

HSG-IMIT (Institut für Mikro- und Informationstechnik) is an application-oriented research and development provider for micro-technical components and systems.

Promoting awareness of and facilitating access to this technologies are the main tasks of HSG-IMIT acting as a service centre providing specific consulting, advanced training, technological services, feasibility studies, prototyping, small scale production as well as serial production in cooperation with industrial partners.

We offer complete solutions, ranging from the idea to the final product in a short time-to-market period. HSG-IMIT offers R&D services for microsystem technology and is certified according to DIN ISO 9001:2008.



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I agree to receive further information of HSG-IMIT*
 I am an exhibitor at MicroTAS*

*optional

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Lab-on-a-Chip Workshop

Assay Automation Based on Centrifugal Microfluidics

Post-conference workshop of MicroTAS 2013 in
Freiburg, GERMANY

Thursday, October 31
14:15 – 17:15 pm

Your attendance is free of charge
We ask for registration



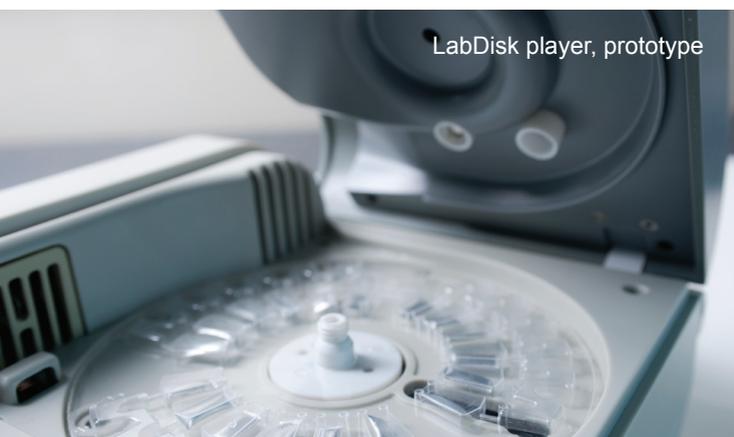
MicroTAS 2013
FREIBURG-BLACK FOREST
GERMANY
27-31 OCTOBER 2013

Lab-on-a-Chip

Lab-on-a-Chip technology provides solutions for fully integrated liquid handling, enabling the microfluidic automation, miniaturisation, and massive parallelisation of biochemical assays. It can be used for point-of-care analysis, e.g. whenever quick results of blood testing is eminent because a patient is in need of immediate medication.

HSG-IMIT's expertise ranges from the design, simulation, and prototyping of polymer based Lab-on-a-Chip systems to their microfluidic and biochemical performance testing. However, the development of a Lab-on-a-Chip device, e.g. for automated point-of-care testing, can be an expensive, long-term and high-risk project. With HSG-IMIT's Lab-on-a-Chip Design- & Foundry Service this gap can be bridged. It offers to customers a shortcut to Lab-on-a-Chip solutions, reducing development risks and costs.

We are able to integrate your assay in functional Lab-on-a-Chip prototypes within one month. Our service includes all steps starting from specifications, design, simulation and prototyping up to functional testing in our S1 and S3** biological safety labs. This allows you to quickly evaluate Lab-on-a-Chip technology for your application without major investments, greatly simplifying product development decisions.



Workshop Outline

The workshop addresses R&D engineers and decision makers at companies active in point-of-care diagnostics. It will be arranged in three sessions focussing on two centrifugal microfluidic platforms for integration and implementation of diagnostic assays:

The first session will give an overview on available technologies and unit operations on the LabTube platform and the LabDisk platform. In the second session, applications automated by the afore mentioned platforms such as disease detection and quality control of drinking water will be presented and discussed. This part concludes with an introduction to the Lab-on-a-Chip Design- & Foundry Service. The last session shows how these applications work.

All speakers are experienced scientists of HSG-IMIT.



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Workshop Agenda

Venue: Tagungszentrum ETAGE,
Emmy-Noether-Straße 2, 79110 Freiburg

14:15 – 15:30 Session I: Technology

- Welcome and general introduction
- LabTube platform: Lab automation on a standard laboratory centrifuge
- LabDisk platform: Assay automation on centrifugal μ -fluidic disks
- Rapid prototyping of LabDisks

15:30 – 16:00 Coffee break

16:00 – 16:45 Session II: Applications

- Enrichment of bacteria from drinking water
- Multiplex nucleic acid detection:
 - a) Genotyping of KRAS mutations in tumor DNA
 - b) Species identification by high resolution melting curve analysis
- Nucleic acid based sample-to-answer analysis:
 - a) Detection of biowarfare pathogens
 - b) Detection of neonatal sepsis pathogens
 - c) Detection of tropical diseases, e.g. malaria
- Detection of botulinum toxin
- Microfluidic sample prep for protein structure analysis by small angle X-ray scattering
- Lab-on-a-Chip Design- & Foundry Service: Customised solutions

16:45 – 17:00 General discussion

17:00 – 17:15 Session III: Exhibition/ Demonstration