IAEA 60 Years
Atoms for Peace and Development

2017 IAEA Scientific Forum

Nuclear Techniques in Human Health: Prevention, Diagnosis and Treatment

19-20 September 2017
IAEA Headquarters, Vienna, Austria

Tentative Programme

Opening: Mr Yukiya Amano, Director General, IAEA

Moderator: Ms Melinda Crane, Chief Political Correspondent, Deutsche Welle-TV

Conference Secretaries: Mr Serge Gas, Director, Office of Public Information and Communication, IAEA and
Ms May Abdel-Wahab, Director, Division of Human Health, IAEA

Administration: Ms Julie Zellinger, Conference Services Section, IAEA

Tuesday, 19 September 2017

09:30–10:30 **Opening Session**

Opening statement by Mr Yukiya Amano, Director General, IAEA

HM King Letsie III of Lesotho

HE Ms Veronika Skvortsova, Minister of Health of the Russian Federation

Mr Detlev Ganten, Founder of the World Health Summit, Germany

10:30–12:45 **Session 1: Preventing disease through better nutrition**

The first session will highlight the vital role that nutrition plays in preventing non-communicable diseases (NCDs). In a world where undernutrition and obesity coexist, it is important to define targeted actions that combat all forms of malnutrition. Through the use of nuclear and isotopic techniques, health professionals are able to develop and evaluate actions to address undernutrition, obesity and the related risks of NCDs simultaneously. In addition, these techniques can help understand the impact of environmental factors on child growth and human health. The session will also highlight new trends in medical imaging to better assess nutritional status.

Mr Ricardo Uauy, Professor, Institute of Nutrition, University of Chile, Chile
"Nutrition – an investment in human capital"

Mr Joao Breda, Head, WHO European Office for the Prevention and Control of Non-communicable Diseases (NCD Office), Russia
"The marketing world for children"

Mr Anura Kurpad, Professor and Head of Physiology and Nutrition, Department of Physiology and Nutrition, St John's Medical College, India
"The challenge of assessing malnutrition and its health implications – the added value of nuclear technology."

Mr John Shepherd, Professor, Radiology and Biomedical Imaging, University of California, United States of America
"Emerging technologies in measuring body composition in low-resource settings across the life course"

Mr Martin Wiseman, Medical and Scientific Adviser, World Cancer Research Fund International, United Kingdom
"Nutrition, cancer and other chronic diseases: prevention, management and policy"

Mr Michael Routledge, Associate Professor, Leeds Institute of Cardiovascular and Metabolic Medicine, University of Leeds, United Kingdom
"A missing piece of the puzzle? Environmental hazards and child growth"

Mr Mduduzi Mbuya, Senior Technical Specialist, Global Alliance for Improved Nutrition, United States of America
"Gut health/EED and impact on children's health – the Zimbabwean experience

with interventions addressing sanitation, hygiene and infant nutrition"

Case studies:

Mr Hassan Aguenaou, Professor and Director, Ibn Tofail University, Morocco
"A regionally designated centre for deuterium dilution techniques enables capacity building in the region and informs Moroccan nutrition policies and programmes"

Mr Ricardo Uauy, Professor, Institute of Nutrition, University of Chile, Chile
"Tackling childhood obesity in Chile – how the IAEA support since 20 years has helped to address the problem and contributed to halting the rise in childhood obesity in pre-school children"

12:45–14:00 **Lunch Break**

14:00–15:30 **<u>Session 2:</u> Looking beyond the visible: New frontiers in diagnostic techniques**
The second session will present cutting-edge clinical applications and technologies, including the use of nuclear techniques to identify disease in its early stages, and to assess the location and spread of disease in the body, as well as patients' response to medical therapy. The integral role of nuclear technology in the medical diagnosis of NCDs such as cancer and cardiovascular, infectious and neurological diseases, including dementia, will be discussed. Furthermore, the session will illustrate how technologies have evolved to allow for personalized health care through medical imaging.

