

**Under the Presidency of the Minister of Energy, Mines, Water and
Environment
KINGDOM OF MOROCCO**

Final Program (Oral and Oral Poster presentations)

Monday, 13 October 2008

08.30-09.30 REGISTRATION

09.30-10.00 OPENING SESSION

**WELCOME ADDRESSES TO THE OPENING CEREMONY OF THE INSINUME INTERNATIONAL
SYMPOSIUM**

Minister of Energy, Mines, Water and Environment, MOROCCO
General Director of CNESTEN, MOROCCO
Delegate WALLONIE-BRUXELLES, BELGIUM
President of International Union of Radioecology, IUR
President of International Organizing Committee INSINUME
Founder President INSINUME, National Institute of Radio-elements (IRE), BELGIUM

10.00 - 10.30: COFFEE BREAK

SESSION "Introductory"

Chair: J.P. LACROIX, IRE, BELGIUM.
Co-chair: M. BRENNER, University Florida, USA.

- 10.30 – 10.55** Keynote Lecture: « *Radiological protection of the environment: the need to emphasize the ecosystem concept in radioecology* »
Presented by François Brechignac, *International Union of Radioecology & Radioprotection and Nuclear Safety Institute, FRANCE*
- 10.55– 11.20** Keynote Lecture: « *Are we prepared for the next crisis? »* »
Presented by François Lacronique, *Radioprotection and Nuclear Safety Institute, FRANCE*

- 11.20 – 11.45** Keynote Lecture: « *The societal and economic impacts of Chernobyl* »
Presented by **Deborah OUGHTON**, *Norwegian University of Life Sciences, NORWAY*
- 11.45 – 12.10** Keynote Lecture: « *Nuclear metrology in global and climate change studies* »
Presented by **Farid El Daoushy**, *Uppsala University, SWEDEN*
- 12.10 – 12.35** Keynote Lecture: « *Remote Environmental Monitoring of the Upper Sea (REMUS): Implementation in the Strait of Gibraltar* »
Presented by **Rachid El Mrabet**, *Centre National de l'Energie, des Sciences et des Techniques Nucléaires, MOROCCO*
- 12.35 – 13.00** Keynote Lecture: « *International Radiation Safety Standards: Development, Application and Impact* »
Presented by **Khammar Mrabit**, *International Atomic Energy Agency, Austria*

NB: All the communications and Keynote lectures includes five-minute discussion.

13.00 – 14.30: LUNCH

Session I: Impacts of human activities on the radioactivity of terrestrial, atmospheric and aquatic ecosystems

Chair: **S. AYTAS**, *Ege University, TURKEY.*
Co-chair: **J. STAMENOV**, *INRNE/BAS, BULGARIA.*

- 14.30 – 14.50** Keynote Lecture: « *Potential Environmental Impact of Uranium In Situ Leaching* »
Presented by **Sheldon Landsberger**, *University of Texas at Austin, USA*
- 14.50 – 15.05** *Measurements of ^{210}Po in an aquatic estuarine ecosystem in relation to anthropogenic inputs*
J.P. ABRAHAM, *Centre for Radiological Sciences, INDIA*
- 15.05 – 15.20** *Bioavailability of radionuclides in conditions of swamping flood-lands within the Chernobyl accident exclusion zone*
D.I. GUDKOV, *Department of Radioecology, Institute of Hydrobiology, UKRAINE*
- 15.20 – 15.35** *Historical record of metals in sediments from a lagoon ecosystem (North Adriatic Sea, Italy) using ^{210}Pb and ^{137}Cs*
R. GUERRA, *University of Bologna ITALY*
- 15.35 – 15.50** *Development of a tritium exposure system and experiments on lettuces: First step for the establishment of a biological reference for tritium integration in plants*
C. BOYER, *Commissariat à l'Energie Atomique, FRANCE*
- 15.50 – 16.05** *Radioactivity of the slag, ash and coal in the coal-fired power plants in Serbia*
D. TODOROVIĆ, *Institute Vinča, SERBIA*

16.05 - 16.30: COFFEE BREAK

Session I: Impacts of human activities on the radioactivity of terrestrial, atmospheric and aquatic ecosystems

Chair: **I. SOUFI, CNESTEN, MOROCCO**
Co-chair: **C. PAPASTEFANOU, Aristotle University of Thessaloniki, Greece.**

