



INTERNATIONAL CONFERENCE ON RADIATION APPLICATIONS

In Physics, Chemistry, Biology,
Medical Sciences, Engineering
and Environmental Sciences

June 10-12, 2024 | University of Granada | Spain | www.rap-conference.org | info@rap-conference.org

CONFERENCE PROGRAMME

Central European Time	Monday, June 10	
08:00–19:00	Registration	Lobby
09:00	Official Opening	Room A: Salon de Grados
Central European Time	Plenary Session Chairperson: Alberto Palma	Room A: Salon de Grados
09:30	Invited talk Marko Andjelkovic, On-Chip Particle Detectors for Self-Adaptive Integrated Circuits for Space Applications	
Central European Time	Oral session Radiation Technologies in Industry and Environment Chairperson: Quentin Crowley	Room A: Salon de Grados
10:20	P. Kump, J. Cabello, J. F. Facetti-Masulli, Geochemical aspect of Caapucu Height at Southeastern Paraguay by X-ray fluorescence and neutron activation analysis	
10:40	 A. Savrasov, V. Zheltonozhsky, D. Myznikov, V. Slisenko, L. Sadovnikov, Determination of the content of ^{93}Zr and ^{93}Mo in NPPs radioactive materials	
11:00	 A. Khutsistova, V. Rozanov, I. Matveychuk, A. Chernyaev, On the issue of taking into account the physical characteristics of radiation sources used in combined radiation technologies for sterilization of bone implants	
11:20	 S. Zolotov et al., Algorithm for reconstruction of electron accelerator beam energy spectrum for high-precision dosimetric planning of radiation treatment	
Central European Time	Oral session Special Session - Radiation Effects Analysis and Fault-Tolerant Design for Space Applications Chairperson: Marko Andjelkovic	Room B: Salon de Conferencias Fisymat
10:00	S. Vairachilai, Z. Stamenkovic, S. P. Raja, Machine Learning Model for Classification of Space Radiation	
10:20	F. Vargas, M. Krstic, M. Andjelkovic, S. Andreev, A. Balashov, M. Ulbricht, J. Chen, Robust Systems and Technology Dissemination for Space Applications: from cross-layer analytics to an open-access reliability framework	
10:40	J. Chen, M. Andjelkovic, M. Krstic, Agile Hardware Development Flow for Radiation-Hardened System in Aerospace Applications	
11:00	R. T. Syed, M. Andjelkovic, F. Vargas, M. Ulbricht, M. Krstic, A survey on multi-level fault injection in ai accelerators	

11:20	F. Kuentzer et al., Peakrad - A completely European, ITAR-free microcontroller for space applications	
Central European Time	Oral session Neutron and Heavy Ion Radiations, Radiation Physics Room C: Classroom M3 Chairperson: Eric Suraud	
10:00	C. Guerrero, B. Fernández, HiSPANoS fast neutron irradiation facility at CNA: capabilities and first applications	
10:20	V. Filová, B. Vrban, J. Lüley, Š. Čerba, O. Glavo, V. Nečas, The fast neutron radiography using PADC material	
10:40	O. Glavo, B. Vrban, Š. Čerba, J. Lüley, V. Filová, V. Nečas, Assessing SFR SUBassembly Depletion via Variational Analysis with the SCALE Code System	
11:00	 Z. Sobhy et al., Track structure based microdosimetry Simulation of energy deposition of electron and protons in liquid water using the Geant4-DNA	
11:20	 Y. Khobbaizi, A. Fathi, S. Nabil, M. Mkimel, A. Ardouz, K. Sbiaai, Characterizing Novalis-Tx Linear Accelerator Fields: Monte Carlo Simulation in 6 MV SRS Mode with GEANT4/GATE	
11:40	Refreshments	Hall
Central European Time	Oral session Radiation Measurements Room A: Salon de Grados Chairperson: Hong Joo Kim	
12:10	G. Tabatadze, From mapping to quantification: Digital autoradiography of ²²⁶Ra in human skeleton	
12:30	B. Kozłowska, K. Antończyk-Szewczyk, G. Woźniak, The use of Fricke gel PVA - GTA detectors and Gafchromic™ EBT3 Ballcube I dosimetry films in Gamma Knife blocked exposures	
12:50	I. Komatina, M. Živanović, P. Toroi, N. Kržanović, A. Tietäväinen, Half-value layer measurements in diagnostic radiology using X-ray multimeters	
13:10	 Y. Sato, T. Kakuto, T. Tanaka, H. Shimano, Construction of a Compton camera-equipped robotic system capable of moving autonomously towards the radiation source	
Central European Time	Oral session Radiation detectors Room B: Salon de Conferencias Fisymat Chairperson: Gintautas Tamulaitis	
12:10	G. Kramberger, Presentation of CERN-DRD3 collaboration on solid state detectors R&D	
12:30	E. Yilmaz et al., Fabrication of silicon-based PIN photodiodes and evaluation of preliminary electrical characterizations for radiation applications	
12:50	I. Ruiz-Garcia, J. A. De la Torre González, A. J. Palma, D. Guirado, M. Anguiano, M. A. Carvajal, 3D dosimeter sensor based on the commercial PIN photodiode BPW34S	
13:10	G. Lastovicka-Medin, M. Rebarz, G. Kramberger, J. Kroll, The Impact of the gain in Trenched LGAD on Ghost signals by comparing the Trenched PIN to Trenched LGAD	
Central European Time	Oral session Radiochemistry Room C: Classroom M3 Chairperson: Sanja Vranješ-Đurić	
12:10	K. J. B. Alloko et al., Purification of Cs+ ion by BPA@MOF for the management of contaminated water	
12:30	H. McCallum, E. Corcoran, F. Kelly, Z. She, Polonium sequestration from copper for dark matter studies	
12:50	 B. Daci, E. Bylyku, D. Prifti, K. Tushe, Radiochemical purity control of ^{99m}Tc-mertiatiade (MAG-3) radiopharmaceutical	

