

## AGA 5: Applied Nuclear Physics

Time: Thursday 15:45–17:15

Location: HSZ/0002

**Invited Talk** AGA 5.1 Thu 15:45 HSZ/0002  
**Nuclear forensic science – when nuclear scientists and law enforcement meet** — ●MARIA WALLENIS — European Commission Joint Research Centre Directorate G - Nuclear Safety and Security Nuclear Safeguards and Forensics

Nuclear forensics is a discipline in which JRC Karlsruhe has a pioneering role: JRC was the first institution, which started to perform nuclear forensic analysis "in a routine manner" for seized nuclear materials 30 years ago. Starting as an ad-hoc analysis to respond safeguards and law enforcement authorities - questions on seized nuclear materials - what it is and where it comes from - nuclear forensics has now developed to a grown-up specialty.

Whereas nuclear forensics relies mostly on techniques used commonly in others fields, such as in nuclear safeguards, materials science or geochemistry, it has refined many of the methods and developed characteristic parameters (so-called nuclear forensic signatures) to response to the specifics required due to the criminal investigation.

This presentation will highlight some of the used methods, show newest developments and demonstrate their application by case studies.

**Invited Talk** AGA 5.2 Thu 16:30 HSZ/0002

**Applied Physics in the Alva Myrdal Centre for Nuclear Disarmament: Non-Proliferation and Safeguards Activities** — ●SOPHIE GRAPE, PETER ANDERSSON, ERIK BRANGER, CECILIA GUSTAVSSON, VAIBHAV MISHRA, DÉBORA MONTANO TROMBETTA, and MARKUS PRESTON — Uppsala University

In 2020, the Swedish government announced the plans to start up a national competence centre on nuclear disarmament in Sweden. The objective was to highlight the importance of nuclear disarmament and to promote research, teaching and policy support on relevant topics. In mid-2021, the Alva Myrdal Centre (AMC) on nuclear disarmament was formally established at Uppsala University. The AMC combines competences from different disciplines such as peace and conflict research, applied nuclear physics, and international law, and organises the work into six different working groups. One of the working groups, led by the Division of Applied Nuclear Physics at Uppsala University, is focusing on technical aspects. In this division, research on nuclear safeguards has been performed for over 30 years, and competence exists on a number of applied physics applications ranging from nuclear reactions, nuclear power and detection of radionuclides. This presentation gives an overview of a number of different technical research projects that have been pursued within the technical working group under AMC.