- 16.30 – 16.50** Keynote Lecture: « **Modelling radionuclide behaviour in Spanish-Moroccan waters** »
Presented by **Raul Periañez, Seville University, SPAIN**
- 16.50 – 17.10** Keynote Lecture: « **Parameter values for the prediction of radionuclide transfer in terrestrial and freshwater environments** »
S. FESENKO, IAEA Laboratories Seibersdorf, Vienna, AUSTRIA
- 17.10 – 17.25** *An atmospheric dispersion codes comparison applied to incineration of urban solid waste containing high activity radioactive sources*
F. CAMPI, Dipartimento di Energia, Sezione Nucleare, Milano, ITALY
- 17.25 – 17.40** *Study of Cs, Pu and Am Sorption Kinetics to Clay Minerals*
G. LUJANIENĖ, Institute of Physics, LITHUANIA
- 17.40 – 17.55** *Transfer of ²³⁸U, ²³⁰Th, ²²⁶Ra, and ²¹⁰Pb from soils to arboreal and shrub species in a Mediterranean area*
P. BLANCO RODRÍGUEZ, Universidad de Extremadura, SPAIN
- 17.55 – 18.10** *Experimental Study and Modelling of ¹³⁷Cs Sorption Behaviour in the Baltic Sea and the Curonian Lagoon*
G. LUJANIENĖ, Institute of Physics, LITHUANIA
- 18.10 – 18.25** *Agricultural ecosystems: soil-to-plant transfer factors values for artificial radionuclides*
N.I. SANZHAROVA, Russian Institute of Agricultural Radiology & Agroecology, Obninsk, RUSSIA

Poster Presentations

Effects of chronic ionising radiation on reproduction in the earthworm
D. OUGHTON, NORVEGIAN UNIVERSITY OF LIFE SCIENCES, NORWAY

Dispersion of waste water from NPP Temelín in Vltava River
E. HANSLÍK, T. G. Masaryk Water Research Institute, CZECH REPUBLIC

Nuclear metrology in emergency conditions: mobile intervention means dedicated to the environment at the Institute for Radiological Protection and Nuclear Safety (IRSN)
S. DEFOUR, INSTITUT DE RADIOPROTECTION ET DE SURETE NUCLEAIRE, FRANCE

Concerning Structure Patterns of the Fields of Radioactive Contamination
KOROBOVA E.M, Vernasky Institute of Geochemistry and Analytical Chemistry, RUSSIA

Human activity impact on the gamma-ray emitting radionuclide distribution in the Lithuanian environmental ecosystems
B. LUKŠIENĖ, Institute of Physics, LITHUANIA

The influence of the soil and plant natures and pollution on the ^{238}U , ^{232}Th , ^{222}Rn and ^{220}Rn concentrations inside various natural honey samples by using nuclear track detectors: impact on the adult consumers

A. MORTASSIM, Faculty of Sciences Semlalia, Marrakech, MOROCCO

Assessment of Radioactive Contamination in Waiting Rooms in Nuclear Medicine Centers of Tehran; Two or One Waiting Rooms?

M. SALOUTI, Dept. of Biology, School of Sciences, Islamic Azad University, IRAN

Study of the natural radioactivity and artificial radioactivity of soils due to gamma ray emitters in Tunisia

F. ESSAFI, Faculté de Médecine de Tunis, TUNIS

An Investigation on Radiation Level from Dismantling Activity of a Research Reactor

HEE REYOUNG KIM, Korea Atomic Energy Research Institute, KOREA

The Research Reactor Radiation Emergency Countermeasure System in Korea

GEUN-SIK CHOI, Korea Atomic Energy Research Institute, KOREA

^{90}Sr , ^{137}Cs and Pu-isotopes alpha-emitters activity concentration profiles in soils from Middle Atlas (Morocco)

I. VIOQUE, Applied Nuclear Physics Research Group, University of Sevilla, SPAIN

Public Information and Communication in Radioactive Waste Management: the Latvian approach

A. DREIMANIS, Radiation Safety Centre, LATVIA

The equivalent doses of indoor radon-222 in some dwellings and enclosed areas in Morocco

O.-K. Hakam, Université Ibn Tofail, Kénitra, MOROCCO.

Radiological and Chemical Monitoring of the Rivers Common for Turkey and Bulgaria

S. AYTAS, Ege University, Institute of Nuclear Sciences, TURKEY

Levels of the radioactivity and concentration of heavy metals in the Bay of Tangier

R. EL MRABET, Centre national de l'Energie, des Sciences et des Techniques Nucléaires, MOROCCO

20.30 – 23.00 Welcome reception in KASBA DES OUDAYAS

Tuesday, 14 October 2008

Session II: Radiation protection recommendations and standards – Regulatory framework related to the environment radioprotection.

Chair: **F. LACRONIQUE**, Institut de Radioprotection et de Sûreté Nucléaire, FRANCE
Co-chair: **K. MRABIT**, International Atomic Energy Agency, Austria.

