

NORM **6th** International Symposium

Naturally Occurring Radioactive Material

March 22-26, 2010 Marrakech, Morocco
Kenzi Farah Hotel



مركز الدراسات والأبحاث لتوسيعات المعادن
CERPHOS
Centre et Etudes de Recherches sur l'Évaluation des Risques



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Sunday, March 21 Evening

18.00 – 20.00	Registration
20.00 – 21.00	Welcome Cocktail

Monday, March 22 Morning

8.00 Onwards	Registration
9.00-9.30	Opening Ceremony
9.30-10.00	Coffee break

Opening Session :

Chairman: J. Hilton, K. El Mediouri

10.00-10.40	Keynote address: Revision of the International Basic Safety Standards and Implications for Exposure to Natural Sources-D. Wymer
10.40-11.10	Radioactivity assessment in the phosphate industry facilities OCP group experiences-A. Kessab, A. Kossir, M. Belghiti alaoui, M. Khamlichi
11.10-11.40	<p>Poster session 1: Presentation of the research work of the Cadi Ayyad University, Marrakech-M.A.Misdaq;</p> <p>Poster 1.1: Radon, thoron and their progenies in natural caves and ancient mines measured with nuclear track detectors and resulting radiation dose to the members of the public- J.Ouguidi;</p> <p>Poster 1.2: ^{238}U, ^{232}Th, ^{222}Rn and ^{220}Rn concentrations measured in bottled mineral waters from different countries and resulting radiation doses to the consumers- A.Chaouqi;</p> <p>Poster 1.3: 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;</p> <p>Poster 1.4: Study of the geological and meteorological conditions on the concentrations of ^{222}Rn and ^{220}Rn measured in outdoor air in various rural zones (Morocco) by using solid state nuclear track detectors and resulting radiation dose to the rural population- M.Amrane;</p> <p>Poster 1.5: A new method for evaluating committed effective doses to skin due to ^{238}U, ^{232}Th, and ^{222}Rn from the application of various Moroccan black soap (Saboun Beldi) material samples by different members of the general public- K.Outeqabliti;</p> <p>Poster 1.6: Study of the influence of chalk dust and ventilation on the concentration of ^{222}Rn, ^{220}Rn and their progenies inside classrooms and resulting radiation doses to the secondary school pupils and teachers- E.Faiz;</p> <p>Poster 1.7: Analysis of ^{238}U, ^{232}Th, ^{222}Rn and ^{220}Rn in various marble materials: impact on the workers- E.Faiz;</p> <p>Poster 1.8: Study of the transfer of the ^{238}U and ^{232}Th radionuclides from soil to plant in a semiarid area by using nuclear track detectors- Z.Essaouif;</p> <p>Poster 1.9: Study of the weekly irrigation cycle of an agricultural field in a semiarid area (Marrakech region, Morocco) by using CR-39 and LR-115 II track detectors and radon as a natural tracer- Z.Essaouif;</p> <p>Poster 1.10: 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 ;</p> <p>Poster 1.11: Study of the transfer of ^{238}U, ^{232}Th and ^{222}Rn from soil to sugar by using nuclear track detectors: Impact on the consumers- S.Idane.</p>

Session 1: Operational Radiation Protection

Chairman: B. Michalik

11.40-12.15	Invited Presentation 1: The use and management of NORM residues in processing Bayan Obo ores in China - W. Qifan
12.15-12.40	Oral 1.1: Naturally occurring radioactive materials (NORM) used in French industrial facilities: uranium and thorium series activity concentrations and associated occupational exposures - N. Pires
12.40-13.05	Oral.1.2: Ecological and radiological consequences of half-century operation of monazite storage facility - M. Zhukovsky
13.05-14.30	Lunch

