



Nuclear 2009

The 2nd International Conference on Sustainable Development through Nuclear Research and Education

May 27-29, 2009
Pitești, România



CONFERENCE PROGRAM

CONFERENCE SPONSORS:



Canberra Packard



BANCA TRANSILVANIA*

RONEXPRIM
WE DELIVER PERFORMANCE

Standard Service

echipamente pentru testarea si analiza materialelor
INCHEIERI DE DEBARE - INCHEIERI DE GARANTARE - INCHEIERI DE
CONTRACTARE



MARCUS TRADING
Construcții civile și industriale, finisaje și instalații

		Room A Conference room	Room B S I	Room C S III	Room D Red Room
May 27, 2009	09:00 – 09:30	Registration			
	09:30 – 10:00	Opening Ceremony			
	10:00 – 11:00	Plenary Session			
	11:00 – 11:30	Coffee break			
	11:30 – 13:30	Plenary Session			
	13:30 – 14:30	Lunch			
	14:30 – 15:50		Nuclear Reactors	Radioactive Waste Management	Nuclear Safety
	15:50 – 16:10	Coffee break			
	16:10 – 17:30		Nuclear Reactors	Radioactive Waste Management	Nuclear Safety
19:00	Conference dinner				

May 28, 2009	09:00 – 11:00	Plenary Session			
	11:00 – 11:30	Coffee break			
	11:30 – 13:10		Nuclear Technology and Materials	Radioactive Waste Management	Education, Continuous Formation & Knowledge Transfer
	13:10 – 14:10	Lunch			
	14:10 – 15:50		Nuclear Technology and Materials	Radioprotection & Air, Water, Soil Protection	
	15:50 – 16:10	Coffee break			
	16:10 – 17:00	Round Table: Strategies in Energy			

May 29, 2009	08:00	Depart to ICN from Muntenia Hotel			
	08:30 – 11:00	Technical visit of the TRIGA reactor and Hot cell laboratory			
	11:00 – 13:00	Travel to Bran			
	13:00 – 15:00	Lunch in Vila Bran			
	18:00	Arrival in Pitesti			

09:00 – 09:30	Registration
09:30 – 10:00	Opening Ceremony

PLENARY SESSION**Room A**

10:00 – 10:30	Georges Van Goethem <i>European Commission, UE</i>	Towards a Common Nuclear Safety Culture through Joint Research and Training Programmes
10:30 – 11:00	Jean Pierre Van Dorsselaere <i>IRSN France</i>	Overview of IRSN R&D Activities on Severe Accidents
11:00 – 11:30	Coffee break	
11:30 – 12:00	Ivan Videnovic <i>IAEA Vienna, Austria</i>	IAEA Support to the Sustainability of Nuclear Research Institutions through Networking and Coalitions
12:00 – 12:30	Richard Poisson <i>ANDRA France</i>	The French Programme for Radioactive Waste Management Act of 28 June 2006
12:30 – 13:00	Peter Ernst <i>COG Canada</i>	Overview of CANDU Owners Group R&D Program
13:00 – 13:30	Serban Constantin Valeca <i>University of Pitesti-Romania</i>	Nuclear Knowledge – Demand or Pride?
13:30 – 14:30	Lunch	

May 27, 2009

Session I.1**Room D****Chairman:** Jean Pierre Van Dorsseleare**Co-chairman:** Ilie Turcu**Nuclear Safety and Severe Accidents**

