



Sunday, June 17

10:00-20:00 Registration

Monday, June 18

08:00-09:00 Registration

09:30-19:30 Registration

Plenary Session

Biljana Hall

09:00 Official Opening

09:30 Invited Lectures

Francesco Cardellini, Experimental activity in the field of radon and thoron measurement at Italian Metrological Institute for measurement of ionizing radiation

Nataša Avramović, Structure, function and application of rhamnolipid and exopolysaccharide biosurfactants of *Pseudomonas aeruginosa*

10:30 Refreshments

11:00 Poster Sessions

Samoil Hall

Radiation Measurements

I. Stojković, J. Nikolov, B. Tenjović, S. Vidović, N. Todorović, Direct LSC method investigation for ^{14}C determination in water

M. Troshina, V. Potetnya, E. Koryakina, R. Baykuzina, S. Koryakin, S. Ulyanenko, Dosimetry of proton scanning beam with FBX dosimetric system

A. Stepanov et al., Using of the remote methods for radiation survey during reactor MR dismantling

A. Jevremović et al., Determination of coincidence summing correction factors for ^{22}Na point source

I. Stonecka, Z. Baranowska, K. Łukasik, K. Fornalski, Bayesian statistics as a modern tool in retrospective dosimetry of mixed ionizing radiation

P. Ochoa Parra, F. Cristancho, E. Fajardo, W. Rodriguez, F. Bautista, Extended source efficiency correction and optimization of the sample position to measure the concentrations of NORM using a HPGe detector

M. Filipek, A. Bantsar, M. Pietrzak, S. Pszona, Z. Szepliński, Review of recent Jet Counter experiments

K. Malik, B. Obryk, K. Ambrožič, L. Snoj, Characterisation of the TRIGA Mark II reactor radiation field with thermoluminescence detectors

P. Tulik, A. B. Knyziak, M. Derlaciński, Development and characterization of graphite ionization chamber at Ionizing Radiation Laboratory at GUM

W. Shih-Wen, Environmental rate of multi-source standard calibration system

M. Petrichenkov, V. Chudaev, A. Repkov, V. Eksta, N. Shamakina, S. Melnik, Dosimetry in neutron fields of BINP accelerators with intense low energy part of spectrum using TLDs with LiF

E. Iliescu, S. Bercea, Studies on the characteristics of alanine dosimeters in stereotactic radiosurgery

Ł. Murawski, M. Kuć, Preparation of the recombination chamber use in environmental measurements

J. I. Byun, D. S. Ham, T. W. Gang, Determination of Cs-137 inventory in a disturbed area using *in-situ* and laboratory gamma-ray spectrometers

S. Domański, B. Obryk, K. Tymińska, M. Dorosz, M. A. Gryziński, Thermoluminescence measurements of dose distribution from spent nuclear fuel during irradiation of heavy concretes for radiation hardness testing

Z. Matej, A. Jancar, Z. Kopecky, H. Ondrej, Comparison of algorithm for neutron and gamma separation

A. Krleski, M. Ginovska, H. Spasevska, S. Petkovska, Characterization of thermoluminescent response of LiF: Mg, Ti dosimeter at different doses of beta rays with Risø TL/OSL DA-20 reader at low and upper dose limit

A. Szumska, R. Kopeć, M. Budzanowski, Impact of sunlight on dose readout in eye lens thermoluminescent dosimeters

Z. Baranowska, I. Słonecka, K. Wołoszczuk, Methodology of personal dose estimation in mixed beta and gamma radiation field using thermoluminescent dosimeters

K. Ivanova, B. Kunovska, K. Potiriadis, Background measurement and modeling

A. Sas-Bieniarz, M. Budzanowski, I. Milcewicz-Mika, R. Kopeć, Application of the phototransferred thermoluminescence (PTTL) phenomenon to the dose reassessment in thermoluminescent dosimetry in the Laboratory of Individual and Environmental Dosimetry IFJ PAN

Radiation Detectors

T. Onodera, K. Hitomi, K. Kimura, T. Shoji, Growth of TlBr semiconductor crystals in ceramic substrates for gamma-ray detector fabrication

V. Ivanovs et al., Temperature stabilization of SiPM-based gamma-radiation scintillation detectors

T. Kowalski, Ö. Şahin, Measurements and calculations of gas gain in Xe - 5% TMA mixture - pressure scaling

W. Westmeier, S. Klaus, CeBr₃ - A well-characterized new scintillator for gamma-ray spectrometry

D. Zoul, M. Cabalka, M. Koplová, A study of using polycarbonate as a reusable radiochromic integrating dosimeter for measurements of high doses of ionizing radiation

