

3rdINCC@mi.infn.it

# 3<sup>rd</sup> INTERNATIONAL NUCLEAR CHEMISTRY CONGRESS

18 - 23 September 2011  
Città del Mare (Palermo), Sicily, ITALY

## Highlights of the Congress:

Nuclear and Radiochemistry  
Radioanalytical Chemistry and Nanoparticles  
Radiopharmaceuticals Chemistry  
Waste Transmutation and Generation IV Reactors  
Nuclear Fuel Cycle  
Radioecology and Geochemistry  
Health Physics and Radiation Chemistry  
Education in Nuclear Physics and Chemistry

**Chairperson:** Flavia GROPPi, Università degli Studi di Milano

**Co-Chair:** Turan ÜNAK, INCS President

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# **3rd-INCC**

**Sunday 18 September 2011 - Friday 23 September 2011**

**Città del Mare, Terrasini - Palermo - Sicily - Italy**


## **Programme**

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# Sunday 18 September 2011

 **Reception (15:30-17:30)**

 **Opening Cerimony (17:30-19:30)**

 **Welcome Party (19:30-20:30)**

# Monday 19 September 2011

## Session 1: Nuclear Chemistry and Radiochemistry - Paladini (08:30-10:30)

### Radiochemistry

- **Conveners: Lindstrom, Richard (National Institute of Standards and Technology); Bonardi, Mauro (UNIMI and INFN - Milano)**

time	[id] title	presenter
08:30	[202] National and regional capacity building for medical radioisotope production: role of the IAEA	DUATTI, Adriano (International Atomic Energy Agency (IAEA))
08:50	[39] Production of Medical Radionuclides in Russia: status and future	ZHUIKOV, Boris (Institute for Nuclear Research of Russian Academy of Sciences)
09:10	[190] Development of a fast radiochemical method for the Tc-99m production by Neutron Activation and its cost analysis	Dr. SALVINI, Andrea (Università di Pavia)
09:30	[66] Separation of no-carrier-added ruthenium from C-12 irradiated natural yttrium target by aqueous biphasic extraction	Dr. MAITI, Moumita (Saha Institute of Nuclear Physics)
09:45	[121] Activation cross-sections for proton-induced reactions on natural Nd	Dr. LEBEDA, Ondrej (Nuclear Physics Institute AS CR, p.r.i.)
10:00	[71] Evaporation residue cross section in $^{28}\text{Si}+^{75}\text{As}$ at $E_{\text{lab}}=6.6$ MeV/nucleon	KUMAR, Amit (Radiochemistry Division, Bhabha Atomic Research Centre)
10:15	[73] Investigation of the variance of fission product mass distribution in $^{20}\text{Ne} + ^{232}\text{Th}$ reaction	SODAYE, Suparna (Bhabha Atomic Research Centre)

### coffee break (10:30-11:00)

## Session 2: Nuclear Techniques: Fuel, Waste, Reactors IV - Paladini (11:00-13:00)

- **Conveners: Aggarwal, Suresh Kumar (Bhabha Atomic Research Centre); Finocchiaro, Paolo (INFN)**

time	[id] title	presenter
11:00	[111] Molten salt reactor for waste transmutation: fuel cycles and recycle chemistry	Prof. IGNATIEV, Victor (NRC "Kurchatov Institute") Dr. FEYNBERG, Olga (NRC "Kurchatov Institute")
11:20	[46] New separation methods for production of light stable isotopes for use in nuclear technology	Mr. ERIKSEN, Dag (Primus.inter.pares AS, Norway)
11:35	[120] Computational electrochemo-fluid dynamics modeling in a uranium electrowinning cell	Dr. KIM, K. R. (Korea Atomic Energy Research Institute)
11:50	[45] New bitopic molecules for Group Actinides Extraction	Ms. BISSON, Julia (CEA-Marcoule, France)
12:05	[83] Opportunity of using protective coatings for radioactive waste immobilization	Dr. POKHITONOV, Yury (Khlopin Radium Institute)
12:20	[84] Heterocyclic acids diamides as extractants for actinides extraction and separation	Dr. ALYAPYSHEV, Mikhail (Khlopin Radium Institute)
12:35	[82] Processing of UV-Vis spectroscopy data by chemometric tools as a perspective way for online monitoring of SNF reprocessing	Dr. BABAIN, Vasilij (Khlopin Radium Institute) Dr. KIRSANOV, Dmitry (StPetersburg University)

