

REGISTRATION FORM

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wants to register as (includes lunch and coffee) :

- | | |
|---|---------|
| <input type="checkbox"/> IMAPS member membership nr # | 80 EUR |
| <input type="checkbox"/> Non member workshop fee includes 2008 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 April 7, 2007.

Cancellations after April 7 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:

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INTERNATIONAL MICROELECTRONICS AND PACKAGING SOCIETY
BENELUX CHAPTER



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



IMAPS-Benelux
Spring Event
2008

Imaging and Display Packaging Technologies

Thursday, April 10th, 2008

Venue :

IMEC
Kapeldreef 75
B-3001 Leuven
Belgium

PROGRAM

9.00 Registration, coffee, exhibition

9.30 Welcome by the chairman

Eric Beyne, IMEC, Leuven, BE

9.40 3D Integrated sensor and imaging Microsystems

Piet De Moor, IMEC, Leuven, BE

3D integration of multiple functional device layers, e.g. sensors, analog read-out electronics, memory and digital signal processing chips will allow to build intelligent and highly miniaturized microsystems.

In order to manufacture these 3D integrated imaging devices, a number of different technologies have to be developed in a manufacturable and reliable way: through (thinned) Si via interconnects for bringing the electrical signals from one side of the chip to the other, and high density microbump interconnects to interconnect different chips, each of them having through Si via interconnects. Typically the substrates involved are aggressively thinned to a final thickness between 15 and 100 micron. Embedding of thin dies using thin film technology enables very thin flexible, foldable systems. Both the 3D integration technologies and application demonstrators will be discussed.

10.10 RelacD: A large-Area X-ray camera built from modular micro-systems

Jan Visschers, Nikhef, Amsterdam, NL

New technologies are being developed in Semiconductor Industry, such as edgeless radiation sensors, interposer structures for pitch re-distribution, fine-pitch flip-chip bonding, through-silicon via and 3D-CMOS stacking. Using such new technologies, it becomes feasible to build large-area pixel detectors by tiling together many smaller modules.

As a first step in this direction, we are developing a tiled X-ray camera consisting of 9 modular microsystems, each having a 28 x 28 mm² sensor, flip-chipped to 4 readout-ASICs, in an Eureka Project called RelaxD.

10.40 Coffee, exhibition

11.10 CMOS Compatible Through Wafer Interconnects for Imaging Devices

Gereon Vogtmeier, Philips Research Europe, Aachen, DE

This development is driven by the need for very large photodiode arrays for medical imaging detectors, e.g. computed tomography applications. Only the front to back-side contact allows the four-side buttable chip placement of the already large chips (20 mm x 22 mm). The technology allows an interconnection for chips up to 280µm thickness and it also enables a metal signal routing on the active side, on top of the interconnection. The application specific optical sensitive front-side of the chip is fully accessible. This is very important, as the imager process with the optical interface to an x-ray converting scintillator material on top of the imager is not limited by the TWI-process. The whole process has been thought to be fully CMOS-fabrication compatible.

12.00 Short wavelength Infrared (SWIR) and uncooled Thermal Infrared image sensors: impact of packaging

Jan Vermeiren, Xenics, Leuven, BE

Although SWIR detectors can be operated without cooling for many applications, there are many low light level applications, which require detector temperatures down to 200 K. Uncooled microbolometer FPA require working pressures in the order of 1 µBar. The performance drivers and the influence on the package will be discussed.

12.30 Lunch, exhibition

14.00 Low cost high reliability Optical Plastic Packages for automotive and consumer products

Piet De Pauw, Melexis, Tessenderlo, BE

Different low cost optical plastic packaging techniques used in low cost automotive and consumer markets are overviewed. Plastic packaging techniques discussed are e.g. premolded packages, molded cavity packages, clear packages, FAM packages, wafer scale packages.

14.30 Die-to-wafer bonding processes for III-V silicon heterogeneous integration

Dries Van Thourhout, IMEC-UGent, BE

For many applications dense integration of optoelectronic devices with either electronic driving circuits or silicon photonic waveguides is required. In many cases, traditional wire-bonding or flip-chip based approaches are not appropriate because they cannot deliver the required level of integration or are not cost-efficient. We developed a heterogeneous integration technology based on the die-to-wafer bonding of III-V epitaxial material on the required substrates and subsequent processing of the optoelectronic devices using waferscale technologies. We will show results of the bonding technology and device examples.

15.00 Coffee, exhibition

15.30 Smart optics for industry and medicine

Gleb Vdovin, TU Delft, NL

Abstract not available at the time of printing

16.0 Interconnecting Drivers to Flexible Displays

Jonathan Govaerts, IMEC-UGent, BE

With several flexible display technologies sprouting up, the driving electronics are likely to become the limiting factors in bendability (and manufacturability) of the integrated display system. Standard packaging and interconnection technologies should therefore be advanced to meet these requirements. Current flexible display development is introduced, after which the idea of adapting existing interconnection technologies is discussed. Finally, a novel packaging technology, whereby ultra-thin chips are embedded in flexible polyimide (PI) substrates, is brought up that may offer the possibility of fully integrating the driving electronics within the flexible display substrate itself.

16.30 Informal meeting – drinks will be served

16.45 IMAPS Benelux General Assembly meeting

17.15 Closing