- P. Escobedo et al., Radiation effects on light-dependent resistances
- S. Vereschagin, Readout electronics for TPC detector in the MPD/NICA project
- R. Smyka, A. Mandowski, M. Biernacka, R. Majgier. OSL and IRSL properties of microcline from Strzegom granites
- V. Güçkan, A. Ozdemir, V. Altunal, K. Kurt, Z. Yegingil, Optically Stimulated Luminescence (OSL) and Thermoluminescence (TL) properties of Ag^{+1} , Tb^{+3} and Gd^{+3} doped $\text{Li}_2\text{B}_4\text{O}_7$ phosphor
- V. Güçkan, V. Altunal, A. Ozdemir, K. Kurt, Z. Yegingil, Synthesis and luminescence characterization of non-stoichiometric $\text{Li}_2\text{B}_4\text{O}_7:\text{Ag,Tb}$
- M. Maciak, M. A. Gryziński, A high-dose ionization chamber for real-time monitoring at spent fuel irradiation stand
- K. F. Oguz, Investigation of luminescence properties of Tm-doped CaCO_3 dosimeter
- S. Stanković, A. Jakšić, M. Radenković, D. Nikolić, N. Kržanović, Radiation characteristics for HfO_2 and SiO_2 incorporated in electronic component with MOS structure in fields of gamma and X-radiation
- D. Flechas, F. Cristancho, Technical applications of an imaging gamma-ray Compton backscattering device and simulation of a new prototype with GEANT4
- M. da Conceição Costa Pereira, T. M. Filho, J. R. Berretta, L. F. Tomaz, M. C. Pinto, Scintillation and luminescence characteristics of Li^+ ion-doped cesium iodide inorganic scintillator for use as radiation detector
- E. Mandowska, R. Majgier, A. Mandowski, Spectral properties of irradiated potassium chloride crystals

Radiation Effects

- M. Yigitoglu, M. Bilge Demirkoz, P. Uslu, S. Nigdelioglu, I. Efthymiopoulos, Performing the first single event effect tests using the METU defocusing beam line in Turkey
- V. Pershenkov, A. Bakerenkov, V. Belyakov, V. Telets, V. Felytsyn, A. Rodin, Hydrogen-electron model of the radiation-induced interface trap buildup: practical application
- G. Davydov, L. Kessarinskiy, A. Polokhov, T. Kritskaya, A. Tararaksin, Comparative study of D-MOSFET, TrenchFET and low-charge FET radiation behavior
- V. Wallangen, Modeling radiation damage effects in 3D silicon pixel sensors at the future ATLAS inner tracker
- R. Lok, S. Kaya, Al. Aktağ, E. Yılmaz, Interface and oxide trapped charges and gamma-ray irradiation effects on $\text{Al}/\text{HfSiO}_4/\text{p-Si}/\text{Al}$ MOS capacitors
- R. Lok, E. Budak, S. Abubakar, E. Yılmaz, The radiation response and electrical characterization of neodymium oxide MOS capacitors by sol-gel dip coating technique
- J. Budinski-Simendić et al., Determination of glass transition temperature and irradiation resistance of elastomeric materials based on chlorinated natural rubber
- S. Jovanović et al., The influence of carbon black on thermal degradation and gamma irradiation resistance of elastomeric composites based on three network precursors

14:00 **Oral Session: Radiation Measurements** **Biljana Hall**

Keynote talk: K. Bikit-Šreder, I. Bikit, D. Mrdja, Is the radioactive decay constant really constant?

- Ş. Kaya Keleş, G. Polymeris, N. Meriç, Thermal stability of the Merck Quartz CW-OSL and EPR signals
- A. Bantsar, M. Pietrzak, S. Pszona, Jet Counter nanodosimeter as a tool for investigating particle track structure
- G. Lorusso, A. Boso, R. Canavan, S. Collins, F. Juget, R. Shearman, Measurement of the internal pair-production branching ratio in the $0^+ \rightarrow 0^+$ transition of ^{90}Zr : Application in medical imaging
- A. Tartas, M. Gatecki, B. Brzozowska, P. Pellicoli, M. Donzelli, E. Bräuer-Krisch, Dose verification and modelling of a radiochromic film in the Monte Carlo code
- F. Di Capua, L. Campajola, P. Casolaro, EBT3 Radiochromic film response to different radiation fields
- K. Bikit-Šreder, D. Mrdja, S. Forkapic, I. Bikit, Study of cosmic-ray muon-induced processes in various materials