**Lunch (13:00-14:30)****Session 3: Radioanalytical Chemistry and Nanoparticles - Paladini (14:30-15:40)**- **Conveners:** Hou, Xiaolin (Technical University of Denmark); Gambarini, Grazia (Università degli Studi di Milano)

time	[id] title	presenter
14:30	[191] Nanotoxicology research: a great opportunity for the radionanoanalytical chemist	SABBIONI, Enrico (Veneto Nanotech)
14:50	[106] Synthesis of molybdenum nanoparticle by in situ $\gamma$ radiation	LAHIRI, Susanta (Saha Institute of Nuclear Physics)
15:10	[23] Tritium probe in nanoparticles investigations	Dr. CHERNYSHEVA, Maria (Lomonosov Moscow State University)
15:25	[6] Radioanalytical methods: tools in studies of thyrotoxic effects of excessive bromide and perchlorate ions	Dr. PAVELKA, Stanislav (Institute of Physiology, ASCR, Prague/Central-European Technology Institute, Masaryk University, Brno, Czech Republic)

**coffee break (15:40-16:00)****Session 4: Nuclear Chemistry and Radiochemistry - Paladini (16:00-17:30)**- **Conveners:** Zhang, Zhi (China Academy of Engineering Physics); Dr. Morelli, Daniela (Dipartimento di Fisica e Astronomia -Università degli studi di Catania, INFN sezione di Catania)

time	[id] title	presenter
16:00	[177] Assessment of actinides contamination in environmental and reactor structural samples by Accelerator Mass Spectrometry	Prof. TERRASI, Filippo (2nd University of Naples)
16:20	[174] Tritium measurements in water springs on Mt. Etna Volcano	Dr. CATALANO, Roberto (Dipartimento di Fisica e Astronomia -Università degli studi di Catania, INFN sezione di Catania)
16:35	[59] Determination of the isotopic ratio U-236/U-238 in environmental samples	WALLNER, Gabriele (University of Vienna)

**Poster Section 1 - Paladini (17:30-19:00)**

[id] title	presenter	board
<b>[179] A sequential procedure for determining Pu-238, Pu-(239+240), Am-241, Sr-90 activities in human bones obtained from joint replacement surgery</b>	Mrs. TOMANKIEWICZ, Ewa	
<b>[17] Aging effects on kinetic properties in palladium–tritium system during tritium storage</b>	Mr. DU, Jie Mr. ZHANG, Zhi	
<b>[187] Application of the CL resin to the separation and determination of Cl-36 and I-129 in environmental and decommissioning samples</b>	Dr. BOMBARD, Aude	
<b>[171] Chemical composition of urban soils in the vicinity of steel industry</b>	Prof. DE NADAI FERNANDES, Elisabete	
<b>[155] Development of an original radiochemical protocol in a view of Sn-121m and Sn-126 measurements in Low and Intermediate Level Nuclear Wastes</b>	Dr. GAUTIER, Celine	
<b>[181] Elemental characterization of bread and durum wheat by INAA</b>	Dr. FREITAS, Maria do Carmo	

