



8 -11 November 2023
Meridian Bolyarski Hotel, Veliko Tarnovo, Bulgaria

PROGRAMME

Recommendation to the speakers: Keep 3-5 minutes of the time of your presentation for Q&A

Wednesday, 08.11.2023	
16:00 - 18:00	<i>Registration, Entrance Hall</i>
19:30 - 22:30	<i>Welcome wine cocktail – Entrance Hall</i>

Thursday, 09.11.2023	
08:00 - 09:00	<i>Registration, In front of the Kaloyan Conference Room</i>
<i>Kaloyan Conference Room</i>	
09:10	Mladen MITEV , BgNS President – <i>Welcome words</i>
09:15	Leon CIZELJ , ENS president – <i>Welcome words - Video</i>
09:20	Pavlin GROUDEV , Chair of the conference, <i>Opening the Conference</i>
<i>Session: NEWS AND OVERVIEWS</i>	
Chairs: Mladen MITEV (INRNE-BAS, BG) and David WINFIELD (Canada)	
09:30 - 09:45	Jiří ŽDÁREK , UJV Rez, Czech Republic, <i>”OFFERR Project Status of Work”</i>
09:45 - 10:00	Plamen V. PETKOV ¹ , Dimitar Lyutov ¹ , Nikol Borisova ² , Boyan Todorov ² and Hristo Iliev ¹ , Sofia University “St. Kliment Ohridski,”, Bulgaria, ¹) Faculty of Physics; ²) Faculty of Chemistry and Pharmacy, <i>”Overview of Small Modular Reactors (SMR) concept, based on STAR-LM, proposed in Sofia University”</i>
10:00 - 10:15	Dimitar TONEV , Institute for Nuclear Research and Nuclear Energy, Bulgarian Academy of Sciences, Bulgaria, <i>”Institute for Nuclear Research and Nuclear Energy – Bulgarian Academy of Sciences Activities - 2023”</i>
10:15 - 10:30	Lyuben MARINOV , Kozloduy NPP, Bulgaria <i>”Coal to Nuclear Transition – Advanced nuclear technologies implementation”</i>
10:30 - 10:45	Rusiyana TSIBRANSKI , Kozloduy NPP, Bulgaria, <i>”Participation in Interlaboratory comparisons, a Quality criterion for Radioanalytical Laboratory Measurements”</i>
10:45 - 11:15	<i>Coffee break</i>



8 -11 November 2023

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	Session: NPP ISSUES AND SAFETY
	Chairs: Krasen RASHKOV (Kozloduy NPP, BG) and Viktor KOLYKHANOV (Odessa NPU, UA)
11:15 - 11:30	Angel PAPUKCHIEV , Gesellschaft für Anlagen- und Reaktorsicherheit (GRS) gGmbH, Germany, <i>''Coupling of Computational Fluid Dynamics Codes with Structural Mechanics and System Thermal-Hydraulics Programs and Their Validation on Nuclear Reactor Relevant Experiments''</i>
11:30 - 11:45	Marta PETRUNEAC ¹ , Marin Focșăneanu ¹ , Robert Sîrbu ¹ , Anca-Diana Popescu ² , ¹ - Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering, Magurele, ² - Institute of Archeology "Vasile Pârvan" Bucharest, Romania, <i>''Advanced facilities for material analysis at IFIN-HH: a micro-focus X-ray CT study''</i>
11:45 - 12:00	Lora RAYCHEVA , Georgi Varbanov, EnproConsult Ltd, Bulgaria, <i>''Interpretation of the natural hazards parameters for the purpose of PSA''</i>
12:00 - 12:15	Valentin GEORGIEV ¹ , Petya Vryashkova ² , Pavlin Groudev ² , ¹ Kozloduy NPP, ² Institute for Nuclear Research and Nuclear Energy, Bulgarian Academy of Sciences, Bulgaria, <i>''Assessment of primary to secondary side leakage for different break sizes of Steam Generator (SG) tube rupture''</i>
12:15 - 12:30	Petar GORCHEV , Bulgaria, <i>''Advanced Passive PWR (AP 1000) Reactor with advanced technology and independent from active forces Passive Safety System''</i>
12:30 - 12:45	Blagorodka VELEVA ¹ , Jussi Paatero ² , Elena Hristova ¹ , ¹ National Institute of Meteorology and Hydrology (NIMH), Bulgaria, ² - Finnish Meteorological Institute (FMI), Finland, <i>''Studies of atmospheric radioactivity in Bulgaria during the last six decades''</i>
13:00 - 14:20	<i>Lunch break</i>
	Session: POSTERS
	Chairs: Petya VRYASHKOVA (INRNE-BAS, BG) and Krassimira ILIEVA (BGNNS)
14:30 - 15:20	<i>The posters that will be presented are listed below.</i> <i>Request for a short (3 min) presentation has to be done preliminary to the chairs.</i> 1. Victor Kolykhanov ^{1*} , Igor Kozlov ¹ , ¹ Odesa Polytechnic National University, Faculty of Energy, Odesa, Ukraine, <i>''Study of the diffusion neutron flux from point source crossing a flat boundary using Monte-Carlo method''</i>



