



**International Atomic Energy Agency**

# **Workshop on Nuclear Data for Activation Analysis**

**Andrej Trkov**

**International Centre for Theoretical Physics**

**Miramare - Trieste, Italy**

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## Target audience

- **Analysts who use neutron activation analysis as one of their tools for sample analysis**
- **Emphasis is on irradiation facilities using research reactor as a neutron source**



# Overview

- **Background**
- **Objectives**
- **Scope**
- **Relation to other programmes**



# Background

- **Workshop addresses the use of nuclear data for practical applications (mandate of the IAEA)**
- **Neutron activation analysis (NAA) is a widely used nuclear technique**
  - high sensitivity
  - multi-elemental nature of the results
- **Seek improvements in:**
  - Understanding reaction mechanisms
  - Consistency between differential and integral data
  - Improved accuracy and applicability of NAA



# Objectives

- **Understand reaction mechanisms and the physics of gamma spectroscopy measurements**
- **Define relationship between differential and integral data**
- **Identify sources of uncertainty with respect to:**
  - **Methods and approximations**
  - **Nuclear constants**
- **Gain experience with the use of the K0-IAEA and other software**



# Scope

- **NAA overview and fields of application**
- **Definition of nuclear constants**
- **Neutron spectrum characterisation**
- **Radiochemical aspects of NAA**
- **Error propagation and QA**
- **Physics of gamma-spectrometry measurements**
- **Detector calibration**
- **Introduction to K0-IAEA software**



# Lecturers

## Directors/Lecturers:

- **Andrej Trkov, IAEA, Austria**
- **Menno Blaauw, IRI, Netherlands**
- **Claudio Tuniz, ICTP, Italy**
- **Brian Stewart, ICTP, Italy (local organiser)**



# Lecturers

## Lecturers:

- **Mathias Rossbach, IAEA, Austria**
- **Frans De Corte, Ghent University, Belgium**
- **Borut Smodis, IJS, Slovenia**
- **Radojko Jaćimović, IJS, Slovenia**
- **Richard B. Firestone, LBNL, USA**
- **Zsolt Reváy, Institute of Isotopes, Hungary**
- **Peter Schillebeeckx, IRMM, Belgium**
- **Marco Verpelli, IAEA, Austria**
- **M. Schouwenburg, IRI, Netherlands**





## Relation to other programmes

- **Nuclear data for PGAA (IAEA-NAPC Nuclear Data Section, CRP, completed)**
- **K0-IAEA software development for NAA (IAEA-NAPC Industrial Applications and Chemistry Section, project)**
- **Nuclear Data for NAA (IAEA-NAPC Nuclear Data Section, CRP, in preparation)**

