



Summer school "Atomic Layer Deposition: Method and Applications"

July 6th - 10 th 2015
Brescia, ITALY



Monday

July the 6th

08:30 – 09:15	Registration		
09:15 – 09:30	Opening	<i>Laura E. Depero</i>	
09:30 – 10:15	Lecture	<i>Simon Elliott</i>	ALD principles & deposition mechanisms
10:15 – 10:45	Coffee break		
10:45 – 12:30	Lecture	<i>Claudia Wiemer</i>	Advantages and disadvantages, comparison with other thin film deposition techniques
12:30 – 14:00	Lunch break		
14:00 – 15:30	Seminar	<i>Simon Elliott</i>	Outline of HERALD (COST Action MP1402) Atomic layer deposition of oxides thin films for logic and memory devices
		<i>Elena Cianci</i>	Atomic layer deposition of oxides thin films for logic and memory devices
16:00 – 18:00	Thematic work session	<i>Presentations by trainees</i>	Electronic/Solar Cells Applications Chair: Laura Borgese

Tuesday

July the 7th

08:30 – 10:15	Lecture	<i>Simon Elliott</i>	Modelling thermodynamics and kinetics of ALD
		<i>Claudia Wiemer</i>	Relationships between process parameters, structural and electrical properties of ALD oxide
10:15 – 10:45	Coffee break		
10:45 – 12:30	Lecture	<i>Mato Knez</i>	Step coverage, optics and nanomaterials.
12:30 – 14:00	Lunch break		
14:00 – 15:30	Seminar	<i>Mato Knez</i>	Diffusion phenomena in ALD
16:00 – 18:00	Thematic work session	<i>Presentations by trainees</i>	Templates materials Chair: Laura Borgese

Wednesday

July the 8th

08:30 – 10:15	Lecture	<i>Simon Rushworth</i>	ALD precursors
10:15 – 10:45	Coffee break		
10:45 – 12:30	Lecture	<i>Simon Rushworth</i> <i>David Muñoz-Rojas</i>	Surface reaction chemistry
12:30 – 14:00	Lunch break		
14:00 – 15:30	Seminar	<i>David Muñoz-Rojas</i>	Spatial Atomic Layer Deposition
16:00 – 18:00	Excursion "Brescia Musei"		

Thursday

July the 9^h

08:30 – 10:15	Lecture	<i>Christoph Hossbach</i>	ALD variants: thermal-activated/ flash-enhanced/ plasma-enhanced/ photo-assisted; metalorganic/ self-assembled/ molecular layer deposition (MLD)
10:15 – 10:45	Coffee break		
10:45 – 12:30	Lecture	<i>Marcel Junige</i>	In-situ characterization for ALD/MLD
12:30 – 14:00	Lunch break		
14:00 – 15:30	Seminar	<i>Christoph Hossbach</i> <i>Marcel Junige</i>	ALD and MLD (not just) for energy storage applications
16:00 – 18:00	Thematic work session	<i>Presentations by trainees</i>	Energy applications Chair: Laura Borgese

Friday

July the 10^h

08:30 – 10:15	Lecture	<i>Ganesh Sundaram</i>	ALD instrumentation: precursor supply, gas handling, reactors, deposition modes, process monitoring
10:15 – 10:45	Coffee break		
10:45 – 12:30	Lecture	<i>Ganesh Sundaram</i>	Industrial Applications
12:30 – 14:00	Lunch break		
14:00 – 15:30	Final test		