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ALBA Present and Perspectives

Wednesday, 7 September 2022 14:30 (45 minutes)

Since the last meeting in 2019, ALBA and its user community has not only seen an exceptional successful operation, despite the difficult working conditions due to COVID and other major changes, but had also experienced a dynamic period of growth and changes. With LOREA and NOTOS being in operation and XAIRA, FAXTOR and MINERVA making excellent progress towards finishing the construction phase, our user program has significantly grown, providing you not only with more available beamtime in hard X-rays spectroscopy and diffraction, but also extended our capabilities to ARPES and strengthening our operando capabilities for chemical and material sciences. With the help of you, the user community, ALBA was also able to start 3Sbar, the first beamline fully dedicated to the upgraded ALBA II and devoted to combined hard x-ray photoelectron spectroscopy (HAXPES) and surface scattering experiments at high gas pressures, potentially benefitting a wide range of the existing user community.
Following the call of politics and society to contribute and fuel the green transformation to create a sustainable and humane economy, ALBA teamed up with the user community to broaden the services from a pure X-ray facility towards an infrastructure which can support your needs to address these complex and, often application driven, challenges with instrumentation and know-how. A cryo-Electron Microscope (cryo-EM) facility for structural biology and a high-resolution materials science Transmission Electron Microscope (HRTEM) will be soon available within the general public user program, significantly extending our suite of tools for structural molecular biology and extending ALBA's materials science microscopy capabilities to sub-atom resolution. A dedicated battery and electro catalysis laboratory with assembly, pre-characterization, and also ageing facilities, combined with a planned new catalysis preparation and staging laboratory will largely strengthen ALBA's operando capabilities allowing you fast, effective and uncomplicated access to state-of the art characterization facilities. Last but not least, In-CAEM, a major consortium, will significantly broaden the microscopy suite at ALBA, providing a dedicated HRTEM, optimized for operando experiments, and three specialized AFM/STM instruments. All these projects will not only give you the ability to use these high-end instrumentations but also provide experts and potential collaboration partners, supporting you in planning and executing the experiments if needed. With this extension of the services, ALBA is also building out its multi-modal capabilities by developing and providing specialized data pipelines, access to large scale computing capabilities and databases, and by entering the world of big data and data mining.
The talk will provide an overview on the existing user program and will discuss the new exciting developments, including an introduction of our different partners.

Would you like to participate in the Poster Prize competition?

No

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