[50] Implementation of the k <sub>0</sub> -standardization method for analysis of geological samples at the Neutron Activation Analysis Laboratory, São Paulo, Brazil	Dr. FIGUEIREDO, Ana Maria	
[64] Design and construction of an equipment for the radiochemistry process of molecules marked for the sector health	Dr. JOSÉ, Alanis	
[61] Natural radionuclides and Cs-137 in marine sediments from open and semi-enclosed gulfs, lagoons and fjord-like environments in Greece	Prof. PAPAETHYMIU, Helen	
[79] Potassium concentrations and annual effective dose of the most customary-consumed foodstuffs in Mexico as a cultural heritage	Prof. RAMÍREZ, Alejandro	
[15] Secure and certify studies to work on production of "spiked" plutonium	Prof. MOHAMED MOHAMED, Prof.Dr.Mr.Ashraf Elsayed	
[69] Study of states of uranylphosphates and uranylarsenates of monoacid, divalent and trivalent elements in water-salt heterogeneous systems	Dr. NIPRUK, Oxana	
[88] Study of the firing temperature of Marajoara Archaeological ceramics by electron paramagnetic resonance associated to INAA data	Ms. NUNES, Kelly	
[70] Synthesis and study of uranyl orthovanadate (UO <sub>2</sub> ) <sub>3</sub> (VO <sub>4</sub> ) <sub>2</sub> ·4H <sub>2</sub> O	Ms. EREMINA, Anna	
[168] Removal of volatile, organic iodines from vented containment gas streams by wet-scrubbing during severe nuclear accidents	Mrs. TIETZE, Sabrina	
[49] Study of lactose uptake rate by immobilized kefir cells during whey fermentation, using C-14 labelled lactose	GOLFINOPOULOS, Aristidis	
[102] The effect of humic acid on the formation and solubility of secondary solid phases of polyvalent metal ions	Dr. ANTONIOU, Stella	
[2] The granular sorbents for passive environment protection system during severe accidents with total loss of power supply at NPPs	Prof. KULYUKHIN, Sergey	
[3] The thermal decomposition of CH <sub>3</sub> 131I in a gas flow	Prof. KULYUKHIN, Sergey	
[101] The effect of aging and natural organic matter on the Th(OH) <sub>4</sub> solubility	Ms. PRODRMOU, Melpomeni	
[170] Uranium in dog foods commercialized in Brazil	Ms. ELIAS, Camila	
[67] Evaluation of cobalt bis(dicarbollide) ion derivatives with attached metal chelating groups for their use in nuclear waste treatment	Dr. BUBENIKOVA, Maria	
[130] Deep purification of uranium extract from technetium	Mr. VIDANOV, Vitaly	
[189] Precipitation and purification of uranium from rock phosphate	Mr. ABOWSLAMA, ELSHAFEEA	
[103] Fukushima fallout at Milano, Italy	Prof. IOANNIDOU, ALEXANDRA	
[152] Lu-177g produced with high specific activity by deuteron irradiation for metabolic radiotherapy	MANENTI, Simone	
[193] Baseline background radiation dose and risk assessment study due to natural radionuclides in the edible biota of Domiasiat, Meghalaya	NIRANJAN, Kumar	
[157] Comparison of composition of lechatelierites in moldavites and silica phytoliths	KAMENÍK, Jan	
[95] EDXRF determination of heavy metals in the soil of an urban plot in Mexico City	Prof. LARTIGUE, Juan	
[97] Natural radionuclides, stable elements concentration and study of bioactive components of Peperomia pellucida	Mr. SUSSA, Fabio Vitorio Dr. SILVA, Paulo Sergio Cardoso	
[156] Neutron and photon activation analyses of anomalous phonolites from Lusatian Mountains in Bohemian Massif, Czech Republic	Dr. ŘANDA, Zdeněk	

[90] Recent sedimentation rates and trace elements determined in cores from Pantanal, Mato Grosso do Sul, Brasil	Dr. DAMATTO, Sandra	
[163] Test of isotopic exchanges between O-18 and O-16 when oxygen-18 enriched water contacts with air oxygen	Mrs. EKIM, Selen	
[175] The distribution of I-131 in the fractionated dust in the ground layer of air in central Poland	Mr. GRABOWSKI, Paweł	
[158] Unconventional component of parent materials of moldavites	Dr. MIZERA, Jiří	
[30] Uranium in ground water samples of Northern Greece	Prof. IOANNIDOU, ALEXANDRA	
[172] In soil radon measurements to characterize fault systems	Dr. MANGANO, Gabriella	
[68] Physico-chemical investigation of heterogeneous equilibria in the saturated aqueous solutions of uranyl silicates of the alkaline elements	Ms. GODOVANOVA, Natalya	
[29] Plutonium, americium and radiocesium in coastal sediments of the Cuban island, in the Caribbean Sea	Dr. CORCHO ALVARADO, José Antonio	
[77] Passive biomonitoring study for trace elements in oysters <i>Crassostrea brasiliensis</i> (Lamarck, 1819: Mollusca, Bivalvia) in São Paulo State coastal sites, Brazil (25°00'-23°56'S, 47°25'-45°19'W)	Dr. SEMMLER, Marilia Dr. VASCONCELLOS, Marina Dr. SOUSA, Eduinetty	
[150] Limiting transport properties of lanthanide and actinide ions in water. Hydration number and hydrolysis phenomena.	Prof. LATROUS, Habib	
[60] Low-level gamma spectroscopy measurements of air samples in Austria after the Fukushima accident	Dr. MUSILEK, Andreas	
[54] Metallographic and XPS analyses of deposits from steam generator	Ms. PETRŮ, Jana	
[100] Classification of igneous rocks from Paraguay by INAA	Prof. FACETTI-MASULLI, Juan F	

