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# The International Atomic Energy Agency (IAEA) and the collaboration with Elettra

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The International Atomic Energy Agency (IAEA) is an intergovernmental organization established in 1957 as part of the United Nations system. Its primary mission is to promote the responsible and peaceful utilization of nuclear energy while preventing its utilization for military purposes, particularly nuclear weapons. While the IAEA operates independently under its founding treaty, it maintains accountability to both the United Nations General Assembly and the Security Council. The IAEA headquarters are located in Vienna, Austria. In line with the Agency's mission, accelerator applications and nuclear instrumentation are among the thematic areas, where the IAEA supports its member states in strengthening their capacity to adopt and benefit from the use of accelerators. In this context, the IAEA collaborates with designated Member State institutions hosting accelerator facilities under the so-called IAEA Collaborating Centre scheme which helps reach important targets of the United Nations' Sustainable Development Goals. Elettra-Sincrotrone Trieste is one of the IAEA Collaborating Centres. In addition, a cooperation agreement between the Elettra and the IAEA was signed with the aim to facilitate access the Elettra's X-ray fluorescence beamline, which hosts an ultra-high vacuum chamber that was funded and is operated in partnership with the IAEA.

In order to support its Members States in benefiting from accelerator-based technologies, the IAEA applies certain tools and modalities, such as Technical Meetings, Coordinated Research Projects, Training Workshops, Courses, and dedicated Schools. The Agency additionally supports national, regional, or interregional Technical Cooperation projects for capacity building via expert missions, training of personnel, and purchase of equipment. Moreover, the IAEA Physics Section implements various activities focusing on assisting Member States in operating and maintaining their accelerator facilities and installing nuclear instrumentation as well as in carrying out feasibility and infrastructure assessment studies aiming at establishing new accelerator facilities. In response to Member State needs and requests, the Physics Section has recently prepared a feasibility study for an ion beam accelerator facility (IBF) at the IAEA laboratories in Seibersdorf in order to assess the interest of Member States in using this facility. Forty Member States have quantified their needs through replies to a properly designed questionnaire. The analysis of the questionnaires showed high demand in training in accelerator technologies and associated Ion Beam Analysis (IBA) techniques, as well as in analytical services in almost all areas of IBA applications. An appropriate accelerator design, matching the IAEA's programme for capacity building and provision of products and services across many fields of interest for the Member States, was identified.

This presentation aims to introduce the IAEA and share information about its tools and activities that support accelerator-based research and applications, including the longstanding collaboration with Elettra-Sincrotrone Trieste. Furthermore, we will provide details regarding the feasibility study and the instruments and facilities that will be made available through the IBF project.

**Primary author:** CHARISOPOULOS, Sotirios (IAEA)

**Co-authors:** Dr MIGLIORI, Alessandro (International Atomic Energy Agency); RIDIKAS, Danas; KANAKI, Kalliopi; BOGOVAC, Mladen

**Presenter:** CHARISOPOULOS, Sotirios (IAEA)