



Workshop

Nordic Microscopy Society  
**SCANDEM**  
2016



JUNE 7-10

# Interactive data analysis with Python & HyperSpy

7th June 2016

NTNU, Trondheim

10:00 - 10:15 Welcome

10:15 - 10:30 (Talk) Introduction to Python and Hyperspy  
*F. de la Peña, University of Cambridge, UK*

10:30 - 11:20 (Tutorial) Getting started  
*F. de la Peña & T. Ostasevicius, University of Cambridge, UK*

11:20 - 11:40 (Talk) Model fitting multi-dimensional data  
*T. Ostasevicius, University of Cambridge, UK*

11:40 - 12:30 (Tutorial) Model fitting: spectra  
*T. Ostasevicius, University of Cambridge, UK*

12:30 - 13:30 Lunch break

13:30 - 14:00 (Talk) Principal component analysis and blind source separation.  
*F. de la Peña, University of Cambridge, UK*

14:00 - 14:50 (Tutorial) Decomposition and blind source separation of multi-dimensional data  
*F. de la Peña, University of Cambridge, UK*

14:50 - 15:10 Coffee break

15:10 - 16:00 (Tutorial) EELS data analysis  
*M. Nord, University of Glasgow, UK*

16:00 - 16:30 (Tutorial) EDX data analysis  
*D. Johnstone, University of Cambridge, UK*

16:30 - 17:00 (Tutorial) Mapping with electron diffraction  
*D. Johnstone, University of Cambridge, UK*

The acquisition of large amounts of data in short times, using modern instruments, drives a need for sophisticated data analysis approaches. This workshop combines short talks and hands-on tutorials to demonstrate microscopy data analysis using HyperSpy, which is based on the Python programming language.

Demonstrations draw primarily from electron microscopy and include multi-dimensional spectroscopy, image analysis, diffraction analysis and tomography. The methods are also directly applicable to other domains. No previous knowledge of the Python programming language is required.

[www.hyperspy.org](http://www.hyperspy.org)