

# The Swagelok Center for Surface Analysis of Materials

## FALL BREAK 1 DAY SHORT COURSE STRUCTURAL & COMPOSITIONAL ANALYSIS SOLUTIONS

*Who should attend this course?*

*Undergraduate and Graduate Students, Post-doctoral Fellows, Faculty,  
and anyone interested in microscopy, and surface analysis.*

*Refreshments will be served in the morning and lunch break.*

*Follow up demonstrations of the methods taught in the short course will be available for CWRU  
participants. More information will be shared during the Course day.*

*Please register by emailing Sharon Dingess at [skd4@case.edu](mailto:skd4@case.edu).  
Use "2017 registration for SCSAM short course" in the subject line.*

**Monday - October 23**



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# Schedule

*Monday - October 23 - White 411*

Morning Session 9:00-12:00

Dr. A. Avishai – Introduction

Dr. K. Abbasi – X-Ray Photoelectron Spectroscopy/ESCA,  
– Time of Flight Secondary Ion Mass Spectroscopy

Dr. D. Wang – Auger Electron Spectroscopy

Dr. J. Cowen – X-Ray Diffraction

Afternoon Session 1:00-5:00PM

Ms. N. Avishai – Scanning Electron Microscopy

Dr. A. Avishai – Energy Dispersive Spectroscopy,  
– Electron BackScattered Diffraction,  
– Focused Ion Beam

Dr. D. Wang – Transmission Electron Microscopy

Mr. R. Tomazin – Atomic Force Microscopy, & Nanoindentation

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Center for Surface Analysis of Materials



CASE WESTERN RESERVE  
UNIVERSITY EST. 1826

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# The Swagelok Center for Surface Analysis of Materials Provides:

- \* **Access to high-end analytical equipment.**
- \* **A partner for industrial lab researchers and extension of your lab and infrastructure.**
- \* **Expert staff support. Access to vendor support.**
- \* **Training – equipment operation and data analysis.**
- \* **Tailoring solutions for researchers/industry needs.**
- \* **Methods and expertise development.**
- \* **Part of a bigger Core infrastructure at CWRU – Service Center Group.**

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# Analytical Services

## **ELECTRON MICROSCOPY**

- FIB-SEM, EDS, EBSD/ TKD, 3D EM, 3D CONSTRUCTION
- TEM/STEM, EDS, EELS, ASTAR (ORIENTATION MAPPING)

## **SURFACE ANALYSIS**

- SCANNING AUGER MICROPROBE
- X-RAY PHOTOELECTRON SPECTROSCOPY (XPS)
- TIME-OF-FLIGHT SECONDARY ION MASS SPECTROSCOPY

## **OTHER METHODS**

- ATOMIC FORCE MICROSCOPY
- OPTICAL MICROSCOPY
- X-RAY DIFFRACTOMETRY
- NANOINDENTER
- ION POLISHING

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