**Dinner - not included (20:00-22:00)**

## Tuesday 20 September 2011

### **Session 5: Radioecology and Geochemistry - Paladini (08:30-10:40)**

- **Conveners: Povinec, Pavel (Department of Nuclear Physics); Prof. Immè, Giuseppina (Dipartimento di Fisica e Astronomia -Università degli studi di Catania, INFN sezione di Catania)**

time	[id] title	presenter
08:30	[197] Half-lives of Pu isotopes	Prof. AGGARWAL, Suresh (Homi Bhabha National Institute (HBNI))
08:50	[199] Half-lives of nuclides for geological use: 2011 evaluations for U-235 and U-234	Prof. VILLA, Igor (Institut für Geologie, Universität Bern, CH-3012 Bern, Switzerland; Dipartimento di Scienze Geologiche e Geotecnologie, Università di Milano Bicocca, I-20126 Milano, Italy)
09:10	[10] Radioecology around a closed uranium mine	Dr. SMODIŠ, Borut (Jožef Stefan Institute)
09:25	[31] Uranium isotopes as a tracer of groundwater transport studies	Mr. GRABOWSKI, Paweł (Technical University of Lodz, Department of Chemistry, Institute of Applied Radiation Chemistry)
09:40	[48] U-238 in sediments of the Kastela Bay, Adriatic Sea (Croatia)	Dr. LOVRENCIC MIKELIC, Ivanka (Rudjer Boskovic Institute)
09:55	[132] Plutonium speciation during sorption on natural clay	Prof. REICH, Tobias (Johannes Gutenberg-Universität Mainz)
10:10	[114] A system for radwaste storage real-time monitoring: lab and real tests	Dr. FINOCCHIARO, Paolo (INFN)
10:25	[194] Principle and procedure for the baseline radiation risk assesment to the non human biota of tropical ecosystem: an elaborative approach at Domiasiat, India	NIRANJAN, Kumar (North-Eastern Hill University Shillong Meghalaya)

### **coffee break (10:40-11:00)**

### **Session 6: Education - Paladini (11:00-11:40)**

- **Conveners: Zeisler, Rolf (NIST); Prof. GROPPi, FLAVIA (L.A.S.A. Lab. I.N.F.N. and Università degli Studi di Milano, Via Flli Cervi 201, I-20090 Segrate (MI), Italy)**

time	[id] title	presenter
11:00	[0] Fukushima nuclear catastrophe in Japan: its probable influences on the nuclear educational programs and global learnings about this catastrophe	Prof. ÜNAK, Turan (INCS)
11:20	[173] Physics dissemination through measurements of in-door radon	Prof. IMMÈ, Giuseppina (Dipartimento di Fisica e Astronomia- Università di Catania, INFN Sezione di Catania)

### **Session 7: Radiopharmaceutical Chemistry - Paladini (11:40-13:00)**

- **Conveners: Bilewicz, Aleksander (Institute of Nuclear Chemistry and Technology); Dolmella, Alessandro (University of Padova)**

time	[id] title	presenter
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11:40	[119] Highlights of the 2010 Topical Meeting on Isotopes for Medicine and Industry	Dr. ZEISLER, Rolf (NIST)
12:00	[34] In vivo biodistribution of I-131 labeled bleomycin (BLM) and isomers (A2 and B2) on experimental animal models	Dr. AVCIBASI, Ugur (1)
12:15	[142] Attempts to develop new synthesizing methods of 2-fluoro-2-deoxy-d-glucose radiolabelled with fluorine-18 (18F-FDG)	Mrs. ÜNAK, Gülcan (Ege University, Faculty of Science, Department of Biochemistry)
12:30	[7] Radiopharmacological studies: interaction of antidepressant fluoxetine with thyroid hormones metabolism	Dr. PAVELKA, Stanislav (1Department of Radiometry, Institute of Physiology, Academy of Sciences of the Czech Republic, Prague and 2Central-European Technology Institute, Masaryk University, Brno, Czech Republic)

### **Companies - Paladini (13:00-13:30)**

### **Lunch (13:30-14:30)**

### **Excursion 1 (14:30-18:30)**

### **Lectio Magistralis - (18:30-19:30)**

time	[id] title	presenter
18:30	[204] Epistemological consideration on Radiochemistry during its 115 years of development	Prof. BELLOBONO, Ignazio Renato (LASA, Department of Physics, University of Milan, and B.I.T. srl, Milan, Italy)

### **Gala Dinner (19:30-23:00)**

## Wednesday 21 September 2011

### Session 8: Nuclear Chemistry and Radiochemistry - Paladini (08:30-10:30)

#### Radiochemistry

- **Conveners: Kucera, Jan (Nuclear Physics Institute ASCR); Rizzio, Enrico (eni S.p.A. Exploration & Production Division)**