- 08.30 – 08.50** Keynote Lecture: “**International Safety Standards for the Radiation Protection of the Public and Environment**” “
Presented by **Volodymyr Berkovskyy**, International Atomic Energy Agency, AUSTRIA
- 08.50 – 09.10** Keynote Lecture: “**Constructive Regulation and Economic Development: Coherent, Consistent and Evidence-based Approaches to the Oversight of Essential Industries**”
Presented by **Julian Hilton**, Aleff Group, United Kingdom
- 09.10 – 09.25** *Development of safety national infrastructure for a nuclear program in developing countries: Case of Morocco*
I. SOUFI, CNESTEN, MOROCCO
- 09.25 – 09.40** *Radiation burns treatment*
S. SIAH, Hôpital d'Instruction Mohammed V. Rabat, MOROCCO
- 09.40 – 09.55** *Radiological and Hygienic Regulation of Liquid and Gaseous Discharges of Nuclear Power Plants in Ukraine*
L. BONCHUK, Radiation Protection Institute (RPI), Kiev, UKRAINE
- 09.55 – 10.10** *The RODOS system for off-site emergency management after nuclear and radiological accidents and its potential enhancement for the new ICRP recommendations*
J. PÄSLER-SAUER, Institute of Nuclear and Energy Techniques (IKET), GERMANY
- 10.10 – 10.25** *NORM in Drinking Water – European Regulations, the Austrian Standard, Measurement Methods and Selected Results*
FRANZ SCHÖNHOFER, Central Mining Institute (GIG), POLAND
- 10.25 – 10.40** *System for the Prognosis of the Population Doses due to Emergency Atmospheric Release of Nuclear Power Plants*
L. BONCHUK, Radiation Protection Institute (RPI), Kiev, UKRAINE
- 10.40 – 11.00** **COFFEE BREAK**

Session I: Impacts of human activities on the radioactivity of terrestrial, atmospheric and aquatic ecosystems

Chair: **F. EL DAOUSHY**, UPPSALLA University, SWEDEN.
Co-chair: **S. LANDSBERGER**, University of Texas at Austin, USA.

- 11.00 – 11.20** Keynote Lecture: «Groundwater pumping and irradiation of the Florida (USA) landscape»
Presented by **Marc BRENNER**, *Land Use and Environmental Change Institute and Department of Geological Sciences, University of Florida, USA*
- 11.20 – 11.35** Depth profile of ^{137}Cs and ^{210}Pb in ombrotrophic mire in Cyprus
IOANNIDOU, *Aristotle University of Thessaloniki, GREECE*
- 11.35 – 11.50** A method for estimating residence time of groundwaters from radium isotopic ratio: application to the Var basin in south-east France
V. BARCI, *Institut de Chimie de Nice (ICN), Université de Nice – Sophia-Antipolis, FRANCE*
- 11.50 – 12.05** Uranium-isotopic method in determination of sources for mountain lakes feeding and assessment of their outburst risk
A.N. VALYAEV, *Nuclear Safety Institute RAS, Moscow, RUSSIA.*
- 12.05 – 12.20** Application of Pb-210 dating in retrieval of atmospheric black carbon concentrations for the past 170 years
LIAQUAT HUSAIN, *Wadsworth Center, New York State Department of Health, and Department of Environmental Health Sciences, USA*
- 12.20 – 12.35** Lanthanoids and Actinoids over Pico Mountain, Azores, Portugal
M.C. FREITAS, *Technological and Nuclear Institute (Reactor-ITN), PORTUGAL*

13.00 – 14.30: LUNCH

Session I: Impacts of human activities on the radioactivity of terrestrial, atmospheric and aquatic ecosystems

Chair: **F. BRECHIGNAC**, IRSN. FRANCE
Co-chair: **P. POVINEC**, Comenius University, Bratislava, SLOVAKIA

- 14.30 – 14.50** Keynote Lecture: “The effect of dialysis of radiocaesium and radioiodine in man”
Presented by **Elis HOLM**, *LUND University, SWEEDEN*
- 14.50 – 15.05** Large-Scale and Long-Term Environmental Behaviour of Plutonium in an Acidified Water from Sweden
I. VIOQUE, *Department of Applied Physics, University of Sevilla, SPAIN*
- 15.05 – 15.20** Artificial remediation and Environmental recovery: Chernobyl experience
V. V. DOLIN, *Institute for Environmental Geochemistry (IEG), UKRAINE*
- 15.20 – 15.35** Radioactivity Levels in the surface waters and sediments from Van Lake / Turkey
S. AYTAS, *Ege University, Institute of Nuclear Sciences, TURKEY*
- 15.35 – 15.50** Dating in Lake Van Sediments Using $^{210}\text{Pb}/(^{210}\text{Po})$ Technique
N. YILDIZ, *Ege University, Institute of Nuclear Science, Bornova, Izmir, TURKEY*

15.50 – 16.20 COFFEE BREAK

Session I: Impacts of human activities on the radioactivity of terrestrial, atmospheric and aquatic ecosystems (NORM & TENORM Industry)

Chair: **ELIS HOLM**, LUND University, SWEDEN.
Co-chair: **R. G. TENORIO**, SEVILLE University, SPAIN

