

ENVIRONMENTAL RADIOACTIVITY

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ROME
25th-27th
OCTOBER

NEW FRONTIERS AND DEVELOPMENTS

NELLA SEDE DELLA
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Dr Lucia Votano (INFN Gran Sasso National Laboratory, Italy)

25th October 2010

9:00am-9:30am	Prof. Luciano Maiani <i>President of the Italian National Research Council</i>	Nicola Cabibbo, Physicist and Science Manager
9:30am-9:45am	Prof. Giorgio Salvini <i>Honorary President of the Accademia Nazionale dei Lincei</i>	
	Prof. Roberto Petronzio <i>President of the Italian National Institute of Nuclear Physics</i>	Welcome Speeches
Keynote Lectures I	Frontiers in Science	
9:45am-10:30am	Prof. Carlo Rubbia <i>CERN and National Institute of Nuclear Physics, Italy</i>	The future of fission breeding reactors
10:30am-11:15am	Prof. Werner Burkart <i>International Atomic Energy Agency, Vienna, Austria</i>	Nuclear Sciences: sustainable contribution to the United Nations millennium development goals
11:15am-11:45am	<i>Coffe Break</i>	
Session I	Underground Physics	
11:45am-12:15pm	Prof. Gianpaolo Bellini (Invited) <i>University of Milano and INFN Milano, Italy</i>	Geoneutrinos
12:15pm-12:30pm	Prof. Wolfango Plastino <i>University of Roma Tre and INFN Roma Tre, Italy</i>	Uranium groundwater anomalies at LNGS: from the neutron flux background to the geodynamic processes
12:30pm-2:00pm	<i>Lunch</i>	

Session II	Accelerator Mass Spectrometry	
2:00pm-2:30pm	Prof. William E. Kieser (<i>Invited</i>) <i>University of Ottawa, Canada</i>	Fluoride sample matrices and reaction cells – new capabilities for isotope measurements in Accelerator Mass Spectrometry
2:30pm-2:45pm	Dr Alfredo Galindo-Uribarri <i>Oak Ridge National Laboratory, USA</i>	Pushing the detection limits of rare isotopes using Accelerator Mass Spectrometry
2:45pm-3:00pm	Prof. Manuel Garcia-Leon <i>University of Sevilla, Spain</i>	Environmental radioactivity measurements with accelerators: AMS at CNA
3:00pm-3:15pm	Dr Mariaelena Fedi <i>University of Florence and INFN Florence, Italy</i>	Applications of radiocarbon measurements in environmental studies at LABEC, Florence
3:15pm-4:30pm	Poster Session I (<i>Coffee and Tea</i>)	
Session III	Environmental Physics	
4:30pm-5:00pm	Prof. Herbert Lettner (<i>Invited</i>) <i>University of Salzburg, Austria</i>	Age determination in cryoconites with artificial and natural radionuclides
5:00pm-5:15pm	Dr Abdulghani Shkhashiro <i>International Atomic Energy Agency Vienna, Austria</i>	Environmental radioactivity measurements: challenges and lessons learned from the IAEA analytical proficiency testing 2005-2010
5:15pm-5:30pm	Dr Matthias Laubenstein <i>INFN Gran Sasso National Laboratory, Italy</i>	Environmental radioactivity measurements within the ERMES experiment at the ultra low background facility STELLA
5:30pm-5:45pm	Prof. Giuseppina Immè <i>University of Catania and INFN, Catania, Italy</i>	Radioactivity measurements in volcano-tectonic area for geodynamic process study



5:45pm-6:00pm

Dr Maria A. Wasserman

*Institute of Radioprotection and
Dosimetry-CNEN, Rio de Janeiro, Brasil*

The application of geotechnological
tools for the construction of ^{137}Cs
vulnerability maps in Brazilian soils