14:30 – 14:50	ICN Pitesti, Romania	M. Constantin, A. Rizoiu	ASTEC Code Adaptability for CANDU Type Reactors
14:50 – 15:10	ICN Pitesti, Romania	D. Ohai, I. Dumitrescu, C. Doca, T. Meleg, D. Benga	FIPRED Project-Experiments and Calculations
15:10 – 15:30	ICN Pitesti, Romania	M. Mihalache, T. Meleg, V. Ionescu	Thermal Transients Effect on Specific Heat of Zr-Nb (2.5% Nb) Alloy
15:30 – 15:50	ICN Pitesti, Romania	T. Meleg, D. Ohai, M. Abrudeanu	Non-Isothermal Oxidation Kinetics of Zircaloy-4 Fuel Cladding
15:50 – 16:10 Coffee break			
16:10 – 16:30	ICN Pitesti, Romania	C. Doca, L. Doca	Obturing Surfaces in the Junction of Two CANDU Fuel Bundles
16:30 – 16:50	ICN Pitesti, Romania	Catana Alexandru, Ilie Prisecaru, Daniel Dupleac, Nicolae Danila	CFD Thermal-Hydraulic Analysis of a CANDU Fuel Channel
16:50 – 17:10	ICN Pitesti, Romania	M. Farcasiu, M. Nitoi, M. Apostol	Human Reliability Analysis for Accident Sequences In NPP

May 27, 2009

Session I.2**Room B****Chairman:** Georgio Glinatsis**Co-chairman:** Marin Ciocanescu**Nuclear Reactors**

14:30 – 14:50	Mansoura University, Egypt	M. Sallah, C. Margeanu	Time-Dependent Neutron Transport In Participating Finite Media With Pure-Triplet Scattering
14:50 – 15:10	ENEA, Italy	G. Glinatsis, D.Gugiu, G. Grasso, C. Petrovich	Nuclear Data Impact on the Core Neutron Design
15:10 – 15:30	Politecnico di Milano, Italy	C. Artioli, S. Bortot	Preliminary Core Characterization for an ELSY-Oriented Demonstrative Reactor
15:30 – 15:50	ICN Pitesti, Romania	D. Gugiu, G. Glinatsis, G. Grasso, C. Petrovich, C. Artioli	Radiation Damage and Activation Evaluations for the ELSY Reactor
15:50 – 16:10 Coffee break			
16:10 – 16:30	University of Bucharest, Romania	Mădălina Tronea	Standardization of Nuclear Power Reactors - From Theory to Practice
16:30 – 16:50	ICN Pitesti, Romania	I. Prodea, C. Mărgeanu, A. Rizoiu, I. Prisecaru, N. Dănilă	Dynamic Performance Evaluation of a Proposed ACR-1000 SDS1 Design
16:50 – 17:10	ICN Pitesti, Romania	A. Rizoiu, C. Mărgeanu	Thorium Fuel Studies for CANDU Reactors
17:10- 17:30	CITON Bucharest, Romania	Th. Oprescu, C. Petran	Analysis Criteria to Decrease Costs and Schedule for a Nuclear Facility Decommissioning

May 27, 2009

Session II.1**Room C****Chairman: Philippe Montarnal****Co-chairman: Daniela Diaconu****Radioactive Waste Management**

14:30 – 14:50	CEA France	E. Deville, Ph. Montarnal, L. Loth, C. Chavant	Alliances: Simulation Platform for Nuclear Waste Storage and Disposal
14:50 – 15:10	CEA France	A. Genty	Unsaturated Flow Simulations with Alliances Platform. From Validation to Application
15:10 – 15:30	CEA France	N. Letterier, E.Deville, L. Trotignon, B. Bary, E. Stora	Reactive Transport Models and Simulation with ALLIANCES
15:30 – 15:50	ICN Pitesti, Romania	D. Diaconu, A. Constantin, C. Bucur, Al. Toma	Uncertainty Analysis in the Pre- operational Monitoring Design of the Saligny Site
15:50 – 16:10 Coffee break			
16:10 – 16:30	Japan Atomic Energy Agency, Japan	Y. Ohashi, Y. Tsunashima M. Murata	Study of Aqueous Process using Hydrochloric Acid for Radioactive Waste Including Uranium
16:30 – 16:50	ICN Pitesti, Romania	Marin Mincu, Gabriela Androne, Cosmina Lazăr, Ion Man, Laurentiu Dinu	Laboratory for Characterization of Spent Nuclear Fuel and High/Medium Level Radioactive Waste. Experimental Results and Performances
16:50 – 17:10	University Al. Ioan Cuza Iasi, Romania	K. Popa	The High Temperature Behavior of Some Nuclear Waste Forms
17:10- 17:30	CNCAN Bucharest, Romania	D. Dogaru, O. Niculae, M. Terente, G. Jinescu, O.Duliu	Estimation of the Transfer Times of Radionuclides in Geological Layers of Saligny Site

