

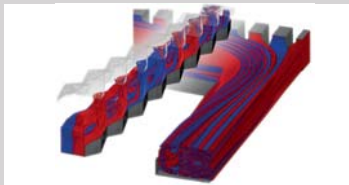
GET INTO THE FLOW

> navigate to success with microfluidic systems by imm



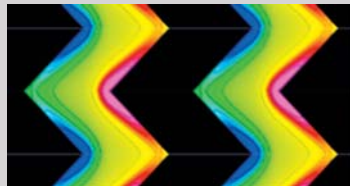
Get into the Flow

CFD Simulation



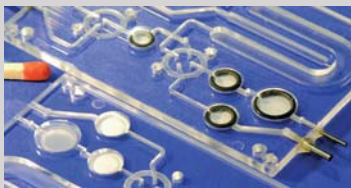
Interdigital and split-and-recombine micro mixers for Lab-on-Chip and reaction technology

Multiphysics Simulations



Electric field gradients for particle separation in Lab-on-chip

Filtration



Filter cascade for subsequent retaining of descending particle size (top: clamped with o-rings; bottom: welded)

Purification



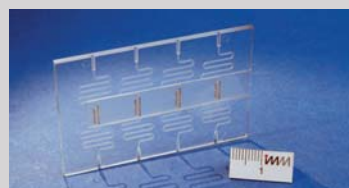
Active mixing chamber for the isolation of target cells from high sample volumes using magnetic beads (MACS)

Separation



Electrophoretic concentration and separation of fetal DNA from maternal blood plasma samples

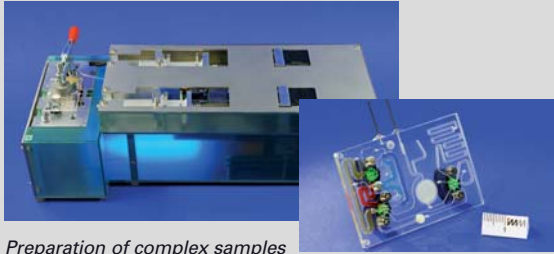
Lysis



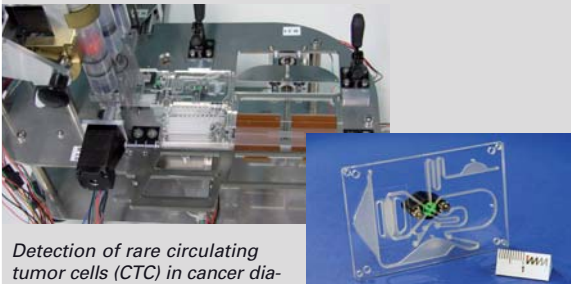
Fast electrochemical lysis of cells

ANALYTICAL SYSTEMS

Bioanalytics



Preparation of complex samples
incl. smears (Oncology)



Detection of rare circulating
tumor cells (CTC) in cancer dia-
gnostics and therapy control



On-chip analysis of respiratory
viruses from nasopharyngeal
swab samples of infectious diseases (e.g. respiratory...)

Environmental Monitoring



Detection platform for CBRNE (chemical,
biological, radiological, nuclear or explosive)
substances



Fully automated DANN prepa-
ration from high volume sam-
ples



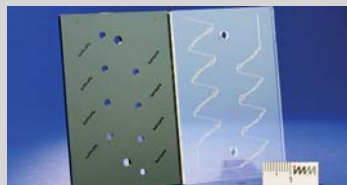
Chip-based system for the detec-
tion of mycotoxins in animal feed

Amplification



Moving-plug PCR chip for 3 constant
temperature zones

Process Control



Continuous flow through titration for
quantitative online determination of
analytes

Detection



5x parallel transmission and fluores-
cence detection cell

Get into the Flow

Electronics



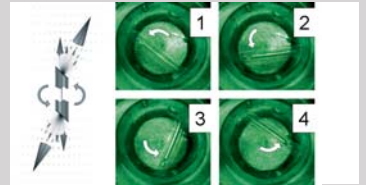
Main board for control logic

Active Valves



Turning (left; middle) and membrane (right) valves integrated on chip

Metering & Mixing



Acoustic induced mixing. CFD model and experiment of acoustic stirring

Mechanics



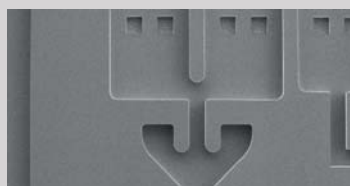
Operating setup harboring all mechanical, electrical and optical components needed to drive the chip automatically