14:00 Oral Session: Radiotherapy Ohrid Hall

- M. C. Montesi et al., The FOOT experiment: Fragmentation measurements in particle therapy
- S. Karaca, H. Başaran, Megavoltage Computed Tomography (MVCT) dose assessment at different depths
- T. Yao, L. Luthjens, J. Warman, 3D radiation dosimetry using a radio-fluorogenic (RFG) gel
- J. Stevanovic, N. Gavrilovic, Positioning and immobilization as a base of accurate radiotherapy
- M. Sawicki, J. Łyczek, Ł. Kowalik, D. Kazalski, Treatment planning in brachytherapy HDR based on three-dimensional images
- T. Şahmaran, A. Kaşkaş, Preliminary results: The effects of some trace element concentrations on radiation dose in cancerous tissues at radiotherapy
- S. Akulinichev, S. Chaushansky, I. Yakovlev, V. Derzhiev, Application of ytterbium sources for intracavitary brachytherapy with directed emission
- T. W. Wysokinski, E. Brauer-Krisch, M. Donzelli, Monochromatic microbeam radiation therapy (m-MRT) modality - implementation using the synchrotron light
- R. Figueroa, M. Valente, M. Santibañez, Deflection control of electron beams for novel radiotherapy technique
- L. Kostadinova, Intensity-modulated radiation therapy in head and neck carcinomas

14:00 Oral Session: Environmental Chemistry Kaneo Hall

Radiation Chemistry

- J. F. Facetti-Masulli, P. Kump, V. Romero de González, Incompatible elements in bottom sediments from Acaray dam reservoir- eastern Paraguay
- I. Pozdnyakov, P. Sherin, T. Romanova, F. Wu, O. Shuvaeva, V. Plyusnin, Mechanisms of micropollutants photooxidation by natural photosensitizers
- M. Maslova, L. Gerasimova, N. Ryzhuk, A new method for the synthesis of titanium phosphate ion-exchanger

N. Levichev, A. Volosatova, A. Kulebyakina, S. Kireev, S. Shashkovskiy, Efficiency of phenol degradation under combined influence of continuous spectrum pulsed UV radiation and hydrogen peroxide

K. Radomska, M. Wolszczak, Reductive radical scavenging by human serum albumin

J. Jovanovic, B. Adnadjevic, The effects of microwave heating on the kinetics of CLRP for poly(acrylic co-methacrylic acid) and poly(acrylic-co-maleic) hydrogels

N. Ouddai, From absorption to fluorescence: Case of 3, 6 coumarin derivatives

15:30 **Refreshments**

16:00 **Oral Session: Radiation Measurements Biljana Hall**

G. Pantelic, M. Jankovic, N. Sarap, J. Krneta Nikolic, quality control of liquid scintillation counter Quantulus 1220

W. Bulski, P. Ulkowski, A. Kowalczyk, E. Gruszczynska, K. Chelmiński, Calibration of ionization well chambers at the Polish SSDL

M. Sahagia, A. Luca, A. Antohe, M.-R. Ioan, The Romanian system of activity standards for the radiopharmaceuticals used in Positron Emission Tomography; influence of the decay scheme on the standardization method

I. Tucaković et al., LabSOCS vs angle for HPGe efficiency calculations

E. Taskaev, Reference Materials (RM) and Performance Testing (PT) samples in radioactivity analysis: Practice, capabilities, alternatives

I. Mateu, M. Glaser, G. Gorine, M. Moll, G. Pezzullo, F. Ravotti, Developments in radiation monitoring instrumentation at CERN

M. Pyshkina, M. Zhukovsky, A. Ekidin, The uncertainties of personal neutron dosimeters at various operational neutron fields

J.-S. Chae, E. Kwon, Y.-J. Kim, An improved method for the measurement of ^{210}Pb in environmental samples by liquid scintillation counter

16:00 **Oral Session: Medical Imaging Ohrid Hall**

Medical Physics

A. Yalçın, T. Olğar, Characterizing the digital radiography system in terms of effective detective quantum efficiency and CDRAD measurement

N. Brasik, M. Dünkelmeyer, V. Gershan, Lj. Kojic, Optimizing imaging quality and radiation dose by special group of neonatal patients in chest/abdomen digital radiography

D. Šegota, A. Diklić, P. Valković Zujčić, G. Banušić, S. Jurković, Introducing Computed Tomography low dose protocol for sinuses at University Hospital Rijeka

A. Solovev et al., Can we really plan protons on Cone-Beam CT?

L. Čiva et al., Analysis of air kerma distribution in computed tomography beam

B. Jasińska, New method of PET imaging based on $3g/2g$ positron annihilation

I. Milcewicz-Mika et al., QA test of medical x-ray machines in Poland

A. Chernyaev et al., Professional retraining program of staff for radiation medicine in Lomonosov Moscow State University

16:00 **Oral Session: Radiochemistry** **Kaneo Hall**

A. Kowalska, Correlation between increased ^{226}Ra and ^{228}Ra activity concentration and chemical composition and chemical type of groundwaters

S. Matveeva, E. Glebov, I. Pozdnyakov, A. Melnikov, Photochemistry of hexachloroplatinate (IV) in organic solvents

I. Izosimov, Laser spectroscopy and detection of actinides/lanthanides in solutions

D. Blevins, D. Osborne, G. Kabalka, M. Akula, $\text{Cu}(\text{OTf})_2$ and $\text{Cu}(\text{OTf})_2(\text{Py})_4$ promoted radiofluorination of benzoyl and phthaloyl glycinate