8 -11 November 2023

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	<ol style="list-style-type: none">2. I. L. Kozlov, M.O. Holovin, S. V. Vistiak, O. I. Kozlov, Odessa Polytechnic National University, Ukraine, <i>”Strategy for the Reliable Power Supply Development Taking into Account the Renewable Energy Sources”</i>3. E. Geleva, D. Tonev, Institute for Nuclear Research and Nuclear Energy, Bulgarian Academy of Sciences, Bulgaria, <i>”Natural radioactivity content in Bulgarian mineral water”</i>4. Krasen Rashkov, Kozloduy NPP, Bulgaria, <i>”Constructive Solutions to avoid Containment Bypass in KOZLODUY NPP during severe accidents”</i>5. Tzvetelina Beshirova, Kozloduy NPP, Bulgaria, <i>”Core Committee Meeting 2024”</i>6. Ivan Stoyanov, Kozloduy NPP, Bulgaria, <i>”Defects in the operation of nuclear fuel – nature and development”</i>7. Greta R. Nedelcheva, Kozloduy NPP, Bulgaria, <i>”Formation of SS (surveillance specimens) groups for testing and research”</i>8. Pavel Batalov, Kozloduy NPP, Bulgaria, <i>”The contribution of “INVESTMENTS DEPARTMENT” in management of the NPP KOZLODUY investment program”</i>9. Deyan Atanasov, Kozloduy NPP, Bulgaria, <i>”The realization of the investment program – a guarantee for the NPP KOZLODUY’s future”</i>10. Marin Foçșăneanu¹, Marta Petroneac¹, Robert Sîrbu¹, Anca-Diana Popescu²- Hulubei National Institute for R&D in Physics and Nuclear Engineering (IFIN-HH), ² - Institute of Archeology "Vasile Pârvan" Bucharest, Romania, <i>”Non-destructive investigations of various archaeological findings”</i>11. L. Dobrev, D. Dimitrova, B. Slavchev, Z. Zahariev, S. Krstevski, Institute for Nuclear Horia Research and Nuclear Energy - Bulgarian Academy of Sciences, <i>”Radioanalytical procedure for determination of uranium specific activity in drinking water”</i>
15:20 - 15:50	<i>Coffee break</i>
	Session: HUMAN RESOURCES IN NUCLEAR
	Chairs: Albena GEORGIEVA , Nuclear Regulatory Agency, Bulgaria and Kalin FILIPOV (TU-Sofia, BG)
15:50 - 16:15	Albena GEORGIEVA , Nuclear Regulatory Agency, Bulgaria, <i>”Human resources development in the nuclear sector. National Strategy and 3-years action plan”</i>
16:15 – 16:30	Iskren CVETKOV , Kozloduy NPP, Bulgaria, <i>”Enhancing the Existing National Nuclear Capacity Building Infrastructure to Support Human Resource Development and Nuclear Knowledge Management Aspects. Attracting the Next Generation of Nuclear Professionals via Interactive Methods and Instruments (BUL 0013 Project, IAEA TC Programme)”</i>



