

## IMTEK – Lab for MEMS Applications

Our R&D activities focus on microfluidics, microanalytical platforms and system integration, supported by front-end research facilities and highly skilled and multi-disciplinary personnel from the field of fluidics design and simulation, fabrication and prototyping, analytics, and assay development.

### Experts in Microfluidics and Bio-MEMS

In close cooperation with the Institut für Mikro- und Informationstechnik of the Hahn-Schickard-Gesellschaft (**HSG-IMIT**), we focus on solutions that meet the needs of society as well as the market. Our main areas of operation are: Contact-Free Microdosage Technologies, Lab-on-a-Chip, Microfluidic and Biological Engineering, Biofuel Cells, Porous Media, Micro Medical Technology, Thermal Sensors.



The lab coordinates and participates in several national and EU-funded projects focusing on developing lab-on-a-chip systems for microanalytical purposes in the field of diagnostics, food safety, bio-threat security, etc.

## Registration & Fees

For registration, please visit the MicroTAS website [www.microtas2013.org/workshop.html](http://www.microtas2013.org/workshop.html)

Attendees must choose the workshop they would like to attend at the time of registration as there will be no in and out privileges, and material (if any) will only be prepared for those who sign up. Early registration is encouraged as seating is limited and participation is on a first-come, first-served basis. On-site registration may be limited.

### Workshop Fees

The fees for the Sunday Workshop are as follows:

	Participants	Students
On or Before 6-SEP-2013	€100	€75
After 6-SEP-2013	€120	€100

### Organizer

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[www.loac-imtek.de](http://www.loac-imtek.de)



## Workshop Point-of-Care Platforms for Clinical Diagnostics



Pre-conference workshop of MicroTAS 2013 in  
Freiburg, GERMANY \*

Sunday, October 27  
13:00 – 17:30

Register at [www.microtas2013.org](http://www.microtas2013.org)

\*Organized within the EU FP7 project  
DiscoGnosis ([www.discognosis.eu](http://www.discognosis.eu))



## Point-of-Care Platforms

**Whether in doctors' offices, at clinics, or out in the field, Point-of-Care (PoC) devices enable the fast and reliable identification of risks on a molecular level in an automated way.**

PoC platforms, being diagnostic tools, are the first step to efficient treatment of the disease they are intended for.

In case of **malaria**, a typical disease that needs diagnosis at the point-of-care, the critical system requirements are full automation (operation with minimum external intervention) and specificity (detection between diseases of the same symptom). With **cardiac diseases**, a patient should be able to have a blood analysis of a complete set of biomarkers within minutes and with high sensitivity, because elevated marker levels may rapidly lead to a heart attack.

Disk with prestored reagents



### Potential applications:

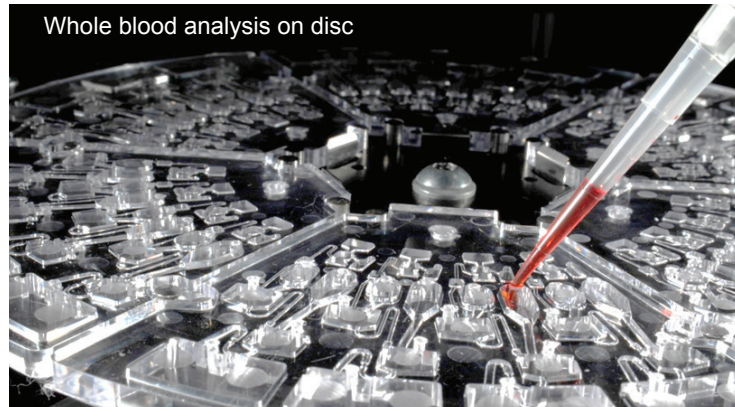
- Biomarker detection (cardiac, Alzheimer's)
- Pathogen identification (bacteria, viruses)
- Environmental monitoring (air, water)
- Food safety (milk, juice)
- Bio-threat security (anthrax, bio-warfare)

## Workshop Outline

The **aim of the workshop** is to present an overview of PoC solutions currently at development or commercialization level and familiarize the research community about recent advances in the field of PoC from three perspectives:

- Publicly funded projects
- Industry initiatives
- End user needs and feedback

Whole blood analysis on disc



**Target groups:** The workshop appeals to a wide range of R&D scientists and engineers, medical doctors, decision makers, and product developers, active in microsystems technology and applications in diagnostics.

The **invited speakers** come from academia, industry, research centers, end-users, and funding agencies from Europe and the USA.

The workshop is **organized** by Dr. Konstantinos Mitsakakis from the Department of Microsystems Engineering (IMTEK) at the University of Freiburg. He is coordinator of the **EU project DiscoGnosis** (Disc-shaped Point-of-Care platform for infectious disease diagnosis, [www.discognosis.eu](http://www.discognosis.eu)).

## Workshop Agenda

**Venue:** Konzerthaus Freiburg, conference room

*13:00 – 13:10 Welcome and general introduction*

**13:10 – 14:00 Session 1: Application scenarios**

**14:00 – 15:20 Session 2: Case studies of PoC platforms currently at (near)market and/or development level**

*15:20 – 15:40 Break*

**15:40 – 17:10 Session 3: European Commission funded projects on PoC**

**17:10 – 17:30 Round Table: The future of PoC platforms**

*Special: Potential coordinators for Horizon 2020 seeking consortium partners may present their proposal concept in a parallel poster session*

Patient-to-system interface



Source: [www.bd.com](http://www.bd.com)

### Speakers' highlights

- Smartphone-based bioanalysis
- Molecular diagnostics on chip
- Sample-to-answer centrifugal microfluidics
- Handheld device for malaria & tropical diseases
- Rapid identification of respiratory tract infections