



# ENC 2010

## European Nuclear Conference

### **ENC 2010 - Barcelona**

European Nuclear Conference  
Programme

### **Mon 09:00 - 10:30 - Opening Session - Auditorium**

#### **Opening Panel**

Vladimir Slugen, ENS President

José Emeterio Gutierrez, ENC 2010 Conference Chair

Frank Deconinck, ENC 2010 Programme Committee Chair

Edouard Hourcade, President ENS Young Generation

Antoni Castells, Councillor for Economy and Finances at the Generalitat de Catalunya

Andrea Brentan, Chief Executive Officer, ENDESA

Thomas L. Sanders, ANS President

#### **Opening Keynote Address**

Luis E. Echávarri, Director-General, OECD Nuclear Energy Agency

10:30 – 11:00                      Coffee break & Exhibition opening                      Exhibition area

### **Mon 11:00 - 12:30 - Plenary Session I – Auditorium**

#### **Current Technologies under Construction**

Chair: Santiago San Antonio Secretary General ENS

Co-Chair: Jari Tuunanen, Vice President ENS

With contributions from:

Jack Fuller, President and Chief Executive Officer, GE-Hitachi Nuclear Energy

Dominique Mockly, Senior Executive Vice President, International & Marketing, AREVA

Aris Candris, President and Chief Executive Officer, Westinghouse Electric Company

Sergey Kirienko, Director General, State Atomic Energy Corporation ROSATOM

12:30 – 14:00                      Lunch                      Garden Pavilion

### **Mon 14:00 – 16:00 - Plenary Session II - Auditorium**

#### **New Build Projects**

Chair: Marco Streit, Vice President ENS

Co-Chair: MariaTeresa Dominguez, President FORO NUCLEAR



# ENC 2010

## European Nuclear Conference

With contributions from:

Veijo Ryhänen, Corporate Adviser, TVO

Dominique Lagarde, Managing Director Nuclear Engineering, EDF

Francisco Martinez Corcoles (Spain & Portugal Liberalized Business Managing Director, IBERDROLA

William Timmerman, Chairman, President and Chief Executive Officer, SCANA

Livio Vido, Engineering and Innovation Division Managing Director, ENEL

16:00 – 16:20

Coffee break

Exhibition area

### Mon 16:20 - 18:00 - Auditorium - Fuel cycle

Chair: Jose Manuel de Blas, Nuclenor

Co-Chair: Chuck Paone, GNF

Time	Subject	Authors/Affiliations
16:20 – 16:40	The Sintering Blockage Mechanism in the UO <sub>2</sub> -Gd <sub>2</sub> O <sub>3</sub> System	Durazzo, M. (1); Riella, H. G. (2) 1 - Nuclear and Energy Research Institute - IPEN-CNEN/SP, Brazil 2 - Santa Catarina Federal University - Chemical Engineering Department, Brazil
16:40 – 17:00	Determining isotopic ratios using delayed gamma-rays from active inspection techniques for nuclear materials safeguards	Hunt, A. (1); Reedy, E. (2); Failor, B. (3); Seipel, H. (2); Cardenas, E. (2) 1 - Idaho Accelerator Center, Idaho State University, United States 2 - Department of Physics, Idaho State University, United States 3 - ATG-Pulse Sciences, L-3 Communication, San Leandro, United States
17:00 – 17:20	Depleted Uranium Processing and Fluorine Extraction	Lafin, S. (1) 1 - International Isotopes Inc., United States
17:20 – 17:40	From high enriched to low enriched uranium fuel in research reactors	Van den Berghe, S. (1); Leenaers, A. (1); Moons, F. (1); Koonen, E. (1); Sannen, L. (1) 1 - SCK•CEN, Belgium
17:40 – 18:00	The Application of Research Reactor MARIA for Analysis of Thorium Use in Nuclear Power Plant	Chwaszczewski, S. (1); Myslek-Laurikainen, B. (1); Andrzejewski, K. (1); Szczurek, J. (1); Pytel, B. (1); Polkowska-Motrenko, H. (2) 1 - Institute of Atomic Energy POLATOM, Poland 2 - Institute of Nuclear Chemistry and Technology, Poland

### Mon 16:20 - 18:00 - A - Education, training and knowledge management

Chair: Michel Giot, SCK-CEN

Co-Chair: Joseph Magill, European Commission

Time	Subject	Authors/Affiliations
16:20 – 16:40	Quality Education for Nuclear Professionals: A Unique Nuclear Engineering Program	Gunnerson, F. (1); Mcburney-Rebol, J. (1) 1 - University of Idaho, United States
16:40 – 17:00	NUCLEAR DISCIPLINES IN RESPONSE TO	Safieh, J. (1); De Regge, P. P. (1);

	INDUSTRY AND REGULATORY NEEDS THROUGH THE EUROPEAN NUCLEAR EDUCATION NETWORK ASSOCIATION	Kusumi, R. (1) 1 - European Nuclear Education Network Association, France
17:00 – 17:20	"nucleargraduates"	Couzens, N. (1); Dawson, C. (1) 1 - Nuclear Decommissioning Authority, United Kingdom
17:20 – 17:40	Blended-mode pedagogical model fosters nuclear engineering education in Southern Africa	Kruger, J.-H. (1); Fick, J. (1) 1 - North-West University, South Africa
17:40 – 18:00	THE VIEW AT NUCLEAR RENAISSANCE VIA ACTUAL EUROPEAN AND SLOVAK APPROACH TO NUCLEAR EDUCATION	Slugen, V. (1) 1 - Slovak University of Technology, FEI STU, Slovakia

#### Mon 16:20 - 18:00 - B - Nuclear and civil society

Chair: Christian Tallebois, FORATOM

Co-Chair: Magdalena Gadowska, European Fusion Development Agreement

Time	Subject	Authors/Affiliations
16:20 – 16:40	ROADMAP TO SUCCESSFUL IMPLEMENTATION OF GEOLOGICAL DISPOSAL IN THE EU	Patrakka, E. (1) 1 - ENEF Sub Working Group Waste Management, Finland
16:40 – 17:00	Spanish YGN point of view of Social consequences of Garoña NPP lifespan extension issue	Millan, M. A. (1) 1 - Westinghouse Electric Spain, Spain
17:00 – 17:20	THE ECONOMIC IMPACT ON REGIONAL AREAS AS A RESULT OF NEW NUCLEAR CONSTRUCTION AND NUCLEAR DECOMMISSIONING	Devine, J. M. (1) 1 - Northeastern Oklahoma State University, Tahlequah, Oklahoma, United States
17:20 – 17:40	People, planet, prosperity – how a Welsh nuclear generating site is tackling the challenge of sustainability	Jones, I. (1); Young, E. (1); Jones, J. I. (2) 1 - Bangor University, United Kingdom 2 - Magnox North - Wylfa Site, United Kingdom
17:40 – 18:00	For a Renaissance of the Nuclear Renaissance	Bugat, A. (1); Vignon, D. (1); Lecomte, M. (1) 1 - NucAdvisor, France

#### Mon 16:20 - 18:00 - F - Plant operations

Chair: Rene Fernandez, Nuclenor

Co-Chair: Nicola Cavlina, University of Zagreb

Time	Subject	Authors/Affiliations
16:20 – 16:40	PROGRAMME OF LONG-TERM OPERATION OF PAKS NUCLEAR POWER PLANT	Katona, T. J. (1); Ratkai, S. (1) 1 - Nuclear Power Plant Paks Ltd, Hungary
16:40 – 17:00	Life extension due to the vibrational ageing of sismically qualified components	Prats, F. (1) 1 - Westinghouse-WIN, Spain
17:00 – 17:20	Life Extension of Nuclear Power Plants. World situation and the USA case.	Leon, P. T. (1); Garcia, L. (1); Serra, E. (1); Yague, L. (1) 1 - ENDESA, Spain
17:20 – 17:40	MANAGEMENT OF SPARE PARTS IN THE OBSOLESCENCE OF EQUIPMENT IN NPPs. EXPERIENCES OF TECNATOM.	Martin, A. (1) 1 - Tecnatom, Spain
17:40 – 18:00	A Review of the Aging Management Methodologies to address Long-Term Operations	Pitoiset, X. (1); Toney, S. (2); Meyer, C. (2); Semmler, M. (2) 1 - Westinghouse Electric Belgium, Belgium 2 - Westinghouse Electric Company, United States

#### Mon 16:20 - 18:00 - H1 - Reactor technologies

Chair: Jerome Pamela, CEA

Co-Chair: N.N

Time	Subject	Authors/Affiliations
16:20 – 16:40	EFDA Fusion Materials Research & Development Programme: Scientific, Management, Engineering and Economic Aspects	Dudarev, S. (1); Stork, D. (1); Ward, D. (1); Rieth, M. (2); Boutard, J.-L. (3); Gonzales de Vicente, S. (3); Baluc, N. (4); Novak, S. (5); 1 - EURATOM/UKAEA Fusion Association, Culham Science Centre, United Kingdom 2 - Forschungszentrum Karlsruhe, Institut für Materialforschung II, Germany 3 - EFDA Close Support Unit-Garching, Germany 4 - Centre de Recherches en Physique des Plasmas, Ecole Polytechnique Fédérale de Lausanne, Switzerland 5 - Department for Nanostructured Materials, Jožef Stefan Institute, Slovenia
16:40 – 17:00	The role of IFMIF in the fusion programme	Garin, P. (1); Sugimoto, M. (2) 1 - CEA, France 2 - JAEA, Japan
17:00 – 17:20	Comparison of T91 and P91 steels foreseen for High Temperature Reactors using positron annihilation techniques	Veternikova, J. (1); Slugen, V. (1); Hincă, R. (1); Sojak, S. (1); Kilpeläinen, S. (2); Tuomisto, F. (2); Räsänen, J. (3); Degmova, J. (1); Krsjak, V. (4); 1 - Slovak University of Technology, Faculty of Electrical Engineering and Information Technology, Slovakia 2 - Aalto University, Department of Applied Physics, Finland 3 - Aalto University, Department of Physics, Finland 4 - Joint Research Centre, Institute for Energy, European Commission, Netherlands
17:20 – 17:40	POSITRON SOURCE DESIGN ANALYSIS FOR THE MCMMASTER NUCLEAR REACTOR	Day, S. E. (1) 1 - McMaster Nuclear Reactor, McMaster University, Canada
17:40 – 18:00	GENERATION IV: PARTNERSHIPS OF EXCELLENCE TO CREATE INNOVATION	Dubuisson, P. (1); Garnier, S. (2); Gelineau, O. (2); Déloye, E. (3); Tardif, P. (3) 1 - Atomic Energy Commissariat, France 2 - AREVA NP, France 3 - Valinox Nucléaire, France

### Mon 16:20 - 18:00 - H2 - Reactor technologies

Chair: André Versteegh, NRG

Co-Chair: Peter J. Gowin, IAEA

Time	Subject	Authors/Affiliations
16:20 – 16:45	LESSONS LEARNED FROM TECNATOM'S PARTICIPATION IN BUILDING NPPs	Manrique, A. (1) 1 - TECNATOM, Spain
16:45 – 17:10	AP1000 COMPLIANCE WITH EUROPEAN UTILITY REQUIREMENTS AND EPP PHASE 2F PROGRAM	Frogheri, M. (1); Saiu, G. (1); Marconi, M. (1) 1 - Ansaldo Nucleare, Italy
17:10 – 17:35	ACR-1000TM PRE-PROJECT REGULATORY ASSESSMENT	Popov, N. (1); Ion, R. (1); Hopwood, J. (1); Doerffer, S. (1) 1 - Atomic Energy of Canada Limited, Canada
17:35 – 18:00	International Standardization of Nuclear Reactor Designs - The Way Forward	Raetzke, C. (1) 1 - WNA CORDEL Group, United Kingdom

### Mon 16:20 - 18:00 - H3 - Plant operations

Chair: Markus Fendrich, RWE

Co-Chair: N.N

Time	Subject	Authors/Affiliations
16:20 – 16:40	Nuclear reactor safety: JRC research programme implementation	Noel, M. (1); Bieth, M. (1); Bruynooghe, C. (1); Haas, D. (2) 1 - European Commission Institute for Energy,

		Netherlands 2 - European Commission, Belgium
16:40 – 17:00	Use of the risk matrix in NPP	Stubbe, G. (1); Milliche, C. (1); Dassy, F. (2) 1 - GDF SUEZ Electrabel, Belgium 2 - GDF SUEZ Tractebel Engineering, Belgium
17:00 – 17:20	Irradiation Performance Updates on Korean Advanced Fuels for PWRs	Jang, Y. K. (1); Jeon, K. L. (1); Kim, Y. H. (1); Kim, J. I. (1); Park, J. R. (1); Yoo, J. S. (1); Shin, J. C. (1); Chung, S. K. (1); Kim, T. W. (2); Yoon, Y. B. (2); Park, K. M. (2); Yoo, M. J. (2); Kim, M. S. (2); Lee, T. H. (2); Chung, J. G. (1) 1 - Korea Nuclear Fuel, Korea, Republic of 2 - Korea Hydro & Nuclear Power, Korea, Republic of
17:20 – 17:40	Risk based safety management to enhance technical safety and safety culture	Berg, H.-P. (1) 1 - Federal Office for Radiation Protection, Germany
17:40 – 18:00	FRANX CODE FOR SPATIAL PRA ANALYSIS	Rahn, F. (1); Riley, J. (1); Anoba, R. (2); Najafi, B. (3) 1 - Electric Power Research Institute, United States 2 - Anoba Consulting, United States 3 - SAIC, United States

**Tue 08:30 - 10:10 - Auditorium - Fuel cycle**

Chair: Patrick Landais, CNRS

Co-Chair: Nieves Rodriguez, CIEMAT

Time	Subject	Authors/Affiliations
08:30 – 08:50	Air Shipment of Highly Enriched Uranium Spent Fuel from Romania	Allen, K. (1); Bolshinsky, I. (1); Biro, L. (2); Budu, M. (3); Zamfir, V. (4); Dragusin, M. (4) 1 – Idaho National Laboratory, United States 2 - National Commission for Nuclear Activities Control, Romania 3 - R&D Company Sosny, Russian Federation 4 - Horia Hulubei National Institute of Physics and Nuclear Engineering, Romania
8:50 – 9:10	Engineering and Manufacture of Oblong-Shaped Metallic Melters for Enhancing Vitrification Throughputs.	Gupta, R. (1); Singh, A. (1); Patil, S. (1); Jha, J. (1); Haldar, K. (1); Misra, S. (1) 1 - Nuclear Recycle Group, Bhabha Atomic Research Centre, India
9:10 – 9:30	Reactivity Determination Techniques in ADS Systems for the Incineration of Radioactive Wastes	Fernandez-Ordoñez, M. (1); Villamarin, D. (1); Bécares, V. (1); Gonzalez-Romero, E. (1); Berglöf, C. (2) 1 - CIEMAT, Avda. Complutense, Spain 2 - KTH, Department of Reactor Physics, Sweden
9:30 – 9:50	SPENT FUEL CHARACTERIZATION PROGRAM IN JOSÉ CABRERA NUCLEAR POWER PLANT	Lloret, M. (1); Canencia, R. (1); Blanco, J. (2); Pomares, C. (2) 1 - ENUSA Industrias Avanzadas , Spain 2 - Gas Natural SDC, Spain
9:50 – 10:10	Developing a Regulatory Performance Assessment Approach for Geological Disposal of Spent Nuclear Fuel	Xu, S. (1); Dverstorp, B. (1); Lindgren, G. (1); Nordén, M. (1) 1 - Swedish Radiation Safety Authority (SSM), Sweden