K. Bartholomew, C. Landstetter, V. Damberger, B. Hiegesberger, M. Korner, Assessment of radionuclide ratios in soil samples

P. Burns, Recent advances in understanding of nanoscale uranyl cages

18:00-19:30 **Poster Sessions 44** **Samoil Hall**

Radioecology

E. Grigorkina, S. Rakitin, G. Olenov, O. Tarasov, Prolonged low level exposure increases genetic diversity in small mammals populations inhabiting radiocontaminated zone

M. Kropacheva, M. Melgunov, I. Makarova, Artificial isotope speciation in plants' biomass, rhizosphere and alluvial soil of Yenisei flood plain

T. Paramonova, O. Komissarova, L. Turykin, Assessment of ^{137}Cs inventories in agricultural landscapes: soil sampling of actual ploughed horizon or standardized layers?

B. Mitrović, D. Ćirović, J. Ajtić, V. Andrić, B. Vranješ, Activity concentration of ^{40}K and ^{137}Cs in the muscle tissue and liver of the golden jackal (*Canis aureus*)

Ly. Timonova, O. Lyahova, S. Lukashenko, Contamination of soil with tritium in venues of nuclear tests at the testing sites "Balapan" and "Sary-Uzen"

J. Ajtić, E. Brattich, M. A. Hernández-Ceballos, D. Sarvan, V. Djurdjević, Extremely high beryllium-7 surface concentrations in Europe: a case study

A. Zubarava, A. Kravtsov, S. Zotov, Perspective polymeric melt-blown systems in radioecology

I. Chesnyk, O. Shurankova, A. Nikitin, S. Kalinichenko, Assessment of dose rate from ^{238}Pu , ^{239}Pu , ^{240}Pu and ^{241}Am on wild hoofed animals inhabiting the exclusion zone of Chernobyl NPP

V. Radumilo, I. Knezevic, D. Arbutina, Correlation of radiation and meteorological parameters during the environmental radiation monitoring in the public company "Nuclear facilities of Serbia"

S. Choi, D. Kim, J. Chae, H. Cho, The concentration factors of marine organisms and sediment distribution coefficients

L. Dobrev, B. Slavchev, D. Dimitrova, B. Veleva, Methodology for analyses of uranium isotopes in drinking waters in Bulgaria

- N. Pomortseva, D. Gudkov, The effect of additional acute radiation on haematological parameters of the crucian carp *Carassius gibelio* from the Chernobyl Exclusion Zone
- Ž. Mihaljev, M. Živkov Baloš, S. Jakšić, B. Kartalović, Activity concentration of uranium, thorium and potassium in the urine of the roe deer (*C. capreolus*) from the area of Vojvodina (Northern Province of Serbia)
- Yu. Vosel, S. Vosel, M. Melgunov, I. Makarova, V. Strakhovenko, Three authigenic U(IV)- phases in lake sediments (Olkhon region)
- Yu. Vosel, E. Lazareva, S. Vosel, M. Melgunov, M. Kropacheva, V. Strakhovenko, Artificial isotopes (^{241}Am and ^{137}Cs) in diagenetic conditions of bottom sediments on the example of the Lake Krugloe (Tomsk Region, Russia)
- M. R. Calin, I. Radulescu, Natural radioactivity of mud and salt water from the Techirghiol Lake, Romania
- A. Gusev, I. Martin, M. Gomes, R. Gomes, Low energy gamma rays and neutron measurements in South Atlantic anomaly region
- N. Todorović, J. Nikolov, I. Stojković, M. Lekić, N. Lazarević, Determination of tritium activity concentration in water in vicinity of nuclear facilities in Serbia
- D. Pavičić-Hamer, D. Barišić, Using mussels *Mytilus galloprovincialis* as an indicator species in radioecology monitoring of the Northern Adriatic Sea
- H. M. H. Zakaly et al., Natural radionuclides and heavy metal concentrations in marine sediments in view of tourism activities in Hurghada city, northern Red Sea, Egypt
- A. Angeleska, E. Dimitrieska Stojkovic , R. Crceva Nikolovska, Z. Hajrulai-Musliu, B. Dimzovska , D. Jankuloski, Radiation levels in samples of dicalcium phosphate (DCP) by gamma-ray spectrometry
- N. Kulich, V. Zheltonozhsky, M. Zheltonozhskaya, A. Chernyaev, Late stage migration processes of the Chernobyl NPP accident
- S. Akozcan, M. Beste Ozturk, Measurements of gamma radiations at the Erciyes Mountain (Central Anatolian)
- S. Akozcan, Seasonal variations of ^{210}Po activity concentrations in mussel and related dose assessment to the population
- D. Sarvan et al., Behaviour of beryllium-7 and lead-210 time series measured in Serbia and Slovenia over 1991-2015
- S. Bogojević, I. Tanasković, V. Arsić, J. Ilic, Environmental radioactivity monitoring in Serbia
- J. Barešić, M. Štok, B. Svetek, P. Vreča, I. Krajcar Bronić , Activity concentration of tritium (^3H) in precipitation - Long-term investigations performed in Croatia and Slovenia
- Z. Serzhanova, A. Aidarkhanova, S. Lukashenko, Confidence estimation for methods of tritium determination in soils of Semipalatinsk test site
- Zh. Zhasheva, A. Aidarkhanova , S. Lukashenko, Speciation of technogenic radionuclides in water bodies of Semipalatinsk test site
- T. Bogatyryova, A. Aidarkhanova, S. Lukashenko, Leaching of technogenic radionuclides from soil of radiation - hazardous objects at Semipalatinsk test site
- Ş. Karatepe, S. Şahin Bal, M. Kürşat, M. Fatih Kuluöztürk, E. Yılmaz, Gross alpha and beta radioactivity concentrations of aromatic plant, soil and water in Bitlis
- N. Gradasevic, N. Mujic, D. Samek, Assessment of the effective dose by ingestion of ^{232}Th , ^{226}Ra and ^{40}K in surroundings of the coal power plant