13:30	Break	
Central European Time	Plenary Session Chairperson: Theo Mertzimekis Room A: Salon de Grados	
15:00		Invited talk Olivier Radakovitch, Modelling the transfer of radionuclides in aquatic environments
Central European Time	Oral session Radiation Measurements Chairperson: Beata Kozłowska Room A: Salon de Grados	
15:30		M. Voytchev, Testing and qualification of radiation protection instrumentation in France
15:50		H. J. Kim, D. Q. Nguyen, Y. S. Hwang, S. Kim, B. Q. Hieu Phan, Unfolding accelerator-based neutron spectrum by iterative Bayesian method using trans-stilbene scintillation detector
16:10		Š. Čerba et al., Measurement of neutron source anisotropy using the Mini Labyrinth experimental setup
16:30		B. Seslak, S. Tarjan, A. Mauring, S. Patterson, I. Vukanac, J. Burnett, Development of a Novel 2D Printing Technique for production of radioactive surfaces
16:50		S. Akça Özalp, Z. G. Portakal Uçar, Y. Z. Halefoğlu, M. Topaksu, Thermoluminescence of beta-irradiated YBO₃:Nd³⁺ phosphor synthesized by combustion method: A preliminary study
Central European Time	Oral session Radiation Detectors Chairperson: Gregor Kramberger Room B: Salon de Conferencias Fisymat	
15:30		G. Tamulaitis et al., Improvement of timing properties of Ce-doped multicomponent garnet scintillators by heavy aliovalent codoping
15:50		A. M. Raso et al., Measurement and Monte Carlo simulation of diamond detector sensitivity to 14 MeV neutrons
16:10		G. Siltzovailis, V. Lagaki, I. Madesis, T. J. Mertzimekis, Characterization of a HPGe-based spectrometer for in situ, long-term operation near the seabed
16:30		N. Potiriadis, A. Skouroliaou, P. Liaparinis, S. David, Energy resolution evaluation of 3x3 mm² GAGG:Ce scintillators coupled to various SiPMs
16:50		M. Bilge Demirköz, M. Zeynep Arslan, H. Düyen, U. K. Kılıç, SEE Tests of candidate commercial of-the-shelf (COTS) electronic components to be used in Space Radiation Monitor
Central European Time	Oral session Environmental Chemistry, Environmental Physics Chairperson: Predrag Kolarž Room C: Classroom M3	
16:30		P. Nekhoroshkov, J. Bezuidenhout, R. le Roux, I. Zinicovscaia, N. Yushin, M. Frontasyeva, Neutron activation analysis in long-term studies of the elemental ratios in marine mussels for assessment of the ecological features of the coastal zones
16:50		K. Aguilar, R. Contreras, C. Rivera, A. García, Atmospheric radiations and satellite remote sensing: An Integrated study of SO₂ and NO₂ abundances, and dispersion modeling using hysplit in the territory of Guatemala from 2005 to 2021
17:10	Refreshments Hall	

Central
European
Time

Oral session

Radiation Measurements

Chairperson: Gordana Lastovicka-Medin

Room A: Salon de Grados

17:40

J. Nikolov et al., **Modification of standard LSC method for determination of uranium in water**

18:00

P. Semwal, M. Prasad, V. Ayri, K. Singh, M. Joshi, R.C. Ramola, **Investigation of spatial distribution of natural radioactivity in soil using gamma-ray spectroscopy and its radiological implications**

18:20



F. Cfaraku, I. Bërdufi, E. Spahiu, M. Shyti, **Validation of the method of gross alpha beta radioactivity measurement through international comparisons**

18:40



D. Prifti, K. Tushe, J. Shano, **Natural Radiation Background Assessment and Determination in Tirana District, Albania**

19:00



J. Shano, E. Bylyku, D. Prifti, K. Bode, B. Daci, **Assessing ambient radiation: A comprehensive study of airborne natural radioactivity in Albania**

Central
European
Time

Oral session

Material Science, Radiation Effects, Radiation Detectors

Chairperson: Miguel Angel Carvajal

Room B: Salon de Conferencias
Fisymat

17:40

E. Suraud, J. Kohanoff, L. Stella, P.-G. Reinhard, **A guided tour in the description of irradiation dynamics of molecules and nanoparticles**

18:00

G. Raikova, E. Mihaylova-Dimitrova, T. Malakova, P. Tzvetkov, T. Koutzarova, K. Krezhov, **On the development of carbon-free gas diffusion electrodes to improve the zinc-air rechargeable batteries performance**

