

Second PhD Summer School on Defects in Semiconductors

Ghent University, Belgium

10-14 September 2018

Goal of the 5-day doctoral school is to introduce PhD students and researchers and engineers from industry to defects in semiconductors and their important impact on the characteristics of electronic devices and on the yield of wafer and device processing. All aspects of defects in semiconductors will be dealt with, ranging from fundamental aspects like their atomic structure, origin, electronic and optical properties, over the best suited characterization and simulation techniques, to their impact on devices and process yield including defect engineering. While most of the knowledge has been gained in the past on silicon materials and processing, there is a renewed strong interest in defect control and engineering, in order to add new functionalities on a silicon platform. This ranges from sustainable applications like high performance semiconductor-based solar cells, solid-state lighting (GaN-on-silicon Light Emitting Diodes) and power devices to future Complementary Metal-Oxide-Semiconductor (CMOS) devices and beyond (Tunnel-Field-Effect Transistors; nanowire transistors).

The 5-day School is divided in an Introductory day and 3 days of Lectures by internationally renowned experts in the field. The fifth day will provide hands-on-experience on defect spectroscopy and modeling. The introductory tutorial day covers the following topics:

Defects in semiconductors: basic definitions and structural and electrical properties
Defect characterization techniques
Basics of semiconductor devices
Basics semiconductor processing steps

The Lectures include:

Defects in substrates and epitaxial layers
Processing-induced defects and defect engineering
Interface and bulk defects – impact on devices
Impact defects on electrical performance and yield

More information can be found on the website: <http://www.defects.ugent.be>

International Scientific Committee:

Prof. E. Simoen (Ghent University, Belgium)
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