- M. Długosz-Lisiecka, Long term assessment of the behaviour and origin of ^{210}Pb and ^{210}Po radionuclides in the atmosphere
- S. Kalinichenko, A. Nikitin, V. Goloveshkin, Lateral distribution of ^{137}Cs , ^{90}Sr , and ^{241}Am in the top layer of soil in various types of ecosystems of the Belarusian sector of the exclusion zone of the Chernobyl NPP
- S. Kalinichenko, R. Nenashev, Yu. Marchenko, Accumulation of radionuclides in bottom sediments of water bodies of various types in the exclusion zone of the Chernobyl NPP
- V. Pintilie, A. Ene, L. P. Georgescu, A. Pintilie, D. I. Moraru, Determination of ^{226}Ra , ^{210}Po and ^{210}Pb in natural mineral water
- A. Ene, A. Pantelica, F. Sloata, Natural and artificial radioactivity of soils around iron and steel industry measured by low-background high resolution gamma-ray spectrometry
- I. Yordanova, D. Staneva, R. Lazarova, Uranium in foodstuff samples from two regions in Bulgaria with relatively higher local levels of radioactive background
- G. Lavrentyeva, O. Mirzeabasov, B. Synzynys, I. Geshel, R. Shoshina, Morphometric parameters and metallothioneins in soft tissues of terrestrial mollusks from territory impacted by radioactive waste facility
- B. Zorko et al., Comparison of concentration activities of ruthenium isotopes measured over Slovenia and Serbia

Other topics

- S. Samardžić, R. Lakatoš, M. Cvijanović, A. Mihailović, U. Kozmidis Luburić, T. Nemeš, Investigation of noise pollution and its effects on cognitive performance of workers in open-plan bank offices in Serbia
- S. Samardžić, Investigation of occupational noise exposure in Electro Industries
- A. Stojanović, D. Živković, S. Belošević, Heat transfer to a boiling liquid - mechanisms and correlations
- O. Çelen, Y. Y. Çelen, K. F. Oğuz, Case study: Ergonomic project

20:30-00:30 **Conference Cocktail**

Tuesday, June 19

08:00-19:30 **Registration**

08:00-09:30 **Poster Sessions**

Samoil Hall

Biomedicine

Z. Ajanović, A. Sarač-Hadžihalilović, R. Gojak, L. Dervišević, Morphoscopic predictors for sexual dimorphism of skulls

S. Heta, I. Robo, H. Heta, Some data on surgical treatment of gastroesophageal reflux

S. Heta, I. Robo, E. Gina, N. Heta, Fibrinogen as an inflammatory marker of the connection of periodontitis with arteriosclerosis

T. Novakovic, Z. Dolicanin, N. Djordjevic, The maternal hematological changes and fetal cell micronuclei in pregnant women with thrombophilia

A. Ramović, M. Hukić, Z. Dolićanin, N. Đorđević, S. Buljubašić, Biofilm forming capability of complex vaginal microbiota and the analysis of its heterogeneous ecosystem

M. Čolović, M. Luce, A. Cricenti, V. Vasić, D. Krstić, The influence of 12-tungstosilicic acid on rat synaptic plasma membrane

D. Krstić, M. Čolović, M. Luce, A. Cricenti, V. Vasić, The effect of decavanadate on plasma membrane structure

E. Kuzmina, D. Zemskova, A. Potapov, O. Vatin, T. Mushkarina, Reduction of early suppressive immune response and systemic inflammation due to application of the enhanced recovery after patients' surgery of colorectal cancer

