

2010 Concertation and Consultation Workshop on Micro-Nano-Bio Convergence Systems (MNBS)

The main objective of this concertation meeting is to allow the representatives of current and recently terminated projects to present their work. At the same time, they will be able to interact, identify synergies and opportunities for collaboration, and thus identify future challenges and topics for R&D.

This event will provide an excellent opportunity to meet suitable partners and to disseminate information effectively.

PROGRAM

DATE	February 15-16, 2010
VENUE	CSEM Neuchâtel (Switzerland)

The workshop will be held in the CSEM main building, Neuchâtel (Switzerland).

The town is easily reachable from international airports such as Basel, Geneva and Zurich. These Swiss airports have regular flights to many European towns and all European capital cities.



CSEM SA
Rue Jaquet-Droz 1
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www.csem.ch

For more information, please refer to:

- the [Swiss Railways timetable](#).
- the [CSEM Neuchâtel](#) access map

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15 FEBRUARY 2010

Welcome & Opening

09:30 – 10:00	Registration & Welcome coffee
10:00 – 10:10	CSEM's welcome speech Georges Kotrotsios, VP Marketing & Business Development (CSEM)
10:10 – 10:30	Opening – Setting up the Scene Andreas Lymberis, Research Program Officer, European Commission, Information Society & Media Directorate General, Components and Systems, Micro & Nano Systems
10:30 – 11:00	Keynote speech – Gian-Luca Bona, CEO EMPA "Materials meet Life @ Empa"

Session 1 - MNBS interacting with the nervous system

11:00 – 11:15	Development of multifunctional microprobe arrays for cerebral applications, (NeuroProbes), <i>Herc Neves, IMEC, Belgium</i>
11:15 – 11:30	Transverse, Intrafascicular Multichannel Electrode system for induction of sensation and treatment of phantom limb pain in amputees (TIME), <i>Winnie Jensen, Aalborg University, Denmark</i>
11:30 – 11:45	Opportunities for coordination and collaboration <i>Open discussion</i>

Session 2 - Label free LoC

11:45 – 12:00	Monolithically Integrated Interferometric Biochips for label-free early detection of human diseases (PYTHIA), <i>Ioannis Raptis, NCSR Demokritos, Greece</i>
12:00 – 12:15	Nanoengineered Monolithic optoelectronic transducer for highly sensitive and label-free biosensing (NEMOSLAB), <i>Panagiota Petrou, Demokritos, Greece</i>
12:15 – 13:30	Lunch
13:30 – 13:45	Deep Vein Thrombosis – Impedimetric Microanalysis System (DVT-IMP), <i>Zulfiqur Ali, Univ. of Teesside, UK</i>
13:45 – 14:00	Ultrafast eElectronics for Terahertz Rapid Analysis in compact lab-on-chip applications (ULTRA), <i>Lorenzo Tripodi, Philips Research, The Netherlands</i>
14:00 – 14:15	Opportunities for coordination and collaboration <i>Open discussion</i>

Session 3 – LoC for cell and bacteria

14:15 – 14:30	Cell-On-Chip biosensor for detection of cell-to-cell interactions (COCHISE), <i>Roberto Guerrieri, UniBo - University of Bologna, Italy</i>
14:30 – 14:45	Development of a toxin screening multi-parameter on-line biochip system (ToxiChip), <i>Eric Moore, Tyndall National Institute, Ireland</i>
14:45 – 15:00	A highly integrated optical sensor for point-of-care label-free identification of pathogenic bacteria strains and their antibiotic resistance (InTopSens), <i>Daniel Hill, KTH, Sweden</i>

15:00 – 15:15	An integrated platform enabling theranostics applications at the point of primary care (TheraEDGE), <i>Francesc Guasch, Biokit SA, Spain</i>
15:15 – 15:30	Integrated microsystems for the magnetic isolation and analysis of single tumour cells diagnostics and therapy follow-up (MASCOT), <i>Olivier Henry, URV, Spain</i>
15:30 – 15:45	Novel mechanical strategies using micro- and nano-fabricated platforms to help decipher-directed stem cell behaviour, <i>Alfredo Franco-Obregón, ETH, CH</i>
15:45 – 16:00	Summarizing Day 1: Cluster topics and future R&D, <i>Andreas Lymberis and Nico de Rooij</i>

Closure of the day

16:00 – 16:30	Coffee break followed by visits of the labs
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Visits of Labs

From 17:00 to 18:30, visits of some labs of interest are proposed to the attendees. Registration is required beforehand and has to be completed at the workshop desk before 13:30 the same day.

Colibrys

Colibrys is a world-leading supplier of standard and semi-custom MEMS-based sensors and actuators for Harsh-Environment (Energy, Military and Aerospace), Industrial and Instrumentation markets.

- Short introduction to Colibrys activities
- Guided visit of some production areas of the lab
- Groups of 8 persons will be organized; duration: ~ 30 min

SUSS MicroOptics

SUSS MicroOptics is a leading company for high-quality micro-optics. They are offering high-quality microlens arrays in 200mm wafer technology.