time	[id] title	presenter
08:30	[11] Lead radioisotopes in the lower atmosphere associated with natural aerosols	PAPASTEFANOU, Constantin (Aristotle University of Thessaloniki, Department of Physics, Atomic and Nuclear Physics Laboratory)
08:50	[38] Marine sediments as a radioactive pollution repository in the world	Dr. NAVARRETE, Manuel (National University of Mexico)
09:10	[35] Correlation between the particle size distribution of radioactive aerosols and their half-lives derived from measurement of radioactive aerosols at a 120-GeV proton target station	Dr. SEKIMOTO, Shun (Kyoto University Research Reactor Institute (KURRI))
09:25	[12] Helium release from aged palladium tritide	Mr. ZHANG, Zhi (China Academy of Engineering Physics)
09:40	[128] Study of bioaccumulation and effect biomarker in mussels <i>Perna perna</i> (LINNAEUS, 1758: mollusca, bivalvia) from coastal regions of São Paulo State, Brazil	Dr. AGOSTINI VASCONCELLOS, Marina B. (IPEN - CNEN/SP)
09:55	[80] Validation of $\gamma$ spectrometry technique to determine potassium in foodstuffs	MARTINEZ, Trinidad (National University of Mexico)
10:10	[37] Fulvic acids, fertilizers first and then stimulants of vital functions in vertebrates	Dr. NAVARRETE, Manuel (Faculty of Chemistry, National University of Mexico)

#### coffee break (10:30-11:00)

### Session 9: Radioecology and Geochemistry - Paladini (11:00-13:30)

- **Conveners: Smodiš, Borut (Jožef Stefan Institute); Avino, Pasquale**

time	[id] title	presenter
11:00	[167] Ultra low-level radionuclide analysis	Prof. POVINEC, Pavel (Comenius University of Bratislava)
11:20	[18] Characterization of REE from NE Portugal using Instrumental Neutron Activation Analysis	Dr. FREITAS, Maria do Carmo (Instituto Tecnológico e Nuclear)
11:35	[24] Application of the model of Cs-137 vertical migration for the assessment of sedimentation rates along the Bertioga Channel, São Paulo State, Brazil	FERREIRA, Paulo (University of São Paulo)
11:50	[105] Activity size distribution of radioactive Be-7 aerosols at different environments in Northern Italy	Prof. IOANNIDOU, ALEXANDRA (ARISTOTLE UNIVERSITY OF THESSALONIKI, Physics Department, Nuclear Phys. and Elementary Particle Phys. Division)
12:05	[89] Chemical composition of marine sediments in the Pacific Sea from Sinaloa to Jalisco in Mexico	Prof. MARTINEZ, Trinidad (National University of Mexico)

12:20	[104] Chemical fractionation of radionuclides in submerged plants and sediments of the Yenisei River	Prof. BOLSUNOVSKY, Alexander (Institute of Biophysics SB Russian Academy of Sciences)
12:35	[87] Micro-XRF and micro-EXAFS investigations of radionuclide sorption in Boda Siltstone Formation	Dr. TOROK, Szabina (KFKI Atomic Energy Research Institute)
12:50	[85] Traces of Fukushima accident in Southern Poland.	Mr. BRUDECKI, Kamil (The Henryk Niewodniczanski Institute of Nuclear Physics, Polish Academy of Sciences,)
13:05	[129] The dynamics of radioactive aerosols in the atmosphere of Moscow by the "Fukushima" nuclear power plant accident.	Dr. GORDEEV, Sergey (Scientific and Industrial Association "Radon")

**Lunch (13:30-14:30)**

**Excursion 2 (14:30-19:30)**

**Dinner (19:30-23:30)**

## Thursday 22 September 2011

### **Session 10: Nuclear Chemistry and Radiochemistry - Paladini (08:30-10:30)**

- **Conveners: Chatt, Amares (Dalhousie University); Prof. Bellobono, Ignazio Renato (LASA, Department of Physics, University of Milan, and B.I.T. srl, Milan, Italy)**

time	[id] title	presenter
08:30	[184] Revisiting the ultimate condition for applicability of k <sub>0</sub> -NAA: the constancy of neutron flux parameters during irradiation	Dr. DE CORTE, Frans ((em.) UGent and FWO-VL, Neerstraat 20, B-9921 Vinderhoute, Belgium)
08:50	[36] The half-lives of Y-90m and Ru-97	Dr. LINDSTROM, Richard (National Institute of Standards and Technology)
09:10	[1] Conversion of I <sub>2</sub> in ionic forms on the composite materials "Fizkhimin"™ in water coolant at nuclear power plants	Prof. KULYUKHIN, Sergey (Institute of Physical Chemistry and Electrochemistry RAS)
09:25	[16] 2-Secure facilities for Egyptian Nuclear weapons	Prof. MOHAMED MOHAMED, Prof.Dr.Mr.Ashraf Elsayed (Institute for Nuclear Materials)
09:40	[55] Selective reduction of actinyl ions based on electrocatalysis using platinized glassy carbon fiber column electrode	Dr. KITATSUJI, Yoshihiro (Japan Atomic Energy Agency)
09:55	[192] Behavior of thorium on poly(vinyl pyrrolidone) grafted with citric acid prepared using gamma radiation	Dr. ALHASSANIEH, Oussama (Atomic Energy Commission of Syria AECS)
10:10	[196] Chemiluminescence of luminol - sodium hydroxide system using hemin as catalyst	Dr. LALA, Neeta (Universiti Malaysia Pahang)