18:20

E. Yilmaz, A. Kahraman, U. Gurer, E. Doganci, O. Yilmaz, A. Mutale, **Comparison of the effects of different film coating techniques on the structural and electrical properties of $\text{HfSiO}_4/\text{n-Si}$**

18:40

A. Mutale, S. C. Deevi, E. Yilmaz, **Co-60 gamma irradiation response on the structural and electrical properties of silicon nanowire-based $\text{Al}/\text{SiO}_2/\text{SiNWs}/\text{n-Si}$ MOS devices**

19:00

E. Yilmaz et al., **Determination of electrical parameters of the gallium nitrite based photodiode with simulation**

Central
European
Time

Oral session

Microwave, Laser, RF and UV radiations, Food Irradiation

Chairperson: Zoran Stamenkovic

Room C: Classroom M3

17:40



D. Kuqi, E. Zeneli, M. Kuqali, **The monitoring and assessment of electromagnetic fields near one or more base stations for telecommunication systems**

18:00



M. Vinicius Silva, A. Teles, O. Araujo, A. Paula, D. Oliveira, R. Lopes, **Arborescence in low voltage aluminum electric cable using images generated by X-ray microtomography and COMSOL multiphysics**

18:20



V. Ipatova et al., **Changes in the concentration of volatile organic compounds in foods as indicators of chemical transformations after irradiation**

18:40



M. Chibisova et al., **Effect of ionizing radiation on germination, yield and diseases of wheat in laboratory and field conditions**

19:00



Y. Zubritskaya et al., **Effect of irradiation on the productivity and phytosanitary condition of potatoes**

19:20



T. Popović, J. Ristić Djurović, S. Ćirković, S. Janković, J. Debeljak Martačić, S. Ranković, **Influence of static magnetic field (SMF) of 100 mT on hen egg fatty acids profile**

19:45–21:45

Welcome cocktail – Faculty Garden

Central European Time		Tuesday, June 11	
08:30–13:00		Registration	Lobby
Central European Time		Plenary Session Chairperson: Antonio Lallena	Room A: Salon de Grados
09:00		Invited talk Angel Ibarra, Irradiation Facility Relevant for Fusion Materials: IFMIF-DONES	
Central European Time		Oral session Radiation Processing for Environmental Applications, Radioecology Chairperson: Edyta Łokas	Room A: Salon de Grados
09:30		T. J. Mertzimekis, I. Madesis, V. Lagaki, G. Siltzovalis, P. Vasileiou, Beyond the state-of-the-art solutions for in situ, long-term monitoring of radioactivity in the marine environment: the project RAMONES	
09:50		M. Frontasyeva, Moss biomonitoring of radionuclides	
10:10		A. Peshkova et al., Uptake of gold, silver and copper nanoparticles in <i>Calendula officinalis</i> and their effect on plants on biochemical parameters	
10:30		A. del Carmen Arriola-Velásquez et al., Using natural radionuclides to trace sediment dynamics in a coastal zone	
10:50		R. Jakhu, A. Ignatov, O. Chaligava, I. Zinicovscaia, Quantitative study of the effect of fertilizers on radioactive content of soil from agriculture lands of Russia	
Central European Time		Oral session Special Session IFMIF-DONES Chairperson: Angel Ibarra	Room B: Salon de Conferencias Fisymat
09:30		M. A. Carvajal et al., Response of 400nm RADFET to a photon beam	
09:50		I. Álvarez, J. A. De la Torre, M. Anguiano, A. M. Lallena, Neutron and gamma sensitivity for a SPND using Monte Carlo simulation	
10:10		J.A. Moreno-Pérez et al., A comprehensive characterization of gas detectors in response to X-rays	
10:30		A. Pérez et al., Development of deuterium-deuterium compact neutron source	
10:50		Á. Quero-Ballesteros et al., Spectrometry of cosmic-ray neutrons with HENSA++. Commissioning and project status	
11:10		G. Zhou, BLUME: A blanket functional materials module for the Helium Cooled Pebble Bed breeding blanket in IFMIF-DONES	
Central European Time		Oral session Radiobiology, Biomedicine, Cancer Research Chairperson: Vijay Singh	Room C: Classroom M3
09:30		A. Arzenton et al., Validation of a biophysical model for the radiobiology of radiopharmaceuticals	
09:50		V. Jurisic, Tests for determining NK cell activity in laboratory practice	

