaches reproducing tissue-tissue interface barriers, building tissue-level organization, and modeling systematic interactions of tissues or organs with functional scaling are welcome. Efforts to advance organ-on-a-chip technologies, including development of advanced biomaterials for 3D scaffolds, spatiotemporal regulation of 3D cellular environments, combination of in vitro and ex vivo experimental test-beds, and integrative approaches for organ–organ interactions will also be welcome. Finally, advanced studies on the applications of organ-on-a-chip technologies for disease modeling and drug (nanomedicine) screening are highly encouraged for submission.

Special Issue

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Message from the Editor-in-Chief

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