### **coffee break (10:30-11:00)**

### **Session 11: Radioanalytical Chemistry and Nanoparticles - Paladini (11:00-13:00)**

- **Conveners: Lahiri, Susanta (Saha Institute of Nuclear Physics); Terrasi, Filippo (2nd University of Naples)**

time	[id] title	presenter
11:00	[13] Automated and rapid determination of radionuclides for emergency analysis, radioecology investigation and characterization of decommissioning waste	Prof. HOU, Xiaolin (Risø National Laboratory for Sustainable Energy, Technical University of Denmark)
11:20	[56] Multi-dimensional chromatographic separations of actinides	Prof. LARIVIERE, Dominic (Université Laval)
11:35	[33] Optimization of Sequential Separation of U, Th, Pb, and lanthanides for ultra-trace analysis	Dr. MIYAMOTO, Yutaka (JAEA (Japan Atomic Energy Agency))
11:50	[117] Detection of ultratrace amounts of Np-237 with resonance ionization mass spectrometry (RIMS)	Mr. STOEENBER, Nils (University of Mainz - Institute of Nuclear Chemistry)
12:05	[148] Comparison of measured and calculated K-40 gamma activity concentrations for some inorganic potassium compounds	Prof. AYCİK, Gul Asiye (Mugla University)
12:20	[153] Radiological study of transport and processing of naturally occurring radioactive materials.	SCHROEYERS, Wouter (CMK (UHasselt) and NuTeC (XIOS Hogeschool Limburg))

**Lunch (13:00-14:30)****INCS General Assembly - Paladini (14:30-16:00)****coffee break (16:00-16:30)****Session 12: Radiopharmaceutical Chemistry - Paladini (16:30-17:30)**

- **Conveners: Zhuikov, Boris (Institute for Nuclear Research of Russian Academy of Sciences); Salvini, Andrea (Università di Pavia)**

time	[id] title	presenter
16:30	[201] Paving the way to personalized medicine: production of some theragnostic radionuclides at Brookhaven National Laboratory	SRIVASTAVA, Suresh C. (Medical Department, Brookhaven National Laboratory, Upton, New York 11973, U.S.A.)
16:50	[112] Cyclotron production of Sc-44 - new radionuclide for PET technique	Prof. BILEWICZ, Aleksander (Institute of Nuclear Chemistry and Technology)
17:05	[123] <sup>99m</sup> Tc(N)-DBODC(5) from cardiology to oncology: preliminary in vitro study	Prof. DOLMELLA, Alessandro (University of Padova, Italy)

**Poster Section 2 - Paladini (17:30-19:00)**

[id] title	presenter	board
[164] A new radiofluorination method of select fluor as a new and effective F-18 fluorinating reagent	Mrs. ÜNAK, Gülcan	
[26] An automated production of Cu-64 on 18/9 MeV cyclotron	Prof. RAJEC, Pavol	
[9] Ascertainment of changes in thyroid hormones metabolism in white adipose tissue by radiometric enzyme assays	Dr. PAVELKA, Stanislav	
[185] Characterisation of a Cu selective resin for use in the production of Cu isotopes for medical purpose	BOMBARD, A.	
[160] Evaluation of Y-90 labeled PANAM dendrimers of the 1st and 4th generations	Prof. LAZNICEK, Milan	
[159] Hyaluronic acid labeled with radioiodine: Optimization of labeling procedure and preclinical evaluation	Dr. LAZNICKOVA, Alice	
[113] Nanozeolites as carriers for radium radionuclides.	Prof. BILEWICZ, Aleksander	
[161] Radiolabeling of insuline with fluorine-18 using a new radiofluorination technique	Mrs. CETIN, Cigdem	
[21] Reactor Production of Cu-64 by (n,p) reactions on Zn targets in Dhruva Research Reactor for radiopharmaceutical studies	Mr. NAIR, vimalnath	
[122] Synthesis and characterization of novel asymmetrical M(III) (M = Re, Tc-99g) complexes as models for the development of new potential tracers for SPECT imaging and radiotherapy	Dr. MORELLATO, Nicolò	
[124] [ <sup>188</sup> Re(N)(cys~)(PNP)] <sup>+0</sup> mixed ligand compounds as models for the development of target specific agents	Prof. DOLMELLA, Alessandro	
[125] A recoil method for Be-7 radiolabelling of nanoparticles	Ms. CYDZIK, Izabela	
[28] Adsorption of Cs(I) on Densely Crosslinked Poly(sodium methacrylate) from Aqueous Solutions	Dr. OZEROGLU, Cemal	