- 16.20 – 16.40** Keynote Lecture: « **Challenges in the Management of NORM Residues** »
Presented by **Horst Monken Fernandes**, IAEA
- 16.40 – 17.00** Keynote Lecture: « **Environmental contamination by the NORM industry: challenges for radioecology** »
Presented by **Hildegard Vandenhove**, Belgian Nuclear Research Centre, BELGIUM
- 17.00 – 17.15** Investigation of natural radioactivity in the chemical fertilizers used in Emilia-Romagna Region, Italy
R. GUERRA, University of Bologna, ITALY
- 17.15 – 17.30** Assessment of the NORMs arising from operations of Artisan Gold Miners in the Migori gold-belt region of Kenya
A.O. MUSTAPHA, Department of Physics, University of Nairobi, P.O. Box 30197, Nairobi, KENYA
- 17.30 – 17.45** Time evolution of U-isotopes in the Huelva estuary (South-West of Spain), an ecosystem affected by phosphogypsum wastes discharges
A. ABSI, Universidad de Sevilla, SPAIN
- 17.45 – 18.00** Natural evolution of activity concentration in an estuary affected by former NORM contamination
M. Villa, Universidad de Sevilla, SPAIN

Poster Presentations

Measurement of uranium and thorium series in Naturally Occurring Radioactive Materials (NORM) used in French industrial facilities
MAIGRET A, Institute for Radiological Protection and Nuclear Safety (IRSN), FRANCE

Radon specific exhalation rate in building materials: intercomparison exercise between radiometric laboratories
S. RIGHI, University of Bologna, ITALY

Radiation Control and Monitoring as an Environmental Modelling Factor of Sustainable Development– Latvian example
I. KISITE, Radiation Safety Centre, LATVIA

Study of Environmental Radioactivity in Palestine by in-situ Gamma Ray Spectroscopy
ADNAN LAHHAM, Center for Radiation Science and Technology, Al-Quds University, JERUSALEM

Three-dimensional modelling of baroclinic flows and transport of non-conservative radionuclides in the western Alboran Sea and the Strait of Gibraltar
A. LAISSAOUI, Centre national de l'Energie, des Sciences et des Techniques Nucléaires, MOROCCO

Risk Communication in Nuclear Emergency Management: An Experiment With Simulated Media News

T. PERKO, University of Antwerp, Antwerpen, BELGIUM

Determination of natural radioactivity in sand samples along the coastal region of rize
RECEP KESER, Rize University Sciences and Arts Faculty, TURKEY

Use of ^{137}Cs and ^7Be to assess soil erosion and to study the effectiveness of soil conservation methods

A. NOUIRA, Centre National de l'Energie, des Sciences et des Techniques Nucléaires (CNESTEN), MOROCCO

The Transfer of ^{137}Cs and potassium from Soil to Plants

V. PROROK, Department of Physics, Taras Shevchenko National University of Kiev, UKRAINE

A Study of Radioactive Contamination at the Nuclear Medicine Centers in Tehran
M. SALOUTI, Dept. of Biology, Islamic Azad University, IRAN

Outdoor radon variation in Romania

ELENA SIMION, National Environmental Protection Agency, Bucharest, ROMANIA

Study of the influence of the geological and meteorological conditions and pollution on radon (^{222}Rn) and thoron (^{220}Rn) concentrations in outdoor air in morocco by using CR-39 and LR-115 II track detectors

M.Amrane, Faculty of Sciences Semlalia, Marrakech, MOROCCO

Measurement of natural and man-made radionuclide inventories in olive table samples produced in north of Iran

S. Golmakani, Science Department, Guilan University, Rasht, IRAN

Assessments and decreasing of risks and damages from outbursts of Tien-Shan high mountains lakes

A.N. VALYAEV, Nuclear Safety Institute, RAS, Moscow, RUSSIA

Water objects in mountain regions as critical ecosystems

A.N. VALYAEV, Nuclear Safety Institute, RAS, Moscow, RUSSIA

Study of gamma- and beta- activity of transboundary rivers (resovska and veleka) in south east bulgaria

A.DAMIANOVA, Bulgarian Academy of Sciences, BULGARIA

^{137}Cs and ^{90}Sr distribution in terrestrial plants under natural conditions in the vicinity of Ignalina NPP

GUDELIENE, Institute of Botany, LITHUANIA

20.30 – 23.00 Gala dinner at the "DAR LAMRINI"

Wednesday, 15 October 2008

Session I: Impacts of human activities on the radioactivity of terrestrial, atmospheric and aquatic ecosystems (NORM & TENORM Industry)

Chair: **H. VANDENHOVE**, Belgian Nuclear Research Centre, BELGIUM
Co-chair: **J. HILTON**, ALEPH GROUP, UK

- 08.30 – 08.50** Keynote Lecture: « **NORM residues in the metal industry** »
Presented by **A. POFFIJN**, *Federal Agency for Nuclear Control (FANC), BELGIUM*
- 08.50 – 09.10** Keynote Lecture: « **Residues generated in NORM Industries: Management, markets, and radiological impact** »
Presented by **Rafael Garcia TENORIO**, *Seville University, SPAIN*
- 09.10 – 09.25** *NORM industrial plants with potential radiological impact on workers and local population: first lessons from the review of available risk assessment studies in France*
PIRES N, *Institute for Radiological Protection and Nuclear Safety (IRSN), FRANCE*
- 09.25 – 09.40** *Radiological characterization of NORM's scenarios in Cuba*
M. PRENDES, *Centre for Radiation Protection and Hygiene, Havana, CUBA*
- 09.40 – 09.55** *Radiological investigations of NORM related activities in Romania*
S.O.VELICU, *National Commission for Nuclear Activities Control (CNCAN), ROMANIA*