May 27, 2009

May 28, 2009

PLENARY SESSION**Room A**

09:00 – 09:30	Jean Yves Blanc <i>CEA France</i>	Challenges for Hot Laboratories in Europe in the Context of Nuclear Renaissance
09:30 – 10:00	Didier Haas <i>IE Petten-Netherlands</i>	Main Orientations of the JRC Nuclear Fission Programme
10:00 – 10:30	Vasile Radu <i>ICN Pitesti, Romania</i>	Thermal Fatigue Crack Growth in Mixing Tees <i>Nuclear Piping - An Analytical Approach</i>
10:30 – 11:00	Duk-Sang HA <i>KHMP, Korea</i>	Nuclear Power in Korea
11:00 – 11:30	Coffee break	

May 28, 2009

Session I.3**Room B****Chairman:** Jean Yves Blanc**Co-chairman:** Cornel Muscaloiu**Nuclear Technology and Materials**

11:30 – 11:50	University of Omar Al-Mukhtar, Libya	F. A. Ikraiam, M. K. Alfakhar, S. S. Mohamed	The Effect of Some Absorber-Materials Atomic Numbers on Buildup Factors
11:50 – 12:10	IFTAR Bucharest, Romania	F. Scarlat, A. Scarisoreanu, E. Badita, E. Mitru	Magnetic Compression Method Applied in Winterberg Thermonuclear Reactor
12:10 – 12:30	ICN Pitesti, Romania	I. Pirvan, L. Velciu, M. Mihalache, Gh. Oncioiu	Influence of the Coolant pH on Zircaloy-4 Claddings Oxidation and Hydriding in Operation Conditions at High Burn-Up
12:30 – 12:50	ICN Pitesti, Romania	M. Rădulescu, M. Mihalache, L. Popa, S. Mogosan	Amines Duality Used as Regulating Substances of NPP Secondary Circuit Water Chemistry
12:50 – 13:10	ICN Pitesti, Romania	M. Mihalache, M. Deaconu, V. Ionescu	A Software Tool for Evaluation of Hydrogen Absorbed in Pressure Tube
13:10 – 14:10	Lunch		
14:10 – 14:30	IFTAR Bucharest, Romania	F. Scarlat, A. Scarisoreanu	Proposal of Laser Proton Accelerator for Nuclear Waste Transmutation
14:30 – 14:50	ICN Pitesti, Romania	P. Carlan, I. Chicinas, A. Dinu, T. Meleg, M. Mihalache	A Novel Material for Target of Irradiation for Iridium γ -Source
14:50 – 15:10	CITON Bucharest, Romania	V. Serban, A. Panait, M. Androne, G. A. Ciocan	Mitigation of Seismic Action on Engineering Structure by Inovative SERB - SITON Solution
15:10 – 15:30	Kinectrics Inc., Toronto, Ontario Canada	A.C. Wallace	Fuel Channel Failure Investigation, 1983-2009
15:30 – 15:50	ICN Pitesti, Romania	D. Lucan, M. Fulger, V. Lucian	Corrosion of the CANDU Steam Generator Tubesheet Due to Aqueous Environment pH
15:50 – 16:10	Coffee break		

Session II.1**Room C***Chairman: Richard Poisson**Co-chairman: Alain Genty***Radioactive Waste Management**

