

REGISTRATION FORM

Name :
Company :
Address :
.....
Tel :
Fax :
e-mail :

wants to register as (includes lunch and coffee) :

- | | |
|---|---------|
| <input type="checkbox"/> Non-Benelux IMAPS member membership nr # | 80 EUR |
| <input type="checkbox"/> Only for IMAPS Benelux members workshop fee includes 2009 membership fee membership nr # | 140 EUR |
| <input type="checkbox"/> Non member workshop fee includes 2009 membership fee | 150 EUR |
| <input type="checkbox"/> Student fee | 30 EUR |

I prefer :

- to pay cash at the registration desk (no checks or credit cards please)
- to receive an invoice

Registrations should be made before November 17, 2008. Cancellations after November 17 will not be refunded. After registration, you will receive a confirmation and driving directions.

- If you are interested in a table for the table-top exhibition, tick to receive further information o

Please fax (or send) this registration form to:

Katrien Vanneste, ELIS-CMST, Gent University
Technologiepark 914A, B-9052 Zwijnaarde
Tel: +32 (0) 9 264 5350
FAX: +32 (0) 9 264 5374
E-mail : katrien.vanneste@ugent.be

INTERNATIONAL MICROELECTRONICS AND PACKAGING SOCIETY
IMAPS - BENELUX
BENELUX CHAPTER



Atzender: IMAPS-Benelux
p/a Katrien Vanneste
ELIS-CMST
Technologiepark 914A
B-9052 Zwijnaarde



IMAPS-Benelux
Autumn Event
2008

MEMS Packaging, Integration and Applications

Thursday, November 20th, 2008

Venue :

Holst Centre
High Tech Campus 31
Eindhoven
The Netherlands

PROGRAM

9.00 Registration, coffee, exhibition

9.30 Welcome by the chairman

Fred Roozeboom, NXP Research and TU/e, NL

9.35 Introduction to the Holst Centre

Jaap Lombaers, Holst Centre, NL

9.40 iPill: Design considerations of an electronic pill for drug delivery

Frits Dijkman, Philips Research, NL

Miniaturized, autonomous and intelligent devices are entering the medical world. Examples are camera endoscope pills and pH measuring pills. These pills are used for diagnostic purposes. Philips investigates the possibilities of e-pills for therapeutic use. Apart from electronics and sensors such pills have a container that can be filled with a payload of medication. The medication is released following a pre-programmed timing or upon triggers based on sensory input, such as pH. As the pill is equipped with two-way communication all data measured will be transmitted and are available for disease management, health and compliance monitoring.

10.10 “SoC or SiP ?” : Impact on Test and Packaging

Appo van der Wiel, Melexis, BE

The choice for a System-on-Chip or a System-in-a-Package has consequences for test and packaging. In fact, test and packaging are an integral part of the system functioning and have to be considered at the start of the system design. Especially for MEMS applications the package often plays a role in the way the device is calibrated. This presentation will outline the 2 system approaches and show some examples.

10.40 Coffee, exhibition

11.10 Next generation Lab-on-a-Chip systems: cells, proteins and direct sensing

Edwin Carlen and Albert van den Berg, University of Twente and MESA+, NL

The last decades were experienced by tremendous activity in the development of lab-on-a-chip systems (LOCs) and associated microfluidics and miniaturized components. Although various types of these LOCs are emerging to the marketplace, further improvements enabling high throughput biomolecular analyses, patient screening or combinatorial synthesis, will continue to transform chemical

processing and biomolecular assays well into the future. We will present some recent research projects in the development of LOC systems for single cell based assays and label-free diagnostic biosensors and systems.

11.40 Packaging issues for variable-focus liquid lenses

Stein Kuiper, Philips Research, NL

Variable-focus liquid lenses are a breakthrough innovation in active optics. They are very easy to make in a laboratory. For consumer applications, however, the lenses need to be hermetically sealed. Sealing in the presence of the lens liquids, and diffusion barrier properties of glues, are major difficulties. Another issue is thermal expansion. Liquids expand more than the container. How to cope with that? The presentation will provide a general overview of liquid lenses and concentrate on packaging issues.

12.10 Hand-held diagnostics platform with short test time

Joost Maast, Philips Applied Technologies, NL

In this paper we present an in-vitro diagnostics test platform based on magnetic label detection. The test platform consists of a hand-held reader and a micro-fluidic cartridge, integrating sample pre-conditioning, biological reagents and magnetic nanometer sized particles in dry form. The first application based on this platform is rapid road-side drug testing of multiple drugs in neat saliva. We will show fast assay results with the hand-held reader using neat saliva in a fully integrated disposable cartridge. We will demonstrate the micro-fluidic flow in the cartridge and the almost instantaneous bound-free separation.

12.40 Lunch, exhibition – Holst tour

13.45 MEMS packaging using 3D-Si integration approaches

Anne Jourdain and Eric Beyne, IMEC, BE

Many MEMS devices are fragile and highly sensitive to contamination from the environment. This is particularly the case at the end of the MEMS manufacturing process when e.g. sacrificial layers are etched to obtain self-standing structures. Standard packaging approaches are not applicable to such devices. The most cost-effective solution is to perform MEMS packaging at the wafer level. In particular of the combination of wafer-to-wafer bonding, with through-Si vias offers the highest

flexibility and quality. IMEC's approach to MEMS wafer-level packaging will be discussed in this presentation.

14.15 Inkjet printing for semiconductor applications

Peter Briër, PixDro BV, NL

Inkjet printing offers the opportunity to apply a whole range of materials in uniform or patterned layers during semiconductor fabrication. Recent advancement in the availability of Nano particle materials offers a whole range of new applications. New technologies for droplet generation offer smaller print features and the ability to print new materials, including pure metals and heavy loaded particle inks. This presentation focuses on existing and new print technology and applications in the area of semiconductor encapsulation, interconnection and the application of functional layers.

14.45 Coffee, exhibition

15.15 Packaging aspects for MEMS based energy harvesters

Rob van Schaijk and Ruud Vullers, IMEC-NL, NL

Standard packaging methods used in CMOS IC's are often not suitable or sufficient for MEMS based energy harvesters. So far, most of the efforts are dedicated to the device optimization and not to the package. We will show some solutions and challenges related to a wafer level package for vibrational energy harvesters and assembly/mounting issues for thermal electric energy harvesters.

15.45 MEMS oscillators for timing applications

Joost van Beek, NXP Semiconductors, NL

MEMS technology allows for the realization of highly accurate, miniaturized, and low cost timing devices. These devices may find their use in a large variety of applications ranging from real time clocks to frequency reference generation for wired- and wireless communication. In this presentation, a description will be given of the processing technology used for realizing MEMS based oscillators. Furthermore, the main performance indicators such as size, accuracy, temperature drift, and power consumption will be elaborated.

16.15 Informal meeting – drinks will be served

17.00 Closing