



Contribution ID: 102

Type: **Invited Talk**

IAEA activities in support of nuclear physics research and applications

Monday, 24 November 2025 10:10 (25 minutes)

Facilitation of development and promotion of nuclear applications for peaceful purposes and related capacity building are among the IAEA missions where Physics Section contributes most [1]. The relevant activities fall under the IAEA's program on nuclear science and cover three main thematic areas: research and applications with particle accelerators and neutron sources (incl. research reactors), nuclear instrumentation and capacity building, and controlled fusion research and technology (incl. cooperation with ITER). These efforts help Member States advance their capabilities and progress in materials research, energy, environment, food, agriculture, medicine, cultural heritage, forensics, and some other fields with a direct socioeconomic impact.

The Section also operates the Nuclear Science and Instrumentation Laboratory (NSIL) in Seibersdorf [2], south of Vienna. NSIL offers expertise, training and support for the effective utilization of nuclear instrumentation and analytical techniques in a range of applications, such as mobile radiation monitoring, X-ray spectrometry, and neutron science.

This presentation will showcase how the IAEA supports nuclear physics research and its diverse applications to address key development priorities, particularly in developing countries. It will also outline future plans for enhancing NSIL capabilities, including the establishment of an Ion Beam Facility (IBF) for research and applications using ion beams and neutrons.

[1] <https://www.iaea.org/about/organizational-structure/department-of-nuclear-sciences-and-applications/division-of-physical-and-chemical-sciences/physics-section>

[2] <https://nucleus.iaea.org/sites/nuclear-instrumentation/>

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Session Classification: Session 1

Track Classification: Invited Talks