11:30 – 11:50	ICN Pitesti, Romania	P. Ilie, L. Didita, G. Ghita	Theoretical and Scaling Factor Methods to Calculate the Radioactivity in Operational Waste Streams from Unit 1 of Cernavoda NPP
11:50 – 12:10	ICN Pitesti, Romania	L.C.Dinu, R.F. Nita, O. Ichim, D. Anghel, G.C. Lazar, G. Androne, A. Benga	Reproducibility Tests for the Scaling Factors Associated to the Radioactive Waste Generated in the Hot Cells of INR Pitesti
12:10 – 12:30	ANDRAD, Romania	G. Ionita, V. Andrei, O. Niculae, A. Petrescu, A. Sorescu	Current Status of Siting a New Near Surface Repository in Romania
12:30 – 12:50	ANDRAD, Romania	S. Diaconu, I. Covreag	Public Perception on Nuclear Energy and Radioactive Waste – the Second Romanian Opinion Poll
12:50 – 13:10	ICN Pitesti, Romania	Gh. Vieru	Qualification Testing Facilities for Type A, B and C Packages to be Used for Transport and Storage of Radioactive Materials
13:10 – 14:10	Lunch		

May 28, 2009

Session II.2 & II.3**Room C***Chairman: Peter Ernst**Co-chairman: Ion Popescu***Radioprotection and Air, Water and Soil Protection**

14:10 – 14:30	EAEA, Egypt	Kh.A. Salman, W.A. Mowafy, M. A. Gomaa	Gamma Radiation and Radon Exhalation Rate Measurements from Naturally Occurring Radioactive Materials in Petroleum Industry
14:30 – 14:50	CNE Cernavoda, Romania	I. Popescu, C. Chitu	Internal Tritium Doses and Risk Estimation
14:50 – 15:10	IFIN Bucharest, Romania	D. Galeriu, A. Melintescu	IAEA EMRAS (Environmental Modeling For Radiation Safety) and Contributions from IFIN-HH
15:10 – 15:30	ICN Pitesti, Romania	Al. Toma, O. Velicu	ICN and CNCAN Experience in Remediation of Norm Contaminated Sites – A Case Study
15:30 – 15:50	ICSI Valcea, Romania	I. Vagner, C. Varlam, Gh. Ionita	Modification Processes of Zeolites Used for Depollution of Radioactive Wastewaters
15:50 – 16:10	Coffee break		

May 28, 2009

Session III.1**Room D***Chairman: Georges Van Goethem**Co-chairman: Maria Roth***Education, Continous Formation and Knowledge Transfer**

11:30 – 11:50	University Politehnica Bucharest, Romania	Petre Ghitescu	European Nuclear Education Network Association – Support for Nuclear Education, Training and Knowledge Management
11:50 – 12:10	ICN Pitesti, Romania	M. Roth, Ch. Coleman, V. Grigoriev, V. Inozemtsev	Round-Robin Testing – An Efficent Method of Know-How Transfer
12:10 – 12:30	University Politehnica Bucharest, Romania	M. Ceclan, M. Coeck, R. E. Ceclan, G.Van-Goethem	ENETRAP II: Towards an European Approach for Education & Training, and Mutual Recognition of Professional Qualifications in Radiation Protection
12:30 – 12:50	ICN Pitesti, Romania	V. Balaceanu, M. Constantin, M. Apostol	The Main Achievements of the “Systematic Approach for Nuclear Knowledge Transfer and Preservation in Romania” Project
12:50 – 13:10	University of Beijing, China	Wang Ruo Peng	Nuclear Physics at Peking University
13:10 – 14:10	Lunch		

May 28, 2009

Session III.2 (ROUND TABLE)**Room A***Chairman: Rodin Traicu**Co-chairman: Mircea Ionescu***Strategies in Energy**

16:10 – 16:25	Cambridge University, UK	R. J. Heffron	Increasing Security of Supply: The Search for Stable Models of Financing for New Nuclear Build in the European Union
16:25 – 16:40	RAAN, Romania	R. Traicu	Romanian Energy in the European Context
16:40 – 16:55	Ministry of Economy Romania	Mircea Ionescu	Nuclear Energy – An Important Component of the Romanian Energy Strategy
16:55 – 17:10	ICN Pitesti, Romania	M. Cojan	SNE-TP Strategic Research Agenda – The Nuclear Renaissance
17:10 – 17:25	Nuclear Agency, Bucharest, Romania	E. Bancheş, D. Rusu, M. Constantin, R. Nicolae	Romanian Perspective on IAEA-INPRO Initiative
17:25 – 18:00	Panel Discussions		