09.55 - 10.15: COFFEE BREAK

Session III: Expectations of the scientific community and new trends in nuclear metrology

Chair: **V. BERKOVSKYY**, International Atomic Energy Agency, AUSTRIA
Co-chair: **A. MISDAQ**, Marrakech University, MOROCCO

- 10.15 – 10.35** Keynote Lecture: “**Recent developments in underwater radionuclide monitoring**”
Presented by **P. POVINEC**, *Comenius University, Bratislava, Slovakia*
- 10.35 – 10.50** *A simple device to measure retrospective indoor radon concentrations*
A. MARTÍN SÁNCHEZ, *Department of Physics, University of Extremadura, SPAIN*
- 10.50 – 11.05** *Remote radiological monitoring system for aquatic environment*
G. DELECAUT, *Institut National des Radioéléments (IRE), BELGIUM*
- 11.05 – 11.20** *The Mediterranean Mussel Watch (MMW): a Regional Program for Detecting Radionuclides and Trace-Contaminants*
H. THEBAULT, *Institut de Radioprotection et de Sûreté Nucléaire (IRSN), FRANCE*

- 11.20 – 11.35** *In-Situ Monitoring of Radioactivity using NaI probe and Chemical analysis along Sebou River*
N. DEHBI, Centre national de l'Energie, des Sciences et des Techniques Nucléaires, MOROCCO
- 11.35 – 11.50** *Program for french radioactivity alert network modernization*
DEBAYLE C, Radioprotection and Nuclear Safety Institute, IRSN, FRANCE
- 11.50 – 12.05** *Monitoring and Remediation of Forest Lands Affected by Radioactive Contamination*
T.A. MARCHENKO, Department for Elimination of Consequences of Radiation Accidents and Catastrophes, Moscow, RUSSIA
- 12.05 – 12.20** *A new approach to estimate nuclide ratios from measurements with activities close to background*
G. KIRCHNER, Bundesamt für Strahlenschutz, GERMANY
- 12.20 – 12.35** *In situ radiological characterization of the surroundings of a coal-fired power plant*
BAEZA, University of Extremadura, SPAIN
- 12.35 – 12.50** *U and Th in Biomonitors: Contribution of Industrial Pollution and Soil*
E. VARGA, Faculty of Sciences, SERBIA

13.00 – 14.30: LUNCH

Session III: Expectations of the scientific community and new trends in nuclear metrology

Chair: **P. POVINEC, Comenius University, Bratislava, SLOVAKIA**
Co-chair: **M. BENMANSOUR, CNESTEN, MOROCCO**

- 14.30 – 14.50** Keynote Lecture: “**Measurement of naturally occurring radionuclides with several detectors: Advantages and disadvantages**”
Presented by **C. Papastefanou, Aristotle University of Thessaloniki, Greece**
- 14.50 – 15.05** *Radon and high resolution γ -spectrometry measurements in a Venezuelan oil field*
H. BARROS, Universidad Simón Bolívar, VENEZUELA
- 15.05 – 15.20** *A gamma Spectroscopy Method for in-situ Determination of Soil Bulk Density*
A. LAHHAM, Center for Radiation Science and Technology Al-Quds University, JERUSALEM
- 15.20 – 15.35** *Mosses as bioindicators of aero pollution in urban areas*
DRAGANA POPOVIC, Department of Physics and Biophysics, University of Belgrade, SERBIA
- 15.35 – 15.50** *Characterization of environmental radioactive microparticles by Scanning Electron Microscopy (SEM) combined with Energy-Dispersive X-Ray Spectrometry (EDXRS)*
R. GARCÍA-TENORIO, Applied Nuclear Physics Research Group, University of Seville, SPAIN
- 15.50 – 16.05** *Diffusive Gradient in Thin films (DGT): a candidate tool for evaluating radionuclides bioavailability in freshwater*
PHILIPPE CIFFROY, EDF, Division Recherche et Développement, FRANCE

16.05 - 16.25: COFFEE BREAK

Session III: Expectations of the scientific community and new trends in nuclear metrology

Chair: **H. MONKEN**, International Atomic Energy Agency, AUSTRIA
Co-chair: **A. POFFIJN**, Federal Agency of Nuclear Control, Belgium.

