QUASES-Tougaard XPS-Workshop - Sven Tougaard / 1 day

 This workshop, presented by **Sven Tougaard** (Prof at SDU, Denmark), is for students and researchers who want to make more accurate and more detailed analysis of nano-structured surfaces by XPS, using the facilities in the QUASES-Tougaard software package.

The workshop consists of five sessions

1. **A lecture on quantitative XPS surface analysis.** Discussion of deficiencies in traditional quantitative XPS analysis and of how the accuracy can be enhanced by analysis of both peak intensity and the background of inelastically scattered electrons.

2. **An interactive lecture session** where the different aspects, facilities and capabilities of the QUASES-Tougaard software package are presented and discussed. You will do simple hands on operations with the software in this session.

3. **Hands on: You will do a guided step by step analysis of a couple of cases.** The purpose is to become familiar with the steps needed to get from the raw XPS-spectra to the complete quantitative analysis of the nano-structure.

4. **Hands on: You will be given sets of raw XPS spectra taken from various samples.** From these, you will use the software to determine the quantitative nano-structure for a handful of practical examples. You will be given individual guidance so you can advance at your own pace and users with some experience can move ahead more quickly.

5. **You are encouraged to bring your own spectra.** In this last part of the workshop you will get personal guidance on the potential applications of QUASES to your research. Get also guidance on what spectra you should record to get most benefit for your specific research.

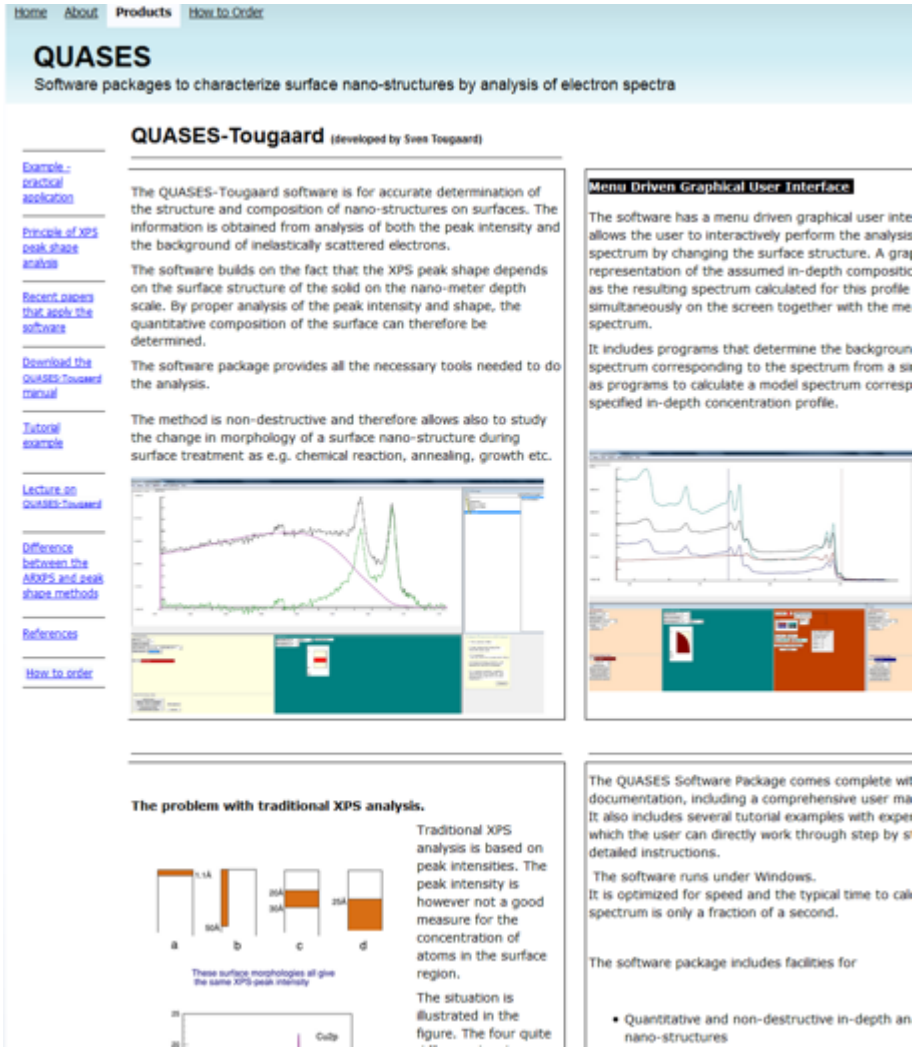
Duration

~ 6 hours, depending on the number of participants who bring spectra for session 5.

Preparation & requirements

As a preparation for your participation, please go to the web site, download and spend a couple of hours looking at the users manual and the several tutorial examples.

No computer will be available, **please bring your own laptop**. Participants **with a valid software license** are requested to bring a laptop with the software installed.
For those **without a license**, the software will be provided for your use during the workshop.



Brief description of the software

Traditional quantitative XPS analysis relies on the assumption that the sample is homogeneous in the outermost 1-2 nm. This is usually not the case and can result in huge inaccuracies.

The QUASES software is for accurate XPS determination of the structure and composition of nano-structures on surfaces. The information is obtained from analysis of both the peak intensity and the background of inelastically scattered electrons. Due to inelastic electron scattering, the XPS peak shape varies significantly with depth composition on the nano-meter scale. By proper analysis of the peak intensity and shape, quantitative composition can therefore be determined. The software package provides all the necessary tools needed to do the analysis.

The method is non-destructive and therefore it also allows to study the gradual change in morphology of a surface nano-structure during surface treatment as e.g. chemical reaction, annealing, growth etc.

www.quases.com

Find more information on the software at this web page where you can download the users manual, several tutorial examples, scientific papers etc.