[44] Americium and samarium determination in aqueous solutions after separation by cation-exchange	Mrs. KILIARI, Tasoula	
[51] Comparison of metal accumulation in tree bark and soil from urban parks in São Paulo city, Brazil	Dr. FIGUEIREDO, Ana Maria	
[41] Correlation study of air pollution and cardio-respiratory system diseases through NAA of atmospheric pollutant biomonitor	Dr. SAIKI, Mitiko	
[25] Distribution of heavy metals in fish tissues of the Tepuxtepec Dam, Mexico	Dr. ZARAZUA, Graciela Prof. MARTINEZ, Trinidad	
[43] Determination of Sr-90 and Pb-210 in freshwater fish in Austria	LANDSTETTER, Claudia	
[110] Determination of short-lived radionuclides in neutron-activated urban atmospheric Particulate Matter	Dr. AVINO, Pasquale	
[58] Instrumental Neutron Activation Analysis applied to multielement determination in lettuce grown in phosphate treated contaminated soil	Dr. SAIKI, Mitiko	
[27] Kinetic and thermodynamic analysis for the absorption of U(VI) on the crosslinked polyester resin with acrylic acid from aqueous solutions	Dr. OZEROGLU, Cemal	
[52] Metal and trace element assessment of Tietê river sediments, São Paulo, Brazil	FAVARO, Deborah	
[40] Microspheres with an ultra high holmium content for brachytherapy of malignancies	Dr. BURGOS M. DE AZEVEDO, MARIANGELA	
[19] Native and transplanted lichen and bark as air pollution biomonitors at three different meteorological conditions	Dr. FREITAS, Maria do Carmo	
[178] Radiolabelling of nanoparticles for life-cycle studies	Dr. FRANKE, Karsten	
[180] Relationship between size distribution of radiation-induced aerosol particles and the deposited energy to the air in high-energy proton irradiation.	Mr. OSADA, Naoyuki	
[65] Separation of Cu-61 from alpha particle irradiated cobalt target by LLX	Prof. LAHIRI, Susanta	
[176] Separation of Ra, Ba and Pb for determination of Ra-226 by isotope dilution alpha spectrometry and Pb-210 by liquid scintillation spectrometry	Dr. KIS-BENEDEK, Gyula	
[74] Total Diet Study: Mg and Mn content estimation of a Market Basket of São Paulo state (Brazil) by Instrumental Neutron Activation.	Dr. MAIHARA, Vera Akiko	
[75] U, Th and other element evaluation in wild mushroom from a naturally high radioactive region in Brazil	Dr. MAIHARA, Vera Akiko	
[116] Basic information about nuclear power energy to mexican citizens	Dr. NAVARRETE, Manuel	
[53] Social representation and Nuclear Chemistry educational	FAVARO, Deborah	
[145] Calibration protocol of Fricke-gel layers for absolute dose measurements in radiotherapy.	Dr. GUILIZZONI, Roberta	
[96] Characterization of radioactive waste from a PET cyclotron facility by gamma spectroscopy	Dr. VILARDI, Ignazio	
[169] Compare plutonium isotopes activity in humans bones on the area where only global fallout was present and the area where Global and Chernobyl fallouts were present.	Mr. BRUDECKI, Kamil	
[147] Development and characterisation of a new miniaturised detector for in vivo dosimetry in HDR brachytherapy.	Prof. GAMBARINI, Grazia	
[146] EBT2 radiochromic films for absolute dose measurements in radiotherapy: prototype of an innovative system for their analysis	Dr. MANTAUT, Nicole	

