Microfluidics-based devices play an important role in creating realistic microenvironments in which cell cultures can thrive. They can, for example, be used to monitor drug toxicity and perform medical diagnostics, and be in a static-, perfusion- or droplet-based device. They can also be used to study cell-cell, cell-matrix or cell-surface interactions. Cells can be either single cells, 3D cell cultures or co-cultures. Other organisms could include bacteria, zebra fish embryo, *C. elegans*, to name a few. In addition, research contributions on plant cells and plants in microfluidics are encouraged.

This Special Issue will give you the opportunity to publish work that has not fully matured yet, but is worthwhile to be brought to the attention of other researchers and readers of the journal.