- 16.25 – 16.45** Keynote Lecture: “**About the environmental impact of the radioactivity and the cosmic radiation**”
Presented by **J. Stamenov**, *Bulgarian Academy of Science, BULGARIA*
- 16.45 – 17.00** *Air pollution assessment in two Moroccan cities using Instrumental Neutron Activation Analysis on bio-accumulators*
K. EMBARCH, *Centre National de l’Energie, des Sciences et des Techniques Nucléaires (CNESTEN), MOROCCO*
- 17.00 – 17.15** *Multilayer Nuclear Track Detectors for the Measuring of Low Level Environmental Alpha Activity*
A. KRZHALOV, *Ural State Technical University, Yekaterinburg, RUSSIA*
- 17.15 – 17.30** *Allium-test as a tool for the environment quality assessment at combined radioactive and chemical contamination*
A.A. OUDALOVA, *Russian Institute of Agricultural Radiology and Agroecology, RUSSIA*
- 17.30 – 17.45** *An intercomparison of Monte Carlo codes used for in-situ gamma-ray spectrometry*
S. HURTADO, *Servicio de Radioisótopos, CITIUS, Universidad de Sevilla, SPAIN*
- 17.45 – 18.00** *Influence of chemical composition in the accurate measurement of low energy radionuclides in environmental soil samples*
J. CARRAZANA GONZÁLEZ, *Centro de Protección e Higiene de las Radiaciones, La Habana, CUBA*
- 18.00 – 18.15** *Thoron Calibration System for Environmental Studies*
M. ZHUKOVSKY, *Institute of Industrial Ecology UB RAS, Yekaterinburg, RUSSIA*

POSTER PRESENTATIONS

- Air Radioactivity Monitoring in Serbia*
D. TODOROVIC, *Laboratory of Environmental and Radiation Protection, Institute of Nuclear Sciences Vinca, Belgrade, SERBIA*
- Low-level counting methods used in a Spanish Environmental Radiological Surveillance*
G. MANJÓN, *Universidad de Sevilla, SPAIN*
- Radiometric and mass spectrometric tools in environmental studies*
R. GARCÍA-TENORIO, *University of Sevilla, SPAIN*
- Calibration of an HPGe detector using a reference U-Th ore: measurements of the U-decay series and X-Ray Fluorescence (XRF) analysis*
R. GUERRA, *University of Bologna, 48100 Ravenna, ITALY*
- Advantages of Using Nuclear Technology on Environmental Protection*
C. BUCUR, *Cernavoda Nuclear Power Plant, ROMANIA*

Plants as a Tool for the Environmental Monitoring

S.A. GERAS'KIN, Russian Institute of Agricultural Radiology and Agroecology, RUSSIA

Gamma Spectrometric and EDXRF Analyses of the Carbonatites around Lake Victoria

J.P. PATE, Department of Physics, University of Nairobi, KENYA

Analysis of ^{238}U , ^{232}Th , ^{222}Rn and ^{220}Rn in different medical drug preparations by using CR-39 and LR-115 type II ssntd and resulting radiation doses to adult patients

M. KARIME, Faculty of Sciences Semlalia, Marrakech, MOROCCO

Instrumental Determination of Dominant Radon Entry Mechanism in Dwellings

A. ONISHCHENKO, Institute of Industrial Ecology UB RAS, RUSSIA

Radiation surveillance and radiation dose control at Cernavoda NPP

D. DUMITRESCU, Cernavoda Nuclear Power Plant, ROMANIA

^{238}U , ^{232}Th , ^{222}Rn and ^{220}Rn concentrations measured in sweet drinks by using nuclear track detectors and resulting dose to the members of general public from morocco

A. CHAOUQI, Faculty of Sciences Semlalia, Marrakech, MOROCCO.

Assessment of Indoor Gamma Radiation and Related Annual Effective Dose in Dwellings of Iran

F. SAGHATCHI, Zanjan University of Medical Sciences, IRAN

Distribution of uranium isotopes in surface water of the Llobregat river basin (Northeast Spain) for the period 2001-2006

I. VALLÉS, Universitat Politècnica de Catalunya, Barcelona, SPAIN

Enhancement of the radiation monitoring and emergency response system in the Murmansk region, Russia

V. KISELEV, Nuclear Safety Institute Russian Academy of Sciences, RUSSIA

Study of the weekly irrigation cycle of a cultivated field in a semi-arid area (Marrakech region, Morocco) by using CR-39 and LR-115 II track detectors and radon as a natural tracer

Z. ESSAOUIF, Marrakech University, MOROCCO

Thursday, 16 October 2008

Session III: Expectations of the scientific community and new trends in nuclear metrology

Chair: **R. G. TENORIO**, Seville University, SPAIN.
Co-chair: **J. INCHAOUH**, University HASSAN II, MOROCCO

- 08.30 – 08.50** Keynote Lecture : **Terrestrial in-situ gamma-ray mapping and applications to viticulture**
R.T. NEWMAN, *iThemba LABS, SOUTH AFRICA*
- 08.50 – 09.05** Recent sedimentary processes of the North Adriatic nearshore traced using a multi-radionuclide approach
R. GUERRA, *University of Bologna, ITALY*
- 09.05 – 09.20** Use of Soil Gas as a Radon Source for Calibration of Charcoal Detectors
D. AL-AZMI, *Public Authority for Applied Education and Training, KUWAIT*
- 09.20 – 09.35** Determination of ²²⁶Ra concentration in Persian Gulf fishes using alpha spectrometry system
T.HOSSEINI, *Iranian Nuclear Regulatory Authority (INRA), Tehran, IRAN*
- 09.35 – 09.50** Radon, thoron and their decay products in natural caves and ancient mines measured with nuclear track detectors and resulting committed equivalent dose to respiratory tract
J. OUGUIDI, *Marrakech University, MOROCCO*
- 09.50 – 10.05** The Quality Management System at the JRC Ispra Laboratory for Radioactivity Measurements in the frame of the nuclear decommissioning activities
F. D'ALBERTI, *Nuclear Decommissioning and Facilities Management Joint Research Centre, ITALY*
- 10.05 – 10.20** Radiological Reference Base Line Establishment around CENM's site
T. El khoukhi; *CNESTEN, Rabat, MOROCCO*