May 28, 2009

POSTERS SESSIONS

Session I – NUCLEAR ENERGY

Nuclear Safety and Severe Accidents

S1-P1	Melania Bigu, Mircea Tenescu, Iulian Pavel Nita <i>CITON Bucharest, Romania</i>	Simplified Calculation for Feedwater Heaters for Abnormal Steady State Regimes
--------------	--	--

Nuclear Reactors

S1-P2	Ruxandra Cristina Toma, Nineta Balaş, Cristina Alice Mărgeanu <i>University Politehnica Bucharest, Romania</i>	Evaluation of the Thorium Fuel Content In PHWRs
S1-P3	Dumitru Bărbos, Constantin Păunoiu, Petre Busuioic <i>Institute for Nuclear Research, Pitesti, Romania</i>	α -Determination in the $E^{-}(^{174})$ Epithermal Neutron Spectrum at TRIGA 14MW Reactor
S1-P4	Iosif Prodea, Cristina Alice Mărgeanu, Andrei Rizoiu, Ilie Prisecaru, Nicolae Dănilă <i>Institute for Nuclear Research, Pitesti, Romania</i>	Fuel Bundle Geometry and Composition Influence on Coolant Void Reactivity Reduction in ACR and CANDU Reactors
S1-P5	Şerban Constantin Valeca, Marin Ciocănescu, Marin Preda <i>Institute for Nuclear Research, Pitesti, Romania</i>	Implementation of National and International Requirements in a Nuclear Safety and Control System for Human Error Decrease
S1-P6	T.Meleg, D. Ohai, M. Abrudeanu* <i>Institute for Nuclear Research, Pitesti, Romania</i> *University from Pitesti, Romania	Specific Heat And Heat Capacity Measurements on Oxidized Zy-4
S1-P7	Catana Alexandru, Constantin Toma <i>Institute for Nuclear Research, Pitesti, Romania</i>	Thermo-Hydraulic Analysis of LEU Modified Cintichem Target Irradiated in TRIGA Reactor
S1-P8	M. Media, M. Preda, M. Stănescu, I. Marieta* <i>Institute for Nuclear Research, Pitesti, Romania</i> *S.C. Mico Electro S.R.L., Sector 5, Bucuresti	Increase of Safety in the Alarm and Signal System for Defects at the Electric Power Supply of the TRIGA- INR Pitesti Reactor

Nuclear Technology and Materials

S1-P9	Mohammed K. Alfakhar and Fawzi A. Ikraiam <i>University of Omar Al-Mukhtar, El-Beida, Libya</i>	Investigation of the Properties of Even-Even W Isotopes Using Interacting Boson Model
S1-P10	M. Fulger, D. Lucan, L.Velciu <i>Institute for Nuclear Research, Pitesti, Romania</i>	Carbon Steel Corrosion Prevention During Chemical Cleaning of Steam Generator Secondary Side Components
S1-P11	Alice Dinu <i>Institute for Nuclear Research, Pitesti, Romania</i>	The Morphology of SCC Cracks in the Case of Incoloy 800 Tested in Caustic Environment
S1-P12	M. Dragomir, M. Rădulescu, M. Tunaru, L. Velciu, Gh. Oncioiu <i>Institute for Nuclear Research, Pitesti, Romania</i>	Considerations Referring to the 304L SS Corrosion Behavior in CAN- DEREM Decontamination Solution
S1-P13	Mariana TUNARU <i>Institute for Nuclear Research, Pitesti, Romania</i>	The Study of Growth of Some Biofilm on Carbon Steel Surfaces
S1-P14	Alexandra Havris <i>Institute for Nuclear Research, Pitesti, Romania</i>	Electrochemical Studies of UO_2 Nuclear Fuel in Sulfat Solution
S1-P15	Alexandra Havris <i>Institute for Nuclear Research, Pitesti, Romania</i>	The Determination of the Flat-Band Potential of UO_2 Nuclear Fuel in Contact with Alcaline Solutions from the Mott-Schotky Plots

