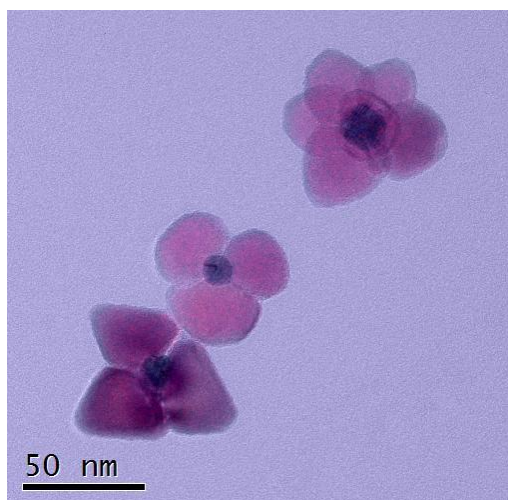


Gatan Electron Energy Loss Spectroscopy School: Open lectures



12-16 January, 2014

Ilse Katz Institute for Nanoscale Science and Technology (IKI)
Ben-Gurion University of the Negev

Overview

Transmission electron microscopy (TEM) reveals structural details of materials down to the sub-nanometer scale. Electron energy-loss spectroscopy (EELS) and Energy-filtered TEM (EFTEM) imaging are powerful analytical tools due to the high spatial as well as energy resolutions provided in both conventional and scanning TEM modes.

The Gatan EELS School at **Ben-Gurion University** reviews the theory and practice of EELS analysis and imaging in the TEM with an emphasis on practical techniques, optimum deployment of Gatan hardware and software systems, and advanced EELS and EFTEM applications.

By the end of the course, participants can expect to know the range of physical properties that can be extracted from their TEM samples using EELS and EFTEM. The participants will learn how best to optimize the performance of hardware, EELS and EFTEM experimental setups, and data analysis methods in order to achieve quantitative characterization of the material.

Topics include

- Fundamentals of EELS and energy-filtered imaging in TEM
- Principles of operation of Gatan EFTEM and EELS systems
- Optimization of EFTEM and EELS data acquisition
- Quantification of elemental composition
- Other information provided by EFTEM/EELS and how best to extract it
- Use of EELS signals to form maps of elemental and chemical composition
- EFTEM and STEM EELS spectrum imaging techniques
- Identification of material phases via EELS fine structure mapping
- New hardware and software developments by Gatan, e.g. DualEELS

Format

The school is divided into **basic** (1.5 days, 12-13/1) **followed by advanced** (3.5 days, 13-16/1) stages.

The instructors are experienced analytical TEM specialists at Gatan.

Registration

The **lectures**, presented at the IKI auditorium, are open to all, free of charge.

We request that you register your interest in the lectures for administrative preparations.

Please register with Dr Tsiona Elkayam, nano@exchange.bgu.ac.il;

Location

The school will take place at IKI

Building 51

Auditorium 015

Location within the university:



מכון אילזה כ"ץ למדע וטכנולוגיה בתחום הננומטרי
 Ilse Katz Institute for
 Nanoscale Science and Technology

Building 51



IKI
 Institute

If you have questions regarding the Gatan EELS School, please contact:

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