**Tue 08:30 - 10:10 - A - Education, training and knowledge management**

Chair: Emilio Minguez, Universidad Politecnica de Madrid, Spain

Co-Chair: U. von Estorff, European Commission

Time	Subject	Authors/Affiliations
8:30 – 8:50	MULTIMEDIA ON NUCLEAR REACTORS PHYSICS	Dies, J. (1); Puig, F. (1) 1 - Nuclear Engineering Research Group, Department of Physics and Nuclear Engineering , Technical University of Catalonia , Spain
8:50 – 9:10	NUCLEONICA: A Platform for Organisation Knowledge Management in the Nuclear Domain	Magill, J. (1); Magill, N. (2) 1 - European Commission, Joint Research Centre, Institute for Transuranium Elements, Germany 2 - Department of Management, Gilbert Scott Building, Glasgow G12 8QQ, Scotland, United Kingdom
9:10 – 9:30	The use of- and the need for- large experimental facilities for Education and Training in nuclear sciences and technologies: a quantitative study.	Giot, M. (1) 1 - SCK.CEN, Belgium
9:30 – 09:50	Training tools for nuclear education at INSTN: software applications, simulators and research reactors	Foulon, F. (1); Jedrzejewski, F. (1) 1 - Atomic Energy Commission, Saclay Research Center, France
9:50 – 10:10	DEVELOPMENT AND DEPLOYMENT OF INNOVATIVE DISTANCE EDUCATION MODULES	Hsu, W.- H. (1); Reece, W. D. (2) 1 - Texas A&M University Nuclear Science Centre, United States 2 - Texas A&M University Nuclear Engineering Department, United States

**Tue 08:30 - 10:10 - B - Life science applications**

Chair: Africa Muxi, Societat Catalana de Medicina Nuclear

Co-Chair: Eva Link, London University

Time	Subject	Authors/Affiliations
8:30 – 8:50	Study of production of the 99mTc radioisotope via charged particle induced reactions up to 100 MeV: new data and review	Tarkanyi, F. (1); Takacs, S. (1); Ditroi, F. (1); Kiraly, B. (1); Hermanne, A. (2); Sonck, M. (2); Baba, M. (3); Yamazaki, H. (3); Uddin, M. S. (4); Ignatyuk, A. V. (5) 1 - Institute of Nuclear Research of the Hungarian Academy of Sciences (ATOMKI), Hungary 2 - Vrije Universiteit Brussel (VUB), Belgium 3 - Cyclotron and Radioisotope Center (CYRIC), Tohoku University, Japan 4 - Institute of Nuclear Science and Technology, Atomic Energy Research Establishment, Bangladesh 5 - Institute of Physics and Power Engineering (IPPE), Russian Federation
8:50 – 9:10	Automated radiosynthesis of 4-[18F]fluoromethyl-L-phenylalanine, a new PET tracer for tumour diagnosis	Kersemans, K. (1); Caveliers, V. (1); Mertens, J. (1) 1 - Vrije Universiteit Brussel, Belgium
9:10 – 9:30	SOME ASPECTS OF RADIOECOLOGICAL MONITORING OF THE COMMON REED PHRAGMITES AUSTRALIS FROM WATER-BODIES WITHIN THE CHERNOBYL ACCIDENT EXCLUSION ZONE	Shevtsova, N. L. (1); Gudkov, D. I. (1); Yavnyuk, A. A. (2) 1 - Institute of Hydrobiology of National Academy of Sciences of the Ukraine, Ukraine 2 - Ecological Safety Department, National Aviation University, Ukraine
9:30 – 09:50	ACCUMULATION AND DISTRIBUTION OF URANIUM AND TRANSURANIUM ELEMENTS IN THE BIOMASS OF FRESHWATER MACROPHYTES	Zotina, T. (1); Kalacheva, G. (1); Bolsunovsky, A. (1) 1 - Institute of Biophysics SB RAS, Russian Federation
9:50 – 10:10	Alpha-particles for treatment of disseminated melanoma	Link, E. (1) 1 - London University, United Kingdom

#### Tue 08:30 - 10:10 - F - Plant operations

Chair: Jorge Baños, Westinghouse

Co-Chair: Werner van Antwerpen, North-West University

Time	Subject	Authors/Affiliations
8:30 – 8:50	INFLUENCE OF FUEL LOADING ON NEUTRON FIELD IN WWER-440 REACTOR PRESSURE VESSEL	Stacho, M. (1); Slugeň, V. (1); Farkas, G. (1); Sojak, S. (1) 1 - Slovak University of Technology, Slovakia
8:50 – 9:10	RUTHENIUM RELEASE MODELLING IN AIR UNDER SEVERE ACCIDENT CONDITIONS USING THE MAAP4 CODE	Beuzet, E. (1); Lamy, J.-S. (1); Perron, H. (1); Simoni, E. (2) 1 - EDF R&D, France 2 - Institut de Physique Nucléaire d'Orsay, France
9:10 – 9:30	Risk Informed Technical Specifications	Andrachek, J. (1) 1 - Westinghouse Electric Company, United States
9:30 – 9:50	INTEGRATED SERVICES AS THE KEY TO THE OPTIMISATION OF REFUELLING OUTAGES	Ortega, J. (1); Gonzalez, R. (2); Gutierrez, J. E. (3) 1 - TECNATOM, Spain 2 - ENUSA, Spain 3 - WESTINGHOUSE, Spain
9:50 – 10:10	About the Safety of Power Transformers in Nuclear Power Plants	Muller, S. (1); Petrovan - Boiarciuc, M. (1); Périgaud, G. (1) 1 - SERGI Holding, France

#### Tue 08:30 - 10:10 - H1 - Reactor technologies

Chair: Heinz-Peter Berg

Co-Chair: Salih Guentay, Paul Scherrer Institute

Time	Subject	Authors/Affiliations
8:30 – 8:50	Six Requirements for Nuclear Energy System and CANDU Reactor	Sekimoto, H. (1) 1 - Tokyo Institute of Technology, Japan
8:50 – 9:10	Energy to Save the World: Use of Portable	Deal, J. (1); Pearson, C. (1)

	Nuclear Energy for Hydrocarbon Recovery, Electrical Generation, and Water Reclamation	1 – Hyperion Power Generation Inc., United States
9:10 – 9:30	GENERATION OF TRANSPORT EQUIVALENT GROUP DIFFUSION PARAMETERS FOR PBMR	Gürdal, Ş. O. (1); Tombakoğlu, M. (1) 1 - Department of Nuclear Engineering, Hacettepe University Beytepe, Turkey
9:30 – 9:50	MOX IN REACTORS: PRESENT AND FUTURE	Arslan, M. (1); Gros, J.-P. (1); Marincic, A. (2); Niquille, A. (2) 1 - AREVA NC, France 2 - AREVA NP, France
9:50 – 10:10	Massive computation methodology for reactor operation (MACRO)	Gustavsson, C. (1); Bejmer, K.-H. (2); Henriksson, H. (3); Koning, A. (4); Österlund, M. (1); Pomp, S. (1); Sjöstrand, H. (1); Wallin, G. (1) 1 - Uppsala University, Department of Physics and Astronomy, Division of Applied Nuclear Physics, Sweden 2 - Vattenfall Nuclear Fuel, Sweden 3 - Vattenfall Research and Development, Sweden 4 - Nuclear Research and Consultancy Group NRG, Netherlands

### Tue 08:30 - 10:10 - H2 - Reactor technologies

Chair: Alberto Manrique, Tecnatom

Co-Chair: Luca Ammirabile, JRC Petten

Time	Subject	Authors/Affiliations
8:30 – 8:55	Modular Design Concept in AP1000	Dohse, A. (1); Díaz, S. M. (2); Jiménez, J. (2); Juanes, J. M. (2) 1 - Westinghouse, United States 2 - Westinghouse PE Spain - INITEC Nuclear, Spain
8:55 – 9:20	Structural and Mechanical Modules in a Nuclear Power Plant - Advantages and disadvantages of the innovative approach	Orlandi, S. (1); Marconi, M. (1); De Angelis, F. (1) 1 - Ansaldo Nucleare, Italy
9:20 – 9:45	JHR(JULES HOROWTIZ REACTOR) PROJECT STATUS	Pascal, C. (1); Pere, P. (1); Cavallier, C. (1) 1 - AREVA TA, France
9:45 – 10:10	EPR Flamanville 3	Diaz Prada, J. I. (1); Cubian Martinez, B. (1); Dumas Aalonso, H. (1); Polo Ruiz, J. (1) 1 - Iberdrola Ingeniería y Construcción S.A Sociedad Unipersonal, Spain

### Tue 08:30 - 10:10 - H3 - Plant operation

Chair: Juan Ortega, Tecnatom

Co-Chair: Gerald Stubbe, GDFSuez

Time	Subject	Authors/Affiliations
8:30 – 8:55	More than 20 years of Chemical cleanings (ASCA and HCC) for steam generator secondary side	Mutius, B. (1); Nemasaut, P. (1); Pellet, A. (1) 1 - Westinghouse Electric France, France
08:55 – 9:10	High Performance Sludge Lancing	Mutius, B. (1); Nemasaut, P. (1); Pellet, A. (1) 1 - Westinghouse Electric France, France
9:10 – 9:30	Safety, Dose Optimisation and Security: the Quadrature of the Circle	Hardeman, F. (1); Vermeersch, F. (1) 1 - SCK-CEN, the Belgian Nuclear Research Centre, Belgium
9:30 – 9:50	EQUIPMENT RELIABILITY IMPROVEMENT PROCESS; IMPLEMENTATION IN ALMARAZ NPP AND TRILLO NPP	Gutierrez Fernandez, E. (1); Risquez Bailon, A. (1); Fiol AMengual, M. (1) 1 - Iberdrola Ingeniería y Construcción S.A Sociedad Unipersonal, Spain



9:50 – 10:10	ANALYSIS OF SEISMIC ISOLATION PROBLEMS OF NPP BUILDINGS	Lo Frano, R. (1); Forasassi, G. (1) 1 - DIMNP- University of Pisa, Italy
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10:10 – 10:30

Coffee break

Exhibition area

## **Tue 10:30 – 12:00 - Plenary Session III - Auditorium Life Science Applications**

Chair: Francesca Pons, President Sociedad Española de Medicina Nuclear

Co-Chair: Frans Corstens, Professor, Medical Faculty, University of Nijmegen

### **Nuclear Medicine: Clinical Applications in the XXI Century**

Prof. Dr. José Martín-Comin, MD, Director Medicine Nuclear Department, Universitari de Bellvitge

### **The Risk of Exposure to Low – level Radiation**

Richard Wakeford, Visiting Professor in Epidemiology, Dalton Nuclear Institute, University of Manchester

### **Security of supply of Medical Isotopes: a matter of vital interest**

Andre Versteegh, the Nuclear Research & consultancy Group

## **Tue 12:00 – 13:00 - Poster Session - J and Hall -1 Authors will be present to answer questions**

13:00 – 14:00

Lunch

Garden Pavilion

### **Tue 14:00 - 16:00 - Auditorium - Fuel cycle**

Chair: Jose Aycart, GE

Co-Chair: Ramon Almoquera, IBERDROLA

Time	Subject	Authors/Affiliations
14:00 – 14:20	VITRIFICATION IN THE BACK END FUEL CYCLE - BEHAVIOR OF VOLATILE ELEMENTS BY USING A COLD CRUCIBLE MELTER TO VITRIFY LEGACY HLLW	Tronche, E. (1); Lacombes, J. (1); Boen, R. (1); Ladirat, C. (1) 1 - CEA, France
14:20 – 14:40	FLAWLESS BWR FUEL PERFORMANCE	Dag, A. (1); Helmersson, S. (1); Benjaminsson, U. (1) 1 - Westinghouse, Sweden
14:40 – 15:00	ON-SITE FUEL INSPECTION EXPERIENCE AND DEVELOPMENTS IN SPAIN	Sanchez, A. (1); Alvarez, P. (1); Fernandez, J. R. (2); Mendez, M. (2) 1 - ENUSA Industrias Avanzadas SA, Spain 2 - TECNATOM SA, Spain
15:00 – 15:20	ZINC INJECTION AT VANDELLÒS II AND ASCO I & II NPPs	Doncel, N. (1); Muñoz-Reja, C. (1); Gago, J. A. (2); Gago, J. L. (2) 1 - ENUSA Industrias Avanzadas, SA, Spain 2 - Asociación Nuclear Ascó-Vandellòs II, Spain
15:20 – 15:40	OLNC CHEMISTRY AT COFRENTES NPP	Doncel, N. (1); Malpica, M. (1); Schneider, R. (2); Yeager, H. (2); Mata, P. (3); Belinchon, J. (3) 1 - ENUSA Industrias Avanzadas, SA, Spain 2 - GLOBAL NUCLEAR FUEL, United States 3 - IBERDROLA GENERACION, Spain
15:40 – 16:00	RFA Fuel Performance Assessment Based on Healthy Fuel Examinations	Bradfute, J. (1); Chapin, D. (1); Gutierrez, M. Q. (2); 1 - Westinghouse Electric Company, United States

		2 - ENUSA Industrias Avanzadas, S.A., Spain
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Young Generation - Logo

### Tue 14:00 - 16:00 - A – Young Generation

Time	Subject	Authors/Affiliations
14:00 – 16:00	<p>Are we still falling in nuclear by chance?</p> <p>Since latest 80's, people have been enrolled in jobs related to some of the different nuclear fields mainly because they sent a CV to a set of companies and they got an answer; a lot of people say "I'm working here by chance". Nowadays, this situation is changing and students are choosing nuclear degrees or applying to Engineering Schools because they like Nuclear Science or they believe that these studies are worthy. This panel looks into attractive new training programs in the nuclear field for new graduates and for seniors</p>	<p>Connor Deehan, Vice-President, Nuclear Institute-Young Generation Network</p> <p>Emilio Mínguez, Vice-Rector, Polytechnical University of Madrid</p> <p>Jean Llewellyn, Chief Executive, National Skill Academy</p> <p>Kim Andrew Dahlberg, Industry Leadership Development, INPO</p> <p>Jean-Philippe Frontigny, (European Nuclear Energy Leadership Academy), Vice President Transverse activities, Products &amp; Technology business unit Reactors &amp; Services Business Group at AREVA</p>

### Tue 14:00 - 16:00 - B - Nuclear and civil society

Chair: Juliette van der Laan, NRG

Co-Chair: Magdalena Gadomska, European Fusion Development Agreement

Time	Subject	Authors/Affiliations
14:00 – 14:20	Could television series be the best way to familiarize people with nuclear activities?	Michel, A. (1) 1 - Le hêtre pourpre (Groupe Esperluete), Belgium
14:20 – 14:40	Social aspects of fusion energy – sustainability, economic viability and public acceptance	Gadomska, M. (1) 1 - European Fusion Development Agreement - EFDA CSU Garching, Germany
14:40 – 15:00	Radioactive Waste Governance, state of the art & future needs	Schröder, J. (1); Meskens, G. (1) 1 - SCK-CEN, Belgium
15:00 – 15:20	Facing the Challenge of Communicating with Stakeholders: The Argentine Nuclear Regulatory Experience	Arnaud, M. (1); Acosta, G. (1); Cesario, P. (1) 1 - Nuclear Regulatory Authority of Argentina, Argentina
15:20 – 15:40	SHOW TIME?	Codée, H. (1); Verhoef, E. (1) 1 - COVRA, Netherlands
15:40 – 16:00	BELGIAN NUCLEAR FORUM – LAUNCHING THE PUBLIC DEBATE ON NUCLEAR ENERGY	Van Landeghem, Y. (1); Leclère, R. (1) 1 - Belgian Nuclear Forum, Belgium

### Tue 14:00 - 16:00 - F - Plant operations

Chair: Jean van Vyve, GDFSuez

Co-Chair: Pascal Fernando Ortega, Tecnatom

Time	Subject	Authors/Affiliations
14:00 – 14:20	Availability of the sodium fast breeder reactors	Guidez, J. (1) 1 - CEA / French Atomic Energy Commission, France
14:20 – 14:40	APPLICATION OF FIMS IN THE KOREA NUCLEAR POWER PLANTS	Lee, S.(1); 1 - Korea Power Engineering Company, Inc., Korea, Republic of
14:40 – 15:00	Improvement of Process Monitoring Uncertainty by the Use of Diverse Measurement Methods	Szikla, G. J. (1); Eddinger, S. A. (2); Greene, W. L. (2); Endter, R. K. (1); Book, M. A. (2)