S1-P16	Doina Stefanescu, Maria Radulescu, Simona Mogosan <i>Institute for Nuclear Research, Pitesti, Romania</i>	Effect of Organic Acids Traces on the Carbon Steel Corrosion Behavior
S1-P17	George Matei, Mircea Crucean, Ion Oprea <i>Institute for Nuclear Research, Pitesti, Romania</i>	Primary Coolant Monitoring System for TRIGA Reactor
S1-P18	Ion Pirvu, Alexandru Pulpa <i>Institute for Nuclear Research, Pitesti, Romania</i>	Studies About Level of Ageing Related to Isolation of Cables Used in Cernavoda NPP
S1-P19	Laurentiu Popa, Maria Rădulescu, Lucian Velciu <i>Institute for Nuclear Research, Pitesti, Romania</i>	Corrosion Susceptibility of Some Titanium Alloys In Presence of Some Anions Resulted from Radiolytic Dissociation of Chloride Solutions
S1-P20	Leliana Dumitrache, Mariea Deaconu, Ion Furtună, Dan Doanță <i>Institute for Nuclear Research, Pitesti, Romania</i>	The Contamination of the Low Enriched Uranium Fuel With Oxygen During the Manufacturing Process
S1-P21	Lucian Velciu, Laurentiu Popa, Viorel Ionescu, Ștefan Dragomir <i>Institute for Nuclear Research, Pitesti, Romania</i>	The Influence of Heating Rate on the Pressure Tube Microstructure
S1-P22	Tiberiu Gyongyosi, Valeriu Nicolae Panaitescu <i>Institute for Nuclear Research, Pitesti, Romania</i>	Applied Research in the Profilometric Control of Inside Surfaces State of The Heat Exchanger Tubes
S1-P23	Maria Mihalache, Tiberiu Meleg, Viorel Ionescu <i>Institute for Nuclear Research, Pitesti, Romania</i>	Microstructural Changes in Oxidised Zr-Nb2.5%Nb Alloy in Thermal Transients
S1-P24	Viorel Ionescu, Maria Mihalache, Lucian Velciu <i>Institute for Nuclear Research, Pitesti, Romania</i>	Characterization of Elastic Properties of Zr-2.5%Nb Pressure Tube by Measurements of Ultrasonic Velocity
S1-P25	Mariea Deaconu, Tiberiu Meleg, Leliana Dumitrache, N. Bidica, N. Sofilca <i>Institute for Nuclear Research, Pitesti, Romania</i>	Studies on Behaviour of Titanium Hydride Metal-Powder for Tritium Storage
S1-P26	Ion Ionita, Valeriu Florescu <i>Institute for Nuclear Research, Pitesti, Romania</i>	Adapting the TRIGA Pitesti Q-Space Focusing Crystal Neutron Diffractometer for Stress Determinations
S1-P27	Mihai Stoica, Ion Pirvu <i>Institute for Nuclear Research, Pitesti, Romania</i>	Integrated Electronic Device for Processing Impulses from Neutron Detectors
S1-P28	Dumitru Puiu, Tiberiu Gyongyosi, Elena Dinu <i>Institute for Nuclear Research, Pitesti, Romania</i>	Behaviour at Thermal Ageing of the Power Cable Components Through Penetration
S1-P29	Silviu Ionescu, Octavian Uță, Marcel Pârvan <i>Institute for Nuclear Research, Pitesti, Romania</i>	CANDU Fuel Sheath Behavior in Power Ramp Conditions
S1-P30	Alexandru-Ionut Nitu, Mioara Tacica <i>Institute for Nuclear Research, Pitesti, Romania</i>	SEM and Optical Methods for In-Situ Investigation of Zircaloy-4 Cladding Tub