Pumps



Custom-made freely addressable compact syringe pump

Passive Valves

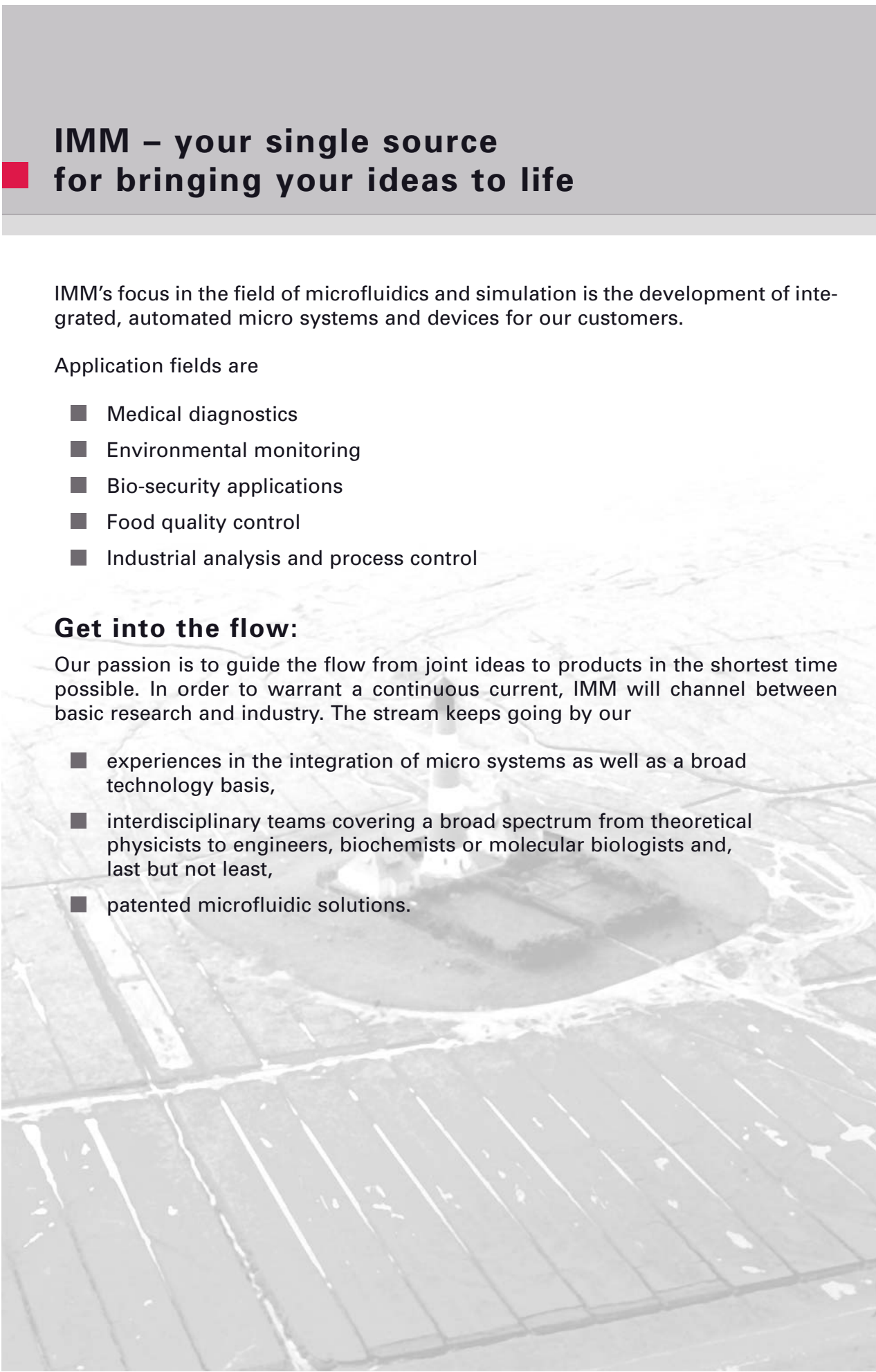


Structures using capillary forces for fluid handling on chip

Heat Management



Moving heaters (PCR carousel) for stationary PCR on chip (left) and stationary heating zones (right) for moving plug PCR, for fast nucleic acid amplification



IMM – your single source for bringing your ideas to life

IMM's focus in the field of microfluidics and simulation is the development of integrated, automated micro systems and devices for our customers.

Application fields are

- Medical diagnostics
- Environmental monitoring
- Bio-security applications
- Food quality control
- Industrial analysis and process control

Get into the flow:

Our passion is to guide the flow from joint ideas to products in the shortest time possible. In order to warrant a continuous current, IMM will channel between basic research and industry. The stream keeps going by our

- experiences in the integration of micro systems as well as a broad technology basis,
- interdisciplinary teams covering a broad spectrum from theoretical physicists to engineers, biochemists or molecular biologists and, last but not least,
- patented microfluidic solutions.

Partners



For further questions please do not hesitate to contact us:

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