

THE INTERNATIONAL COMMITTEE FOR RADIONUCLIDE METROLOGY

SPEAKERS:



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ABSTRACT

Radionuclide Metrology is a discipline that provides a range of tools for tackling a wide variety of problems in numerous fields, for both basic research and industrial applications. The need for efficient cooperation between radionuclide metrology laboratories lead to the foundation of the International Committee for Radionuclide Metrology (ICRM) in 1974. The ICRM is composed of delegates of these laboratories together with other scientists actively engaged in the study and applications of radioactivity. It explicitly aims at being an international forum for the dissemination of information on techniques, applications and data in the field. Technical activities are carried out within the framework of specialized working groups. In this talk, the structure, history, and some details about the ICRM activities will be presented, highlighting some relevant achievements. Several ICRM members will then briefly discuss some specialized topics:

Low-level radioactivity metrology: This presentation will give a few examples of the metrological challenges when measuring low levels of activity ranging from assessing Hiroshima victims to measurements of Greenland ice core samples.

European Joint Research Project MetroMMC (2018-2021): This presentation will discuss the MetroMMC project, whose aim is to improve the knowledge of electron capture (EC) decay and subsequent atomic relaxation processes through new theoretical calculation techniques and extensive experiments using specially adapted metallic magnetic calorimeters (MMCs) to determine important decay data that are relevant to cancer therapy, cosmology, and radionuclide metrology.

European Joint Research Project MetroRADON (2017-2020): This presentation will discuss the MetroRADON project, whose aim is to develop SI traceable indoor air radon activity concentration measurement techniques and reliable calibrations of radon measurement instruments at low radon concentrations to reduce the risk of lung cancer due to high radon concentrations in indoor air for European citizens by enabling implementation of European Council Directive 2013/59/EURATOM (EU-BSS).

Radionuclide Metrology in the Life Sciences: This presentation will discuss key radionuclide metrology work being carried out ICRM laboratories techniques for radionuclide applications in molecular radiotherapy, medical imaging, and biological research that helps ensure the safety and effectiveness of the use of radionuclides in cancer diagnosis and treatment.