Session II – ENVIRONMENTAL PROTECTION

Radioactive Waste Management

S2-P1	Gheorghe Dogaru, Felicia Dragolici, Laura Ionascu, Gheorghe Rotarescu <i>IFIN Bucharest, Romania</i>	Treatment and Conditioning of Historical Radioactive Waste
S2-P2	C. Bucur, M. Olteanu, M. Pavelescu <i>Institute for Nuclear Research, Pitesti, Romania</i>	Cesium and Cobalt Diffusion Coefficients in Saligny Geologic Formations
S2-P3	Carmen Arsene <i>Institute for Nuclear Research, Pitesti, Romania</i>	I-129 Migration Studies in the Unsaturated Soils of Saligny Site
S2-P4	Mirela Olteanu, Crina Bucur <i>Institute for Nuclear Research, Pitesti, Romania</i>	Effect of Non-Uniformity Distribution of I-129 Inventory on Source Term
S2-P5	Gheorghe Barariu, Roxana Cristiana Georgescu, Florin Sociu <i>CITON Bucharest, Romania</i>	Waste Minimization Fundamental Principles Used in Radioactive Waste Management Plan for Decommissioning of a CANDU- 600 Nuclear Power Plant

Radioprotection & Air, Water and Soil Protection

S2-P6	Lidia Pughel, Mircea Popescu <i>IFIN Bucharest, Romania</i>	Modernization of Tritium in Air Monitoring System for CANDU Type NPP
S2-P7	Corneliu Talpalariu, Jeni Talpalariu, Corina Matei, Vaja Niculae, Oprea Ion, Radu Gheorghe, Savu Silvia <i>ICN Pitesti, Romania</i>	Implementing an Original Dynamic Redundancy Expert System for Gamma Radiation Monitoring in Pitesti TRIGA Reactor
S2-P8	Marius Constantinescu, Elena David, Felicia Bucura, Claudia Sisu, Claudia Sandru <i>ICSI Valcea</i>	Removal Of Hydrocarbons C ₂ To C ₁₀ and VOC's from Gaseous Mixture, Which Contains Hydrogen, Using Adsorbents Based on Synthetic Zeolites
S2-P9	Catalina Chitu, Ion Popescu, Vasile Simionov <i>CNE Cernavoda</i>	ALARA Tools and Performance Indicators at Cernavoda NPP
S2-P10	Relu Dobrin, Cristian Dulama, Alexandru Toma <i>Institute for Nuclear Research, Pitesti, Romania</i>	The Results Of The INR-Pitesti to an International In-SITU Intercomparison Exercise
S2-P11	Relu Dobrin, Cristian Dulama, Alexandru Toma Margarit Pavelescu <i>Institute for Nuclear Research, Pitesti, Romania</i>	Beta Spectrum Unfolding for Measurement of Multiple Labelled Samples
S2-P12	Traian Mauna, Andrișca Mauna <i>AREN Romania</i>	Radon, Insidious Danger
S2-P13	Alina Miu, Anisoara Preda, Mihaela Vladu, Andreea Simionescu, Cristina Barbu, Relu Dobrin <i>ICSI Valcea</i>	Studies on Monitoring the Concentration of Radionuclides Radiation Gamma Emitters in Environmental Samples
S2-P14	Diana Costinel, V. V. Grecu, Raluca Vremera <i>ICSI Valcea</i>	Hydroclimatic Studies Using Stable Isotopes Fingerprints

Session III – SUSTAINABLE DEVELOPMENT

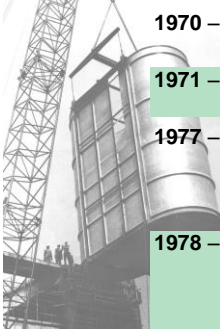
Strategies in Energy

S3-P1	Gh. Florescu, Valeriu Panaitescu, Constantin Agapi, Ioan Mircea, Tiberiu Gyongyosi, Ioan-Bogdan Florescu <i>Institute for Nuclear Research, Pitesti, Romania</i>	The Humanity at the Frontiers with New Technologies for Sustained Energy Production
--------------	---	---

