

SEMATECH and Lasertec Partner at UAlbany NanoCollege to Develop TSV Solutions for Chip-Stacking Applications

Albany, NY and Yokohama, Japan – July 7, 2010 – Lasertec Corporation of Japan has joined SEMATECH's 3D Interconnect Program at the College of Nanoscale Science and Engineering (CNSE) of the University at Albany, and will partner with SEMATECH to develop robust, cost-effective process metrology technology solutions for readying high-volume via-mid through-silicon via (TSV) manufacturing.

The collaboration between Lasertec and researchers from SEMATECH's 3D interconnect program will include investigations and comparisons of 3D TSV depth metrology schemes. This work is necessary not only for TSV RIE process control, but also for providing critical feed forward data for wafer thinning and TSV expose processes.

To facilitate this work, Lasertec will place a 300 mm TSV infrared (IR) etch metrology tool in SEMATECH's 3D R&D Center, providing advanced measurement capabilities that will enable accurate, repeatable TSV depth measurements over a range of TSV dimensions.

"We are pleased to welcome Lasertec to the 3D program," said Sitaram Arkalgud, director of SEMATECH's 3D Interconnect Program. "Our common goal is to address the technical challenges of via-mid TSV technology. The metrology expertise of Lasertec combined with the capability of the TSV 300-IR will fill an important gap in our integration scheme. Together, we will provide our Member Companies with a world class TSV depth metrology solution capable of addressing today's needs as well as tomorrow's aggressive dimensions."

"Lasertec is looking forward to contributing our expertise in the fields of metrology and inspection to further explore innovative metrology capabilities that will make 3D TSVs commercially viable," said Hal Kusunose, CTO of Lasertec. "Our cutting-edge TSV 300-IR tool will allow SEMATECH researchers and SEMATECH's Member Companies to address important metrology challenges of TSV technology."

"The leading-edge research and development that is critical for commercializing innovative TSV technologies will be further enhanced by the addition of Lasertec to CNSE's Albany NanoTech Complex," said Richard Brilla, CNSE Vice President for Strategy, Alliances and Consortia. "This new collaboration builds on the SEMATECH-CNSE partnership to support the advanced technology needs of our global corporate partners and the nanoelectronics industry."

Through-silicon via technology is a method of combining integrated circuits in a vertical stack to enable high functionality and performance with low power consumption in a small footprint. While employing many standard chip processes, TSVs present several new technical and logistical challenges which are being addressed by SEMATECH.

Launched three years ago, SEMATECH's 3D program was established at CNSE's Albany NanoTech Complex to deliver robust 300 mm equipment and process technology solutions for high-volume through-silicon via (TSV) manufacturing. To accelerate progress, the program's engineers have been actively engaging with leading edge

equipment and materials suppliers and leveraging their expertise to ready TSV technology. Eventually, 3D interconnects will provide cost-effective ways to integrate diverse CMOS technologies and chips with emerging technologies such as micro and nano electromechanical systems (MEMS, NEMS) and bio-chips.

About Lasertec:

Lasertec (Lasertec Corporation; Head Office at Kohoku-ku, Yokohama, Japan; President: Osamu OKABAYASHI), established in 1960, is a leading supplier of innovative semiconductor, LCD and PV related inspection and measurement equipment worldwide. Product line includes TSV etching depth inspection system, wafer inspection/review system, EUVL mask blank inspection system, photomask inspection system, photomask haze removal system, color filter repair system, PV cell conversion efficiency distribution measurement system and various types of confocal laser microscopes. To support this diverse product base, Lasertec has strategically-located sales and service offices worldwide. Lasertec is a publicly held company listed on JASDAQ. For more information, go to: www.lasertec.co.jp.

About SEMATECH:

For over 20 years, SEMATECH® (www.sematech.org), the international consortium of leading semiconductor manufacturers, has set global direction, enabled flexible collaboration, and bridged strategic R&D to manufacturing. Today, we continue accelerating the next technology revolution with our nanoelectronics and emerging technology partners.

About CNSE:

The UAlbany CNSE is the first college in the world dedicated to education, research, development, and deployment in the emerging disciplines of nanoscience, nanoengineering, nanobioscience, and nanoeconomics. CNSE's Albany NanoTech Complex is the most advanced research enterprise of its kind at any university in the world. With over \$5.5 billion in high-tech investments, the 800,000-square-foot complex attracts corporate partners from around the world and offers students a one-of-a-kind academic experience. The UAlbany NanoCollege houses the only fully-integrated, 300mm wafer, computer chip pilot prototyping and demonstration line within 80,000 square feet of Class 1 capable cleanrooms. More than 2,500 scientists, researchers, engineers, students, and faculty work on site at CNSE's Albany NanoTech, from companies including IBM, AMD, GlobalFoundries, SEMATECH, Toshiba, Applied Materials, Tokyo Electron, ASML, Novellus Systems, Vistec Lithography and Atotech. For more information, visit www.cnse.albany.edu.

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