

Nuclear techniques to move the nutrition agenda forward

Session Description

The International Atomic Energy Agency (IAEA) assists its Member States in their efforts to develop effective, evidence-based interventions to combat malnutrition in all its forms by nuclear techniques, in particular stable (non radioactive) isotope techniques. Stable isotope techniques have been used as research tools in nutrition for many years. However, the application of these techniques in program development and evaluation is a relatively new approach where the IAEA has a unique opportunity to contribute technical expertise. The use of stable isotope techniques adds value by increasing the sensitivity and specificity of measurements as compared to conventional techniques. The IAEA has fostered the more widespread use of these techniques in Member States through support to national and regional nutrition projects via the Technical Cooperation Program and through Coordinated Research Projects addressing priority areas in nutrition over many years.

There is a wide range of stable isotope techniques used in nutrition; this session will highlight some of the most widely used techniques with particular relevance to the development and monitoring of nutritional interventions to combat both under- and overnutrition globally. The recent development of a series of documents and distance learning modules on stable isotope techniques in nutrition by the IAEA will contribute significantly to the transfer of technology and knowledge in this field.

Session Chair / Co-chair:

Chair: Dr Lena Davidsson, International Atomic Energy Agency (IAEA), USA

Co-chair: Anura Kurpad, St. John's National Academy of Health Sciences, Institute of Population Health and Clinical Research, India

Session Topics and Speakers:

Introduction: Stable isotope techniques in nutrition

Dr Lena Davidsson, International Atomic Energy Agency (IAEA), USA

Topic 1: *Body composition assessment: the deuterium dilution technique to quantify total body water*

Speaker: Dr. Andrew Hills, Institute of Health and Biomedical Innovation, Queensland University of Technology, Australia

Topic 2: *Isotope dilution and the assessment of total energy expenditure*

Speaker: Dr. Dale Schoeller, University of Wisconsin, Nutritional Sciences, USA

Topic 3: *Stable isotopes and the urea breath test*

Speaker: Dr. Thomas Preston, Stable Isotope Biochemistry Laboratory, Scottish Universities Environmental Research Centre, United Kingdom

Topic 4: *Stable isotope techniques in nutrition; capacity building in Asia*

Speaker: Dr Anura Kurpad, India

Discussion