10:10	M. Tan, Hormesis effect on advanced cancer patients by Radium Spa in Japan	
10:30	 S. Zeneli, M. Shyti, M. Ikonomi, Changes in the hormone receptor status of residual breast carcinoma	
10:50	 V. Martynyuk, O. Gromozova, I. Hretskyi, Y. Tseyslyer, The effect of extremely-weak microwave radiation in the millimeter range on the bioluminescence of photobacteria <i>Photobacterium phosphoreum</i> IMV B-7071	
11:30	Refreshments	Hall
12:00–13:30	Poster Sessions Radiation Measurements, Radiation Technologies in Industry and Environment Chairpersons: Jasna Ristić Djurović, Andrey Panitskiy	Hall
TU1	M. Janković et al., Application of electrolytic enrichment to minimize the detection limit in the case of low level tritium activity measurement on LSC	
TU2	H.-J. Fu, Y.-W. Tsang, C.-C. Chang, D.-S. Liu, Surface dose analysis of different wound dressings for the IMRT head/neck phantom simulating the head and neck patients receiving radiation dose with VMAT (Volumetric Modulated Arc Therapy)	
TU3	A. Kojić, N. Kržanović, L. Bakrač, M. Živanović, J. Vlahović, HVL and dose rate response of solid-state detectors in Mo/Mo and W/AI mammography fields	
TU4	D. Topalović, J. Šolc, M. Borowski, S. Pojtinger, A. Fernandes, A. Kojić, Advancing Traceability in medical X-ray imaging dosimetry within the TraMeXI project: Introduction of AutoSpectr Software for automated computation of X-ray spectra and their parameters	
TU5	K. Kehagia, D. Xarchoulakos, Po-210 levels in imported selected seafood samples for consumers in Greece	
TU6	B. M. Mendes, D. de Castro Pacheco, L. C. Meira Belo, T. P. Ribeiro de Campos, Analysis of small closed cabins for whole body counter for background radiation shielding	
TU7	E. Andrade, K. Vital, T. Fonseca, T. Silva, T. Campos, B. Mendes, Computational and experimental estimation of the calibration coefficient of an <i>in vivo</i> counter for 18F-FDG brain activity	
TU8	P. Blahušiak et al., Development of device for the determination of neutron source emission rate based on the manganese bath technique in the Slovak Institute of Metrology	
TU9	Y.-S. Min, J.-M. Park, Introduction of automatic calibration system development for KOMAC	
TU10	S. Vranješ-Đurić et al., Design of system for the production of radiopharmaceuticals sodium iodide (¹³¹I) capsules	
TU11	A. Teles, A. P. Almeida, A. Machado, D. Oliveira, R. Lopes, A study of the characterization potential of microplastics embedded in soil applying 3D X-ray microtomography	
TU12	P. Nenzi et al., Top-implant accelerator: Development toward a user facility	
TU13	J. Lüleý, P. Blahušiak, B. Vrban, Š. Čerba, Cross-section induced uncertainties for manganese sulphate bath technique	
12:00–13:30	Poster Sessions Radiation Detectors, Material Sciences, Radiation Physics, Environmental Chemistry, Space Research, Microwave, Laser, RF and UV radiations Chairpersons: Fabian Vargas, Huseyin Karacali	Hall
TU14	A. Balabekyan, G. Hovhannisyan, S. Gaginyan, G. Ayvazyan, H. Zohrabyan, A. Margaryan, Application of Low Pressure Multi-Wire Proportional Chamber (LPMWPC) for fission fragment detection	
TU15	J.A. Moreno-Pérez, I. Ruiz-García, P.P. Valsivieso-Mayoral, A.J. Palma López, R. Vila Vázquez, M.A. Carvajal Rodríguez, Characterization of the ionization chamber CRGR10-C5B-UG2 under a high dose rate Co-60 source	

- TU16** A. P. Garrido, A. J. Pérez Ávila, P. E. Araque, D. G. Llorente, A. J. Palma López, M. Á. Carvajal Rodríguez, **NFC-dosimeter for MOSFET sensors with higher voltage operation**
- TU17** M. Cruceru, A. T. Serban, **An YAG:Ce scintillator detector for gamma radiations**
- TU18** T. Koutzarova et al., **On the structure and magnetic properties of BaFe₁₀Al₂O₁₉ nanohexaferrites**
- TU19** A. Bescrovnyi et al., **Stress effect during double irradiation of WC-10Co alloy with high-energy xenon ions and 1.25 MeV gamma**
- TU20** N. Tomic, H. Bekerat, S. Devic, **Comparison of energy dependence and dose response of the new EBT4 with EBT3 GafChromic film models**
- TU21** G. Hovhannisyan, T. Bakhshian, A. Balabekyan, **Proton-induced reactions on enriched 120-Sn at the energies up to 18 MeV: Comprehensive analyses via stacked-foil target technic**
- TU22** A. Dávalos, J. F. Facetti Masulli, P. Kump, **Biogeochemical aspects of selected elemental content in *Ilex paraguayensis* S.H from Eastern Paraguay II by X-Ray fluorescence**
- TU23** K. Barnes, C. Arumainayagam, **The role of low-energy (< 20 eV) electrons in astrochemistry**
- TU24** J. Trajković, S. Savić, M. Ilić, A. Ilić, **Transmission and attenuation of the millimeter-wave OAM beams through the layers of tissue**
- TU25** H. Petkova, Ts. Shalamanova, R. Simionov, **Simulation of magnetic field exposure from built-in transformers. Possible methods of reducing exposure**
- TU26** Ts. Shalamanova et al., **Pilot study on electromagnetic fields generated by battery electric vehicles**

