

MPI Colloquium

SPEAKER

Dr. rer. nat. Janina Bahnemann

Leibniz University Hanover, Institute of Technical Chemistry

ΤΟΡΙϹ

3D-printed Microfluidic Systems for Cell Culture and Biological Applications

ABSTRACT

Microfluidics and the development of "lab-on-a-chip" (LOC) systems offer a great potential for a wide range of applications in biotechnology, biology and chemistry. Due to their capability to enable precise and rapid manipulation of cells and other biological samples, there is a constant interest in the use of microfluidic devices. The small required sample volumes, low reagent consumption and the highly controlled and reproducible environment benefit various biological applications from protein analysis to drug development. Additionally, numerous LOC systems for cell cultivation and cell manipulation have been reported. In recent years, three-dimensional (3D) printing has attracted growing scientific attention. Remarkable technical advances allow high-resolution structures to be printed on a scale of just a few micrometers. These developments can also be used in microsystems technology and are increasingly being exploited for 3D printing of microfluidic prototypes. A major advantage of 3D-printed microsystems over conventional microfabrication processes is that desired prototypes can be produced within few hours. In addition, biocompatible 3D printing materials are emerging that can be used in cell culture.

Thursday, January 23, 2020, 4.00 p.m.

Max Planck Institute for Dynamics of Complex Technical Systems Sandtorstraße 1, 39106 Magdeburg Seminar room Prigogine