		1 - Consultant, United States 2 - Westinghouse Electric Company, LLC, United States
15:00 – 15:20	Thermal Performance Monitoring in Dukovany NPP	Pliska, J. (1); Machat, Z. (1); Papuga, J. (2); 1 - I & C Energo a.s., Czech Republic 2 - CEZ, a.s., Czech Republic
15:20 – 15:40	20F Power Measurement for Generation IV Sodium Fast Reactors	Coulon, R. (1); Normand, S. (1); Michel, M. (1); Boudergui, K. (1); Domenech, T. (1); Kondrasovs, V. (1); Hamrita, H. (1); Bourbotte, J.-M. (1); Ban, G. (2); Brau, H.-P. (3); Barbot, L. (4); Barat, E. (5); Montagu, T. (5); Dautremer, T. (5); Frelin-labalme, A.-M. (5); Carrel, F. (5); Dumarcher, V. (6); Jousset, P. (7); Saurel, N. (8) 1 - CEA, LIST, Laboratoire Capteurs et Architectures Electroniques, France 2 - ENSICAEN, France 3 - ICSM, Centre de Marcoule,,France 4 - CEA, Marcoule, Groupe Essais Statistiques, France 5 - CEA, LIST, Laboratoire Modélisation Simulation et Systèmes, France 6 - AREVA NP, SET, France 7 - CEA, LIST, Laboratoire Capteurs Diamant, France 8 - CEA, DAM, Laboratoire Mesure de Déchets et Expertise, France
15:40 – 16:00	A CANDU snake-arm robot – first deployment experience	Buckingham R (1); Graham A (1); Harduwar T (2); Jarron D (2) 1 - OC Robotics, UK 2 - Ontario Power Generation, IM&CS, Canada

## Tue 14:00 - 16:00 - H1 - Reactor technologies

Chair: Aurelio Sala, ICAI

Co-Chair: Cecilia Gustavsson, Uppsala University

Time	Subject	Authors/Affiliations
14:00 – 14:25	Mitigation of Release of Volatile Iodine Species from Aqueous by a Novel Process during Severe Reactor Accidents	Guentay, S. (1); Bruchertseifer, H. (2) 1 - Paul Scherrer Institute, Switzerland 2 - Private Consultant, Switzerland
14:25 – 14:50	OVERVIEW OF CANDU REACTORS ACCIDENT ANALYSIS USING SCDAP/RELAP5 CODE	Dupleac, D. (1); Prisecaru, I. (1); Mladin, M. (2); 1 - Power Plant Engineering Faculty, Politehnica University, Romania 2 - Institute for Nuclear Research Mioveni, Romania
14:50 – 15:15	Rolls-Royce I&C Long Term SupportA dedicated solution to manage plant condition, optimize operating life and maximize plant value while improving safety	Baillon-Martos, F. (1) 1 - Rolls-Royce Civil Nuclear SAS, France
15:15 – 15:40	SPES3 FACILITY AND IRIS REACTOR NUMERICAL SIMULATIONS FOR THE SPES3 FINAL DESIGN	Ferri, R. (1); Achilli, A. (1); Congiu, C. (1); Cattadori, G. (1); Greco, M. (1); Bianchi, F. (2); Meloni, P. (2); Monti, S. (2); Luce, A. (3); Ricotti, M. (4); Grgic, D. (5); Storrack, G. (6); Dzodzo, M. (6); Carelli, M. (6) 1 - SIET S.p.A., Italy 2 - ENEA - Bologna, Italy 3 - ENEA - Saluggia, Italy 4 - Politecnico di Milano, Italy 5 - FER - University of Zagreb, Croatia 6 - Westinghouse Electric Company, United States
15:40 – 16:00	Overview of Nuclear Safety Activities performed by JRC-IE on Gen IV Fast Reactor Concepts	Tsige-Tamirat, H. (1); Ammirabile, L. (1); D'Agata, E. (1); Fuetterer, M. (1); Rangelova, V. (1) 1 - European Commission JRC Institute for Energy,

		Netherlands
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## Tue 14:00 - 16:00 - H2 - Reactor technologies

Chair: Pablo Teofilo Leon, ENDESA

Co-Chair: Yvan Bruynseraede, Katholiek Univeristeit Leuven

Time	Subject	Authors/Affiliations
14:00 – 14:20	Replacement Steam Dryer Design and Analysis for the Monticello Nuclear Plant	Williams, A. (1); Kornfeldt, H. (2); Forsyth, D. (2) 1 - Xcel Energy, United States 2 - Westinghouse Electric Company, United States
14:20 – 14:40	The Jules Horowitz Reactor: A new high performance European Material Testing Reactor open to International Users Present Status and Objectives	Bignan, G. (1); Iracane, D. (1); Lindbäck, J.-E. (2); Blomgren, J. (2) 1 - French Atomic Energy Commission CEA, France 2 - VATTENFALL Utility, Sweden
14:40 – 15:00	The Phenix final tests	Vasile, A. (1) 1 - CEA, France
15:00 – 15:20	Research reactor status for future nuclear research in Europe	Bignan, G. (1); Guidez, J. (1); Raymond, P. (1) 1 - CEA- French Atomic Energy Commission, France
15:20 – 15:40	PALLAS: THE NEW NUCLEAR REACTOR IN THE NETHERLANDS	De Jong, P. G. T. (1); Van der Schaaf, B. (1); Schrijver, J. M. (1) 1 - Pallas Project Team, Nuclear Research & Consultancy Group, Netherlands
15:40 – 16:00	European Utility Requirements: on-going evolution of the document and of the organisation	Berbey, P. (1); Hedin, F. (1); Vanhoenacker, L. (2) 1 - EDF, France 2 - GDF-Suez, Belgium

## Tue 14:00 - 16:00 - H3 - Plant operations

Chair: Javier Alonso, Tecnatom

Co-Chair: Clay Warren, Slovenske elektrarne

Time	Subject	Authors/Affiliations
14:00 – 14:20	A CHANCE TO AVOID MISTAKES. HUMAN ERROR	Gomez, R. (1); Obeso, E. (1); Amaro, P. (2) 1 - Nuclenor NPP, Spain 2 - NORCA INGENIERIA, Spain
14:20 – 14:40	IMMOBILISATION OF RADWASTE IN SYNTHETIC ROCK: AN ALTERNATIVE TO CEMENTATION	Röttner, B. (1) 1 - ONET TECHNOLOGIES, France
14:40 – 15:00	An Operational Approach to Standard Nuclear Process Model (SNPM) and SAP Nuclear Software Implementation at Slovenské Elektrárne	Warren, C. (1); Reznik, V. (1) 1 - Slovenske elektrarne, a subsidiary of Enel, Slovakia
15:00 – 15:20	Modernization Project of the Rod Control System & In-Core Instrumentation System For 34 units of the 900MW French EDF Fleet	Tavolara, I. (1); Verburgh, P. (2); Menager, A. (3) 1 - Rolls-Royce Civil Nuclear SAS, France 2 - Cegelec SA, Belgium 3 - EDF (Engineering Department - CIPN), France
15:20 – 15:40	Mitigating Threat and Risk in Nuclear Facilities through Convergence of Security Systems	Flynn, D. (1) 1 - Florida Institute of Technology, United States
15:40 – 16:00	REMOTE DISMANTLING OF THE FRENCH BRENNILIS NUCLEAR POWER PLANT	Studenski, J. (1); Stradiotto, S. (2) 1 - NUKEM Technologies GmbH, Germany 2 - EDF - Centre d'Ingénierie Déconstruction et Environnement, France

16:00 – 16:20

Coffee break

Exhibition area

**Tue 16:20 - 18:00 - Auditorium - Fuel cycle**

Chair: Didier Haas, European Commission

Co-Chair: Janne Wallenius, KTH Stockholm

Time	Subject	Authors/Affiliations
16:20 – 16:40	ACSEPT: A EUROPEAN PROJECT FOR A NEW STEP IN THE FUTURE DEMONSTRATION OF ADVANCED FUEL PROCESSING	Bourg, S. (1); Hill, C. (1); Caravaca, C. (2); Espartero, A. (2); Rhodes, C. (3); Harrisson, M. (3); Taylor, R. (3); Ekberg, C. (4); Geist, A. (5); Modolo, G. (6); Cassayre, L. (7); Malmbeck, R. (8); De angelis, G. (9); Bouvet, S. (10); Klaassen, F. (11) 1 - CEA, France 2 - CIEMAT, Spain 3 - UK-NNL, United Kingdom 4 - CHALMERS, Sweden 5 - FZK-INE, Germany 6 - FZJ, Germany 7 - CNRS, France 8 - JRC-ITU, Germany 9 - ENEA, Italy 10 - RIO TINTO ALCAN, France 11 - NRG, Netherlands
16:40 – 17:00	RECYCLING AS AN OPTION OF USED NUCLEAR FUEL MANAGEMENT STRATEGY FOR EUROPE	Chiguer, M. (1); Casabianca, J.-L. (1); Gros, J.-P. (1) 1 - AREVA, France
17:00 – 17:20	MA-BURNERS EFFICIENCY PARAMETERS ALLOWING FOR THE DURATION OF TRANSMUTATION PROCESS	Gulevich, A. (1); Kalugin, A. (2); Ponomarev, L. (3); Seliverstov, V. (4) 1 - Institute of Physics and Power Engineering , Russian Federation 2 - Russian Research Center "Kurchatov Institute", Russian Federation 3 - Institute of Theoretical and Experimental Physics, Russian Federation 4 - Russian Research Institute of Chemical Technology, Russian Federation
17:20 – 17:40	Recent achievements towards the recycling of minor actinides for the improvement of future nuclear fuel cycle	Poinsot, C. (1); Warin, D. (1); Rostaing, C. (1) 1 - Commissariat à l'Energie Atomique, CEA, Nuclear Energy Division, Radiochemistry & Processess Department, France
17:40 – 18:00	ENC 2010 - Spent fuel reprocessing optimization	Druenne, H. (1) 1 - Belgian Nuclear Society, Belgium

Young Generation Logo

**Tue 16:20 - 18:00 - A – Young Generation**

Time	Subject	Authors/Affiliations
16:20 – 18:00	Nuclear and Climate change  Follow up of ENS-YGN side events at COP14 and COP15, this Session aims at explaining the challenges of climate change and the role nuclear can play as mitigating options.	Ron Cameron, Head of Division Nuclear Development, OECD/NEA  Camilia Tam, Energy Analyst , OECD/IEA  Christoph Schroeder, Officer, Nuclear Energy, Transport, Decommissioning & Waste Management, EUROPEAN COMMISSION

**Tue 16:20 - 18:00 - B - Nuclear and civil society**

Chair: Ewoud Verhoef, COVRA

Co-Chair: Michael Devine, Northeastern Oklahoma University

Time	Subject	Authors/Affiliations
16:20 – 16:40	NUCLEAR ENERGY AND SOCIETY. RUSSIAN DIMENSION	Gagarinskiy, A. (1) 1 - RRC Kurchatov Institute, Russian Federation
16:40 – 17:00	Local competence building and public information in European nuclear territories	Martell, M. (1); Kopetz, I. (1); Vila d'Abadal, M. (2) 1 - AMPHOS 21, Spain 2 - GMF, Spain
17:00 – 17:20	ANALYTICAL FRAMEWORK OF 'ATOMS FOR SUSTAINABLE DEVELOPMENT'	Lee, T.-J. (1) 1 - Korea Atomic Energy Research Institute, Korea, Republic of
17:20 – 17:40	The 15-year ISTC Experience in Realization of International Collaboration for Nuclear Science and Engineering (Information Review)	Gudowski, W. (1); Tocheny, L. (1) 1 - ISTC - International Science and Technology Center, Russian Federation
17:40 – 18:00	UNDERSTANDING LOCAL RESIDENTS OF KOREA USING NUCLEAR EFFECTIVE SAFETY	Chung, Y. H. (1); Kim, B. J. (3); Lee, G. H. (1); Hah, Y. (1) 1 - Korean Institute of Nuclear Safety, Korea, Republic of 2 - Seoul National University, Korea, Republic of 3 - Yonsei University, Korea, Republic of

### Tue 16:20 - 18:00 - F - Plant operations

Chair: Pedro Ortega, Gas Natural SDG

Co-Chair: Frank Rahn, Electric Power Research Institute United States

Time	Subject	Authors/Affiliations
16:20 – 16:40	MAGELAN, an innovative core monitoring system to optimize plant operation	Frontigny, J.-P. (1) 1 - AREVA NP, France
16:40 – 17:00	The Modernization Program and Power Uprate at NPP V2 Jaslovské Bohunice, Slovak Republic	Reznik, V. (1); Krajmer, I. (1) 1 - Slovenské elektrárne, a. s. , Enel Group, Slovakia
17:00 – 17:20	Building Infrastructure for New Nuclear Power Programmes	Starz, A. (1); Aoki, M. (1) 1 - IAEA, Austria
17:20 – 17:40	An update of the Alloy 600 mitigation/repair technologies	Pitoiset, X. (1); Grendys, R. (2) 1 - Westinghouse Electric Belgium, Belgium 2 - Westinghouse Electric Company, United States
17:40 – 18:00	MOLTEN SALTS AS STRIPPING MEDIA FOR RADIOACTIVE SUPERFICIAL DECONTAMINATION	Lainetti, P. E. (1); 1 - Brazilian National Nuclear Energy Commission - CNEN, Instituto de Pesquisas Energéticas e Nucleares IPEN-CNEN/SP, Brasil

### Tue 16:20 - 18:00 - H1 - Reactor technologies

Chair: Pedro Mata, IBERDROLA

Co-Chair: Peter J. Gowin, IAEA

Time	Subject	Authors/Affiliations
16:20 – 16:45	Simulations of an Incorporated Thorium/Uranium Breeder Booster in CANDU Reactors	Geweida, M. (1); Holmes, B. (1); Simon, M. (1); Rouben, B. (1); Kaye, M. (1) 1 - University of Ontario Institute of Technology, Canada
16:45 – 17:10	ACR-1000TM – ADVANCED CANDU REACTOR DESIGN	Popov, N. (1); Ion, R. (1); Doerffer, S. (1); Yu, S. (1); Hopwood, J. (1) 1 - Atomic Energy of Canada Limited, Canada
17:10 – 17:35	CIEMAT ANALYSES OF TRANSITION FUEL CYCLE SCENARIOS	Alvarez-Velarde, F. (1); Gonzalez-Romero, E. (1) 1 - CIEMAT, Spain
17:35 – 18:00	FARM : A new tool for optimizing the neutronic and safety performance of Gas Cooled Fast Reactor cores	Ingremeau, X. (1); looss, B. (1); Haubensack, D. (1); Dumaz, P. (1); Plancq, D. (1); Rimpault, G. (2); David, S. (3); Richard, P. (4); Zabiego, M. (5); 1 - CEA de CADARACHE DEN/DER/SES/LE2S, France

		2 - CEA de CADARACHE DEN/DER/SPRC/LEDC, France 3 - CNRS Institut de physique nucléaire, Orsay, France 4 - CEA de CADARACHE DEN/DER/SESI/LC4G, France 5 - CEA de CADARACHE DEN/DEC/SESC/LC2I, France
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**Tue 16:20 - 18:00 - H2 - Reactor technologies**

Chair: Juan Saladie, ANAV

Co-Chair: Peter Baeten, SCK-CEN

Time	Subject	Authors/Affiliations
16:20 – 16:45	Cross-cutting European Thermal-Hydraulics Research for Innovative Nuclear Systems	Roelofs, F. (1); Class, A. (2); Cheng, X. (2); Meloni, P. (3); Tichelen, K. V. (4); Boudier, P. (5); Prasser, M. (6); 1 - NRG, Netherlands 2 - FZK, Germany 3 - ENEA, Italy 4 - SCK-CEN, Belgium 5 - CEA, France 6 - PSI, Switzerland
16:45 – 17:10	Main issues for the use of P91 in NPP	Tonti, A. (1); Folgarait, P. (2); Baylac, G. (3); Faïdy, C. (4) 1 - ISPESL, Italy 2 - CSM, Italy 3 - EPERC Technical Advisor, France 4 - EDF, France
17:10 – 17:35	Conceptual Design of a Commercial Accelerator Driven Thorium Reactor	Fuller, C. (1); Ashley, V. (1); Ashworth, R. (1); Earp, J. (1) 1 - Aker Solutions E & C Ltd, United Kingdom
17:35 – 18:00	CFD Analysis of AP1000 Reactor Vessel Cavity and Support Cooling	Craig, K. (1); Harkness, A. (2); Kritzinger, H. (3); Hoffmann, J. (3) 1 - Westinghouse Electric South Africa, South Africa 2 - Westinghouse Electric Company, United States 3 - Pebble Bed Modular Reactor PBMR (Pty) Ltd, South Africa

