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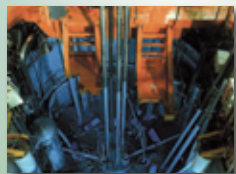
European School

Neutrons and synchrotron radiation
for science

2019

**18th March
to 19th April**

**Grenoble
FRANCE**



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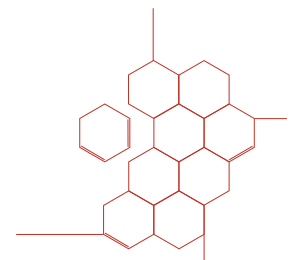
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HERCULES SCHOOL 2019: PLANNING IN BARCELONA

31st March - 7th April 2019 (Sunday-Sunday)

[Session A: Physics and chemistry of condensed matter](#)

[Session B: Biomolecular structure and dynamics](#)



Monday 1st April
in Maxwell Auditorium

Time	Title	Speakers
9:00	Welcome message	Management
9:10	Attendee's background and expectations. Explanation of the program.	
9:30	Soft X-ray absorption and XMCD	Javier HERRERO, Stefano AGRESTINI
10:30	Coffee break	
11:00	Macromolecular Crystallography at ALBA: from data to structure	Xavier CARPENA
12:00	X-ray Photoemission Electron Microscopy (XPEEM): Principles and applications	Michael FOERSTER
13:00	Lunch	
14:30	Soft X-ray Transmission Microscopy	Andrea SORRENTINO
15:30	Near Ambient Pressure Photoemission (NAPP) at ALBA synchrotron: more realistic studies by minimizing the pressure gap	Carlos ESCUDERO
16:30	Coffee break	
17:00	Guided Tour to ALBA	

Tuesday 2nd and Wednesday 3rd April

Time	Title
9:00	Practical at ALBA
13:00	Lunch
14:30-18:00	Practical or Tutorial at ALBA

Thursday 4th April
Session A

Time	Title
9:00	Tutorial: Analysis of data collected at ALBA
11:30	Preparation of an experimental report
13:00	Lunch
14:30	Tutorial: Analysis of data collected at ALBA
17:00	Coffee break
17:30	Preparation of an experimental report. One-to one-meetings with ALBA researchers
20:30	Social dinner

Session B

Time	Title	Instructors	Room
9:00	Macromolecular model building and analysis of electron density maps	Xavier CARPENA Bárbara CALISTO	Ada Lovelace
13:00	Lunch		
14:30	Infrared data handling (chemical imaging and individual spectra) using OPUS and Unscrambler software	Ibraheem YOUSEF	Ada Lovelace
16:30	Coffee break		
17:00	Preparation of an experimental report. One-to one-meetings with ALBA researchers		
20:30	Social dinner		

Friday 5th April

Time	Title	Room
9:00	Preparation of an experimental report: Final touches	Marie Curie Niels Bohr/Bragg
10:00	Presentation of the reports (session A)	Maxwell Audit
11:00	Coffee break	
11:20	Presentation of the reports (session B)	Maxwell Audit
12:00	Wrap-up session	
13:00	Lunch	

Practicals Session A: Physics and chemistry of condensed matter

Synchrotron Radiation Practicals at ALBA, Barcelona Local coordinators: Bárbara CALISTO, Maria José SIMANCAS, and Debora PIERUCCI		
Beamlines	Instructors	Title
GBL22 – CLAESS	Laura SIMONELLI, Carlo MARINI, Giovanni AGOSTINI	X-ray absorption end emission spectroscopy to access the local structural and electronic properties of the matter
BL29 – BOREAS	Stefano AGRESTINI, Javier HERRERO (Part I), Manuel VALVIDARES, Pierluigi GARGIANI (Part II)	XAS and XMCD investigation of bulk and surface science samples
BL11 – NCD-SWEET	Marc MALFOIS, Eduardo SOLANO	SAXS/WAXS study on polymer crystallisation

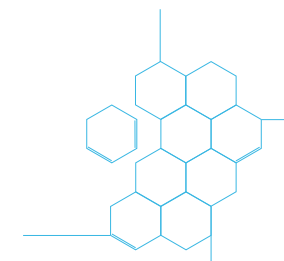
Synchrotron Radiation Tutorials at ALBA, Barcelona Local coordinators: Bárbara CALISTO, Maria José SIMANCAS, and Debora PIERUCCI	
Instructors	Title
Laura SIMONELLI, Carlo MARINI, Giovanni AGOSTINI	Analysis of XAS data collected at CLAESS: XANES linear combination approach (Athena program), XES data treatment: quantification of the local magnetic moment by the IAD method (Origin program)
Stefano AGRESTINI (Part I), Pierluigi GARGIANI (Part II)	Analysis of XAS and XMCD data collected at BOREAS: spectra treatment, sum rules and introduction to multiplet simulations
Marc MALFOIS, Eduardo SOLANO	Analysis of data collected at NCD-SWEET: data reduction using pyFAI and DAWN software. Preliminary data analysis and interpretation

Practicals Session B: Biomolecular structure and dynamics

Synchrotron Radiation Practicals at ALBA, Barcelona Local coordinators: Bárbara CALISTO, Maria José SIMANCAS, and Debora PIERUCCI		
Beamlines	Instructors	Title
BL01 - MIRAS	Immaculada MARTINEZ-ROVIRA, Ibraheem YOUSEF	Using the FTIR microscope and various experimental setups at MIRAS BL
BL09 - MISTRAL	Ana PÉREZ-BERNÁ	Biomedical Applications at the soft X-ray microscope MISTRAL
BL13 - XALOC	Bárbara CALISTO Damià GARRIGA	Protein crystallisation and data collection at XALOC
BL13 - XALOC	Fernando GIL, Roeland BOER	In-situ diffraction and data treatment at XALOC

Synchrotron Radiation Tutorials at ALBA, Barcelona Local coordinators: Bárbara CALISTO, Maria José SIMANCAS, and Debora PIERUCCI	
Instructors	Title
Xavier CARPENA, Bárbara CALISTO	Macromolecular model building and analysis of electron density maps
Ibraheem YOUSEF	Infrared data handling (chemical imaging and individual spectra) using OPUS and Unscrambler software

As in Grenoble, each group of 4 full time participants will follow practicals selected from the lists above.



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