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SESAME: AN OPPORTUNITY FOR SCIENCE AND GROWTH

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Abstract

SESAME (Synchrotron-light for Experimental Science and Applications in the Middle East) is a third-generation 2.5 GeV synchrotron light source in Allan (Jordan) that was officially opened on 16 May 2017. It is the Middle East's first major international research centre and has been hosting users for experiments at its beamlines since July 2018. It is a cooperative venture by scientists and governments of the region set up on the model of CERN (European organization for Nuclear Research) although it has very different scientific aims. It was developed under the auspices of UNESCO as an autonomous intergovernmental organization at the service of its Members. The current Members of SESAME are Cyprus, Egypt, Iran, Israel, Jordan, Pakistan, Palestine, and Turkey. Current Observers are Brazil, Canada, the People's Republic of China, the European Organization for Nuclear Research (CERN), the European Union (EU), France, Germany, Greece, Italy, Japan, Kuwait, Portugal, Russian Federation, Spain, Sweden, Switzerland, the United Kingdom, and the United States of America.

The Phase 1 beamlines have been selected on the basis of input from five scientific workshops and the early Users' Meetings in which several hundred Middle East scientists participated. Three of these beamlines are currently in operation and open to users. They are the XAFS/XRF (X-ray Absorption Fine Structure/X-ray Fluorescence) spectroscopy), IR (Infrared) spectromicroscopy and MS (Materials Science) beamlines. Three more (one for X-ray tomography and two for soft X-ray spectroscopy) are under construction and are expected to come into operation in 2022 and in 2023. The MX (Macromolecular Crystallography) beamline is presently being designed, while the plans for the SAXS/WAXS (Small Angle and Wide Angle X-ray Scattering) are yet to start.

About

Andrea brings with him extensive experience in the science programme of synchrotron light facilities having worked at Elettra-Sincrotrone Trieste S.C.p.A. in Trieste (Italy) since 1996. His recent positions at the Italian Laboratory included Head of the XPRESS beamline for high pressure studies, a position he held until he joined SESAME, Head of Elettra's MCX Powder Diffraction beamline (2008-2015) and Head of the Laboratory's Powder Diffraction beamline (2002-2008). Since 2008 he has also been in charge of coordination between all the user beamlines and the machine group at Elettra. Andrea also brings long-standing experience in science communication having been a member, since May 2013, of the Communication Task Force of Elettra, and the person responsible for the Elettra content at lightsources.org. Moreover, in April 2019 he was appointed Chair of the RICE (Research Infrastructure Communications and Engagement) working group of the ERF-AISBL (Association of European-Level Research Infrastructures Facilities). Andrea has carried out research in numerous areas and has been an invited teacher in several crystallography and instrumentation schools.

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