L. Dervisevic, Z. Ajanovic, A. Dervisevic, E. Kapur, I. Hasanbegovic, Anatomical study of nutrient foramina on the diaphysis of the human fibula

S. Thomaj, Some basic elements of the differential diagnosis between hepatitis and sickle cell anaemia in pregnant women (Case study)

E. Bilić-Komarica, Correlation between the application of antihypertension drugs and the incidence of prostate cancer

E. Bilić-Komarica, S. Gicić, Z. Dedović, Preoperative risk factors and corrective medication for the success of operations and the reduction of postoperative complications in middle-aged and senior patients

Biopharmaceuticals

D. Grujicic, M. Radovic Jakovljevic, A. Ciric, M. Stankovic, D. Marinkovic, O. Milosevic Djordjevic, Protective effect of methanolic extract of *Teucrium scordium* against mitomycin C-induced micronuclei in cultured human peripheral blood lymphocytes

B. Veljković, N. Đorđević, V. Jakovljević, Z. Dajić-Stevanović, Cytotoxic activity of leaf and fruits methanolic extract of wild raspberry (*Rubus idaeus* L.) from Serbia

Pharmaceutical Science

B. Djurdjic, B. Markovic, Z. Zoricic Mitrovic, V. Vuksanovic, B. Mugosa, FT-IR investigation of organically modified silica nanoparticles - carriers for anticancer drug

Radiopharmacology

M. Orlova, T. Trofimova, I. Ivanov, A. Orlov, ^{69m}Zn complexes with thiazine and 2-aminopyrimidine derivatives as potential antileukemic agents

Radiology

F. Niculescu, C. M. Pera, D. Mossang, E. Dadulescu, E. Antonescu, Evaluation of skin absorbed doses in radiography for three procedures - skull, thorax and lumbar spine

Ž. N. Savić et al., Application of contrast drugs in ultrasound diagnostics

M. Jeremic Knezevic, A. Knezevic, D. Markovic, T. Puskar, D. Djurovic Koprivica, J. Boban, Magnetic resonance imaging versus CBCT in diagnostics of temporomandibular joint internal derangement

Nuclear Medicine

M. Mačkić-Đurović, D. Rukavina, I. Aganović-Mušinović, Micronuclei frequency in patients treated with J-131 for therapeutic causes

I. Bazhukova, V. Pankin, Methodology of processing the bone scintigraphy results

M. Radulovic, S. Beatovic, M. Jankovic, Z. Krstic, B. Ajdinovic, Diuresis renography and ultrasonography in children with antenatally detected hydronephrosis can support diagnosis and suggest related surgery treatment

M. Tulik, P. Tulik, D. Banasiewicz, D. Kabat, T. Kowalska, Impact of the attenuation correction on the SPECT/CT image quality and patient exposure in bone scintigraphy

N. Čolović, D. Leković, M. Tirmanić, V. Jurišić, Diagnostic contribution of positron emission tomography with [¹⁸F] fluorodeoxyglucose in hepatosplenic candidiasis

Radiation Oncology

M. Bilski et al., Great effect of radiation therapy connected with neoadjuvant immunochemotherapy in a patient with extramedullary plasmacytoma of the maxillary sinus - A case report

M. Janiszewski et al., Influence of PET-CT on irradiation volume target determination based on patient case analysis with locally advanced esophageal cancer

I. Stojkovski, G. Petkovska, B. Petreska, P. Chakalaroski, V. Bojovska, V. Klisarovska, Relationship between O(6)-methylguanine-DNA methyltransferase (MGMT) promoter methylation status and tumor size on preoperative contrast enhanced MRI in patients with glioblastoma multiforme - Single institution experience

T. Mushkarina, E. Kuzmina, T. Konstantinova, V. Kurasova, N. Sirotkina, Delayed radiation damage to lungs and pelvic organs developing in the presence of T-cell deficiency and humoral immunity activation

B. Petreska, S. Veljanoska-Petreska, I. Stojkovski, P. Chakalarovski, V. Klisarovska, G. Petkovska, Adjuvant chemotherapy and radiotherapy for Stage III endometrial cancer: Impact on survival

Cancer Research

G. Morozevich, N. Kozlova, A. Berman, Implication of $\alpha_2\beta_1$ integrin in anoikis of human breast carcinoma and melanoma cells

N. Kozlova, G. Morozevich, N. Ushakova, N. Gevorkian, A. Berman, Role of protein kinase Erk in integrin $\alpha_5\beta_1$ -dependent drug resistance of human breast carcinoma cells

V. Markovic, K. Jakovljevic, I. Matic, T. Stanojkovic, M. Joksovic, Novel 1,3,4-thiadiazole-chalcone hybrids containing antioxidant phenolic moiety: Synthesis and biological evaluation