Education, Continuous Formation and Knowledge Transfer

S3-P2	Mirela Nitoi, Mihail Cojan, Margarit Pavelescu <i>Institute for Nuclear Research, Pitesti, Romania</i>	Evaluation of Knowledge Management Performances in NULIFE Network
S3-P3	Carmen Marian Boruga <i>RAAN, Romania</i>	Human Resources Management in Nuclear Organizations, from the Perspective of a New Social Paradigm
S3-P4	Karin Popa <i>University A.I.I.Cuza, Iasi, Romania</i>	Radiochemical Education in Iasi-Romania
S3-P5	M. Apostol, M. Constantin, V. Balaceanu <i>Institute for Nuclear Research, Pitesti, Romania</i>	Knowledge Loss Risk Assessment in Institute for Nuclear Research Pitesti

Background



- 1970** – A mission of IAEA experts in Romania favorably advises the necessity to establish the Institute.
- 1971** – **Institute for Nuclear Technologies (ITN)** is founded, with the main purpose to provide scientific and technological support for the Romanian Nuclear Program.
- 1977** – Research laboratories are commissioned on the new premises in Mioveni-Colibasi, at 130 km NW from Bucharest. The Institute assignments are enlarged by involvement in design activities of nuclear system components. Its name is now changed into the **Institute for Nuclear Power Reactors (IRNE)**.
- 1978** – Quality Assurance Requirements were settled for the reactor operation. The first QA manual was accepted by the Nuclear Authority. Today the Quality Management System is extended to all activities which take place in the institute: research, design, manufacturing and exploitation in the nuclear field;
- 1979** – November 18: the first criticality is attained at the TRIGA Materials Testing Reactor, built within the institute.
- 1980** – Commissioning of the Pilot-scale plant for the fabrication of CANDU-type fuel elements;
- 1983** – Commissioning of the Post-Irradiation Examination Laboratory (LEPI).
- 1984** – Commissioning of the Endurance Test Rig for fuel bundles at the Out-of-Pile Testing Department.
- 1984** – Commissioning of the Radioactive Waste Treatment Plant.
- 1985** – Starting of CANDU fuel bundles fabrication in SPEC (Unit for Fuel Elements Production).
- 1989** – With the arrival of the F/M Heads #4 and #5 intended for Cernavoda NPP-Unit 2, the F/M head test stand is commissioned.
- 1990** – Incorporated in the National Authority for Electric Power (RENEL), IRNE becomes the **Institute for Nuclear Research (ICN)**.
- 1992** – The Department for Fuel Elements Production separates from the Institute and becomes a distinct unit within RENEL, under the name of Nuclear Fuel Factory (FCN).
- 1992** – Beginning of the fuel conversion process at the TRIGA reactor.
- 1994** – The Institute specialists significantly contribute to the commissioning of Cernavoda NPP - Unit 1.
- 1995** – Commissioning at Cernavoda NPP-Unit 1 of the Failed Fuel Location System (SLCD), equipment entirely designed and manufactured by the Institute.
- 1996** – On April 16, the first criticality is attained at Cernavoda NPP-Unit 1, directly involving ICN specialists.
- 1998** – The ICN becomes **SCN**, a subsidiary of the Romanian Authority for Nuclear Activities (RAAN), as an affiliate branch.
- 1999** – Return of spent fuel to the country of origin (USA).
- 2003** – **2005** – Testing and delivery of two Fuelling Machine Heads (F/M) at Cernavoda NPP – Unit 2.
- 2004** – 25th anniversary of the TRIGA reactor commissioning.
- 2006** – Completion of the TRIGA-SSR Reactor conversion from HEU fuel (Highly Enrich Uranium) to LEU fuel (Low Enriched Uranium).

a c c e s p l a n



Institute for Nuclear Research Pitești

Câmpului Street, 1,
Mioveni, 115400,
România

Phone: +40 248 213 400; fax: +40 248 262 449

www.nuclear.ro