26th October 2010

Keynote Lectures II	Frontiers in Science	
9:00am - 9:45am	Prof. Francesco Calogero <i>University of Roma La Sapienza and INFN Roma, Italy</i>	Prospects of nuclear proliferation, or of transition to a nuclear-weapon-free world
9:45am - 10:30am	Prof. William C. Burnett <i>Florida State University, Tallahassee, USA</i>	Natural radon and radium isotopes as tracers in the environment
10:30am-11:00am	<i>Coffe Break</i>	
Session IV	Groundwater-Seawater Interactions	
11:00am-11:30am	Dr Matthew A. Charette (Invited) <i>Woods Hole Oceanographic Institution, USA</i>	Radionuclide tracers of submarine groundwater discharge on an ocean island (Guam)
11:30am-11:45am	Dr Michael Schubert <i>Helmholtz Centre for Environmental Research-UFZ, Leipzig, Germany</i>	The kinetics of the water/air phase transition of radon and its implication on on-site radon-in-water detection
11:45am-12:00pm	Dr Christos Tsabaris <i>Hellenic Centre for Marine Research, Anavyssos, Greece</i>	Study of submarine groundwater discharge by radio-tracer techniques at Kalogria bay, SW Peloponnissos, Greece
12:00pm-12:15pm	Prof. Yasunori Mahara <i>Kyoto University, Japan</i>	Groundwater residence time estimated from ⁴ He accumulated rate calibrated by using cosmogenic and subsurface produced ³⁶ Cl
12:15pm-12:30pm	Dr Rachid El Mrabet <i>National Center for Energy, Sciences and Nuclear Techniques (CNESTEN), Rabat, Morocco</i>	A new technologic development for remote radiological monitoring and early detection of environmental risks in the Strait of Gibraltar
12:30pm-2:00pm	<i>Lunch</i>	

Session V

Marine Radioactivity

- 2:00pm-2:30pm **Dr Hartmut Nies** (*Invited*)
International Atomic Energy Agency, Monaco
Nuclear analytical techniques in marine studies at the IAEA Marine Environment Laboratories
- 2:30pm-2:45pm **Dr Galina Lujaniené**
SRI Center for Physical Sciences and Technology, Vilnius, Lithuania
Pu, Am and Cs sorption behaviour in the Baltic Sea
- 2:45pm-3:00pm **Dr Fernando P. Carvalho**
Nuclear and Technological Institute, Sacavém, Portugal
 ^{210}Po as a tracer of energy transfer in marine food chains
- 3:00pm-3:15pm **Dr Nikolaos Evangeliou**
NCSR Institute of Nuclear Technology-Radiation Protection, Athens, Greece
The dispersion of ^{137}Cs in a shallow Mediterranean embayment (Saronikos Gulf – Elefsis Bay) in seasonal scale, estimated inventories and residence times
- 3:15pm-4:30pm **Poster Session II** (*Coffee and Tea*)

Session VI

New Analytical Technologies

- 4:30pm-5:00pm **Prof. Xiaolin Hou** (*Invited*)
Risø National Laboratory for Sustainable Energy, Roskilde, Denmark
ICP-MS for low-level radionuclide analysis
- 5:00pm-5:15pm **Dr Salvatore Frullani**
National Institute of Health, Rome, Italy
SNIFFER: an aerial platform for real time measurements of contamination in the plume phase of a nuclear emergency
- 5:15pm-5:30pm **Dr Mikael Hult**
EC-JRC Institute for Reference Materials and Measurements, Geel, Belgium
Quantification of ^{238}U in environmental samples using gamma-ray spectrometry

5:30pm-5:45pm	Dr Yasunori Hamajima <i>Kanazawa University, Japan</i>	Reduction of cosmic ray components on Ge detector utilizing thin plastic scintillators and wavelength shifting fibers for anticoincidence
5:45pm-6:00pm	Prof. Lucio Calcagnile <i>University of Salento and CEDAD Laboratory, Italy</i>	Studies of industrial emissions by accelerator-based techniques at CEDAD
7:30pm - 10:00pm	<i>Conference Dinner</i>	