E. Kuzmina et al., Low count of lymphocytes and CD4 cells in patients with previously untreated Hodgkin's lymphoma correlates with unfavorable disease prognosis

T. Mushkarina, E. Kuzmina, T. Konstantinova, G. Neprina, Immunoregulatory T-cells in the onset of lymphoproliferative disorders and their response to chemoradiation therapy

Biochemistry

Š. Mandal, A. Čaušević, S. Semiz, Analysis of the plasma free fatty acid profile and composition in prediabetic subjects

J. Stanojević, D. Cvetković, J. Zvezdanović, Lj. Stanojević, S. Petrović, D. Marković, Indirect proof of bilirubin Type II photosensitizing properties under continuous UV irradiation regime

J. Stanojević, D. Cvetković, J. Zvezdanović, Lj. Stanojević, D. Marković, UV induced changes of bilirubin-benzophenone-riboflavin-quercetin-phospholipids mixture in methanolic solution

Biomaterials

G. Ciobanu, Radio-opaque dental restorative biocomposite based on hydroxyapatite

A. Rajkovic, M. Radenkovic, S. Stankovic, R. Dojcilovic, Graphene oxide amino acid based nanostructures: synthesis, characterization and sensitivity to Co-60 irradiation

I. Nikolic, I. Savic-Gajic, I. Savic, Photostability studies of biochanin A in the methanol solution

Biotechnology

T. Sultimova, L. Stoyanova, Investigation of the strain *Lactococcus lactis* K-205 as a biologically active preservative of dried meat

S. Lim, J.-H. Jung, H. S. Seo, M.-K. Kim, Engineering robustness of industrial microorganism *Escherichia coli* by introducing the stress-response genes from *Deinococcus radiodurans*

F. Jovanovski, B. Cekova, Secondary metabolites in lichen and their application in medical purposes

Plenary Session

Biljana Hall

09:30

Invited Lectures

Alla Reznik, Olexander Semeniuk, Gytis Juska, Sergei Baranovskii, Lead Oxide photoconductor for application in direct conversion X-ray detectors

Kiril Krezhov, Tzvetana Nonova, Aleksander Mladenov, Dobromir Dimitrov, Environmental radiation monitoring and radiological assessments at the IRT Sofia nuclear site

10:30

Refreshments

11:00

Oral Session: Radiation Measurements

Biljana Hall

T. Hu, The study on a low radioactive background HPGe spectrometer at a surface laboratory

T. Nemes, D. Mrdja, Calculation of effective angular correlation corrections in the sum-peak method

J.-H. Lee, J.-I. Byun, D.-M. Lee, In-situ CeBr₃ gamma-ray spectrometry for the analysis of radioisotopes in the soil

A. Sinanaj, B. Papajani, Calculation of the concentrations of elements in environmental samples using XRF portable systems and the fundamental parameters method

I. Sandeva, H. Spasevska, M. Ginovska, L. Stojanovska-Georgievska, Effects of storage on the luminescence response of certain spices

A. Sokić, L. Perazić, Measurement of ambient dose equivalent H*(10) in the surrounding of nuclear facilities in Serbia

S. Plastun, N. Ryzhakova, M. Cherepnev, A. Udalov, S. Kozlov, S. Bryunetkin, Development of radon indicator method for determination of residual oil-water saturation in core samples

J. Semkova et al., Recent results for space radiation quantities aboard the ExoMars Trace Gas Orbiter to Mars

11:00

Oral Session: Medical Physics

Ohrid Hall

S. Vargas Castrillon, F. Cutanda Henriquez, Impact of extended CT density range on Eclipse Acuros XB

A. Diklić, D. Šegota, I. Belac-Lovasić, S. Jurković, Establishment of local diagnostic reference levels for CT localisation procedures in radiation therapy at University Hospital Rijeka

A. Topi et al., In-beam PET monitoring technique for proton therapy: Experimental data and Monte Carlo prediction

E. Sukhikh, I. Sheino, L. Sukhikh, A. Vertinsky, Dependence of the shape of TCP/NTCP curves from fractionation of SBRT for prostate cancer

E. Shishkina, V. Zalyapin, Yu. Timofeev, M. Degteva, B. Napier, Parametric stochastic model of bone structures to be used in computational dosimetric phantoms of human skeleton

P. Sharagin, E. Shishkina, E. Tolstykh, A. Volchkova, M. Smith, M. Degteva, Segmentation of hematopoietic sites of human skeleton for calculations of dose to active marrow exposed to bone-seeking radionuclides

D. Parshkova et al., Geometric model of hematopoietic sites of human skeleton to be used in bone dosimetry: parameter estimation

