

March 12, 2026

11:00 AM



Dr. João Elias Figueiredo Soares Rodrigues

European Synchrotron Radiation Facility (ESRF), Grenoble, France

BACKGROUND

João Elias Figueiredo Soares Rodrigues holds a PhD in Applied Physics from the University of São Paulo, with research in nanomaterials and advanced ceramics and a research stay at Aix-Marseille Université, France. He obtained his BSc and MSc in Physics from the Federal University of Maranhão.

He carried out postdoctoral research at ICMM-CSIC (Madrid), the ESRF (Grenoble), and the ALBA synchrotron (Barcelona). He is currently Beamline Operation Manager at the ESRF, acting at beamlines ID15B and ID27. His expertise includes synthesis of functional materials and advanced X-ray and spectroscopic characterization techniques.

Exploring Matter with Synchrotron X-rays: An Overview of the ESRF

The European Synchrotron Radiation Facility (ESRF) hosts a broad and diverse suite of beamlines dedicated to advanced X-ray techniques, enabling forefront research across physics, chemistry, materials science, geosciences, biology, and engineering. In this seminar, I will provide an overview of the ESRF as a large-scale research infrastructure, with particular emphasis on the scientific scope, technical capabilities, and recent upgrades across its beamline landscape. I will highlight how state-of-the-art diffraction, imaging, spectroscopy, and extreme-conditions methods deliver unique insight into structural, dynamical, and electronic phenomena in a wide range of materials. Beyond the science, I will offer a behind-the-scenes perspective on beamline operation and user support at the ESRF, illustrating the workflow from proposal submission to experiment execution, data acquisition, and analysis, as well as the technical and organizational challenges involved in running a multi-beamline facility. The talk will conclude with selected examples of recent scientific achievements and upcoming developments of particular relevance to the scientific community in Lisbon, and with an outlook on opportunities for collaboration and future user engagement.

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