**Tue 16:20 - 18:00 - H3 - Education, training and knowledge management**

Chair: Javier Dies, Technical University of Catalunya

Co-Chair: Dominique Louvel, EDF Group

Time	Subject	Authors/Affiliations
16:20 – 16:45	Skills Renewal in Nuclear - An industrialist's point of view	Louvel, D. (1) 1 - EDF Group, France
16:45 – 17:10	NEET and TIDY	Hunt, A. (1) 1 - Magnox North - Wylfa Site, United Kingdom
17:10 – 17:35	Nuclear renaissance in the reactor training of AREVA	Salhi, O. (1); De Braquilanges, B. (2); Napior, A. (3); Schoenfelder, C. (4) 1 - AREVA Group 2 - AREVA NP SAS, Plants Training Center, France 3 - AREVE NP Inc, Plants Training Center, United States 4 - AREVA NP GmbH, Plants Training Center, Germany
17:35 - 18:00	Improving human performance in maintenance personnel	Gonzalez Añez, F. (1); Agüero Agüero, J. (2) 1 - Asociación Española de Mantenimiento, Spain 2 - Sociedad Nuclear Española, Spain

**Wed 08:30 - 10:10 - Auditorium - Fuel cycle**

Chair: Marco Streit, Alpiq

Co-Chair: Jose Aycart, GE

Time	Subject	Authors/Affiliations
8:30 – 8:50	LIFE CYCLE ASSESSMENT OF THE EPR: THE IMPACT OF DIFFERENT FUEL CYCLE STRATEGIES	Bauer, C. (1); Simons, A. (1); Dones, R. (2) 1 - Paul Scherrer Institut (PSI), Switzerland 2 - Resun AG, Switzerland
8:50 – 9:10	Repackaging and transport of PuO and MOX reference materials: the experience at the Joint Research Centre in Ispra	D'Alberti, F. (1); Lutique, S. (1); Maluta, F. (2); Mazzucato, M. (1) 1 - European Commission-Joint Research Centre, Italy 2 - former European Commission-Joint Research Centre, Italy
9:10 – 9:30	LAGUNA VERDE: UN PROYECTO DE REPOTENCIACIÓN AL 120%	Merino Teillet, A. (1); Garcia-Serrano Tapia, J. L. (1); Ruiz Gutierrez, L. (1) 1 - Iberdrola Ingeniería y Construcción S.A Sociedad Unipersonal, Spain
9:30 – 9:50	Studies on the feasibility of Minor Actinides Transmutation in Sodium Fast Reactors	Pérez-Martín, S. (1); Martín-Fuertes, F. (1); Álvarez-Velarde, F. (1) 1 - CIEMAT, Spain



9:50 – 10:10	Radionuclide Release from Irradiated Th-Pu MOX Fuel	Cobos, J. (1); Rondinella, V. (1); Van-Winckel, S. (1); Somers, J. (1); Papaioanu, D. (1); Glatz, J.-P. (1); Rodríguez, N. (2); Quiñones, J. (2); 1 - European Commission, Joint Research Centre, Institute for Transuranium Elements, Germany 2 - CIEMAT, Spain
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**Wed 08:30 - 10:10 - A - Fuel cycle**

Chair: Roberto Gonzalez, ENUSA

Co-Chair: Willem Janssens, GRC European Commission

Time	Subject	Authors/Affiliations
8:30 – 8:50	TOWARDS INTEGRATED SAFEGUARDS IN SPAIN: IMPLEMENTATION ISSUES AT THE JUZBADO PLANT	Zurrón-Cifuentes, Ó. (1); Luis-Merino, M. (1) 1 - ENUSA INDUSTRIAS AVANZADAS S. A., Spain
8:50 – 9:10	Nuclear Material Attractiveness: An Assessment of Material Associated with a Closed Fuel Cycle	Bathke, C. (1); Wallace, R. (1); Collins, B. (3); Hase, K. (1); Ireland, J. (1); Johnson, M. W. (1); Ebbinghaus, B. (2); Sleaford, B. (2); Robel, M. (2); Jarvinen, G. (1); Bradley, K. (2); Ireland, J. (1); Johnson, M. W. (1); Prichard, A. (3); Smith, B. (3) 1 - Los Alamos National Laboratory, United States 2 - Lawrence Livermore National Laboratory, United States 3 - Pacific Northwest National Laboratory, United States
9:10 – 9:30	The Safeguards-by-Design process for a more effective and efficient safeguards implementation	Sevini, F. (1); Peerani, P. (1); Janssens, W. (1); Boella, M. (2); Koutsoyannopoulos, C. (2); Chare, P. (2); Killeen, T. E. (3) 1 - European Commission - Joint Research Centre - IPSC - Nuclear Security Unit, Italy 2 - European Commission - Directorate General Transport and Energy - Nuclear Safeguards Directorate, Luxembourg 3 - International Atomic Energy Agency - Department of Safeguards - Division of Concepts and Planning, Austria
9:30 – 9:50	RECENT ACHIEVEMENTS AND FUTURE CHALLENGES IN SAFEGUARDS R&D AS IDENTIFIED BY THE EUROPEAN SAFEGUARDS RESEARCH AND DEVELOPMENT ASSOCIATION	Janssens, W. A. M. (1); Autrusson, B. (2); Boella, M. (3); Bril, L.-V. (1); Janssens-Maenhout, G. G. A. (1); Goncalves, J. G. M. (1); Martikka, E. (4); Mayer, K. (5); Peerani, P. (1); Rezniczek, A. (6); Richard, M. (7); Richter, B. (8); Sevini, F. (1); Stanley, B. T. (9); Stein, G. (8); Weh, R. (10) 1 - European Commission, ISPRA (VA), Italy 2 - IRSN - Institut de Radioprotection et de Sûreté Nucléaire, France 3 - European Commission, Luxembourg 4 - STUK - Radiation and Nuclear Safety Authority, Helsinki, Finland 5 - European Commission, Karlsruhe, Germany 6 - UBA Unternehmensberatung GmbH, Germany 7 - CEA - Commissariat a l'Energie Atomique, Centre IdF, France 8 - Forschungszentrum Juelich, Germany 9 - Sellafield Ltd., Sellafield, Seascale, United Kingdom 10 - GNS Gesellschaft fuer Nuklear-Service GmbH, Germany
9:50 – 10:10	NUCLEAR MATERIAL ATTRACTIVENESS: AN ASSESSMENT OF MATERIAL FROM PHWR'S IN A CLOSED THORIUM FUEL CYCLE	Sleaford, B. W. (1); Ebbinghaus, B. B. (1); Bradley, K. S. (1); Robel, M. (1); Prichard, A. W. (2); Smith, B. W. (2); Collins, B. A. (2); Hase, K. R. (3); Jarvinen, G. D. (3); Ireland, J. R. (3); Johnson, M. W. (3); Bathke, C. G. (3); Wallace, R. K. (3); 1 - Lawrence Livermore National Laboratory, United

		States 2 - Pacific Northwest National Laboratory, United States 3 - Los Alamos National Laboratory, United States
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**Wed 08:30 - 10:10 - B - Life science applications**

Chair: Rafael Puchal, Hospital Universitari de Bellvitge

Co-Chair: Richard Wakeford, Dalton Nuclear Institute

Time	Subject	Authors/Affiliations
8:30 – 8:50	MODELING AND SIMULATION OF MICROBEAM RADIATION THERAPY WITH MONTE CARLO TECHNIQUE USING VOXEL-GEOMETRY-PHANTOMS	Gokeri, G. (1); Kocar, C. (1); Tombakoglu, M. (1) 1 - Hacettepe University, Department of Nuclear Engineering, Turkey
8:50 – 9:10	PROGNOSIS OF THYROID DOSES IN CASE OF A MAXIMUM DESIGN BASIS ACCIDENT AT A NUCLEAR POWER PLANT	Kouts, K. (1) 1 - Republican Scientific Practical Centre of Hygiene, Belarus
9:10 – 9:30	Protection of man: The exposed individual	Breustedt, B. (1); Bohnstedt, A. (2); Knebel, J. (2) 1 - Karlsruhe Institute of Technology - Institute for Radiation Research, Germany 2 - Karlsruhe Institute of Technology - Programme Nuclear Safety Research, Germany
9:30 – 9:50	Simulation of the dose given by an Elekta Precise linear accelerator on anthropomorphic human phantoms	Abella, V. (1); Miró, R. (1); Juste, B. (1); Verdú, G. (1) 1 - Universidad Politécnica de Valencia, Spain
9:50 – 10:10	IMPROVING STANDARDS OF RADIATION PROTECTION IN MEDICAL PRACTICE	Ortega, X. (1); Ginjaume, M. (1); Carinou, E. (2); Vanhavere, F. (3); Clairand, I. (4); Gualdrini, G. (5); Sans-Merce, M. (6) 1 - Institute of Energy Technology, Universitat Politècnica de Catalunya (UPC), Spain 2 - Greek Atomic Energy Commission (GAEC), Greece 3 - Belgian Nuclear Research Centre (SCK•CEN), Belgium 4 - Institut de Radioprotection et de Sûreté Nucléaire (IRSN), France 5 - Radiation Protection Institute – Ente per le Nuove tecnologie, l'Energia e l'Ambiente (ENEA), Italy 6 - University Hospital Center Vaudois (CHUV), Switzerland

**Wed 08:30 - 10:10 - F - Plant operations**

Chair: Marcel Maris, Bel V

Co-Chair: Matuš Stacho, Slovak University of Technology

Time	Subject	Authors/Affiliations
8:30 – 8:50	ELECTRIC AND MECHANICAL BASIC PARAMETERS TO ELABORATE A PROCESS FOR A TECHNICAL VERIFICATION OF SAFETY RELATED DESIGN MODIFICATIONS	Lamuño, M. (1); Baño, A. (1); Roca, G. L. (1) 1 - Westinghouse Electric Spain, S.A.U., Spain
8:50 – 9:10	MULTI-SPHERE UNIT CELL MODEL TO CALCULATE THE EFFECTIVE THERMAL CONDUCTIVITY IN PEBBLE BED REACTORS	van Antwerpen, W. (1); Rousseau, P. (1); du Toit, J. (1) 1 - North-West University, South Africa
9:10 – 9:30	MODELIZATION OF COOLING WATER SYSTEM COMPONENTS	Ortega, S. (1); Copete, M. (1); Cervantes, E. (1) 1 - Westinghouse, Spain
9:30 – 9:50	THE CHALLENGE OF THE GLOBAL MANAGEMENT OF PLANT DESIGN MODIFICATIONS. EXAMPLE OF THE NEW EJ SYSTEM AT VANDELLOS NPP	Ortega, F. (1); Valdivia, C. (1); Fernandez Illobre, L. (1) 1 - Tecnatom, Spain
9:50 – 10:10	Design of IRIS reactor to simplify decommissioning	Petrovic, B. (1); Mckillop, J. (1) 1 - Georgia Institute of Technology, United States

**Wed 08:30 - 10:10 - H1 - Reactor technologies**

Chair: Emilio Gonzalez, Tecnomat

Co-Chair: Elsa Merle-Lucotte, LPSC-IN2P3-CNRS / Grenoble INP / Université Joseph Fourier

Time	Subject	Authors/Affiliations
8:30 – 8:50	FROM ELSY TO LEADER - EUROPEAN LFR ACTIVITIES	Alemberti, A. (1); Carlsson, J. (2); Malambu, E. (3); Orden, A. (4); Cinotti, L. (5); Struwe, D. (6); Agostini, P. (7); Monti, S. (7) 1 - Ansaldo Nucleare SpA, Italy 2 - JRC/IE, Netherlands 3 - SCK•CEN, Belgium 4 - Empresarios Agrupados, Spain 5 - Euratom, Italy 6 - FzK, Germany 7 - ENEA, Italy
8:50 – 9:10	Simulation tools and new developments of the Molten Salt Fast Reactor	Merle-Lucotte, E. (1); Heuer, D. (1); Allibert, M. (1); Doligez, X. (1); Ghetta, V. (1) 1 - LPSC-IN2P3-CNRS / Grenoble INP / Université Joseph Fourier, France
9:10 – 9:30	The International Project on Innovative Nuclear Reactors and Fuel Cycles (INPRO) – Status and Trends	Gowin, J. P. (1); Beatty, R. (1) 1 - International Atomic Energy Agency, Austria
9:50 – 10:10	NON-DIMENSIONAL PARAMETERS FOR OSCILLATORY INSTABILITY IN SUPERCRITICAL PARALLEL-CHANNEL SYSTEMS	Chatoorgoon, V. (1); Yeylaghi, S. (1); Leung, L. (2) 1 - University of Manitoba, Canada 2 - Atomic Energy of Canada Ltd, Canada
9:30 – 9:50	RAPHAEL – A V/HTR Success Story	Hittner, D. (1); Bogusch, E. (2); Genot, J.-S. (2); Verrier, D. (2); Basini, V. (3); Buckthorpe, D. (4); Angulo, C. (5); Chauvet, V. (6); Fütterer, M. (7); van Heek, A. (8); de Groot, S. (8); von Lensa, W. (9); Scheuermann, W. (10) 1 - AREVA NP, France 2 - AREVA NP, Germany 3 - CEA, France 4 - AMEC, United Kingdom 5 - Tractebel Engineering, Belgium 6 - LGI Consulting, France 7 - JRC, Netherlands 8 - NRG, Netherlands 9 - Forschungszentrum Jülich, Germany 10 - Universität Stuttgart, Germany

**Wed 08:30 - 10.10 - H2 - Civil society - Energy policy**

Chair: Eero Patrakka, ENEF

Co-Chair: Werner Zaiss, FORATOM

Time	Subject	Authors/Affiliations
8:30 – 8:50	Projected Costs of generating Electricity – 2010 Update	Cameron, R. (1) 1 - OECD/NEA, France
8:50 – 09:10	Nuclear Operations Excellence: A Foundation for the Renaissance	Luanco, E. (1); Gex, P. (2) 1 - Ventyx, France 2 - American Nuclear Society, United States
9:10 – 9:30	NEW APPROACH OF SECOND ROMANIAN NPP SITING	Mauna, T. (1) 1 - Romanian Nuclear Energy Association -AREN-, Romania
9:30 – 9:50	Planning and Licensing of two Nuclear Power Plants in Switzerland	Koegl, G. (1) 1 - Resun AG, Switzerland
9:50 – 10:10	Global Nuclear Renaissance – Today's Issues,	Gardner, W. (1)

	Challenges and Differences Relative to the First Wave of Nuclear Plant Projects	1 - Westinghouse Electric Company LLC, United States
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**Wed 08:30 - 10:10 - H3 - Plant operations**

Chair: Luis Val Hernandez, ENDESA

Co-Chair: Clay Warren, Slovenske elektrarne

Abstract	Abstract	Authors/Affiliations
8:30 – 8:50	Radioactive Spent Ion-Exchange Resins Conditioning by the Hot Supercompaction Process at Tihange NPP	Vanderperre, S. (1); Centner, B. (1); Charpentier, D. (1) 1 - TRACTEBEL ENGINEERING S.A., Belgium
8:50 – 9:10	Presentation of CEA Marcoule Laboratory Department	Cauquil, G. (1); Dugne, O. (2); Bordas, F. (2) 1 - AREVA NC, France 2 - CEA, France
9:10 – 9:30	IMPLEMENTATION OF DESIGN AND REALIZATION OF AN INCINERATION UNIT FOR LOW LEVEL RADIOACTIVE WASTE	Robin, B. (1); Ballay, C. (1); Pillette-Cousin, L. (1); Gorbachev, A. (2); Sokolov, G. (3) 1 - AREVA TA, France 2 - CEA/PMG8, France 3 - ZVYOZDOCHKA, Russian Federation
9:30 – 9:50	Probabilistic Models and Decision rules in Residual Material Clearance or Recycling	Garcia-Bermejo Fernandez, R. (1) 1 - IBERDROLA Ingenieria y Construcción SAU, Spain
9:50 – 10:10	EDF-R&D's concept for using 2D drawings as an EAM/EOM solution to create, modify and visualize operation data	Dinois, F. (1); Gex, P. (2) 1 - Electricite de France (EdF), France 2 - American Nuclear Society, United States

## Organised by ENEN



### Wed 08:30 - 10:10 - J - ENEN PhD Event

Chair: Dr. Bernard BONIN, European Nuclear Society High Scientific Council, CEA (France)