Mr Homer Macapinlac, Chairman**,** Department of Nuclear Medicine, MD Anderson Cancer Center, University of Texas, United States of America
"Atoms for imaging: Latest trends in medical imaging from macro to micro"

Ms Elba Etchebehere, Assistant Professor, University of Campinas, Brazil
"The key role of nuclear technology in medical diagnosis for: Cancer"

Mr Joao Vitola, Cardiologist, Quanta Diagnóstico e Terapia, Brazil
"The key role of nuclear technology in medical diagnosis for: Cardiovascular diseases"

Mr Sobhan Vinjamuri, Professor, Department of Nuclear Medicine, Royal Liverpool University Hospital; President, British Nuclear Medicine Society, United Kingdom
"The key role of nuclear technology in medical diagnosis for: Infectious diseases

Mr Satoshi Minoshima, Professor and Chairman, Department of Radiology and Imaging Sciences, University of Utah, United States of America
"The key role of nuclear technology in medical diagnosis for: Neurological diseases"

Ms Luis Donoso-Bach, Director, Department of Medical Imaging, Hospital Clínic of Barcelona, University of Barcelona, Spain
"Maximizing diagnostic imaging services in member states"

15:30–16:00 **Coffee Break**

16:00–17:30 **<u>Session 3:</u> Addressing implementation challenges in countries**

The third session will emphasize the various challenges that countries face in ensuring the safe use of nuclear medicine for the early detection, diagnosis and treatment of diseases. The impact of new medical technologies on health expenditure budgets will also be considered, as will countries' different needs in this area. Additionally, the different levels of diagnostic services available to countries — from basic infrastructure to intermediate and advanced services — will be explored. This session will also highlight the use of data to support decision-making in cancer care.

Mr Mohamed Zaghloul, Chairman, Department of Radiation Oncology, Children's Cancer Hospital, Egypt, And

Ms Ann Chao, Doctor, Center for Global Health, National Cancer Institute, Switzerland
"The use of data to support decision-making in cancer care: evidence-based interventions"

Ms Angelika Bischof Delaloye, Professor Emeritus, Lausanne University, Switzerland
"Quality Assurance: Maximum benefits and minimal risks"

Case studies:

Ms Amalia Peix, Professor and Cardiologist, Institute of Cardiology and Cardiovascular Surgery, Cuba
"Cuba; showcasing how the continuous IAEA support has impacted the lives of ailing patients within a span of 10 years"

Mr Omar Alonso, Nuclear Medicine Physician, Uruguayan Centre of Molecular Imaging, Uruguay
"The establishment of the Uruguayan Centre of Molecular Imaging (CUDIM) and the continuous collaboration with the IAEA to become a Reference Centre in the region for capacity building activities"

Ms Neerja Bhatla, Additional Professor, Department of Obstetrics and Gynaecology, All India Institute of Medical Sciences; Chairperson at the Gynaecologic Oncology Committee with the International Federation of Gynaecology and Obstetrics, India
"Bridging the gap: An interactive session showcasing key information communication technologies such as the Mobile Apps for cancer staging and appropriate us of nuclear cardiology studies"

Ms Cathy Cutler, Director, Medical Isotope Research & Production Program, Brookhaven National Laboratory, United States of America
"Future isotopes for nuclear medicine therapy use"

Ms Maria Betti, Director, Directorate G - Nuclear Safety and Security, European Commission DG Joint Research Centre, Germany
"Targeted Alpha Therapy"

17:30 **Reception**

Wednesday, 20 September 2017

09:00–11:00 **<u>Session 4:</u> Radiotherapy: Saving and improving quality of life of cancer patients through new approaches**

The fourth session will explore the use of radiotherapy to treat cancer, highlighting the importance of a multidisciplinary approach for optimal patient management. It will also look at the future of radiotherapy, including personalized treatment and the latest technological innovations to improve patient care.

Mr Mack Roach, Professor, Department of Radiation Oncology, University of California San Francisco, United States of America
"Access to radiotherapy: Bridging the gap through innovation"

Ms Julie Wetter, Oncologist, Groote Schuur Hospital and University of Cape Town, south Africa, And

Ms Soehartati Gondhowiardjo, Radiation Oncologist and Senior Consultant, Department of Radiotherapy, Cipto Mangunkusumo National General Hospital, Indonesia
"Improving treatment while reducing side effects"

Mr Jiade J. Lu, Executive Vice President, Shanghai Proton and Heavy Ion Centre, China
"The evolution of Radiotherapy: Proton and carbon ion therapy"

Mr Takashi Nakano, Professor, Department of Radiation Oncology, Gunma University Graduate School of Medicine, Japan
"Current Status of Carbon Therapy for Cancers"
Mr Evaristo Cisbani, Senior Scientist, Italian National Institute of Health, Italy
"Hadron Therapy, a physicist's view

11:00–11:30 **Coffee Break**

11:30–13:15 **Ms Irene Virgolini,** Professor, Department Nuclear Medicine, Medical University Innsbruck, Austria
"Personalized medicine: Integrating diagnostic imaging and therapeutic approaches (Theranostics)"