8 -11 November 2023

Meridian Bolyarski Hotel, Veliko Tarnovo, Bulgaria

16:30 - 16:45	<u>Marinela ILIEVA</u> , Abilico AD, Bulgaria, <i>”The opportunities for cross-border and multidisciplinary training, provided through the ENEN2plus project, financed by the EC HORIZON EUROPE program”</i>
16:45 - 17:00	<u>Nadezhda RANDELOVA</u> , NPP Kozloduy, Bulgaria, <i>”An open lesson on Aage Niels Bohr with contributions to physics”</i>
17:00 - 17:15	<u>Venko STOEV</u> , Kozloduy NPP, Bulgaria, <i>”Competition for youth nuclear innovation – partnership between Kozloduy NPP and BgNS society”</i>
17:15 - 17:30	<u>Valentina LAZAROVA</u> , Kozloduy NPP, Bulgaria, <i>”Challenge for teenagers – competition on the topic „Nuclear energy – a secure future”</i>
17:30-17:45	<u>Nevena VELICHKOVA</u> , Kozloduy NPP, Bulgaria, <i>”Plan your future in nuclear energy”</i>
17:45 – 18:00	<i>Discussion</i>
Friday, 10.11.2023	
<i>Kaloyan Conference Room</i>	
YOUNG GENERATION COMPETITION	
Chairs: Angel PAPUKCHIEV (GRS gGmbH, Germany) and Lyuben MARINOV (Kozloduy NPP, BG)	
8:30 – 10:30	<p><i>Oral presentation</i> <i>For presentation - 15 min</i></p> <ol style="list-style-type: none"> <u>Nikol BORISOVA</u>, Plamen Petkov and Hristo Iliev, Physics department, Sofia University “St. Kliment Ohridski”, Bulgaria, <i>”Investigation of Stretching Force Reaction at Normal Conditions of Capillary Bridges for Liquid Solutions Used as VVER-1000 Coolants”</i> <u>Galina DIMITROVA</u>, A. Demerdjiev, D. Tonev, Institute for Nuclear Research and Nuclear Energy, Bulgarian Academy of Sciences, Bulgaria, <i>”Assessment of the Radiation Fields Induced by Beam Losses at the INRNE-BAS Cyclotron Facility”</i> <u>Viktoria MONDESHKA</u>, Technical University of Sofia, Bulgaria, <i>”Analysis and assessment of the significance of nuclear energy in the context of sustainable energy development”</i> <u>Petar HRISTOV</u>, Sofia University “St. Kliment Ohridski”, Bulgaria, <i>”Identification of VVER-1000 nuclear fuel defects“</i> <u>Ivelina STEFANOVA</u>, Sofia University “St. Kliment Ohridski”, Bulgaria, <i>”VVER-1000 reactor core internal structure contribution to facilitation of the core design “</i>