16:15 / 18:00

Excursion to Alhambra / Excursion to Albaicín

Central European Time		
Wednesday, June 12		
08:00–18:00	Registration	Lobby
Central European Time	Oral session Radioecology Chairperson: Marina Frontasyeva	Room A: Salon de Grados
08:30	 A. Alboloushi, New development of radium analysis in water samples using MnO₂ resin and alpha spectrometry	
08:50	E. Łokas, K. Wojciechowski, K. Koltonik, D. Sala, K. Brudecki, A. Pasieka, Anthropogenic contaminants in glaciers from the Northern Hemisphere	
09:10	A. Walencik-Łata, B. Kozłowska, K. Szkliniarz, The concentrations of dissolved ^{234,238}U isotopes in rainwater collected in Silesia Voivodeship in Poland	
09:30	P. Bossew et al., A remarkable very small-scale natural radiation anomaly in Poços de Caldas, Brazil	
09:50	 A. Ion, A. Cosac, G. Săbău, V. V. Ene, Stream sediments exploration for natural radioactivity and ²³⁸U, ²³³Th, ⁴⁰K bearing minerals. Case study: Upper Arges River basin, Romania	
10:10	 A. Ylli, F. Mitrushi, F. Elezi, F. Ylli, Radiosensitivity of bread wheat varieties treated with physical mutagens cultivated in Albania	

Central European Time	Oral session Radiation Protection Chairperson: Kiril Krezhov		Room B: Salon de Conferencias Fisymat
08:50		J. Vlahovic et al., Non-linearity investigation of a novel hybrid-dosimetry system according to IEC 62387:2020	
09:10		B. Vrbat et al., Assessing radiation exposure and room effect in the new lab with a DD neutron generator at STU	
09:30		Y. N. Kim, S. Shin, C.-L. Kim, Sensitivity of neutron energy spectrum to estimate of radioactive source term in bio-shield of pressurized water reactor	
09:50		S. Shin, Y. N. Kim, C.-L. Kim, Consideration of operation history for estimation of radioactivation in pressure vessel of Kori nuclear power unit 1	
10:10		B. Vucaj, K. Tushe, D. Prifti, Dismantling of theratron equinox head with Co-60 radioactive source and personal doses assessment	
Central European Time	Oral session Medical Physics Chairperson: Nada Tomic		Room C: Classroom M3
08:30		H. V. Hong, V. T. Thi Thanh, P. N. Tri Toan, L. P. Thi Cam, D. Lu The, T. T. Huu Ngan, Determination of initial electron beam profile in the 15MV Siemens Primus medical linear accelerator by GATE/GEANT4 simulation toolkit	
08:50		N. Kalyvas et al., Thickness optimization of granular phosphor scintillators for use in low activity ionizing radiation spectrometers: The Gd₂O₂S:Tb theoretical paradigm	
09:10		D. Xhako, E. Spahiu, S. Hoxhaj, N. Hyka, The application of AI-based techniques for early detection of Breast Cancer (BC)	
09:30		I. Selmani, E. Bakiri, P. Malkaj, Profiles of absorbed dose for the 18 MV energy radiation beam	
09:50		D. Xhako, S. Hoxhaj, E. Spahiu, N. Hyka, How the Covid-19 radiological examinations have impacted the future of tumor diseases	
10:10		V. Doltchinkova, S. Lozanova, A. Ivanov, M. Kitanova, R. Nikolov, C. Roumenin, Effect of constant magnetic field on methemoglobinemia erythrocytes	
10:30	Refreshments		Hall
Central European Time	Plenary Session Chairperson: Marija Sljivic-Ivanovic		Room A: Salon de Grados
11:00		Invited talk Peter Hofvander, Evaluation of occupational exposure to ionizing radiation, UNSCEAR 2020/2021 Report, Annex D	
Central European Time	Oral session Radon and Thoron Chairperson: Dobromir Pressyanov		Room A: Salon de Grados
11:30		M. Mousavi Aghdam, R. Rateau, P. Guyett, Q. Crowley, An extensive study on the impact of building and construction materials on radiation exposure: Incorporating airborne gamma surveys, ²²²Rn and ²²⁰Rn exhalation rate testing, mineralogical surveys, high-resolution microscopic scans, and geostatistical analysis	
11:50		F. Ambrosino, M. Javed, Study on zeolites for radon adsorption and detection	
12:10		V. Radolić, M. Poje Sovilj, K. Navratilova Rovenska, I. Fojtikova, D. Stanić, I. Miklavčić, The first remediation of elevated radon levels in one public school building in Croatia – A case study	

