IN-CHEM

Under cooperation with IOM:

Integrated Chemical Microlabs - In-Chem
(DFG-FOR 2177)

Research Goals of the research group

The research unit is looking to explore the possibilities and limitations of integrated miniaturized chemical synthesis and analysis units. To this end an interdisciplinary research network will carry out basic research in the fields of chemical microsynthesis and integration of analytical concepts for in-line monitoring of chemical processes in real-time. In this context the lab-on-a-chip-technology is an excellent platform linking these different fields. In addition standard micro structured continuous flow reaction systems shall also be investigated for comparison. This approach will offer new insights into the world of micro synthesis that will enable not only a better understanding but also to gain access to new pathways in microreaction technology and chip-based analytics.

www.in-chem.de

UNIVERSITÄT LEIPZIG

HUMBOLDT-UNIVERSITÄT ZU BERLIN

In-CheM

IOM Leibniz-Institut für Oberflächenmodifizierung e.V.

Max-Planck-Institut für Kolloid- und Grenzflächenforschung

THE INSTITUTE

The Leibniz Institute of Surface Engineering (IOM) is well known for its competence and excellence in engineering surfaces and thin films by ion beam, electron, laser and plasma techniques. The institute performs application-oriented basic research by aiming for scientific knowledge gain related to the physical and chemical mechanisms in the preparation, synthesis and modification of insulating, metallic, semiconducting and polymeric surfaces and thin films. One of the main objectives of the institute is to transfer its scientific understanding to product- and method-oriented applications useful to industrial partners who wish to use engineered materials and surfaces in economically relevant and forward-looking technology fields.

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Leibniz Association

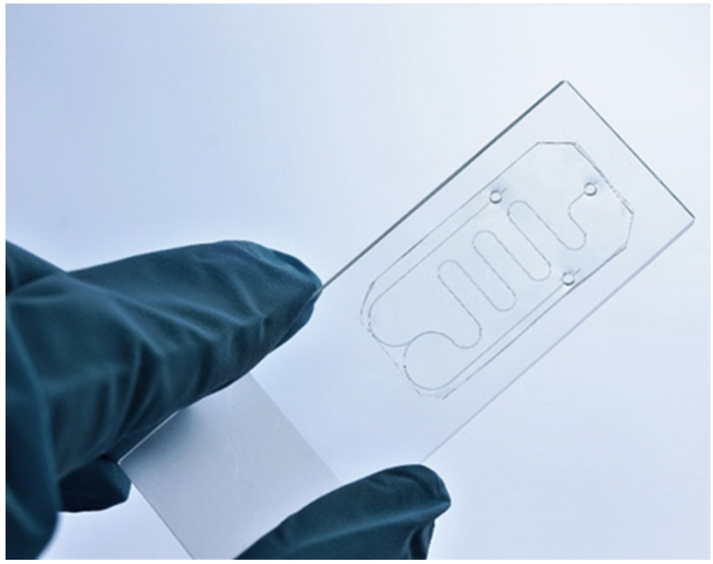
Zertifikat seit 2011
audit berufundfamilie

IOM
Leibniz Institute of Surface Engineering

3D functional microfluidic printing

TAILORED SURFACES

RAPIDE PROTOTYPING OF MICROFLUIDIC CHIPS

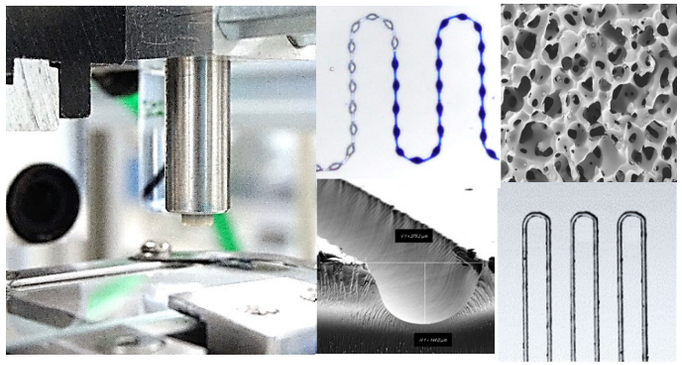


R&D of individually designed multi-functional microfluidic chips

- Rapid prototyping of multifunctional microfluidic chips
- 3D print from a CAD file within minutes
- One-step functionalization of channels – no post treatment
- Chemical microreactors; droplet based microfluidics, single cell analysis, biosensors

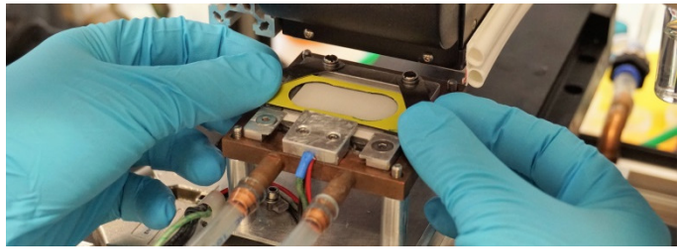
3D PRINT TECHNOLOGY

The technology combines a drop-on-demand process to create three-dimensional micro-structured channels and a UV replication process to anneal the microfluidic chip.

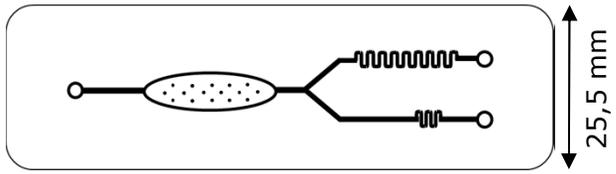


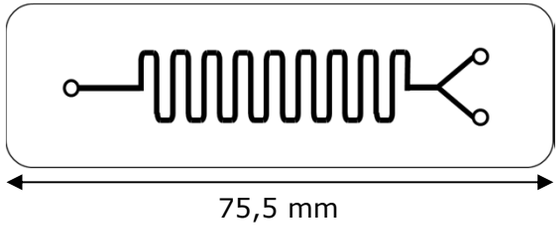
What we are looking for

- R&D partners from med-tech, bio-tech and research
- Realization of established tests and protocols on our platform
- Advancing existing PoC tests to multiplex tests



SPECIFICATIONS





- **Dimensions:** Standard microscopy slide, borosilicate
- **3D-CAD:** .stl, .svg
- **Polymer:** Polyacrylate
- **Resolution:** Channel width > 75 µm