8 -11 November 2023

Meridian Bolyarski Hotel, Veliko Tarnovo, Bulgaria

	<p>6. <u>Tsvetelina YORDANOVA</u>, Sofia University “St. Kliment Ohridski”, Bulgaria, <i>”Nuclear fuel cycle implemented in Kozloduy NPP“</i></p> <p>7. <u>Debora MITEVA</u>, Sofia University “St. Kliment Ohridski”, Bulgaria, <i>”Primary VVER-1000 circuit capability to perform the function of a safety barrier“</i></p> <p>8. <u>Miglena SHARKOVA</u>¹ and Venelina Boishina^{2, 1)} Technical University of Sofia, Bulgaria, ²⁾ University of Chemical Technologies and Metallurgy –Sofia, Bulgaria, <i>”Approach of using Case-Base Reasoning in combination of Fault Decision Tree for Risk Assessment of NPP Control“</i></p>
10:30 – 10:35	<i>Voting for oral presentation</i>
10:35 – 10:50	<p>Poster presentation <i>Request for a short (3 min) presentation has to be done preliminary to the chairs</i></p> <p>1 <u>Boris ANASTASOV</u>¹, Plamen V. Petkov², ¹International School UWEKIND, ²Sofia University “St. Kliment Ohridski”, <i>”Nuclear propulsion engines, new ways for travels in space“</i></p> <p>2 <u>Branimira MARKOVA</u>, Technical University of Sofia, Bulgaria, <i>”Use of small modular reactors for seawater desalination”</i></p> <p>3 <u>Nikolay HRISCHEV</u>, Technical University of Sofia, Bulgaria, <i>”Radioactive pollution due to human activities“</i></p>
10:50 – 10:55	<i>Voting for the poster presentation</i>
10:55 – 11:25	<i>Coffee break</i>
11:30 - 15:30	<i>Excursion on Veliko Tarnovo Town</i>
	<p style="text-align: center;">Session: NPP ISSUES AND SAFETY (cont.)</p>
	<p style="text-align: center;">Chairs: Yavor ANDREEV (Theta consult, BG) and Igor KOZLOV (Odessa NPU, UA)</p>
15:45 - 16:00	<u>Dimitar LAZAROV</u> , Kozloduy NPP, Bulgaria, <i>”Defining the isothermal reactivity coefficient of Kozloduy NPP Units 5 and 6 with two positions of the CR control group in a regular reactivity Control Equipment (RCE)”</i>
16:00 - 16:15	<u>Ludmil N. NEDELICHEV</u> , Kozloduy NPP, Bulgaria, <i>”Prolongation of the terms for irradiation of assemblies with SS in a reactor of the VVER-1000 (B-320) type”</i>
16:15 – 16:45	<i>Coffee break</i>



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	Session: APPLICATION AND EXPERIMENT IN NUCLEAR
	Chairs: Lyuben DOBREV (INRNE-BAS, BG) and Plamen PETKOV (Sofia University “St. Kliment Ohridski, BG)
16:45 – 17:00	Dimitar Lyutov ¹ , <u>NASKO GORUNSKI¹</u> , Plamen V. Petkov ^{1*} , Boyan Todorov ² and Hristo Iliev ¹ , Sofia University “St. Kliment Ohridski,”, Bulgaria, ¹ Faculty of Physics, ² Faculty of Chemistry and Farmacy, ’Experimental study of liquid tin for application in small modular fast reactors (SMFR)’
17:00 - 17:15	<u>Ion BURDUCEA</u> , G. Veliša, R. F. Andrei, A. Enciu, D. Iancu, D. A. Mirea, A. Spiridon and M. Straticiu, Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering –IFIN-HH, Magurele, Romania, ’11 years of experiments at the 3 MV Tandetron from IFIN-HH’
17:15 - 17:30	<u>Angel DEMERDJIEV</u> , D. Tonev, N. Goutev, G. D. Dimitrova, Institute for Nuclear Research and Nuclear Energy, Bulgarian Academy of Sciences, Bulgaria ’Shielding Assessment of the INRNE-BAS Cyclotron facility with the Monte Carlo Code FLUKA’
17:30 - 17:45	<u>Blagorodka VELEVA</u> ¹ , B. Slavchev ² , L.Dobrev ² , L.Kinova, D. Dimitrova ^{2, 1)} National Institute for Meteorology and Hydrology, ²⁾ Institute for Nuclear Research and Nuclear Energy, Bulgarian Academy of Sciences, Bulgaria, ’Application of Alpha Spectrometry for Analyses of Actinides in Low Level Radioactive Waste from Kozloduy NPP’
19:30 – 23:30	Gala dinner, Hotel Restaurant Awarding the best YG presentations

YG COMPETITION COMMISSION

Kalin Philipov, Associate Professor Dr., Head of Department of Thermal Power Engineering and Nuclear Power Engineering, Technical University of Sofia - Chairman

Mladen Mitev, Associate Professor Dr., Technical University of Sofia and Institute for Nuclear Research and Nuclear Energy of Bulgarian Academy of Sciences

Ludmil Tzankov, Associate Professor Dr.

Competition Criteria

The evaluation criteria for the competition are: correspondence with the conference title, actuality, clear statement of objectives, subject, results and conclusions, understandability, attractiveness and visualization, balance between text and images.