Time	Subject	Authors/Affiliations
08:30 – 08:35	<b>Opening</b>	Prof. Emilio Minguez, Universidad Politecnica de Madrid, Spain
08:35 – 09:00	Modeling radiation effects at the atomic scale with an artificial neural network based kinetic Monte Carlo algorithm	Castin, N. (1); 1 – SCK•CEN, Belgium
09:00 – 09:25	Coupled neutronics – thermal-hydraulics programs for SCWRs	Reiss, T. (1) 1 - Budapest University of Technology and Economics, Hungary
09:25 – 09:50	A domain decomposition methodology through alternate dissections for coupled neutronic and thermal-hydraulic analyses in COBAY A3	Jiménez Escalante, J. (1); Herrero, J.-J. (1); Aragones, J. M. (1) 1 - Nuclear Engineering Department, Universidad Politécnica de Madrid, Spain
09:50 – 10:15	Exploring new coolants for nuclear breeder reactors	Lafuente Mazuecos, A. (1) 1 - Universidad Politécnica de Madrid, Spain

10:10 – 10:30

Coffee break

Exhibition area

### Wed 10:30 - 12:10 - Auditorium - Fuel cycle

Chair: Santiago San Antonio, FORATOM

Co-Chair: Marco Streit, Alpiq

Time	Subject	Authors/Affiliations
10:30 – 10:50	JRC Research on High Temperature Reactor Fuels	Haas, D. (1); Futterer, M. (2); Laurie, J. (2); Marmier, A. (2); Somers, J. (3); Rondinella, V. (3) 1 - European Commission, Belgium 2 - European Commission, Netherlands 3 - European Commission, Germany
10:50 – 11:10	Fabrication and characterisation of minor actinides bearing fuels obtained by conventional powder metallurgy	Prieur, D. (1); Jankowiak, A. (1); Leorier, C. (1); Herlet, N. (1); Donnet, L. (2); Dehaut, P. (2); Maillard, C. (3); Laval, J.-P. (4); Blanchart, P. (5) 1 - CEA, DEN, DTEC/SDTC/LEMA, France 2 - CEA, DEN, DTEC/SDTC/DIR, France 3 - CEA, DEN, DRCP/SE2A/LEHA, France 4 - SPCTS Université de Limoges, France 5 - GEMH Université de Limoges, France
11:10 – 11:30	POSSIBILITIES OF CLOSING NUCLEAR FUEL CYCLE WITH INNOVATIVE METMET FUEL	Savchenko, A. (1); Vatulin, A. (1); Uferov, O. (1); Glagovsky, E. (1); Konovalov, I. (1); Morozov, A. (1); Kulakov, G. (1) 1 - A.A. Bochvar Institute of Inorganic Materials (VNIIM), Russian Federation
11:30 – 11:50	CHARACTERIZATION OF Pu(III) EXTRACTED BY ALKYLATED 2,6-DITRIAZINYLPYRIDINE	Banik, N. L. (1); Geist, A. (1); Marquardt, C. (1); Denecke, M. A. (1); Geckeis, H. (1) 1 - Karlsruhe Institut für Technologie (KIT), Institut für

	(BTP)	Nukleare Entsorgung, Germany
11:50 – 12:10	Vacancy formation energies in (U, Zr)N	Pukari, M. (1); Wallenius, J. (1); Sandberg, N. (1) 1 - KTH, Sweden

### Wed 10:30 - 12:10 - A - Education, training and knowledge management

Chair: Francisco Sanchez, Tecnatom

Co-Chair: Phillip Beeley, Khalifa University of Science, Technology & Research (KUSTAR)

Time	Subject	Authors/Affiliations
10:30 – 10:50	WWER REACTOR PRESSURE VESSEL EMBRITTLEMENT KNOWLEDGE – A WAY FORWARD FOR CONSOLIDATION	von Estorff, U. (1); Brumovsky, M. (2) 1 - Institute for Energy, Joint Research Centre of the European Commission, Netherlands 2 - Nuclear Research Institute Rez plc, Czech Republic
10:50 – 11:10	RELAP/SCDAPSIM Reactor System Simulator Development and Training for University and Reactor Applications	Allison, C. (1); Hohorst, J. (1) 1 - Innovative Systems Software, United States
11:10 – 11:30	European approach for a perennial storage of Severe Accident Research experimental data as resulting from EU projects like SARNET*, Phébus FP and ISTP*	Zeyen, R. (1); Barboni, M. (1) 1 - European Commission/ Joint Research Centre/ Institute for Energy, Netherlands
11:30 – 11:50	EDUCATION AND TRAINING OF FUTURE NUCLEAR ENGINEERS THROUGH THE USE OF AN INTERACTIVE PLANT SIMULATOR	Ahnert, C. (1); Cuervo, D. (1); Garcia-Herranz, N. (1); Aragones, J. M. (1); Cabellos, O. (1); Gallego, E. (1); Lorente, A. (1); Minguéz, E. (1); Piedra, D. (1); Blanco, J. (2); Rebollo, L. (2) 1 - Universidad Politécnica de Madrid, Spain 2 - Gas Natural- Unión Fenosa, Spain
11:50 – 12:10	The application of EURATOM safeguards in the EU nuclear reprocessing plants"	Chare, P. (1); Synetos, S. (1) 1 - European Commission, Nuclear Safeguards, DG ENER, Luxembourg

### Wed 10:30 - 12:10 - B - Life science applications

Chair: Lucila M<sup>a</sup> Ramos Salvador, Consejo de Seguridad Nuclear

Co-Chair: Frank Hardeman, SCK-CEN

Time	Subject	Authors/Affiliations
10:30 – 10:50	Consequences of long-term radioactive contamination of aquatic environment by anthropogenic radionuclides	Gudkov, D. (1); Shevtsova, N. (1); Nazarov, A. (2); Dzyubenko, E. (2) 1 - Institute of Hydrobiology of the National Academy of Sciences of Ukraine, Ukraine 2 - State Specialised Scientific and Production Enterprise "Chernobyl Radioecological Centre", Ukraine
10:50 – 11:10	DOSE ASSESSMENT FOR POPULATION IN CASE OF DESIGN BASIS ACCIDENT AT NPP	Kliaus, V. (1) 1 - Republican Scientific-Practical Center of Hygiene, Belarus
11:10 – 11:30	Computational Modeling of Radionuclide Resuspension	Perera, S. (1); Waller, E. (1) 1 - University of Ontario Institute of Technology, Canada
11:50 – 12:10	DOEZOR2: A CODE TO ASSESS THE CONSEQUENCE OF RADIOACTIVE DISCHARGES	Martín García, J. E. (1); Gomez Rodríguez, C. A. (1); García Acosta, F. (2); Gimeno Blesa, M. E. (1) 1 - SOCOIN, Spain 2 - GAS NATURAL UNION FENOSA, Spain

### Wed 10:30 - 12:10 - F - Plant operations

Chair: Daniele Ugolini, European Commission

Co-Chair: Peter J. Gowin, IAEA

Time	Subject	Authors/Affiliations
10:30 – 10:50	The Numerical Simulation of the WWER440/V213 Reactor Pressure Vessel Internals Response to Maximum Hypothetical Large Break Loss of Coolant Accident	Hermansky, P. (1); Krajčovič, M. (1) 1 - VUJE, Inc., Slovakia
10:50 – 11:10	RADIOLOGICAL CONSEQUENCES OF DESIGN BASIS ACCIDENTS FRENCH APPROACH AND IRSN VIEWS	Dubreuil, M. (1); Pichereau, F. (1); Raimond, E. (1) 1 - IRSN, France
11:10 – 11:30	ANALYSIS OF LOSS OF HEAT REMOVAL ACCIDENTS IN RBMK-1500 REACTOR AND SPENT FUEL POOLS DURING DECOMMISSIONING	Kaliatka, A. (1); Ognerubov, V. (1); Uspuras, E. (1) 1 - Laboratory of Nuclear Installation Safety, Lithuanian Energy Institute, Lithuania
11:30 – 11:50	Application of Realistic (Best-Estimate) Methodologies for Large Break Loss of Coolant (LOCA) Safety Analysis: Licensing of Westinghouse ASTRUM Evaluation Model in Spain	Lage, C. (1); Frepoli, C. (2) 1 - ENUSA INDUSTRIAS AVANZADAS S.A., Spain 2 - WESTINGHOUSE ELECTRIC CO., United States
11:50 – 12:10	D&D OF A PLUTONIUM RESEARCH LABORATORY AND RELATED AUXILIARY SYSTEMS	Díaz Arocas, P. (1); Martínez Ortega, A. (1); Sama Colao, J. (1); García Díaz, A. (1); Torre Rodríguez, J. (1); Díaz Díaz, J. (1); Argiles, E. (2); Garrido, C. (3) 1 - CIEMAT, Spain 2 - Lainsa, Spain 3 - Iberinco e Iberdrola Ingeniería, Spain

**Wed 10:30 - 12:10 - H1 - Reactor technologies**

Chair: Jean-Philippe Frontigny, AREVA

Co-Chair: Daniel Iracane, CEA

Time	Subject	Authors/Affiliations
10:30 – 10:50	EUROPAIRS project: creating an alliance of nuclear and non-nuclear industries for developing nuclear cogeneration	Salhi, O. (1); Hittner, D. (1); Bogusch, E. (2); Fütterer, M. (3); de Groot, S. (4); von Lensa, W. (5); Ruer, J. (6); Baaten, A. (7) 1 – Areva Group 2 - AREVA NP, France 3 - AREVA NP, Germany 4 - JRC, Netherlands 5 - NRG, Netherlands 6 - FZ Jülich, Germany 7 - SAIPEM, France 8 - BEC, Netherlands
10:50 – 11:10	THE GUINEVERE PROJECT AT THE VENUS-F FACILITY	Baeten, P. (1); Ait Abderrahim, H. (1); Bergmans, G. (1); Kochetkov, A. (1); Uyttenhove, W. (1); Vandeplassche, D. (1); Vermeersch, F. (1); Vittiglio, G. (1); Baylac, M. (2); Nuttin, A. (2); Billebaud, A. (2); Bondoux, D. (2); Bouvier, J. (2); Chabod, S. (2); De Conto, J.-M. (2); Dessagne, P. (3); Gaudiot, G. (3); Heitz, G. (3); Kerveno, M. (3); Steckmeyer, J.-C. (4); Gautier, J.-M. (4); Lecolley, F.-R. (4); Lecouey, J.-L. (4); Marie, N. (4); Ban, G. (4); Merrer, Y. (4); Reynet, D. (5); Laune, B. (5); Assal, W. (6); Granget, G. (6); Mellier, F. (6) 1 - SCK-CEN, Belgium 2 - LPSC-CNRS-IN2P3/UJF/INPG, France 3 - IPHC-DRS/UdS/CNRS-IN2P3, France 4 - LPC Caen, ENSICAEN/Université de Caen/CNRS-IN2P3, France 5 - IPN Orsay-CNRS-IN2P3/UPS, France 6 - CEA/DEN/DER, France

11:10 – 11:30	Design of Accelerator Driven Systems within the EUROTRANS project	de Bryun, D. (1); Rimpault, G. (2); Mansani, L. (3); Müller, A. (4); Arnaud, G. (4); Wallenius, J. (5); Angulo, C. (6) 1 - SCK-CEN, Belgium 2 - CEA, France 3 - Ansaldo Nucleare, Italy 4 - CNRS, France 5 - KTH, Sweden 6 - GDF-Suez, Belgium
11:30 – 11:50	Supercritical Water-Cooled Nuclear Reactors: Thermodynamic-Cycles Plant Layouts and Thermal Aspects of Pressure-Channel Design	Piro, I. (1); Mokry, S. (1); Peiman, W. (1); Soltanov, E. (1); Thind, H. (1); Grande, L. (1); Samuel, J. (1); Harvel, G. (1) 1 - University of Ontario Institute of Technology, Canada
11:50 – 12:10	The GIF Proliferation Resistance and Physical Protection (PR&PP) Evaluation Methodology: Overview and Perspectives	Cojazzi, G. G. M. (1) 1 - European Commission, Joint Research Centre, Institute for the Protection and Security of the Citizen, Italy

### Wed 10:30 - 12:10 - H2 - Civil society - Energy policy

Chair: Alain Michel, Le hêtre pourpre (Groupe Esperluete)

Co-Chair: Miguel Milan, Westinghouse

Time	Subject	Authors/Affiliations
10:30 – 10:50	Future Nuclear Energy Scenarios for Europe	Roelofs, F. (1); Heek, A. V. (1) 1 - NRG, Netherlands
10:50 – 11:10	DEVELOPING A PRACTICAL IMPLEMENTATION STRATEGY FOR SHARED, REGIONAL REPOSITORIES	Verhoef, E. (1); McCombie, C. (2); Chapman, N. (2) 1 - COVRA, Netherlands 2 - ARIUS, Syrian Arab Republic
11:10 – 11:30	HARMONIZING NUCLEAR PRACTICES IN THE EU – CONTRIBUTION OF EUROPEAN NUCLEAR LICENSEES	Zaiss, W. (1); Fourest, B. (2) 1 - FORATOM, Belgium 2 - EDF, France
11:30 – 11:50	LIMITING CONDITIONS FOR NUCLEAR POWER PLANT COMPETITIVENESS VS. FOSSIL AND WIND PLANTS	Feretic, D. (1); Cavlina, N. (1) 1 - University of Zagreb, Faculty of Electrical Engineering and Computing, Croatia
11:50 – 12:10	Deregulation and Internationalisation – Impact on the Swedish Nuclear Industry	Haukeland, S. (1) 1 - Swedish Nuclear Society, Sweden

### Wed 10:30 - 12:10 - H3 - Plant operations

Chair: Matti Paananen, Fortum Nuclear Services

Co-Chair: Rosa Lo Frano, University of Pisa

Time	Subject	Authors/Affiliations
10:30 – 10:50	Optimized laser system for decontamination of painted surfaces	Champonnois, F. (1); Lascoutouna, C. (1); Long, H. (1); Thro, P.-Y. (1) 1 - CEA/Saclay, France
10:50 – 11:10	UNIVERSAL MODEL OF WWER-440 REACTOR AND CALCULATION OF WEIGHTING FUNCTIONS OF EX-CORE DETECTORS BY MCNP5 CODE	Farkas, G. (1); Slugen, V. (1); Hascik, J. (1); Michalek, S. (1); Stacho, M. (1); Petriska, M. (1) 1 - SUT Bratislava, Faculty of Electrical Engineering and Information Technology, Dept. of Nuclear Physics and Technology, Slovakia
11:10 – 11:30	Westinghouse Experience in using Mechanical Cutting for Reactor Vessel Internals Segmentation	Fallström, S. (1); Segerud, P. (1); Kreitman, P. (2); Boucau, J. (3) 1 - Westinghouse Electric Sweden, Sweden 2 - Westinghouse Electric Company, United States 3 - Westinghouse Electric Belgium, Belgium
11:30 – 11:50	Progress at Sellafield	Bonner, R. C. (1) 1 - Sellafield Ltd, United Kingdom
11:50 – 12:10	THE POTENTIAL OF HIGH POWER LASERS	Hilton, P. (1); Walters, C. (1)



	IN NUCLEAR DECOMMISSIONING	1 - TWI Ltd, United Kingdom
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## Organised by ENEN



### Wed 10:30 - 12:10 - J - ENEN PhD Event

Chair: Prof. em. Michel GIOT, SCK•CEN (Belgium)

Time	Subject	Authors/Affiliations
10:30 – 10:50	ENEN PhD Event II	Prof. em. Michel Giot, SCK•CEN, Belgium
10:50 – 11:10	Experimental and Computational Analysis of Steam Condensation in the Presence of Air and Helium	Bucci , M. (1) 1 - Universita' di Pisa, Italy
11:10 – 11:30	Modelling of sodium boiling for coupled neutronic/thermal-hydraulic transient analysis of the Gen-IV SFR	Chenu, A. (1) 1 - Paul Scherrer Institute (PSI), Switzerland
11:30 – 11:50	Deuterium trapping in Carbon Fiber Composites under high fluence	Ayrapetov, A. (1) 1 - National Research Nuclear University MEPhI, Russian Federation
11:50 – 12:10	Understanding of hydriding mechanisms of Zircaloy-4 alloy during corrosion in PWR simulated conditions and influence of zirconium hydrides on Zircaloy-4 corrosion	Bisor-Melloul, C. (1) 1 - CEA, France
12:10	<b>Closing and Award of Certificate</b>	Prof. Emilio Minguez, Universidad Politecnica de Madrid, Spain