10.20 - 10.40: COFFEE BREAK

POSTER PRESENTATIONS

The range of application of scintillation detector for estimation of radionuclide composition of contaminated cloud

P. KUČA, *National Radiation Protection Institute (SÚRO), CZECH REPUBLIC*

Sediment dating by radiometric methods : application to the study of the flow regime of the Var river, Alpes-Maritimes department (France)"

J. ALABDULLAH, *Institut de Chimie de Nice (ICN), Université de Nice– Sophia-Antipolis, FRANCE*

Activity of ground and aerial mobile groups during radiation emergency

CESPIROVA, *National Radiation Protection Institute, CZECH REPUBLIC*

Si(Li) response function and application to self-absorption of X-rays

M. MESRADI, *Institut Pluridisciplinaire Hubert-Curien, Strasbourg, FRANCE*

The Airborne Measurement of Contaminated Landscape in the Subsequent Phases of a Nuclear Accident: Dose-rate vs. Gama-spectrometry Measurements

J. HŮLKA, National Radiation Protection Institute, Czech Republic

Uranium contamination of Serbian soil and remediation possibility

M.D.STOJANOVIĆ, Institute for Technology of Nuclear and other Mineral Raw Materials, SERBIA

Activities of Quality Control in the Determination of Radionuclides in an Accredited Laboratory

M. LLAURADÓ, Analytical Chemistry Department, Barcelona, SPAIN.

Analysis of unstable chromosome aberrations in simulation of partial body exposures with gamma rays

M. SYAIFUDIN, National Nuclear Energy Agency, INDONESIA

Quality Control of CNESTEN X-Ray Fluorescence Laboratories

M. TAHRI, Centre National de l'Energie des Sciences et des Techniques Nucléaire, Rabat, MOROCCO

Evaluation of Atmospheric Pollution in The City of Kenitra (Morocco)

M. ZGHAI, CEREGE, Aix-Marseille Université, AIX en Provence - FRANCE

Assessment of Uranium and Thorium transfer from soil to some medicinal plants consumed in Errachidia area using passive track detectors

L. OUFNI, Polydisciplinary Faculty, Department of Physics, Beni-Mellal, MOROCCO.

Radioactivity in mineral bottled water in Tunisia

L. SALAM, Institut Supérieur des Technologies Médicales, TUNISIA.

Radioactivity in spring thermal waters in Tunisia

L. SALAM, Institut Supérieur des Technologies Médicales, TUNISIA.

Rapid-response modelling of radioactivity dispersion in the strait of Gibraltar

R. PERIAÑEZ, Dpt of Applied Physics 1, University of Seville, SPAIN

Application of ^{14}C dating in archaeological studies

N.ZIAD, Centre National de l'Energie des Sciences et des Techniques Nucléaire, Rabat, MOROCCO

Measurements of Uranium and Radium Isotopes activities in Some Drinking Water Samples in Morocco: Radioprotection implications

CHOUKRI, Université Ibn Tofail, Faculté des Sciences, Kénitra, MOROCCO

Management and quality assurance in the analysis laboratories CNESTEN- MOROCCO

N. SAFSAF, CNESTEN, MOROCCO

Quartz Thermoluminescence (TL) glow-peaks lifetime analysis by TL glow-curve deconvolution functions compared to Initial Rise Method, a tool for environmental dosimetry

F. RATOONJANAHARY, Institut National des Sciences et Techniques Nucléaires, MADAGASCAR

^{210}Pb and ^{210}Po Investigations in Hydrothermal Vent Zone at Gulbahce, Aegean Sea

G. YENER, Ege University, Institute of Nuclear Science, 35100, Bornova, Izmir, TURKEY

Limiting and monitoring the radiological impact of the Romanian CANDU type NPP's operation

S.O. VELICU, National Commission for Nuclear Activities Control, ROMANIA

Characterization in term of air-kerma rate of a ^{60}Co and ^{137}Cs beam experimentally and using Monte Carlo simulation

K. MRABIT, Centre National de l'Energie des Sciences et des Techniques Nucléaires (CNESTEN), MOROCCO

Monte Carlo simulation of helium atom-hydrogen cluster collision near the Bohr velocity range (60 keV/u)

K. SAMRAOUI, Faculté des Sciences Ben M'sik, Université Hassan II- Mohammedia, MOROCCO

Neutron energy deposition in shield materials and gamma heating

A. ELMORABITI, Centre National de l'Energie des Sciences et des Techniques Nucléaires (CNESTEN), MOROCCO

Modeling of hydrocarbon layer drift and spreading in the sea

K. KHOMSI, Direction de la Météorologie Nationale Cité de l'air, Casablanca, MOROCCO

Nuclear structure for ^{125}La at low-lying states

J. INCHAOUH, I Hassan II University, Casablanca, MOROCCO

Atlantic and indian oceans pollution in Africa

BABAGANA ABUBAKAR, Kanuri Development Association, Lagos, NIGERIA.

