

Daily Schedule of the first Italian EELS School, Catania, 26th – 29th May, 2014

Day 1, Monday, May 26 – Basic Theory and Practice:

	Start	Finish	Duration		Instructors
Welcome	9:00	9:15	0:15	Official course opening and overview	All
Lecture	9:15	11:00	1:45	Lecture 1: Review of EELS and EFTEM Fundamentals <i>All groups in Lecture Room</i>	Ray Twesten
	11:00	11:15	0:15	Coffee Break	
	11:15	12:15	1:00	Lecture 2: EELS elemental quantification <i>All groups in Lecture Room</i>	Paolo Longo
	12:15	13:00	0:45	Lecture 3: Practical aspects of EELS and EFTEM acquisition <i>All groups in Lecture Room</i>	Giuseppe Nicotra
Lunch	13:00	14:30	1:30	Lunch: all groups at the STMicroelectronics Canteen	
Lab	14:30	16:30	2:00	Demo lab 1: Hands on operation <i>Group 1 at ARM 200 with GIF Quantum</i> Data analysis Lab1: Intro DM and EELS analysis <i>Group 2 in Computer Lab</i>	Paolo Longo Ray Twesten
	16:30	17:00	0:30	Discussion / break and groups transition between the microscope and computer classes	
	17:00	19:00	2:00	Demo lab 1: Hands on operation <i>Group 2 at ARM 200 with GIF Quantum</i> Data analysis Lab1: Intro DM and EELS analysis <i>Group 1 in Computer Lab</i>	Paolo Longo Ray Twesten

Day 2, Tuesday, May 27 – Spectrum Imaging practice and Theory:

Lecture	Start	Finish	Duration		
	9:00	9:45	0:45	Lecture 4: Mapping chemical phases using EELS <i>All groups in Lecture Room</i>	Corrado Spinella
	9:45	11:15	1:30	Lecture 5: EELS Spectrum Imaging and fundamentals of aberration corrected microscopy for atomic analysis <i>All groups in Lecture Room</i>	Quentin Ramasse
	11:15	11:30	0:15	Coffee Break	
	11:30	12:40	1:10	Lecture 6: advanced EELS Techniques <i>All groups in Lecture Room</i>	Ray Twesten
Lunch	12:40	14:10	1:30	Lunch: all groups at the STMicroelectronics canteen	
Lab	14:10	16:10	2:00	Demo lab 2: Hands on operation <i>Group 1 at ARM 200 with GIF Quantum</i> Data analysis Lab 2: EELS and EFTEM SI data analysis and advanced EELS data processing NLLS and MLLS <i>Group 2 in Computer Lab</i>	Paolo Longo Ray Twesten
	16:10	16:40	0:30	Discussion / break and groups transition between the microscope and computer classes	
	16:40	18:40	2:00	Demo lab 2: Hands on operation <i>Group 2 at ARM 200 with GIF Quantum</i> Data analysis Lab 2: EELS and EFTEM SI data analysis and advanced EELS data processing NLLS and MLLS <i>Group 1 in Computer Lab</i>	Paolo Longo Ray Twesten

Day 3, Wednesday, May 28 – Spectrum Imaging practice and Theory:

Lecture	Start	Finish	Duration		
	9:00	10:00	1:10	Lecture 8: Probing structures, properties and dynamics of nanostructures through STEM and theory of aberration corrected microscopy for atomic analysis <i>All groups in Lecture Room</i>	Stephen Pennycook
	10:10	10:30	0:20	Coffee Break	
	10:30	11:15	0:45	Lecture 9: Introduction to DFT Modelling for EELS simulation <i>All groups in Lecture Room</i>	Ioannis Deretzis
	11:15	12:00	0:45	Lecture 10: EELS and EDS best practice <i>All groups in Lecture Room</i>	Paolo Longo
Lunch	12:00	13:30	1:30	Lunch: all groups at the STMicronics Canteen	
Lab	13:30	16:00	2:30	Demo lab 3: Hands on operation / advanced EELS acquisition <i>Group 1 at ARM 200 with GIF Quantum</i> Data analysis Lab 3: intro to scripting in DM / EELS advisor and advanced EELS data processing <i>Group 2 in Computer Lab</i>	Paolo / Quentin Ray Twesten
	16:00	16:30	0:30	Discussion / break and groups transition between the microscope and computer classes	
	16:30	19:00	2:30	Demo lab 3: Hands on operation / advanced EELS acquisition <i>Group 2 at ARM 200 with GIF Quantum</i> Data analysis Lab 3: intro to scripting in DM / EELS advisor and advanced EELS data processing <i>Group 1 in Computer Lab</i>	Paolo / Quentin Ray Twesten
	20:30	22:30	2:00	Social Dinner at the restaurant "I Cutulisci" transportation will be provided	

Day 4, Thursday, May 29 – advanced EELS applications:

All at Aula Magna in the Department of Physics, University of Catania, instructions on how to reach the location will be provided

Lecture	Start	Finish	Duration		
	10:00	10:30	0:30	Lecture 11: Advanced EELS results from the SuperSTEM lab <i>All groups in Aula Magna Department of Physics, University of Catania</i>	Quentin Ramasse
	10:30	11:00	0:30	Lecture 12: Initial EELS results from the newly installed sub-angstrom electron microscope at CNR-IMM Catania <i>All groups in Aula Magna Department of Physics, University of Catania</i>	Giuseppe Nicotra
	11:00	11:30	0:30	Lecture 13: Recent Advances in EELS strumentations: High-speed spectroscopy and extended dynamic range <i>All groups in Aula Magna Department of Physics, University of Catania</i>	Paolo Longo
	11:30	12:00	0:30	Coffee Break	
	12:00	13:00	1:00	Lecture 10: Fulfilling Feyman's Dream: Make the electron microscope 100 times better - are we there yet? <i>All groups in Aula Magna Department of Physics, University of Catania</i>	Stephen Pennycook
	15:00			End of school and trip to main crater of Mount Etna	