Monday, March 22 Afternoon

Chairman: R.Garcia-Tenorio	
14.30-14.55	Oral 1.3: Radiological Assessment of Seven Ground Water Treatment Plants - R.M. Nassar
14.55-15.20	Oral 1.4: Personal Dosimetry to radiation workers Upgrading old petroleum oil field – M.A. Gomaa
15.20-16.00	<p>Poster Session 2:</p> <p>Poster 2.1: Determination of Natural Radioactivity Levels of the State of Qatar using High-Resolution Gamma-ray Spectrometry- H. Al-Sulaiti;</p> <p>Poster 2.2: NORM in Brazil – A General Overview- R. Fereira Paulo;</p> <p>Poster 2.3: Effects on non-human species inhabiting areas with enhanced level of natural radioactivity in the north of Russia- S. Geraskin;</p> <p>Poster 2.4: Transport of NORM: tantalum raw materials- U. Schwela;</p> <p>Poster 2.5: Sequential extraction and measurements of ²²⁶Ra, ²¹⁰Pb, ²¹⁰Po, U and Th isotopes in NORM matrices- M. Villa;</p> <p>Poster 2.6: Influence of regulation on the radiological impact to workers of different industries- L. Quindos;</p> <p>Poster 2.7: Determination of U and Th isotopes in NORM samples by total dissolution with alkali fusion- J. Mantero;</p> <p>Poster 2.8: Radiological impact during the extraction, processing and use of phosphate minerals in Cuba- J.T. Zerquera;</p> <p>Poster 2.9: External quality control for spanish environmental radioactivity laboratories: results for a phosphogypsum test sample (CSN-CIEMAT-2008)- M. Lourdes Romero;</p> <p>Poster 2.10: Radioactivity in arc welding with consumable electrodes- R. Nuñez-lagos;</p> <p>Poster 2.11: Environmental Hazard Assessment of Phosphogypsum Waste Stockpile Material from Jordan - Al-Hwaiti;</p> <p>Poster 2.12: Survey of natural radiation background exposure in Kadugli city, western Sudan- S.T.Kafi;</p> <p>Poster 2.13: Monitoring anthropogenic airborne natural radionuclides in the vicinity of a TENORM industry using lichen as bio-indicator- B. Mazzilli;</p> <p>Poster 2.14: Activity levels of Uranium and Radium Isotopes in Some natural Water Samples in Morocco: Derived doses- A.Choukri.</p>
16.00-16.30	Coffee break
16.30-16.55	Oral 1.5: Occupational Exposure Assessment in a Titanium Dioxide Plant Located at the South-West of Spain – J.P. Bolivar
16.55-17.20	Oral 1.6: Characterization of NORM in Libyan Oil Pipe Scale Using HPGe detector and MCNP – A.S. Habib
17.20 -17.35	Raporter- C. Simmons
20.00	Social Event (diner)

Tuesday, March 23 Morning

Session 2: Regulatory aspects	
Chairman: R. Wiegiers	
9.00-9.35	Invited Presentation 2: Legal Aspects of NORM/TENORM Regulation in the United States - C. Simmons
9.35-10.00	Oral 2.1: Development of NORM management in Australia- R.S. O'Brien
10.00-10.25	Oral 2.2: Principles for Treatment of Intrusion in NORM Disposal Sites – A. L. Soderman
10.25-10.50	Oral 2.3 Human Exposure to radioactivity from mining and industrial residues- D.Chambers
10.50-11.20	Coffee break
11.20-12.00	<p>Poster session 3:</p> <p>Poster 3.1: Naturally occurring radioactive material in the Netherlands: dose estimates to the public over the last twenty years- C.P. Tanzi;</p> <p>Poster 3.2: Measurements of NORM in beach sand samples along the Andaman coast of Thailand after the 2004 tsunami- D. Malain;</p> <p>Poster 3.3: Radiological Assessment of Black Powder in Sales Gas Pipelines- M. Cowie;</p> <p>Poster 3.4: Characterisation of TENORM formation in facilities as basis of radiation protection- R. Gellermann;</p> <p>Poster 3.5: A cost-benefit analysis of the use of phosphogypsum in the Brazilian South Region agriculture- M. Pires do Rio;</p> <p>Poster 3.6: Natural radioactivity in Tunisian and in some exported phosphate fertilizers used in Tunisia- F. Gharbi;</p> <p>Poster 3.7: Recycling of Metallic Residues with NORM-Contamination by Melting- T. Kluth;</p> <p>Poster 3.8: An Evaluation of the Level of Naturally Occurring Radioactive Materials in Soil Samples along the Chao Phraya River Basin- T. Santawamaitre;</p> <p>Poster 3.9: Levels of natural radio nuclides in cements and clay based building materials used in south west costal region of India- J.P. Jojo;</p> <p>Poster 3.10: The Pilot Study of the Radioactive Aerosol Size Distribution in the Air of the Uranium Mine Dolní Rožínka, Czech Republic- P. Rulik;</p> <p>Poster 3.11: Status of Industrial Use of NORM and the Regulation Policy in Japan- S. Furuta;</p> <p>Poster 3.12: Database of activity concentrations in NORMs used as Industrial materials in Japan- K. Iwaoka;</p> <p>Poster 3.13: The EVIRONET – Network on Environmental Management and Remediation- Horst Monken-Fernandes.</p>
12.00-12.25	Oral 2.4: Regulatory Guidelines for use of phosphogypsum in building and construction materials in India – S. Sinha
12.25-12.50	Oral 2.5: Identification of NORM facilities in Bulgaria – methodical approach and results – L. Kostov
13.00-14.30	Lunch