Quality control of INAA-k0 and ICP-MS as bio-monitoring analysis techniques - Application to atmospheric pollution study in Morocco

T. El khoukhi; CNESTEN, Rabat, MOROCCO

Ocean pollution and its associated problems in the african gulf of guinea region

BABAGANA ABUBAKAR, Kanuri Development Association, Lagos, NIGERIA.

Geochemical behavior of the major elements and traces in the dissolved and particulate phase of the river Bouregreg (Morocco)

H. BOUNOUIRA, Centre National de l'Energie des Sciences et des Techniques Nucléaires (CNESTEN), MOROCCO

Waste Water Treatment Research in Sidi-Kacem SAMIR Oil Refinery (MOROCCO)

A. HAIDAR, Université Ibn Tofail, Kenitra, MOROCCO

The impacts of the decommissioning of nuclear facilities and radioactive waste trafficking in Africa

BABAGANA ABUBAKAR, Kanuri Development Association, Lagos, NIGERIA.

*Accumulation of ^{210}Po and Heavy Metals (Zn, Cu, Fe, Cd, Mn, Ni, Pb, Cr) by Mussels (*Mytilus galloprovincialis*)*

S. AKOZCAN, Ege University, Institute of Nuclear Sciences, Bornova, Izmir, TURKEY

Soil Erosion Evaluation in Gediz Basin Using ^{210}Pb Technique

B. OZDEN, Ege University, Institute of Nuclear Science, 35100, Bornova, Izmir, TURKEY

Gamma spectrometry and the routine determination of the activity of some radionuclides in natural phosphates

F.Z. BOUJRHAL, Université Sultan Moulay Slimane, Béni Mellal, MOROCCO

*Quantitative determination of trace elements in *gnetum africanum* and *gnetum buchholzianum* with energy x-ray fluorescence*

J.F. SABOUANG, University of Yaounde I, Yaounde, CAMEROON.

Self diffusion of Radon in rocks, gels, phosphates, fossilized teeth and phosphogypsum

F.Z. BOUJRHAL, Université Sultan Moulay Slimane, Béni Mellal, MOROCCO

11.00 – 12.30 Round Table:

“Use of Nuclear Metrology for studies of Land-Water Resources: influence of global changes and climate changes”

13.30 – 14.30: LUNCH IN CNESTEN

14.30 – 16.30: VISIT “CNESTEN INFRASTRUCTURES”

17.30 – 20.00 Touristic visit to the, TOUR HASSAN and MEDINA - RABAT

Tuesday, 14 October 2008 (Room B)
(Parallel Session with Conference program)

Technical Workshop Program
Nuclear Metrology, New Trends

09.30 - 09.50 PRESENTATION OF HTDS (ORTEC, THERMO, BERTHOLD)

Nuclear Instrumentation:

ORTEC with full gamma and alpha spectroscopy systems (detectors HP Ge, Silicon surface barriers/electronics (NIM Analog and Digital) / Specific Spectroscopy software / Cooling solutions)

Radiation Protection: BERTHOLD & THERMO

- personal monitoring (pagers/badges, EPD, hand-foot monitor, TLD readers and cards..)
- laboratory equipment (dose/dose rate/contamination probes (a,b,g,n), ultra low level counters ...)
- environmental monitoring (air/gas/water monitoring system, reactor monitoring (noble gas/gamma/neutron)
- Security equipment/Homelands (portable MCA/gamma spectroscopy/first responders, people/vehicle/cargo portals, ...)

09.50 - 10.10 COFFEE BREAK

10.10 - 13.10

**PRESENTATION OF RADIOPROTECTION EQUIPMENTS,
TECHNICAL DEMONSTRATIONS**

- ORTEC Full gamma spectroscopy chain (HP Ge with electrical Xcooler, with Interwinner software)
- ORTEC NaI based chain (digibase and 905)
- BERTHOLD UMo Family Portable probes (dose/dose rate/contamination)
- BERTHOLD Handheld contamination monitor Scintillation detector LB124SCINT
- THERMO RadEye-EPD Advanced Pocket-Size Radiation Meters
- THERMO identiFINDER handheld radiation spectrometer/identifier, dose-rate meter and nuclide finder.

13.15 - 14.30

LUNCH

14.30 - 16.00

PRESENTATION OF CANBERRA

Nuclear Instrumentation,

Radiation Protection

16.00 - 18.00

PRESENTATION OF IRE

In-Situ Nuclear Metrology