12:30	Z. Bawitlung, Vanram Lawma, B. K. Sahoo, Measurements of radon content in water and radon mass exhalation rate in soil samples collected from high cancer incidence area in India	
12:50	 F. Mitrushi, B. Daci, K. Tushe, E. Bylyku, D. Prifti, Determination of radon gas activity level in bottled drinking water from different companies in Albania	
Central European Time	Oral session Nuclear Forensics, Radiation Protection Room B: Salon de Conferencias Chairperson: Jovana Nikolov Fisymat	
11:30	E. Warzecha, N. Uhnak, M. Haney, L. Greenwood, B. Pierson, Neutron irradiations to improve nuclear data in support of nuclear forensics	
11:50	J. Sabol, The role of quantities and units in the communication of CBRN risk to the public with special emphases on N and R components	
12:10	 I. Halevy et al., Advancing nuclear safeguards: Automated fission track analysis via synthetic model generation and image analysis tools. Analysis for nuclear forensics using U-Net model	
12:30	 E. Spahiu, M. Shyti, F. Cfarku, Determination of activity concentration in different coffee samples consumed in Albania and their Radiological risk in the Human Body	
12:50	 S. Machraoui, S. Labidi, Gamma spectrometry analysis of natural radioactivity in soil samples from the phosphate area in southern Tunisia and its radiological risk assessment	
13:10	 M. Shyti, S. Zeneli, E. Spahiu, F. Cfarku, Assessment of radiological impacts of radionuclides in soil samples of Dajti national park	
Central European Time	Oral session Radiation Oncology, Radiotherapy, Medical Imaging Room C: Classroom M3 Chairperson: Tarcisio Passos Ribeiro de Campos	
11:30	 I. Muçollari, A. Xhumari, A. Mano, A. Cangu, Stereotactic radiosurgery treatment plan quality for skull base intracranial tumours	
11:50	 A. Saadi, A. Elanique, R. Gschwind, P.-E. Leni, N. Arbor, Z. Aitelcadi, Investigating secondary neutron production in radiotherapy using CR-39 detectors and Monte Carlo simulations	
12:10	 A. Ardouz, R. El Baydaoui, A. Abarane, Y. Khobbaizi, M. Mkimel, M. Bougteb, Retrospective analysis of CBCT repositionment in prostate radiotherapy	
12:30	 M. Teodosievska Dilindarski, A. Atevikj, D. Lukarski, Evaluating the transferability of VMAT plans between dosimetrically matched Varian Clinac iX units for brain and head and neck cancer patients using an end-to-end test	
12:50	 M. Bilski et al., Computer aided target volume delineation for postoperative radiation therapy in brain glioma patients with the use of the hybrid Artificial Intelligence model	
13:10	 R. Ferreira da Silva, L. F. Moreira de Almeida, M. do Socorro Nogueira, F. Gadelha Guimarães, Automated cropping and alignment of ACR and CBR mammography phantom images	
13:30	Break	
15:00–16:30	Poster Sessions Radiation protection, Nuclear Forensics, Radiation Processing for Environmental Applications, Radioecology, Radon and Thoron Hall Chairpersons: Paolo Nenzi, Agata Walencik-Łata	
WE27	A. Myssayev et al., The Harmonic (Health effects of cardiac fluoroscopy and modern radiotherapy in paediatrics) project	
WE28	K. M. Rajković, M. M. Đurašević, A. B. Kandić, I. T. Čeliković, P. Milić, Z. Obradović, Radiological characterization and risk assessment due to black walnut fruit tincture ingestion	
WE29	N. Kržanović et al., Harmonization and standardization in diagnostic radiology quality assurance measurements within 22NRM01 TraMeXi Joint Research Project	

- WE30** N. Kržanović et al., **Harmonization of operational dosimetry quantity measurement in photon dosimetry within 22NRM07 GuideRadPROS Joint Research Project**
- WE31** J. Vlahovic et al., **Comparison of survey meters in X- and γ- reference fields and in the field of an unknown source**
- WE32** M. Živanović et al., **On-site training comparison of air kerma calibration factors within the 19NET03 supportBSS project**
- WE33** A. Vraničar, M. Travar, N. Todorović, J. Nikolov, **Application of FRAM software in gamma spectrometry for nuclear material characterization**
- WE34** J. Sabol, **The use of the behaviour of radioactive material for the prediction of the movement of other CBRN components in rural area**
- WE35** M. Egerić et al., **Recent achievements in Gamma irradiation-induced degradation of pesticides for waste water treatment**
- WE36** N. Gradašćević, N. Mujić, N. Karaman, **Natural radioactivity in raw material and waste from coal-fired power plant Kakanj, Bosnia and Herzegovina**
- WE37** Y. Syssoyeva, Y. Polivkina, A. Panitskiy, E. Romanenko, **Tritium accumulation by farm crops acutely exposed to tritium oxide for a short while**
- WE38** S. Subbotin, P. Krivitskiy, N. Larionova, A. Aidakhanova, **Assessment of a possible impact by uranium mining at the deposit Grachevskoye on the ecological situation around Soumalkol settlement**
- WE39** Y. Polivkina, Y. Syssoyeva, Y. Romanenko, Y. Romanenko, **Tritium accumulation by crops during chronic root uptake of tritium oxide**
- WE40** A. Panitskiy, A. Bazarbayeva, S. Baigazy, I. Alexandrovich, **Bioaccumulation of radionuclides in hoofed animals inhabiting the Semipalatinsk Test Site**
- WE41** M. Slijivc-Ivanovic, I. Jelic, S. Dimovic, M. Rajkovic, M. Jankovic, **Radionuclides and heavy metals in soils in Novi Sad Municipality**
- WE42** M. Kolovou, C. Potiriadis, N. Kallithrakas - Kontos, **Radon measurements and occupational dose assessment in Greek tourist caves**

Poster Sessions

**Biophysics, Bioinformatics, Food Irradiation,
Biomedicine, Radiation in Medicine, Radiotherapy, Radiopharmacology, Medical Imaging**