12:10 – 13:00

Lunch

Garden Pavilion

## Wed 13:00 - 14:30 - Plenary Session IV - Auditorium

### Nuclear Energy Development Framework

Chair: Nikola Cavlina, Chair ENS Programme Committee

Co-Chair: Lola Morales, CCNN Almaraz Trillo AIE

#### Safety Fundamentals/Nuclear Justification

Keith Parker, Chief Executive, Nuclear Industry Association

#### Is Nuclear Non-proliferation utopian?

Pierre Goldschmidt, Senior Associate, Carnegie Endowment for International Peace

#### Harmonisation of Nuclear Regulations in European Union

Andrej Stritar, Chairman, European Nuclear Safety Regulators Group – ENSREG

#### Spent Fuel and Radioactive Waste Management

Hans Forsström, Director of Nuclear Fuel Cycle and Waste Technology, IAEA

14:30 – 14:45

Coffee break

Exhibition area

## **Wed 14:45 - 16:25 - Plenary Session V - Auditorium**

### **Nuclear Technologies for the Future**

Chair: Octavi Quintana Trias, European Commission, DG RTG, Directorate Energy (Euratom)

Co-Chair: Bernard Bonin, CEA

#### **SNE TP: Programming and Implementing Fission Technology Development for the SET-Plan Objectives**

Frantisek Pazdera, Vice-Chair of SNE TP

#### **ITER: the First Fusion Installation undergoing full Nuclear License**

Carlos Alejaldre, Deputy Director-General, Safety & Security Department ITER

#### **Global Energy Needs: Defining a Role for the “Right Sized Reactor”**

Dr. Thomas L. Sanders, President ANS

#### **Technologies for Future Fuel Management**

Peter Baeten, Deputy Institute Manager Advanced Nuclear Systems, SCK•CEN

## **Wed 16:25 - 17:00 - Closing Session - Auditorium**

### **Closing Panel**

Vladimir Slugen, ENS President

Jose Emeterio Gutierrez, ENC 2010 Conference Chair

Frank Deconinck, ENC 2010 Programme Committee Chair

Bernard Bonin, ENS High Scientific Council Chair

## Reactor technologies - Poster

Abstract	Subject	Authors/Affiliations
ENC2010-A0004	INVERSE KINETICS FOR SUBCRITICAL SYSTEMS WITH VARIATING EXTERNAL SOURCES	Palma, D. (1); Silva, C. (2); Martinez, A. (2); Gonçalves, A. (2) 1 - Instituto Federal do Rio de Janeiro, Brazil 2 - COPPE/UFRJ, Brazil
ENC2010-A0052	A PRELIMINARY APPROACH TO THE EXTENSION OF THE TRANSURANUS CODE TO THE FUEL ROD PERFORMANCE ANALYSIS OF HLM-COOLED NUCLEAR REACTORS	Luzzi, L. (1); Botazzoli, P. (1); Di Marcello, V. (1); Pastore, G. (1) 1 - Politecnico di Milano, Department of Energy, "Enrico Fermi" Center for Nuclear Studies (CeSNEF), Italy
ENC2010-A0058	USE OF SCINTILLATION SOLID-BODY DETECTOR IN THE SYSTEM OF INTEGRATED CONTROL AND DIAGNOSTICS OF ELECTRONUCLEAR REACTOR	Maltsev, A. (1); Maltseva, M. (1) 1 - JINR, Russian Federation
ENC2010-A0086	Spatial Dependence of Local Heat Transfer Coefficients in Liquid Metal Sub-channel Flows	Shih, C. (1); Lee, Y.-H. (1); Jhang, T.-S. (1); Wang, J.-R. (2); Lin, B.-H. (2); 1 - National Tsing Hua University, Taiwan 2 - Institute of Nuclear Energy Research, Taiwan
ENC2010-A0112	Beryllium for Nuclear and Thermonuclear Installations	Kozhakhmetov, S. (1); Savchuk, V. (2); Arinov, B. (2) 1 - 2 - "High-Technologies Institute" Ltd., Almaty, Kazakhstan 2 - 1 - JSC "Ulba Metallurgical Plant", Ust-Kamenogorsk city, Kazakhstan
ENC2010-A0118	New possibilities to simulate vertical steam generators with integral facility PWR PACTEL	Kouhia, V. (1); Kyrki-rajamäki, R. (1); Purhonen, H. (1); Rantakaulio, A. (1); Riikonen, V. (1); Räsänen, A. (1) 1 - Lappeenranta University of Technology, Finland
ENC2010-A0119	IRT - Sofia Conversion Feasibility Study Experience 2002-2009	Belousov, S. (1); Apostolov, T. (1) 1 - Institute for Nuclear Research and Nuclear Energy of Bulgarian Academy of Science, Bulgaria
ENC2010-A0121	The TAPIRO Research Reactor: a Support to ADS and Fast Neutron Reactor Development	Rosa, R. (1); Carta, M. (1); Fiorani, O. (1); Santagata, A. (1) 1 - ENEA, Italy
ENC2010-A0127	THERMOCOUPLES RECOVERY OF ONE TRIGA INSTRUMENTED FUEL ROD	Mesquita, A. Z. (1); Pinto, A. J. (1); Cândido, M. A. (1) 1 - Centre of Nuclear Technology Development - CDTN, Brazilian Nuclear Energy Commission - CNEN, Brazil
ENC2010-A0128	MONITORING OF COOLANT FLOW RATE AND VELOCITY IN THE HOT CHANNEL OF THE IPR-R1 TRIGA REACTOR CORE	Mesquita, A. Z. (1); Rezende, H. C. (1); Costa, A. C. L. (1) 1 - Brazilian Nuclear Energy Commission - CNEN /Centre of Nuclear Technology Development - CDTN, Brazil
ENC2010-A0139	BCM6: New Generation of Boron Meter	Pirat, P. (1) 1 - Rolls-Royce Civil Nuclear SAS, France
ENC2010-A0141	Rolls-Royce digital Rod Control System	Pouillot, M. (1) 1 - Rolls-Royce Civil Nuclear SAS, France
ENC2010-A0144	R&D Collaboration between EDF and Rolls-Royce Utilization of FPGA technology in existing or new I&C Systems	Esmenjaud, C. (1) 1 - Rolls-Royce Civil Nuclear SAS, France
ENC2010-A0155	ADS APPLICATION OF HIGH-POWER LIQUID METAL SPALLATION TARGETS	Samec, K. (1) 1 - ENSI, Switzerland
ENC2010-A0169	DESIGN OF A VISUAL SYSTEM TO MONITORING THERMAL POWER AND ENHANCEMENT OF PHYSICAL SECURITY AT THE IPR-R1 TRIGA RESEARCH REACTOR	Mesquita, A. Z. (1); Ferreira, A. V. (1) 1 - Centre of Nuclear Technology Development - CDTN, Brazilian Nuclear Energy Commission - CNEN, Brazil
ENC2010-A0177	NEUTRONIC AND THERMAL-HYDRAULIC EXPERIMENTAL PROGRAM IN THE IPR-1 TRIGA REACTOR AT CDTN	Souza, R. M. (1); Mesquita, A. (1) 1 - CENTRO DE DESENVOLVIMENTO DA TECNOLOGIA NUCLEAR - CDTN, Brazil

ENC2010-A0178	SIMPLE EXPRESSIONS TO ESTIMATE THE CONSEQUENCES OF A RIA IN A PWR	Riverola Gurruchaga, J. (1) 1 - ENUSA Industrias Avanzadas S.A., Spain
ENC2010-A0205	DECOMMISSIONING ASPECTS IN THE DESIGN PHASE OF THE BRAZILIAN MULTIPURPOSE REACTOR - RMB	Lainetti, P. E. (1) 1 - Nuclear and Energy Research Institute - IPEN-CNEN/SP Brazilian National Nuclear Energy Commission, Brazil
ENC2010-A0206	Conceptual Design of a Commercial Accelerator Driven Thorium Reactor	Fuller, C. (1) 1 - Aker Solutions E & C Ltd, United Kingdom
ENC2010-A0217	RECTOR MODEL FOR RINGHALS-1 SIMULATOR RELAP5-HD SIMEXEC DESIGN	Romas, A. (1); Carlsson, T. (1) 1 - GSE Power Systems AB, Sweden
ENC2010-A0221	Computation Cluster for Monte Carlo Calculations	Petriska, M. (1); Vitazek, K. (1); Farkas, G. (1); Stacho, M. (1); Michalek, S. (1) 1 - Dept. of Nuclear Physics and Technology, Faculty of Electrical Engineering and Information Technology, STU, Slovakia
ENC2010-A0246	Innovations in the supply chain or construction engineering. Heat Exchangers Case	Triviño, R. (1); Woolf, G. (2) 1 - Colegio Oficial de Ingenieros Industriales, Spain 2 - Cooperator Member of Institute of Mechanical Engineers, United Kingdom
ENC2010-A0247	Computational Advances in the Design and Analysis of Nuclear Power Plants' Supports for HVAC and Electrical Systems	Martin, R. (1); Corpas, J. (1); Saleté Casino, E. (2); Saleté Díaz, E. (3) 1 - INGECIBER, S.A., Spain 2 - E.T.S.I. INDUSTRIALES - UNIVERSIDAD NACIONAL DE EDUCACIÓN A DISTANCIA (UNED), Spain 3 - E.T.S.I. CAMINOS, CANALES Y PUERTOS - UNIVERSIDAD POLITÉCNICA DE MADRID (UPM), Spain
ENC2010-A0257	Selection of Integral Burnable Absorbers for Low Boron Core Design	Daing, A. T. (1); Kim, M.-H. (1) 1 - Kyung Hee University, Korea, Republic of
ENC2010-A0273	AP1000 Shield Building - A constructability Challenge	Di giuseppe, G. (1); Bonanno, D. (1) 1 - Ansaldo Nucleare, Italy
ENC2010-A0277	Enhancing research reactor utilization without increasing power	Antonopoulos-Domis, M. (1); Xaxiri, M.- I. (1); Catsaros, N. (2); Savva, P. (2); Varvayanni, M. (2) 1 - School of Electrical and Computer Engineering, Aristotle University of Thessaloniki, Greece 2 - NCSR "DEMOKRITOS", Greece
ENC2010-A0278	Operational Wastes Management – "Wet Oxydation" - An innovative Process to manage radiological spent resins	Orlandi, S. (1); Benvenuto, F. (1); Ricci, C. (1); Maggini, F. (1) 1 - Ansaldo Nucleare, Italy
ENC2010-A0298	EC6™ – ENHANCED CANDU 6™ REACTOR DESIGN: PROVEN DESIGN THAT MEETS MODERN REQUIREMENTS OF GEN III REACTORS	Popov, N. (1); Cormier, M. (1); Snell, V. (1); Hopwood, J. (1) 1 - Atomic Energy of Canada Limited, Canada
ENC2010-A0311	Evaluation of the Role of Cr, Ni, Mn and Si in Reactor Pressure Vessel Steel Microstructure	Degmova, J. (1); Veternikova, J. (1); Sojak, S. (1); Slugen, V. (1); Krsjak, V. (2); Acosta, B. (2) 1 - Faculty of Electrical Engineering and Information Technology, Slovak University of Technology, Slovakia 2 - JRC-IE, Joint Research Centre, Institute for Energy, Netherlands
ENC2010-A0322	Test Stand Prototype for the ITER Ports Plugs	Jan, D. (1); Walker, C. (2) 1 - Comex Nucléaire, France 2 - ITER ORGANIZATION, United Kingdom
ENC2010-A0326	Westinghouse BWR Uprate and Modernization Experience	Andrén, A. (1) 1 - Westinghouse Electric Sweden AB, Sweden
ENC2010-A0339	ROD EJECTION ACCIDENT 3D-DYNAMIC ANALYSIS IN TRILLO NPP WITH RELAP5/PARCSV2.7 COUPLED CODES	Barrachina, T. (1); Miró, R. (1); Verdú, G. (1); Ortego, A. (2); Martínez-murillo, J. C. (3) 1 - Chemical and Nuclear Engineering Department - Polytechnic University of Valencia, Spain

		2 - IBERINCO, Spain 3 - ALMARAZ-TRILLO, AIE, Spain
ENC2010-A0343	MULTIGROUP DIFFUSION KINETICS BENCHMARK OF AN ACCELERATOR DRIVEN SYSTEM (ADS) IN CYLINDRICAL GEOMETRY	Atak, H. (1); Yilmazer, A. (1) 1 - Department of Nuclear Engineering, Hacettepe University, Turkey
ENC2010-A0347	Xenon behaviour in ZrC: role of temperature and irradiation	Gutierrez, G. (1); Perrat-Mabilon, A. (1); Moncoffre, N. (1); Toulhoat, N. (2); Pison, Y. (1); Toulhoat, N. (2); Maitre, A. (3); Gendre, M. (3); Trocellier, P. (4) 1 - Institut de Physique Nucléaire de Lyon (IPNL), CNRS/IN2P3, France 2 - Commissariat à l'Energie Atomique CEA/DEN, France 3 - Laboratoire Science des Procédés Céramiques et Traitements de Surface, CNRS, , France 4 - CEA-DEN-DANS/DMN/SRMP, Centre d'Études de Saclay, France
ENC2010-A0360	Control rod worth dependence on reactor core composition evolution	Savva, P. (1); Varvayanni, M. (1); Catsaros, N. (1) 1 - NCSR "DEMOKRITOS", Greece
ENC2010-A0381	Westinghouse Products in the Nordic Region	Aslund, M. (1) 1 - Westinghouse Electric Company, Sweden
ENC2010-A0390	Application of the ERANOS KIN3D Module for a GEN-IV LFR DEMO Kinetics Analyses	Pastore, G. (1); Bortot, S. (1); Aliberti, G. (2); Artioli, C. (3) 1 - Politecnico di Milano, Italy 2 - ANL, United States 3 - ENEA, Italy
ENC2010-A0393	ROD EJECTION ACCIDENT 3D-DYNAMIC ANALYSIS IN ALMARAZ NPP WITH RELAP5/PARCSV2.7 COUPLED CODES	Barrachina, T. (1); Miró, R. (1); Verdú, G. (1); Ortego, A. (2); Martínez-Murillo, J. C. (3) 1 - Chemical and Nuclear Engineering Department - Polytechnic University of Valencia, Spain 2 - IBERINCO, Spain 3 - ALMARAZ-TRILLO, AIE, Spain
ENC2010-A0396	SAFETY SYSTEM COVERAGE FOR THE MCMASTER NUCLEAR REACTOR	Day, S. E. (1); Stoll, K. J. (2); Luxat, J. C. (2) 1 - McMaster Nuclear Reactor, McMaster University, Canada 2 - Department of Engineering Physics, McMaster University, Canada
ENC2010-A0397	ANALYSIS OF OECD/CSNI ISP-42 PHASE A PANDA EXPERIMENT USING COUPLED CODE R5G (RELAP5-GOTHIC)	Benčik, V. (1); Debrecin, N. (1); Grgić, D. (1); Bajš, T. (2) 1 - Faculty of Electrical Engineering and Computing, University of Zagreb, Croatia 2 - Enconet International Ltd., Croatia
ENC2010-A0400	METHODOLOGY FOR STUDIES OF NATURAL CIRCULATION IN ADVANCED REACTORS USING CFD	Moreira, M. (1); Araujo, R. (1); Sampaio, P. (1); Lapa, C. (1) 1 - Instituto de Engenharia Nuclear, Brazil
ENC2010-A0427	Development of a numerical analysis methodology for the sodium-water reaction in a SFR steam generator	Naviglio, A. (1); Russo, P. (1); Vitale di Maio, D. (1) 1 - "La Sapienza" Università di Roma, Italy
ENC2010-A0430	High Temperature Electro-Mechanical Devices for Nuclear Applications	Robertson, D. (1) 1 - Rolls-Royce plc, United Kingdom
ENC2010-A0431	Technical Progress in INPRO Activities on Modelling and Innovation	Beatty, R. (1); Gowin, J. P. (1); Villalibre, P. (1) 1 - IAEA, Austria
ENC2010-A0469	Study of unfolding methods for X-ray spectra obtained with CdTe detectors in the mammography energy range	Querol, A. (1); Gallardo, S. (1); Ródenas, J. (1); Verdú, G. (1); Barrachina, T. (1) 1 - Departamento de Ingeniería Química y Nuclear, Universidad Politécnica de Valencia, Spain
ENC2010-A0473	New designs of water-cooled water-moderated power reactors	Ryzhov, S. B. (1); Mokhov, V. A. (1); Nikitenko, M. P. (1); Shchekin, I. G. (1); Churkin, A. N. (1)