Mr Michael Barton, Research Director and Professor, Ingham Institute for Applied Medical Research, University of New South Wales, Australia
"Unlocking existing potential in developing countries through key technologies"

Mr Tomas Cobo Castro, Vice President, General Medical Council of Spain, Spain
"Partnership with the Association of Medical Practitioners of Spain: initiatives to work together to improve a radiation medicine in countries in Latin America and the Caribbean"

Ms Mary Gospodarowicz, Professor, Radiation Oncology, University of Toronto; Medical Director, Princess Margaret Cancer Centre, Canada
And

Ms Yolande Lievens, Professor, Ghent University Hospital, Ghent University; President, European Society for Radiotherapy and Oncology (ESTRO) Belgium
"Creating and maintaining a pool of skilled practitioners – innovative approaches"

Ms Celine Karla Torzsok, Technical Director, Fundación Arturo López Pérez (FALP), Chile
"Training a new generation of radiation oncologists in Latin America and the Caribbean - innovative approaches for capacity building through the Master on Advanced Radiotherapy"

Case Studies:

Mr Cherian Varghese, Coordinator for Management of NCDs, Department for Management of Non-communicable Diseases, Disability, Violence and Injury Prevention (NVI), World Health Organization, Switzerland
"The United Nations Joint Global Programme on Cervical Cancer Prevention and Control"

Ms Svetlana Saakyan, Professor and Head, Department of Opthalmooncology and Radiology, The Helmholtz Moscow Research Institute of Eye Diseases, Russia
"Successful application of nuclear technologies for the therapy of eye tumours at Helmholtz Research Institute of Eye Diseases"

13:15–14:30 **Lunch Break**

14:30–16:30 **<u>Session 5:</u> Ensuring quality and safety**
The fifth session will focus on quality and safety aspects in all disciplines of radiation medicine, in order to ensure that patients get the best possible outcome. Issues such as the need for peer reviews, clinical audits and quantification of performance will be explored. This session will also review the requirements for quality and safety in imaging and therapy, and the challenges that countries may face in implementing these, as well as examples of successful IAEA projects to assist in this respect.

Mr Kin Yin Cheung, Senior Medical Physicist, Hong Kong Sanatorium and Hospital; Adjunct Associate Professor, Department of Clinical Oncology, University of Hong Kong and Chinese University of Hong Kong, China; President, International Union for Physical and Engineering Sciences in Medicine (IUPESM)
"Quality: Why we should 'manage' it and not just 'control' it"

Mr Slavik Tabakov, President, International Organization for Medical Physics (IOMP); Co-Director, International College on Medical Physics, ICTP, Italy

"Quantifying Quality. 'If you cannot measure it you cannot improve it'"

Mr Pierre Scalliet, Head, Department of Radiation Oncology, Cliniques Universitaires Saint Luc, Belgium
"The role of Comprehensive Clinical Audits as a tool for Quality Improvement.

Presentation of the need for unbiased assessment of practices by peers and the benefits it can bring to clinical practice."

Mr David Followill, Director, IROC Houston QA Center, MD Anderson Cancer Center, University of Texas, United States of America

"How Quality Assurance Programmes can Maximize the Safety and Accuracy of Radiation Treatments

Ms Mary Coffey, Adjunct Associate Professor, Discipline of Radiation Therapy-Trinity College, Ireland
And
Ms Rosario Velasco, Vice-chairwoman, Consejo de Seguridad Nuclear, Spain

"Applying radiation safety procedures in practice. Incident reporting, learning and follow-up in medical radiation uses. Safety challenges to overcome in countries"

Case studies:

Mr Orges Spahiu, Radiation Oncologist, University Hospital Mother Teresa, Albania

"Supporting the strengthening of quality and safety practices during the transition from Co-60 to LINAC technologies"

Ms Debbie Van Der Merwe, Director, Charlotte Maxeke Johannesburg Academic Hospital, South Africa

"Radiotherapy audits in Africa"

16:30–17:30 **Panel discussion and closing session by the Director General (or his representative)**

Mr Untung Suseno Sutarjo, Secretary General of the Ministry of Health of the Republic of Indonesia

Mr Andrew Scott, President of the World Federation of Nuclear Medicine and Biology

Mr Massimo Garriba , Director of Directorate D - Nuclear energy, safety and ITER - of DG for Energy of the European Commission

Ms Neerja Bhatla, Vice President of the Asia Oceania research organization on Genital Infections and Neoplasia (AOGIN) and the Founder President of AOGIN-India

Ms Dominique Le Guludec, Chairwoman of the Institut De Radioprotection et de Sûreté Nucléaire (IRSN) Board of Directors