<b>[47] Experimental cross sections for Be-7 production in Al, Si, Mg and C by deuteron irradiations up to 50 MeV</b>	HERMANNE, alex	
<b>[188] Fabrication and thermo-mechanical characterization of HEMA grafted UV photo-cured biodegradable chitosan film</b>	Mr. DEY, Kamol	
<b>[127] Gamma-ray spectroscopic characterization of radioactive preparation for production process validation in a PET cyclotron facility</b>	Dr. VILARDI, Ignazio	
<b>[140] In-vivo dosimetry in HDR brachytherapy with Fricke-gel catheters: preliminary results</b>	Prof. GAMBARINI, Grazia	
<b>[144] In-vivo dosimetry in prostate HDR brachytherapy with thermoluminescence detectors (TLDs)</b>	Dr. GRISOTTO, Simone Alessandro	
<b>[78] Natural radionuclides content and radon exhalation rate from brazilian phosphogypsum piles</b>	Dr. PIRES DE CAMPOS, Marcia	
<b>[76] Rare earth elements in phosphogypsum and phosphate fertilizers in Brazil</b>	Dr. MAZZILLI, Barbara Paci	
<b>[42] Radiological dose assessment of naturally occurring radioactive materials in concrete building materials</b>	Prof. MAJID, amran	
<b>[165] The production and isolation of Cu-64 after production by the bombardment of a natural Zn target</b>	Prof. VAN DER WALT, Tjaart Nicolaas (Nico)	
<b>[57] Automated fusion methodology for the rapid dissolution of airborne actinides</b>	Prof. LARIVIERE, Dominic	
<b>[8] Radiometric enzyme assays for iodothyronine deiodinases</b>	PAVELKA, Stanislav	
<b>[162] Radioionidation of tyrosine by the use of exchange reaction</b>	Mrs. SARICAN, Gözde	
<b>[115] New method for Sc-47 production in nuclear reactor Maria at Świerk</b>	Ms. BARTOS, Barbara	

### **Dinner (19:00-23:00)**

## Friday 23 September 2011

### **Session 13: Health Physics - Paldini (08:30-10:30)**

- **Conveners: Papastefanou, Constantin; Clemenza, Massimiliano (Università di Milano Bicocca)**

time	[id] title	presenter
08:30	[154] Radiation protection relevant to Nuclear Chemistry in the light of recent International Recommendations	Dr. SABOL, Jozef (Czech Technical University, Faculty of Biomedical Engineering)
08:50	[195] TENORM accumulation and management in refineries	Dr. RIZZIO, Enrico (eni S.p.A. Exploration & Production Division)
09:05	[166] Decontamination of radioactive concrete in nuclear facilities by chemical separation method.	Mr. TANIMOTO, Yuichi (Shimizu Corporation) Dr. SEKIMOTO, Shun (Kyoto University)
09:20	[5] Assessment of dose to the Irish population arising from anthropogenic radioactivity in the Irish marine environment	Mr. KELLEHER, Kevin (Radiological Protection Institute of Ireland)
09:35	[133] Measurements of the spatial distribution of each dose component in tissue exposed to an epithermal neutron beam for BNCT	Prof. GAMBARINI, Grazia (Università degli Studi di Milano and INFN, Milano, Italy)

### **coffee break (10:30-11:00)**

### **Session 14: Radioanalytical Chemistry and Nanoparticles - Paladini (11:00-13:00)**

- **Conveners: De Nadai Fernandes, Elisabete (University of Sao Paulo); Sabbioni, Enrico (Veneto Nanotech)**

time	[id] title	presenter
11:00	[81] Simultaneous speciation analysis of arsenic, antimony and selenium in natural waters by HPLC, SPE and solvent extraction coupled to neutron activation	Prof. CHATT, Amares (SLOWPOKE-2 Facility, Trace Analysis Research Centre, Department of Chemistry, Dalhousie University, Halifax, NS, B3H 4J3, Canada)
11:20	[143] The present role of radiochemical neutron activation analysis (RNAA) for determination of essential and toxic trace elements in biological materials as-compared with ICP-MS and AAS	Prof. KUCERA, Jan (Nuclear Physics Institute ASCR, Rez, Czech Republic)
11:40	[186] Ultra sensitive measurements of Th-232 in copper by RNAA	Dr. CLEMENZA, Massimiliano (Università di Milano Bicocca) Dr. SALVINI, Andrea (Università di Pavia)
11:55	[86] Total and bioaccessible fractions of trace elements in cultivated oyster tissues by INAA, PIXE and ICP-MS	Dr. FUKUSHIMA, Michiko (Ishinomaki Senshu University)
12:10	[20] Determination of Tc-99 in seaweed sample by ICP-MS	SHI, Keliang (Risø National Lab for Sustainable Energy, Technical University of Denmark, DK-4000 Roskilde, Denmark) HOU, Xiaolin (Risø National Lab for Sustainable Energy, Technical University of Denmark, DK-4000 Roskilde, Denmark)

12:25	[149] A nuclear measurement technique for comparison of the washing machine detergent qualities used on the market	Mrs. EKIM, Selen (Ege University)
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**Lunch (13:00-14:30)**

**Poster Winners Award & Closing Cerimony - Paladini (14:30-16:00)**