Tuesday, March 23 Afternoon

<i>Session 2: (continuation)</i>	
14.30-14.55	Oral 2.6: European Waste Catalogue – a platform for a common approach to NORM and other industrial waste – B. Michalik
14.55-15.20	Oral 2.7: Towards an Evidence-based Score-card for Aligning Risk Management and Sustainability Goals for Essential NORM Industries: Case Study – Phosphates - J. Hilton
15.20-15.45	Oral 2.8: Management of metallic scraps contaminated with natural radionuclides – T. Ortiz
15.45-16.10	Coffee break
<i>Session 3: Transport of NORM</i>	
Chairman: D. Wymer	
16.10-16.45	Invited Presentation 3: Safety of Transport of Naturally Occurring Radioactive Material - K.K.Varley
16.45-17.10	Oral 3.1: NORM transportation in the Port of Antwerp: from Megaports to a special-purpose measurement methodology – W. Schroeyers
17.10-17.35	Oral 3.2 :Transport of naturally occurring radioactive materials (NORM) in France and involved doses – M. Moutarde
17.35-17.50	Rapporteur - B. Mazzilli

Wednesday, March 24 Morning

Session 4: Management of NORM Residues	
Chairman: A. Janssens	
9.00 - 9.35	Invited Presentation 4: A global overview of NORM residue remediation and good practice - P. Waggitt
9.35 – 10.00	Oral 4.1: A Study on Evaluation Methods for 210Pb Accumulation in Adsorbents of Natural Gas Treatment Process – S. Kojima
10.00 - 10.25	Oral 4.2: Practical issues for dealing with (TE) NORM in the Netherlands – J. Welbergen
10.25 - 10.50	Oral 4.3: Environmental burden of NORM residues – B. Michalik
10.50 - 11.20	Coffee break
11.20 - 11.45	Oral 4.4: A mathematical tool for simulating the dispersion of NORM releases in the marine environment: application to the western Alboran Sea - A. Laissaoui
11.45 - 12.10	Oral 4.5: Radiological Characterization of a copper/cobalt mining & milling site – M. Arno
12.10 - 12.35	Oral 4.6: NORM Management in the Oil and Gas Industry-Saudi Aramco experience – K. Mously
12.35 - 13.00	Oral 4.7: Identification, handling and disposal of NORM in Norwegian petrol industry – P. Varskog
13.00 - 14.30	Lunch

Wednesday, March 24 Afternoon

Session 5: Use of NORM Products & Residues

Chairman: U. Quade

14.30-14.55	Oral 5.1: Fluxes of the U-238 series within the Dicalcium Phosphate industrial production and the biokinetical analysis of Pb-210 and Po-210 in broilers due to its ingestion – N. Casacuberta
14.55-15.20	Oral 5.2: Transfer factors of natural radionuclides from soils to crops cultivated at the Cerrado region, Brazil – V. Jacomino
15.20-15.45	Oral 5.3: Radiological Assessment of Phosphogypsum as a Building Material – B. Mazzilli
15.45-16.10	Oral 5.4: Physicochemical and radioactive characterization of co-products from a titanium dioxide NORM industry for their valorization in cement manufacturing – M.J. Gazquez
16.10-16.40	Coffee break
16.40-17.05	Oral 5.5: Radiation Exposure from the Use of NORM in Building Materials in Germany- K. Gehrcke
17.05-17.30	Oral 5.6: Radioactivity in Phosphogypsum and the Recovery of Sodic Soils of Brazilian Semi Arid Environment – F.C.A. Ribeiro
17.30-17.45	Rapporteur- B. Birky
20.00	Gala Dinner