		1 - OKB "GIDROPRESS", Russian Federation
ENC2010-A0487	AUTOMATED NEUTRON ACTIVATION ANALYSIS FACILITIES FOR NUCLEAR RESEARCH REACTORS	Ismail, S. S. (1) 1 - Atomic Institute, Vienna University of Technology

#### Fuel cycle - Poster

Abstract	Subject	Authors/Affiliations
ENC2010-A0007	A study on the Methodology of Integrated Safety Assessment for Accidental Analysis on LILW managed in Temporary Storage Facility at NPP	Ahn, M. H. (1); Lee, K. J. (1); Choi, K. W. (2) 1 - KAIST, Korea, Republic of 2 - KINS, Korea, Republic of
ENC2010-A0039	<sup>137</sup> Cs and <sup>60</sup> Co PENETRATION THROUGH CONCRETE IN RADIOACTIVE WASTE MANAGEMENT	Plecas, I. (1) 1 - Vinca Institute of Nuclear Sciences, Serbia and Montenegro
ENC2010-A0044	Management and removing of spent nuclear fuel of VVR-2 research reactor, RRC "Kurchatov institute"	Volkov, V. (1); Drozdov, A. (1); Zverkov, Y. (1); Evstigneev, V. (1); Semenov, S. (1); Chesnokov, A. (1); Shisha, A. (1) 1 - RRC "Kurchatov Institute, Russian Federation
ENC2010-A0062	Nuclear data for minor actinides from the n_TOF neutron time-of-flight facility at CERN	Cano Ott, D. (1) (2) 1 - CIEMAT, Spain 2 - on behalf of n_TOF collaboration, Switzerland
ENC2010-A0097	Thermal Evaluation of High Capacity Dry Storage System Using FLUENT	Lin, B.-H. (1); Shih, C. (1); Tseng, Y.-S. (2); Wang, J.-R. (2); Lin, A. (2) 1 - National Tsing Hua University, Taiwan 2 - Institute of Nuclear Energy Research, Taiwan
ENC2010-A0167	EVALUATION OF ENERGY CONSUMPTION IN URANIUM MINES BASED ON LIFE CYCLE ASSESSMENT METHODOLOGY	Bauer, C. (1); Prasser, H.-M. (2); Papp, K. (1) 1 - Paul Scherrer Institut (PSI), Switzerland 2 - ETH Zurich, Switzerland
ENC2010-A0209	Spent Fuel Storage/Disposal and Proliferation Resistance of the Lightbridge Thorium Seed and Blanket Fuel Design for PWRs	Montgomery, M. H. (1); Mushakov, A. (1); Morozov, A. (2) 1 - Lightbridge Corporation, United States 2 - Lightbridge Corporation - Moscow, Russian Federation
ENC2010-A0231	Comparison of the chemical and theoretical inventory for several spent nuclear fuels with different burn-up depending on the radial position	Serrano Purroy, D. (1); Glatz, J. P. (1); Wegen, D. (1); González-Robles, E. (2); Clarens, F. (2); Martínez-Esparza, A. (3); De Pablo, J. (4); Casaa, I. (4) 1 - JRC-ITU, European Commission Joint Research Centre-Institute of Transuranium Elements, Germany 2 - Environmental Technology Area, CTM Centre Tecnològic, Spain 3 - ENRESA, Spain 4 - Chemical Engineering Department, Universitat Politècnica de Catalunya UPC, Spain
ENC2010-A0234	STATE OF THE ART IN SPENT FUEL DISPOSAL IN ROCK SALT IN GERMANY	Bollingerfehr, W. (1); Filbert, W. (1); Graf, R. (2); Brammer, K.-J. (2) 1 - DBE TECHNOLOGY GmbH, Germany 2 - GNS- Gesellschaft für Nuklear-Service GmbH, Germany
ENC2010-A0244	FETUS AND PBR - SIMPLIFIED THORIUM UTILIZATIONS	Bairiot, H. (1) 1 - FEX, Belgium
ENC2010-A0253	The new revision of NPP Krško Decommissioning, Radioactive Waste and Spent Fuel Management Program: Analyses and Results	Železnik, N. (1); Kralj, M. (1); Mele, I. (2); Lokner, V. (3); Levnat, I. (3); Rapić, A. (3) 1 - ARAO, Slovenia 2 - IAEA, Austria 3 - APO, Croatia
ENC2010-A0258	Artificial Transmutation of Radioactive Nuclei By Neutron and Photon Absorptions	Rangacharyulu, C. (1); Szpunar, B. (1) 1 - Dept. of Physics and Engineering Physics, Univ. of Saskatchewan, Canada

ENC2010-A0265	SPENT FUEL MANAGEMENT OF JOSÉ CABRERA NUCLEAR POWER PLANT	Lavara Sanz, A. (1); Blanco Zurro, J. (2); García Costilla, M. (2); Martínez Abad, J. E. (3) 1 - SOCOIN, Spain 2 - Gas Natural-Unión Fenosa, Spain 3 - ENRESA, Spain
ENC2010-A0268	NUCLEAR FUEL PERFORMANCE STUDIES: FROM IRRADIATION TO STORAGE - AN OVERVIEW OF THE EXPERIMENTAL FACILITIES AT THE CEA CADARACHE	Pontillon, Y. (1); Capdevila, H. (1); Clement, S. (1); Hanus, E. (1); Ferroud-Plattet, M.-P. (1); Bernard, S. (1); Malgouyres, P.-P (1) 1 - Commissariat à l'Energie Atomique, France
ENC2010-A0281	TWO INNOVATIVE SOLUTIONS FOR THE TRANSPORTATION AND THE STORAGE OF SPENT FUEL	Garcia, J. (1); Allimann, N. (1) 1 - TN INTERNATIONAL (AREVA Group), France
ENC2010-A0302	The fuel cycle. Spent fuel management. Spent Fuel Storage Racks Interlock Cell Matrix-ENSA	Triviño, R. (1) 1 - Colegio Oficial de Ingenieros Industriales, Spain
ENC2010-A0319	The CEA Atalante facility: a key laboratory for the R&D on current and future fuel cycle	Poinssot, C. (1); Warin, D. (1); Marty, P. (1) 1 - Commissariat à l'Energie Atomique, CEA, Nuclear Energy Division, Radiochemistry & Processes Department, France
ENC2010-A0333	SURFACE CHANGES IN FRESH FUEL UNDER DIFFERENT SIMULATED STORAGE ENVIROMENTS	Iglesias, E. (1); Nieto, J. M. (1); Quiñones, J. (1) 1 - ciemat, Spain
ENC2010-A0350	ZERO FUEL DEFECTS: PLANT OPERATION FOREIGN MATERIAL EXCLUSION	Näslund, M. (1); Ivars, R. (1); Willmann, L. (1) 1 - Westinghouse Electric Company, Sweden
ENC2010-A0362	Criticality safety aspects of spent fuel arrays from emerging nuclear fuel cycles	Nikolaou, G. (1) 1 - DEMOKRITUS UNIVERSITY OF THRACE, DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING, LABORATORY OF NUCLEAR TECHNOLOGY, Greece
ENC2010-A0364	IDENTIFICATION OF UNKNOWN NUCLEAR MATERIAL	Nikolaou, G. (1) 1 - DEMOKRITUS UNIVERSITY OF THRACE, DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING, LABORATORY OF NUCLEAR TECHNOLOGY, Greece
ENC2010-A0405	Management of spent fuel from nuclear power plants in Czech Republic	Minarikova, V. (1); Patera, V. (1) 1 - Nuclear Research Institute Rez plc, Czech Republic
ENC2010-A0420	DIFFERENT ASPECTS OF SAFETY IN NUCLEAR FUEL PLANT PITESTI ROMANIA T. Ivana, Gh. EpureNuclear Fuel Plant, Pitesti RomaniaCampului St. No 1, Mioveni, Arges tivana@fcn.ro, gepure@fcn.ro	Tiberiu, I. (1); Gheorghe, E. (1) 1 - ROMANIAN RADIOPROTECTION SOCIETY, Romania
ENC2010-A0421	IMPLEMENTATION OF INTEGRATED SAFEGUARDS AT NUCLEAR FUEL PLANT PITEȘTI ROMANIA	Olaru, V. (1); Ivana, T. (1); Epure, G. (1) 1 - SN NUCLEARELECTRICA SA Bucharest - Nuclear Fuel Plant Pitesti Subsidiary, Romania
ENC2010-A0436	PACKING MODELS OF MONO AND POLYDISPERSE POWDERS AND MIXES OF FUEL AND MATRIX MATERIALS	Strukov, A. (1) 1 - JSC "VNIINM", Moscow, Russian Federation
ENC2010-A0441	Analytical study of the long-term mechanical deformation of the buffer on HLW disposal	Tanai, K. (1); Saito, Y. (1) 1 - Japan Atomic Energy Agency, Japan
ENC2010-A0443	USED FUEL MANAGEMENT STRATEGY IN SPAIN: INCREASE OF USED FUEL STORAGE CAPACITY IN COFRENTES NPP	Orive, R. (1); De Diego, J. L. (1); Laserna, J. A. (1); Almoguera, R. (1) 1 - IBERDROLA Nuclear Generation, Spain
ENC2010-A0444	The Application of Research Reactor MARIA for Analysis of Thorium Use in Nuclear Power Plant	Nowosad, J. (1); Prokopowicz, R. (1); Laurikainen, B. (1) 1- Institute of Atomic Energy POLATOM, Poland

Abstract	Subject	Authors/Affiliations
ENC2010-A0029	REQUIREMENTS REGARDING THE LAYOUT AND HANDLING OF RADWASTE CONTAINERS FROM THE RADIOLOGICAL VIEWPOINT	Sokcic-Kostic, M. (1); Schultheis, R. (1) 1 - NUKEM Technologies GmbH, Germany
ENC2010-A0042	ON BASIC PRINCIPLES FOR MODIFYING WATER AS A COOLANT OF PWR	Alekseev, P. (1); Semchenkov, Y. (1); Shimkevich, A. (1) 1 - RRC "Kurchatov Institute", Russian Federation
ENC2010-A0043	Overview of management of low and intermediate level radioactive wastes at the Institute for Nuclear Research for to save management of the wastes from decommissioning of nuclear facilities	Costel Danut, B. (1); Liliana, B. (1) 1 - Institute for Nuclear Research, Romania
ENC2010-A0053	ECOLOGICAL CONDITION AROUND THE URANIUM TAILING PITS IN TAJIKISTAN	Mirsaidov, I. (1); Mirsaidov, U. (1); Khakimov, N. (2); Nazarov, K. (2) 1 - Nuclear and Radiation Safety Agency (State Regulatory Authority) Republic of Tajikistan, Tajikistan 2 - Branch Office of Nuclear and Radiation Safety Agency (State Regulatory Authority) in the North, Tajikistan
ENC2010-A0085	Critical Application for Nozzle Check Valves in the AP1000 design	Miller, S. (1) 1 - Curtiss Wright Flow Control Nuclear Group, United States
ENC2010-A0102	VIRTUAL REALITY TECHNOLOGIES USED TO OPTIMISE DECOMMISSIONING SCENARIOS	Chabal, C. (1); Mante, J.-F. (1) 1 - CEA, France
ENC2010-A0145	Rolls-Royce successful modernization of safety-critical Instrumentation and Control (I&C) equipment at the Dukovany VVER 440/213 Nuclear Power Plant, based on SPINLINE 3 platform.	Rebreyend, P. (1); Burel, J.-P. (1); Spoc, J. (2); Karasek, A. (3) 1 - Rolls-Royce Civil Nuclear SAS, France 2 - Skoda JS, Czech Republic 3 - CEZ, Czech Republic
ENC2010-A0165	Nuclear Combined Heat and Power - Analyses of Hot Water Pipeline Breaks in a Service Tunnel with APROS Simulation Software	Henttonen, T. (1); Paananen, M. (1) 1 - Fortum Nuclear Services Ltd., Finland
ENC2010-A0175	WEB-ISI: In Service Inspection Data Base	Azcue, J. (1); Rodriguez, F. (1) 1 - Tecnatom, Spain
ENC2010-A0192	Neutron tomography for void distribution measurements	Andersson, P. (1); Svärd, S. (1); Sjöstrand, H. (1) 1 - Uppsala University, Sweden
ENC2010-A0204	Characterisation, Repacking and Incineration of NaK and Na Used to Test Heat Transfer for LMFBR at the JRC-Ispra Site	Mazzucato, M. (1); D'Alberti, F. (1); D'Amati, F. (1) 1 - European Commission, Joint Research Centre JRC, Nuclear Decommissioning Unit, Ispra site, Italy
ENC2010-A0210	MSR BOHUNICE: EFFICIENCY IMPROVED IN RUSSIAN DESIGN REACTORS	Gomez Navarro, A. (1); Saucedo Velez, V. (1); Fiol Amengual, M. (1) 1 - Iberdrola Ingeniería y Construcción S.A Sociedad Unipersonal, Spain
ENC2010-A0219	CONTROL ROD EJECTION ACCIDENT ANALYSIS FOR A PWR WITH THORIUM FUEL LOADING	F. da Cruz, D. (1) 1 - Nuclear Research and Consultancy Group NRG, Netherlands
ENC2010-A0220	Steam Generator Tube Maintenance, Inspection and Repair	D'Annuncci, F. (1); Bienentreu, R. (1) 1 - Westinghouse Electric Germany, Germany
ENC2010-A0222	More than Ten Years Inspection of the Steam Generator Divider Plate	D'Annuncci, F. (1); Lecour, E. (2) 1 - Westinghouse Electric Germany, Germany 2 - Westinghouse Electric France, France
ENC2010-A0224	Modernización de los Sistemas Eléctricos de Potencia de la Central Nuclear de Laguna Verde dentro del Proyecto de Aumento de Potencia	Gonzalez Solorzano, J. J. (1); Ripoll Cots, F. (2); Fiol Amengual, M. (3) 1 - Colegio de Ingenieros de Guipuzcoa, Spain 2 - Colegio de Ingenieros de Valencia, Spain 3 - Iberdrola Ingeniería y Construcción S.A Sociedad