27th October 2010

Keynote Lectures III **Frontiers in Science**

- 9:00am - 9:45am **Prof. Walter Kutschera**
University of Vienna, Austria Counting atoms rather than decays - the power of Accelerator Mass Spectrometry to study environmental radioactivity
- 9:45am - 10:30am **Dr Francois Bréchnignac**
Institute for Radioprotection and Nuclear Safety, France Environment protection: the current challenge in radioecology
- 10:30am-11:00am *Coffe Break*

Session VII **Isotope Oceanography**

- 11:00am-11:30am **Prof. Katsumi Hirose (Invited)**
Sophia University, Tokyo, Japan Distribution of ¹³⁷Cs in the South Pacific and Indian Ocean waters: results of the SHOTS project
- 11:30am-11:45am **Dr Marcus Christl**
ETH, Zürich, Switzerland ²³⁶Uranium in ocean water samples
- 11:45am-12:00pm **Dr Roberta Delfanti**
ENEA, La Spezia, Italy Anthropogenic radionuclides in the Mediterranean Sea: space and time-distribution, mass-balance and future trends
- 12:00pm-12:15pm **Prof. Pavel P. Povinec**
Comenius University of Bratislava, Slovakia Investigation of circulation of water masses in the southern Indian Ocean using radionuclide tracers
- 12:15pm-12:30pm **Dr Alexandra Ioannidou**
Aristotle University of Thessaloniki, Greece Activity size distribution of ⁷Be in association with trace metals and their deposition on the sea
- 12:30pm-2:00pm *Lunch*

Session VIII	Radioecology	
2:00pm-2:30pm	Prof. Pier R. Danesi (<i>Invited</i>) <i>IUSS, University of Pavia, Italy</i>	Radiological conditions in South Iraq where depleted uranium munitions were used
2:30pm-2:45pm	Dr Pavol Vojtyla <i>CERN, Geneva, Switzerland</i>	Environmental challenges of high energy/intensity hadron accelerators
2:45pm-3:00pm	Dr Mikhail Iosjpe <i>Norwegian Radiation Protection Authority, Østerås, Norway</i>	Evaluation of environmental sensitivity of the marine regions
3:00pm-3:15pm	Dr Borut Smodiš <i>Jožef Stefan Institute, Ljubljana, Slovenia</i>	Radioecology studies in the vicinity of closed uranium mine
3:15pm-4:30pm	Poster Session III (<i>Coffee and Tea</i>)	
Session IX	Radioecology	
4:30pm-4:45pm	Dr Alexander Nikitin <i>SI Research and Production Association - Typhoon, Obninsk, Russia</i>	Up-to-date content of long-lived artificial radionuclides in the Tom and Ob rivers in the area influenced by discharges from Siberian chemical combine
4:45pm-5:00pm	Dr Sergey N. Lukašenko <i>National Nuclear Center of the Republic of Kazakhstan, Kurchatov, Kazakhstan</i>	Semipalatinsk Nuclear Test Site. Current state and prospects
5:00pm-5:15pm	Dr Sang-Han Lee <i>Korea Research Institute of Standards and Science, Daejeon, Korea</i>	Distribution of plutonium and americium in the soils from Korea
5:15pm-5:30pm	Dr Ashraf E.M. Khater <i>King Saud University, Riyadh, Saudi Arabia</i>	Radioecological impacts of agricultural activities on sandy soil in arid environment

5:30pm-5:45pm	Prof. Madan M. Sharma <i>Kuwait University, Kuwait</i>	Radiological impact of Gulf wars on agricultural areas in Kuwait
5:45pm-6:00pm	Dr Alexander Kryšev <i>SI Research and Production Association - Typhoon, Obninsk, Russia</i>	Comparative analysis of doses to aquatic biota in water bodies impacted to radioactive contamination
6:00pm-6:15pm	Concluding Remarks and Closing of the Conference	

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