Thursday, March 25 Morning

Concluding Session

Chairman: A. Poffijn

Focus on the Uranium Industry

9.00-9.30	Invited Presentation 5: Uranium mill tailings remediation in Central Asia – P. Waggitt
9.30-10.00	Invited Presentation 6: Extraction of uranium from phosphoric acid: the good practice – J. Wlodanczyk
10.00-10.30	<p>Poster Session 4:</p> <p>Poster 4.1: Radiation exposure and protection in mining and processing of uranium ores in India- R.M. Tripathi;</p> <p>Poster 4.2: Estimates of effective doses among Czech uranium miners- L. Tomasek;</p> <p>Poster 4.3: Natural radionuclides and metal intake in soya, corn and lettuce grown on soil amended with phosphogypsum- B. Mazzilli;</p> <p>Poster 4.4: Radionuclides and trace elements related to morphology of particles in phosphate rock and phosphogypsum- M. Renteria-Villalobos;</p> <p>Poster 4.5: : Is tin tailing sand the source of a high natural gamma background in Namon districts, Songkhla Province, Southern Thailand- T. Bhongsuwan;</p> <p>Poster 4.6: Natural Radioactivity in a raised peat bog- E. Holm;</p> <p>Poster 4.7: An assessment of Radon Exhalation Rates, Natural Radioactivity and Radiation</p>

	<p>Exposure in Fly Ash from Thermal Power Plants, India- A.K. Mahur;</p> <p>Poster 4.8: Use of Pb and Po as radiotracers for meteorological purposes- J. Skowronek;</p> <p>Poster 4.9: Environmental aspects, risk and safety considerations in transport of NORM, processing and tailing management facility in Romania- G. Vieru;</p> <p>Poster 4.10: Naturally occurring radionuclides and rare earth elements pattern in weathered Japanese soil samples- S. K. Sahoo;</p> <p>Poster 4.11: TENORM in insulation factory – P. Jovanovic;</p> <p>Poster 4.12: Removal of ²²⁶Ra and ²²⁸Ra from groundwater sources used for drinking purposes (Czech Republic)- E. Hanslik;</p> <p>Poster 4.13: International Phosphogypsum Working Group (PGWG)- Y.Bouabdellaoui, S. Guy and J.Hilton.</p>
10.30-10.50	Coffee break
10.50-11.20	Invited Presentation 7: Revision and recast of the Euratom Basic Safety Standards: Status report and public consultation(s) – A. Janssens
11.20-11.50	Invited Presentation 8: NORM-specific Approach to Education and Training Needs in NORM Industries – B. Birky
11.50-12.20	Summary of the Symposium - P. Shaw
12.20-13.00	Round Table Discussion
13.00-13.15	Announcements
<i>Closure of the symposium</i>	

Thursday, March 25 Afternoon Workshop on Phosphogypsum Management & Uses

TENTATIVE AGENDA & Topics

Keynotes Topics & presentations	
15.00-15.40	1. Phosphogypsum management & uses : The state of the art; regulatory aspects by J. Hilton, ALEFF. UK.
15.50-16.30	2. Safety Radiation Protection and Management of Radioactive Wastes in the Phosphate Industry, The Three Layer Conceptual Model by B. Birky. FIPR USA.
16.40-17.00	Break
17.00-18.30	3. Phosphogypsum uses: 1. Agriculture by R.G Tenorio. Univ. of Seville. Spain; 2. Cement & plaster board By B. Mazzilli , Institute of Nuclear Energy and Research, Brazil; 3. Roads construction and Land Fill. by Y. Bouabdellaoui , IAV Hassan II & B.Birky; 4. Other uses.
18.30-19.00	4. Round table : Challenges & main topics: R&D activities; Networking: Who; How; Scopes; Financing.

Friday, March 26 Technical visit to the BENGUERIR phosphate mining deposits (70kms north of the city of Marrakech)

08.00-09.00	Departure from the hotel
09.00 -09.15	Welcome words by the Management Team
09.15-11.00	Presentation of the Phosphates Mine activities
11.00-13.00	Guided visit of the Mine facilities
13.30	Lunch in the restaurant of the Mine Club.

PLS send your registration to the secretary at norme6@norm6.ma

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