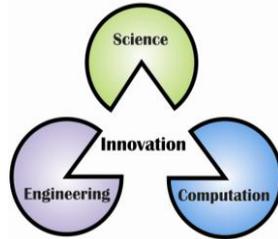


The Hebrew University of Jerusalem
**The Brojde Center for Innovative
Engineering and Computer Science**



The 5th Peter Brojde Conference 2013

Heterogeneous Integration:
**Integration and hybridization of disparate
devices and objects of different functionalities.**

In recent years we have been witnessing the emergence of several technological trends that necessitates for their implementation the conception of a new class of integrated circuits. These circuits constitute disparate classes of separately fabricated devices and objects that are built of different materials, and are integrated into spatially organized, functional systems.

The need for such circuits arises in several different areas of applications: (i) The need to create a direct physical interface between the electronic silicon-based data processing devices and III-V based optoelectronic devices for performing inter and intra chip optical communication; (ii) The need for "lab on a chip" modules in which microfluidic systems are equipped with analysis and signal processing capabilities in order to process biological and chemical substances; (iii) The need for complex sensors that can be integrated in every physical object and possess signal processing and communication capabilities.

The **Fifth Peter Brojde Conference** is devoted to explore several concepts that will constitute the toolbox for constructing heterogeneous integrated circuits, and as such will form the basis for a new fabrication infrastructure: **Heterogeneous Integration**.

Guest speakers include:

- ❖ **Prof. Amnon Yariv** from the California Institute of Technology who will devote his talk to High Q Hybrid Si/III-V Lasers for Coherent Optical Communication and Sensing;
- ❖ **Prof. Martin Wegener** from the Karlsruhe Institute of Technology who will talk about three-dimensional submicron lithography by direct laser writing;
- ❖ **Prof. Yoel Fink** from the Massachusetts Institute of Technology who will talk about multi-material multifunctional fibers and fiber assemblies;
- ❖ **Prof. Hans Zappe** from the University of Freiburg who will talk about optofluidics: hybrid components and complete systems;

The conference is planned to provide a wide introduction to the subject, and as such it is aimed for scientists and engineers from the academia and the high-tech industry, as well as research students in Applied Physics, Physics, Electrical Engineering and Chemistry.

The conference will take place on October the 15th, 2013 in "BEIT ZTARFAT" at the E. Safra (Givat Ram) Campus of the Hebrew University.

Admittance is free, But advanced registration is required.