

Technical COLLOQUIUM

Date: Thursday May 23, 2013
Program: UHV Helium Ion Microscopy HR
Speakers: Gregor Hlawacek

Every third Thursday of the month MESA+ Institute for Nanotechnology organizes a technical colloquium. The aim of the technical colloquia is to convey expertise and know how of the various equipment and technology within NanoLab.

Helium Ion Microscopy (HIM) is a relatively new technique that allows high resolution imaging of a wide range of materials. The fact that the technique is not limited to conductive materials and the many different contrast mechanisms make it a promising tool for nano-structure research.

HIM has demonstrated unprecedented resolution both on conductive and isolating materials. It is well known for its high surface sensitivity when using secondary electrons generated by the impinging ions. Chemical sensitivity is possible via backscattered He. Both qualitative element contrast maps as well as quantitative localized Rutherford Backscattering are possible. In addition Ionoluminescence allows to obtain information on the bandstructure and defects, such as color centers, by analyzing the emitted photons.

I will present results from selected investigations performed with the UTwente UHV-HIM in the last few years. The actual challenge, why HIM is a suitable technique for the issue on hand and which foreseen or unforeseen obstacles occurred will be discussed. The range of selected topics will include examples from semiconductor research, biological samples and material science questions as well as fundamental issues of ion-beam/sample interactions.

Start: 15:45 - 16.15 hrs.

Discussions/drinks: 16:15 - 17:30 hrs.

You are kindly invited to attend the MESA+ Technical Colloquium. After the colloquium you can have a drink and take part in informal discussions.

MESA+ is one of the largest nanotechnology research institutes in the world, delivering competitive and successful high quality research. It unites scientific disciplines, and builds fruitful international cooperation to excel in science and education. MESA+ has created a perfect habitat for start-ups in the micro- and nano-industry to become established and then mature.

The institute employs 525 people of whom 300 are PhD candidates or postdocs. With its Nano-Lab facilities the institute holds 1250 m² of cleanroom space and state of the art research equipment. MESA+ has been the breeding place for more than 45 high-tech start-ups to date.
www.utwente.nl/mesaplus

Future MESA+ colloquia events 2013:

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