Chairpersons: Vladimir Jurisic, Gohar Hovhannisyan

15:00–16:30

- WE43** S. Mijatović et al, **New experimental setup for exposure of gas-phase bio-aerosols to small air ions**
- WE44** J. Trajković et al., **In vitro experimental model of reactivated toxoplasmosis through the prism of computational image analysis**
- WE45** J. L. Ristić-Djurović, S. Ćirković, D. Čalić, M. Stanišić, **Pre-sowing seed exposure to static magnetic field can improve cabbage yield**
- WE46** A. Sarač - Hadžihalilović, E. Hojkurić, **Gender prediction based on quantitative analysis of the mastoid process**
- WE47** K. Brudecki et al., **Human exposure to heavy metals over the last 100 years**
- WE48** P. L. Squair, B. M. Mendes, P. M. Campos de Oliveira, M. do Socorro Nogueira, **Measurement of spectra in mammography using different phantoms**
- WE49** C. Engler, M. do Socorro Nogueira, E. Rodrigues Leite, **Comparison between three metrics of breast density**
- WE50** J. Oliveira Maciel, R. Vidal da Silva, D. N. Souza, **ANGELIKA Phantom: Three-dimensional tool for quality control in gynecologic brachytherapy**
- WE51** M. Perić, S. Vranješ-Đurić, M. Mirković, M. Radović, D. Janković, **Application of DFT theoretical chemistry methods for development of new radiopharmaceuticals**
- WE52** D. Janković et al., **Alteration of ^{99m}Tc-tin colloid biodistribution by Juglans nigra leaf extract**

- WE53** D. Manea, C. M. Antonina, S. V. Parasca, **Hyperspectral imaging for detection of basal cell carcinoma using an object-based convolutional neural network approach**
- WE54** M. A. Calin, D. Manea, S. V. Parasca, **Automated melanoma detection using hyperspectral imaging combined with artificial intelligence**
- WE55** G. Golubović, C. Alexopoulos, M. Jovanović, N. Rančić, J. Jovanović Mirković, **Comparison of the success of immunization against diphtheria in the Šumadija district before, during and after the COVID-19 pandemic**
- WE56** G. Golubović, M. Živanović, J. Nikolić, V. Stajić Simić, J. Jovanović Mirković, **Burnout syndrome among medical staff in the Borough of Bor**
- WE57** J. Nikolić et al., **The importance of compulsory vaccination in children in the fight against pertussis after COVID-19**
- WE58** J. Nikolić et al., **Verification of the tetanus vaccination status of children after COVID-19 in adults and the elderly after injury**
- WE59** M. Živković Radojević, S. Pirić, J. Jovanović Mirković, C. Aleksopoulos, N. Milosavljević, **Ovarian transposition to preserve ovarian function in young patients with cervical cancer undergoing postoperative intensity - modulated radiotherapy - A case series**
- WE60** J. Jovanović Mirković, M. Živković Radojević, C. Alexopoulos, S. Pirić, N. Milosavljević, **Analysis of risk factors for acute radiation toxicity in cervical cancer patients in FIGO IIC1 and IIC2 stages treated with definitive chemoradiation**

16:30	Refreshments	Hall
Central European Time	Oral session Radon and Thoron Chairperson: Vanja Radolić	Room A: Salon de Grados
17:00	D. Pressyanov, D. Dimitrov, V. Zajonchovska, Examining radon levels in soil gas and atmospheric air near the surface soil-air interface	
17:20	 P. Oluwadamilare Olagbaju, O. Bola Wojuola, Radon concentration and estimated dose in farmland, Rustenburg, South Africa	
17:40	 G. Rrota, M. Kuqali, G. Nafezi, D. Kuqi, Indoor Radon Levels at FIMIF, PUT	
18:00	 G. Xhixha et al., Lessons learned from the 2022 campaign of the measurement of indoor radon concentration in dwellings	
18:20	 M. Kuqali, G. Rrota, G. Nafezi, D. Kuqi, Indoor Radon Levels at historical area of Shkodra city	
18:40	 I. Borjanovic Trusina, M. Rajacic, Parallel half-year-long radon concentration measurement at TCAS	
Central European Time	Oral session Radiation Protection Chairperson: Aleksandar Jaksic	Room B: Salon de Conferencias Fisymat
17:00	V. K. Singh, Development of radiation countermeasures for hematopoietic acute radiation syndrome prophylaxis: Biomarker identification and validation for Animal Rule	
17:20	A. Myssayev et al., Occupational exposure of medical professionals – The BECOME (Brain CancEr risk in joint CohOrt of MEDical workers exposed to ionizing radiation in France, South Korea and USA) project	
17:40	A. P. Viero et al., Estimation of the cumulative effective dose in patients with cardiovascular disease undergoing multiple radiological procedures in southern Brazil	
18:00	 I. Suliman, Review of different methods used to estimate occupational radiation dose to the lens of the eye in interventional cardiology	
18:20	 A. Ylli, F. Mitrushji, M. Shyti, I. Berdufi, F. Ylli, Evaluation of dose rate and dose uniformity of radiation field in Cs-137 gamma ray irradiation unit and X-ray irradiation unit	