- Short introduction to micro-optics and their applications as well as manufacturing
- Overview of SUSS MicroOptics' activities
- Window-tour of our clean-rooms
- Groups of 10 persons will be organized; duration: ~ 30 min

CSEM's Nanotechnology labs

CSEM's Nanotechnology and Life Sciences Division's activities include nanoscale structuring of surfaces and functional materials for tailored optical and wettability properties, as well as security features. And nanoscale tools for the selective manipulation of single living cells in fundamental R&D, tox and pharma.

- Visit of the nanostructuring labs and demonstration of different surface effects
- Tour of nanotools and cell biology facilities
- Two groups of 6 people will be organized; duration: ~ 30 min

CSEM and EPFL Microsystems labs

In-house facility for development, prototyping and small series production is an additional service to industry. A strong and effective working relationship between academia and CSEM enables a well-defined strategy that follows new developments and selects the most promising ones for further development.

- Presentation of the research in nanotools
- Guided visit of the Biomems and lab-on-a-chip lab
- Two groups of 10 persons will be organized; duration ~30 min

Social evening

From 19:00, a social evening has been organized; a registration fee is required to participate in this event. The costs for this event are 50 CHF (approx. 30 €). The registered attendees for this friendly and casual "typical swiss" evening meal are asked to pay the fee at the workshop reception.

The restaurant is located in downtown Neuchâtel, 15 min walk from the CSEM main building.

16 FEBRUARY 2010

Welcome & Opening

09:00 – 09:15	Opening Andreas Lymberis, Summarising day 1 –objectives of Day 2
09:15 – 09:45	Keynote speech – Benoît Dubuis, President of the BioAlps Association and Director of Eclosion "Bioconvergence, a Driver of Change in the Health Care System"

Session 1 – Other LoCs and manufacturing

09:45– 10:00	Smart integrated bio-diagnostic systems for healthcare (SmartHealth), <i>Calum McNeil, Newcastle Univ. UK</i>
10:00 – 10:15	Bio-sensing textiles to support health management (BIOTEX), <i>Jean Luprano, CSEM, CH</i>
10:15 – 10:30	Coeliac Disease-Management, Monitoring and diagnostic using biosensors and Integrated Chip System (CD-MEDICS), <i>Ioannis Katakis, URV, Spain</i>
10:30 – 10:45	Coffee Break
10:45 – 11:00	Development of an integrated, portable automated test for fast diagnostics, (INDIGO, PORTFASTFLU), <i>Claude Weisbuch, Genewave, France</i>
11:00 – 11:15	Laboratory skin patches and smartcards based on foils and compatible with a smart phone (LabonFoil) <i>Jesus Ruano, Ikerlan, Spain</i>
11:15 – 11:30	Micro-Fabrication of polymeric Lab-on-a-chip by ultrafast laser with integrated optical detection (MicroFluid), <i>Janko Auerswald, CSEM, CH</i>
11:30 – 11:45	Integrated polymer-based micro-fluidic micro-system for DNA extraction, amplification, and silicon-based detection (MICRO2DNA), <i>Spyridon Bionas, INTRACOM SA, Greece</i>
11:45 – 12:00	Opportunities for coordination and collaboration <i>Open discussion</i>
12:00 – 13:15	Lunch

Session 2 – MNBS for capsular endoscopy and minimally invasive surgery

13:15 – 13:30	Array of Robots Augmenting the KINematics of Endoluminal Surgery (ARAKNES). <i>Paolo Dario, Scuola Superiore Sant' Anna, Italy</i>
13:30 – 13:45	Versatile Endoscopic Capsule for Gastrointestinal Tumor Recognition and Therapy (VECTOR), <i>Marc Schurr, Novineon, Germany</i>
13:45 – 14:00	Miniaturized Stereoscopic Distal Imaging Sensor for Minimally Invasive Surgery (MINISURG), <i>Ofer Braude, Visionsense, Israel</i>
14:00 – 14:15	Thin Interconnected Package Stacks (TIPS), <i>Martin McHugh, ZARLINK Semiconductor, UK</i>
14:15 – 14:30	Opportunities for coordination and collaboration <i>Open discussion</i>
14:30 – 15:00	Coffee break

Session 3 – MNBS for "in-vivo" monitoring and treatment

15:00 – 15:15	In vivo Ultrasonic Transponder System for Biomedical Applications (ULTRASPONDER), <i>Catherine Dehollain, EPFL, CH</i>
15:15 – 15:30	Nano-Actuators and Nano-Sensors for Medical Applications (Nanoma), <i>Antoine Ferreira, Bourges Univ, France</i>
15:30 – 15:45	Novel Magneto – Optical Biosensor for Malaria Diagnosis (MOT-TEST), <i>Luc Savage, Exeter Univ., UK</i>
15:45 – 16:00	Miniaturized sensing systems as diagnostic tools for biomedical applications, Karen Twomey, <i>Tyndall National Institute, Ireland</i>

Closure of the day

16:00 – 16:30	Summarizing Day 1 & 2: Cluster topics and future R&D, <i>Andreas Lymberis and Nico de Rooy</i>
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