		Unipersonal, Spain
ENC2010-A0225	THE DECOMMISSIONING AND WASTE MANAGEMENT PROGRAMME OF THE JOINT RESEARCH CENTRE, ISPRA	Ugolini, D. (1); Basile, F. (1) 1 - European Commission, Joint Research Centre, Italy
ENC2010-A0237	VIPER, a new Tool for Tube Bundle for Steam Generator Secondary Side Visual Inspection	Mutius, B. (1); Nemausat, P. (1) 1 - Westinghouse Electric France, France
ENC2010-A0248	UNIVERSAL MODEL OF WWER-440 REACTOR AND CALCULATION OF WEIGHTING FUNCTIONS OF EX-CORE DETECTORS BY MCNP5 CODE	Farkas, G. (1); Slugen, V. (1); Hascik, J. (1); Michalek, S. (1); Stacho, M. (1); Petriska, M. (1) 1 - SUT Bratislava, Faculty of Electrical Engineering and Information Technology, Dept. of Nuclear Physics and Technology, Slovakia
ENC2010-A0250	NEW BIOLOGICAL SHIELD FOR COFRENTES NPP DRYWELL EQUIPMENT HATCH	Fernandez Cortes, J. (1); Rodriguez, B. (1) 1 - Iberdrola Ingenieria y Construcción S.A Sociedad Unipersonal, Spain
ENC2010-A0251	Electric Penetrations Replacement in Cofrentes Nuclear Power Plant	Raga, C. (1); Archilla, J. (1); Garcia-Orellano, J. M. (1) 1 - Iberdrola Ingenieria y Construcción S.A Sociedad Unipersonal, Spain
ENC2010-A0256	LATEST DEVELOPMENTS ON SAFETY ANALYSIS METHODOLOGIES AT THE JUZBADO PLANT	Zurrón-Cifuentes, Ó. (1); Álvaro-Pérez, C. (1); Pérez-Fonseca, A. (1) 1 - ENUSA INDUSTRIAS AVANZADAS S. A., Spain
ENC2010-A0274	The first chemical decontamination system for decommissioning in Italy - PHADEC Technology in Caorso	Benevenuto, F. (1); De Angelis, F. (1); Ricci, C. (1); Lupu, M. (1); Orlandi, S. (1) 1 - Ansaldo Nucleare, Italy
ENC2010-A0275	Life Cycle Management for Equipments in Nuclear Power Station Based on Reliability & Actual Condition	Da Lin, W. (1); Jing Quan, L. (1); Peng, L. (2) 1 - Institute of Nuclear Energy Science and Engineering Management, Department of Engineering Physics, Tsinghua University, China 2 - Su Zhou Nuclear Power Research Institute, China
ENC2010-A0287	Solving the Maintenance Dilemma of Ageing Controls in Nuclear Standby Generators The decision to retro-fit the control system with "Off the Shelf Technology"	Jackson, N. (1); Rees, C. (2); Yeremain, J. (3) 1 - Amhurst University Denver, United States 2 - Imperial College London, United Kingdom 3 - University of Toronto, Canada
ENC2010-A0300	Distribution and Transport of Debris Particles on Containment Floor during Blowdown and Recirculation	Bang, Y. S. (1); Lee, K. S. (1); Woo, S. W. (1); Park, J. Y. (1) 1 - Korea Institute of Nuclear Safety, Korea, Republic of
ENC2010-A0301	OWNER'S ENGINEERING MISSION FOR CERNAVODA UNITS 3 & 4	Esteban-Zazo Gomez, J. A. (1); Garcia-Orellana Loro, J. M. (1); Chirica, T. (2); Bastin, E. (3) 1 - Iberdrola Ingenieria y Construcción S.A Sociedad Unipersonal, Spain 2 - Member of the Executive Board of FORATOM, Member of the Romanian Atomic Forum – ROMATOM, Member of the Romanian Nuclear, Romania 3 - Tractebel Engineering, Belgium
ENC2010-A0314	IBERDROLA NPPs power up-rate	Garcia-Orellana Loro, J. M. (1); Martinez Gozalo, I. (1); Almoguera Garcia, R. (1) 1 - Iberdrola Ingenieria y Construcción S.A Sociedad Unipersonal, Spain
ENC2010-A0316	Corrosion Layers Analysis in VVER 440 Steam Generator using Mossbauer Spectrometry	Dekan, J. (1); Slugeň, V. (1); Lipka, J. (1); Tóth, I. (1) 1 - Department of Nuclear Physics and Technology, Slovak University of Technology Bratislava, Slovakia
ENC2010-A0344	CONTRACTOR'S ROLE (IMPACT) IN NUCLEAR SAFETY MANAGEMENT	Valverde, L. (1) 1 - Instituto de Empresa, Spain
ENC2010-A0352	Computer tools in support of decommissioning projects	Gimeno Blesa, M. E. (1); Gómez Rodríguez, C. A. (1); Martín Palomo, N.

		(2) 1 - SOCOIN, Spain 2 - ENRESA, Spain
ENC2010-A0373	Engineering Simulator perfecting nuclear plant operations	Gain, P. (1) 1 - CORYS T.E.S.S., France
ENC2010-A0382	Contamination reduction in a hot cell by use of a remote-operated laser system: A proof of concept	Champonnois, F. (1); Lascoutouna, C. (1); Long, H. (1); Thro, P.-Y. (1); Decroix, G.-M. (2); Viard, J. (2) 1 - DEN/DANS/DPC/SCP/LILM CEA/Saclay, France 2 - DEN/DANS/DMN/SEMI/SEL CEA/Saclay, France
ENC2010-A0401	Risk quantification in deterministic Procedures: Outage Key Safety Functions evaluation using Probabilistic Risk Assessment	M.Cid, M. (1); Dies, J. (1); Tapia, C. (1); Viñals, O. (1) 1 - Nuclear Engineering Research Group, Department of Physics and Nuclear Engineering, Technical University of Catalonia, Spain
ENC2010-A0407	A RADIOACTIVITY SENSOR FOR CONTINUOUS MONITORING OF AQUEOUS AND GASEOUS STREAMS.	Tarancon Sanz, A. (1); Rauret i Dalmau, G. (1); García Martínez, J. F. (1) 1 - Universitat de Barcelona, Spain
ENC2010-A0411	CONDENSATION WITHIN SMALL COMPARTMENTS DURING DESIGN BASIS ACCIDENTS	Grgic, D. (1); Cavlina, N. (1); Antolovic, A. (2) 1 - Faculty of Electrical Engineering and Computing, University of Zagreb, Croatia 2 - NPP Krško, Engineering Department, Slovenia
ENC2010-A0418	PLASMA TECHNOLOGY FOR LOW AND INTERMEDIATE WASTE TREATMENT	Gonzalez Fernandez-Conde, A. (1); Gutierrez Martinez, S. (1); Deckers, J. (2) 1 - Iberdrola Ingeniería y Construcción S.A Sociedad Unipersonal, Spain 2 - Belgoprocess, Belgium
ENC2010-A0426	MOBILE HOT CELL TRANSITION DESIGN PHASE STUDY FOR RADIOACTIVE WASTE TREATMENT ON THE HANFORD RESERVATION SITE	Robin, B. (1) 1 - AREVA TA, France
ENC2010-A0453	Six pressurizer nozzles Preemptive Weld Overlay repairs	Bosch Aparicio, C. (1); Piriz Benitez, P. (1); Hernando Perez, J. (1); Cortes, J. F. (1); Mattson, R. (2); Eng, N. (2); Jenkins, N. (2) 1 - Iberdrola Ingeniería y Construcción S.A Sociedad Unipersonal, Spain 2 - Structural Integrity Associates, Inc., United States

#### Life science applications - Poster

Abstract	Subject	Authors/Affiliations
ENC2010-A0005	Nuclear Emergency Response Exercises and Decision Support Systems – Integrating Domestic Experience with International Reference Systems.	Slavnicu, S. D. (1); Vamanu, D. V. (1); Gheorghiu, D. (1); Acasandrei, V. T. (1); Slavnicu, E. (2) 1 - National Institute of Physics and Nuclear Engineering, IFIN-HH, Romania 2 - Politechnica University of Bucharest, Romania
ENC2010-A0009	On the physical separation of the HTTL and dosimetric peaks in the glow-curve of TLD-100, and TLD-600	Alfassi, Z. (1); Weinstein, M. (2); German, U. (2); Magoz, B. (1) 1 - Department of Nuclear Engineering, Ben Gurion University, Beer Sheva, Israel 2 - Nuclear Research Center Negev, Israel
ENC2010-A0059	Indoor radon survey in the Vojvodina region	Todorovic, N. (1); Forkapic, S. (1); Bikit, I. (1); Mrdja, D. (1) 1 - Department of Physics, Faculty of Sciences, University of Novi Sad, Serbia and Montenegro
ENC2010-A0060	Search for TENORM sources in rivers sediments	Todorovic, N. (1); Bikit, I. (1); Mrdja, D. (1); Forkapic, S. (1) 1 - Department of Physics, Faculty of Sciences, University of Novi Sad, Serbia and Montenegro
ENC2010-A0069	Molecules labeled with cyclotron produced $^{201}\text{Tl}$ $^{3+}$ can become the challenge for the current	Mertens, J. (1); Van den Winkel, P. (1); Devis, L. (1); Rabeles, R. (1); Kersemans,

	ones labeled with reactor produced 99mTc.	K. (1) 1 - Vrije Universiteit Brussel, Belgium
ENC2010-A0075	6 MeV linac photon spectra reconstruction based on a mixed experimental-Monte Carlo scatter analysis technique	Miró, R. (1); Belén, J. (1); Juan Manuel, C. (2); Sergio, D. (2); Gumersindo, V. (1) 1 - Chemical and Nuclear Engineering Department. Polytechnic University of Valencia., Spain 2 - Hospital Clínic Universitari de València, Spain
ENC2010-A0077	BREAST CANCER AND NEGATIVE SENTINEL NODE BIOPSY. A FOLLOW-UP STUDY UP TO 9 YEARS	Martin-Comin, J. (1); Benitez, A. (1); Bajén, M. T. (1); Mora, J. (1); Ricart, Y. (1); Ramal, D. (1); Ortega, R. (2); Soler, T. (2); Gil, M. (2); López-Ojeda, A. (2); Massuet, C. (3) 1 - Nuclear Medicine Department. Hospital Universitari de Bellvitge-IDIBELL, Spain 2 - Unidad Funcional de Mama. Hospital Universitari de Bellvitge-IDIBELL, Spain 3 - S. Preventiva y Estadística. Hospital Universitari de Bellvitge-IDIBELL, Spain
ENC2010-A0084	DOSE OPTIMIZATION AND TREATMENT PLANNING IN PROTON RADIOTHERAPY: DEVELOPMENT AND USE OF MONTECARLO CODES BASED ON GEANT4 IN THE UNIVERSITY OF MURCIA	Torrente-Lujan, E. (1); Fernandez-Melgarejo, J. J. (1); Elsayad, R. (1) 1 - Universidad de Murcia, Spain
ENC2010-A0182	Instadose - Web Based System for Reading and Monitoring Dose Through Internet Access	Perle, S. (1); Kahilainen, J. (2); Bennett, K. (1); Vuotila, M. (3) 1 - Mirion Technologies, Dosimetry Services Division, United States 2 - Mirion Technologies, United States 3 - Mirion Technologies, Health Physics Division, Finland
ENC2010-A0193	Radiation Protection during waste retrieval of radioactive waste from near surface repository	Juhász, L. (1); Kapitány, S. (2); Barnabás, I. (2); Ormai, P. (2) 1 - National Research Institute for Radiobiology and Radiohygiene, Hungary 2 - Public Limited Company for Radioactive Waste Management, Hungary
ENC2010-A0471	Availability of Mo-99/Tc-99m: situation and prospects, end of May 2010	Deconinck, F. (1); Ponsard, B. (2) 1 - Vrije Universiteit Brussel, Belgium 2 - Belgian Nuclear Research Centre (SCK·CEN), Belgium
ENC2010-A0477	M.E.D.S SYSTEM: 3D Laser Models and Technical Documentation Integration	Garrido Garcia, J. (1) 1 - CT3 INGENIERIA, Spain

#### Education, training and knowledge management - Poster

Abstract	Subject	Authors/Affiliations
ENC2010-A0010	Academic design of Canada's Energy Systems and Nuclear Science Research Centre	Bereznai, G. (1); Perera, S. (1) 1 - University of Ontario Institute of Technology, Canada
ENC2010-A0021	SOGIN'S RADIOLOGICAL PROTECTION AND NUCLEAR SAFETY SCHOOL- Caorso Italy	Ghioni, G. (1); Mancini, F. (1); Romani, S. (1) 1 - Sogin, Italy
ENC2010-A0032	Negotiating towards a sustainable nuclear workforce	Hunt, A. (1) 1 - Magnox North - Wylfa Site, United Kingdom
ENC2010-A0036	Using a research reactor to teach practical radiation protection	Musilek, A. (1); Steinhauser, G. (1) 1 - TU Vienna, Atominstitut, Austria
ENC2010-A0049	Nuclear Management: A Graduate Education Program	Gunnerson, F. (1); Baldwin, C. (1) 1 - University of Idaho, United States
ENC2010-A0106	ENERGUS: The development of a world class skills training centre	Connor, P. (1); King, A. (1) 1 - ENERGUS, United Kingdom
ENC2010-A0113	Results and Lessons Learned of the First Edition of the MASTER in NUCLEAR ENGINEERING and APPLICATIONS	Herranz, L. E. (1); García Cuesta, J. C. (1); Marco, M. L. (1); Falcón, S. (1); Casas, J. A. (2)

		1 - Centro de Investigaciones Energéticas Medioambientales y Tecnológicas (CIEMAT), Spain 2 - Universidad Autónoma de Madrid (UAM), Spain
ENC2010-A0117	Reactor Dosimetry Knowledge Preservation and Development	Ilieva, K. (1); Belousov, S. (1); Mitev, M. (1) 1 - Institute for Nuclear Research and Nuclear Energy of Bulgarian Academy of Science, Bulgaria
ENC2010-A0150	European Master in Molecular Imaging (EMMI): an interdisciplinary program dedicated to in vivo Molecular Imaging	Ceccarelli, E. (1); Jimonet, C. (1); Tavitian, B. (1) 1 - Atomic Energy Commission, INSTN, France
ENC2010-A0158	CAPITALISING KNOWLEDGE INFRASTRUCTURE TO GAIN CUSTOMERS' CONFIDENT AND TRUST IN RADIATION TRAINING	Mohamad, D. (1); L. Juri, M. (1); Hassan, S. (1) 1 - Malaysian Nuclear Agency (Nuclear Malaysia), Malaysia
ENC2010-A0241	MAINTENING COMPETENCE IN RADIATION PROTECTION IN FRANCE WITH THE INSTN EXPERTISE	Massiot, P. (1); Bruchet, H. (1); Hammadi, A. (1); Da Silva, P. (2); Livolsi, P. (3); Perez, S. (4); Pin, A. (4); Videcoq, J. (5); 1 - CEA - INSTN (National Institute for Nuclear Science and Technology) CEA Saclay, France 2 - CEA - INSTN, CEA Cadarache, France 3 - CEA - INSTN, CEA Grenoble, France 4 - CEA - INSTN, France 5 - CEA - INSTN, CEA Marcoule, French Polynesia
ENC2010-A0288	DEVELOPMENT OF A RADIATION PROTECTION TRAINING SYSTEM AND PROFESSIONAL SKILLS MODEL IN A MULTINATIONAL OIL AND GAS INDUSTRY	Molteni, A. (1); Cerri, P. (1); Fresca fantoni, R. (1) 1 - eni S.p.A.- e&p division - Radiation Protection Department, Italy
ENC2010-A0303	How to preserve knowledge in a Nuclear Research Centre?	Couvreur, D. (1) 1 - SCK•CEN, Belgian Nuclear Research Centre, Belgium
ENC2010-A0354	Using a whole body counter to attract a younger generation to radiation and radiation protection topics	Breustedt, B. (1); Mohr, U. (1); Bohnstedt, A. (2); Knebel, J. (2) 1 - Karlsruhe Institute of Technology - Institute of Radiation Research, Germany 2 - Karlsruhe Institute of Technology - Programme Nuclear Safety Research, Germany
ENC2010-A0377	Engineering & Training simulator combined use for nuclear new plants	Gain, P. (1) 1 - CORYS T.E.S.S., France
ENC2010-A0454	Westinghouse European Trainee Program	Jimenez, G. (1) 1 - Westinghouse - INITEC NUCLEAR, Spain

#### Nuclear and civil society - Poster

Abstract	Subject	Authors/Affiliations
ENC2010-A0022	Assessment of the presence of anxiety in patients either receiving a radioiodine treatment or to whom a sentinel node detection is performed in a Nuclear Medicine Department	Domènech-Villardell, A. (1); Notta, P. (1); Ramal, D. (1); Rodríguez-Bel, L. (1); Bajén, M. T. (1); Benítez, A. (1); Mora, J. (1); Ricart, Y. (1); Martín-Comín, J. (1) 1 - Hospital Universitari de Bellvitge-IDIBELL, Spain
ENC2010-A0040	ENVIRONMENTAL AND SAFETY CONCERNS FOR NUCLEAR POWER GENERATION IN GHANA	Ampomah-Amoako, E. (1); Odoi, H. C. (2); Abrefah, R. G. (1); Ennison, I. (2); Aboh, I. J. K. (2); Sogbadji, R. B. M. (2); Nyarko, B. J. B. (2); Birikorang, S. A. (2) 1 - School of Nuclear and Allied Sciences, University of Ghana, Ghana 2 - National Nuclear Research Institute, Ghana Atomic Energy Commission, Ghana
ENC2010-A0440	SOCIAL ACCEPTENCE PROBLEM OF NUCLEAR ENERGY PROJECTS IN TURKEY AND SURVEY ON PUBLIC REFUSAL SYNDROME	Aydin, M. (1); Palabiyik, H. (2); Yavas, H. (2) 1 - Istanbul Technical University, Turkey 2 - Canakkale Onsekiz Mart University, Turkey