18:40	 A. Ismaeel, A. Aba, A. Al-Boloushi, H. Al-Shammari, O. Al-Boloushi, M. Al-Jarba, Estimating the risk of radiation exposure from ^{210}Po through different pathways
19:00	 T. Ombada, I. Suliman, Patient radiation doses and Diagnostic Reference Levels (DRLs) for interventional cardiology procedures in Sudan
Central European Time	Oral session Radiation in Medicine, Radiopharmacology, Biomedical Engineering Chairperson: Divanizia Souza Room C: Classroom M3
17:00	 M. Zheltonozhskaya, P. Remizov, M. Lenivkin, Study of the possibility of producing rhenium medical isotopes at electron accelerators
17:20	 M. Mastromarco and the n_TOF Collaboration, The ^{160}Gd neutron capture reaction for ^{161}Tb production
17:40	 C. Serafeim, S. David, I. Kalatzis, A. Skouroliaou, Combined fNIRS and EEG neuroimaging of the prefrontal lobe: Acquisition and processing protocols
21:00-24:00	Farewell Dinner El Palacio de los Cordova

Radiobiology

V. Starichenko, **Epigenetics of ^{90}Sr deposition: Maternal effect**

G. Levkovskaya et al., **The SEM characteristics of the “cemeteries” of palynoterates formed under two local types of radioactive load near the Chernobyl NPP or under climatic extremes of the Neanderthal epoch, and geomagnetic excursion Laschamp**

Radiation Physics

G. Medkour Ishak-Boushaki, A. Ben Ali, **Radioactive sources used in mining explorations and environmental risks**

Radiation Measurements

H. V. Hong, V. N. Quang Ngo, H. H. Thi Yen, T. T. Huu Ngan, **Determination of ambient individual exposure dose rate in Chau Thoi mountain, southern Vietnam Using a NaI(Tl) detector**

Radioecology

O. Jefanova, J. Mažeika, **Variability of cosmogenic Be-7 fallout in eastern Lithuania, 2020-2024**

Food Irradiation

M. Braşoveanu, M. R. Nemţanu, **Exploring the color modifications in biopolymers induced by dual processing with ionizing radiation and cold plasma**

Space Research

N. Koltovaya, N. Zhuchkina, A. Kokoreva, L. Dobрева, N. Atanasova, S. Danova, **Effects of proton irradiation on probiotic strains**

Material Science

G. Toncheva, K. Gavazov, P. Racheva, **Extraction-chromogenic systems for gallium(III) based on azo dyes and xylometazoline hydrochloride**

K. Stojnova, S. Nikolova, G. Toncheva, V. Lekova, **Study on the complex formation of the anionic chelate of Mo(VI) with bidentate ligand and the cation of monotetrazolium salt for its potential determination in biological systems**

C. A. Simion, M. M. Coza, D. Cristea-Stan, **Using FTIR, FT-Raman and XRF techniques for characterization of a perlite bearing construction material and its sources of provenance**

D. Cristea-Stan, A. Tarlea, **New X-Ray Fluorescence analyses on Scythian-type arrowheads and arrowhead-shaped tokens from Histria and Tomis (Romania)**

Medical Physics

I. Grabska, W. Ślusarczyk-Kacprzyk, M. Szymański, **Bilateral comparisons in the field of testing using thermoluminescent detectors in terms of absorbed dose to water for radiation therapy level audits – a practical guide to the statistical analysis of the results**

I. Grabska, W. Ślusarczyk-Kacprzyk, M. Szymański, **Monitoring the validity of calibration results - examples of activities performed by an accredited laboratory**

W. Ślusarczyk-Kacprzyk, I. Grabska, M. Szymański, **SSDL in Poland - experience in performing dosimetry audits**

W. Ślusarczyk-Kacprzyk, I. Grabska, M. Szymański, **TLD postal dosimetry audit in Poland – 2023 results**

M. Szymański, W. Ślusarczyk-Kacprzyk, I. Grabska, **Assessing the long-term stability of ND,w calibration coefficient for Farmer-type ionization chambers in radiotherapy**

I. Grabska, W. Ślusarczyk-Kacprzyk, M. Szymański, **Experience of the calibration laboratory during the implementation of a new working standard for the calibration of electrometers with ionization chambers for teleradiotherapy**

Radiotherapy

H. Inchaouh et al., **New method for range calculation based on empirical models in radiotherapy or proton therapy in liquid water for hemodialysis patients with kidney cancer**

Radiopharmacology

B. Daci, K. Tushe, D. Prifti, **Stability tests for ^{99m}Tc -DTPA radiopharmaceuticals**

Biomedicine

M. Paunović, M. Matić, A. Obradović, V. Jevtić, B. Ognjanović, **Effect of new Pt(IV) complexes and co-treatment with resveratrol on the antioxidant capacity of rat erythrocytes**

M. Paunović, M. Matić, A. Obradović, V. Stanković, V. Jevtić, B. Ognjanović, **Pt(IV) complex with O,O'-dibutyl-ethylenediamine-N,N'-di-S,S-(2,2'-dibenzyl)acetic acid ester induces nephrotoxicity in female rats: Protective effect of resveratrol**

Biotechnology

C. Burducea, P. E. Mereuta, L.F. Zorila, **Imaging *Staphylococcus Aureus* by AFM and SEM**