C. Castellanos, Treatment table coordinate prediction from TPS information

11:00 **Oral Session: Radiobiology** **Kaneo Hall**

N. Kudryasheva et al., Effects of low-level radiation of alpha, beta and gamma type on simplest biological systems - Description in terms of hormesis and threshold models

N. Koltovaya, K. Lyubimova, N. Zhuchkina, Genetic effects after irradiation of heavy ions in haploid and diploid yeast cells

S. Bitarishvili, P. Volkova, S. Geras'kin, Effects of pre-sowing seed irradiation on the endogenous phytohormone content in barley seedlings

E. Persa, K. Lumniczky, G. Safrany, In vivo irradiation has effect on activation of spleen dendritic cells in mice

S. Vasilyev, R. Savchenko, A. Murashkina, V. Fishman, O. Serov, I. Lebedev, The impact of the extracellular matrix proteins on the radiation-induced DNA damage response

B. Brzozowska et al., DNA damage and repair in U2OS cells exposed to mixed beams of X-rays and alpha particles

M. Gálecki et al., The mobility of 53BP1 DNA damage foci induced by X-rays, alpha and mixed beam radiation

A. Osipov, D. Klokov, Dose-Rate Effect in Radiation Biology: DNA Double-Strand Breaks Repair Efficiency

K. Walczak, J. Olszewski, P. Politański, M. Zmysłony, M. Stępnik, Determination of mutagenic effects after the exposure to radon in dwellings on the example of Kowary (Poland)

14:00 **Oral Session: Radioecology** **Biljana Hall**

S. Geraskin, Effects of ionizing radiation on populations and ecosystems

F. Gering, P. Bossew, T. Hamburger, C. Katzlberger, M. DeCort, An episode of Ru-106 in air over Europe, September-October 2017

K. Gorzkiewicz, R. Kierepko, J. Mietelski, E. Tomankiewicz, T. Mróz, K. Brudecki, Ruthenium in the ground level atmosphere over Krakow (Poland): Determination of its activity concentration, deposition and absorbed dose assessment

O. Lyakhova, S. Lukashenko, N. Larionova, L. Timonova, Z. Serzhanova, Tritium in air at the places of nuclear explosions

D. Gudkov, S. Kireev, A. Kaglyan, S. Obrizan, A. Nazarov, V. Belyaev, Radionuclides in water and biota of the Chernobyl NPP cooling pond's ecosystem before and during drawdown

P. Zoriy, M. Schläger, K. Murtazaev, J. Pillath, M. Zoriy, B. Heuel-Fabianek, Monitoring of uranium concentrations in water samples collected near potentially hazardous objects in North-West Tajikistan

A. Walencik-Łata, B. Kozłowska, Preliminary results of uranium studies in rainwater samples in Poland

B. Kozłowska, A. Walencik-Łata, S. O. de Souza, F. Dantas Freire, Natural radionuclides in water near U-mine in Brazil

14:00 Oral Session: Radiation Detectors Ohrid Hall

L. Diehl, R. Mori, U. Parzefal, M. Hauser, K. Jakobs, L. Wiik-Fuchs, Annealing studies of irradiated p-type sensors designed for the upgrade of the ATLAS Phase-II Strip Tracker

G. Gorine et al., Metal thin-film dosimetry technology for the ultra-high particle fluence environment of the future circular collider at CERN

M. Farhadi, Design, optimization and construction of triplet RETGEM nuclear detector using artificial intelligent systems

S. Ilie, C. A. Ur, O. Sima, G. Suliman, Characterisation of the segmented clover detectors from the ELIADE array at ELI-NP

D. Richter, I. Stonecka, S. Schischke, K. Dornich, myOSL - A new series of portable and stationary equipment for OSL-dosimetry based on BeO

A. L. Malthez, G. Martins, N. Umisedo, E. Yoshimura, Low-cost flexible OSL detector blanket for 2D radiation measurements

G. Lastovicka-Medin, The role and design of swarm robots and human-swarm interaction for radiation source localization

M. A. Carvajal Rodríguez, M. Jiménez Melguizo, P. Escobedo Araque, D. Guirado Llorente, A. Martínez Olmos, A. J. Palma López, MOSFET probe for intra operative radiotherapy

S. Kaya, E. Yilmaz, Use of erbium oxide layer as new gate dielectric in NürFET radiation dosimeters

M. Cherepnev et al., Photon radiation spectrometer based on pin-photodiode

14:00 Oral Session: Radiation effects Kaneo Hall

I. Schmitz-Feuerhake, S. Pflugbeil, Heritable radiation effects in man: neglected aspects in cases of chronic exposure

V. Nugis, I. Galstian, M. Kozlova, V. Nikitina, C. Dobrovolskaya, Development of acute leukemia in patient through 30 years after irradiation in accident at Chernobyl NPP

R. Wolff, R. Frentzel-Beyme, I. Schmitz-Feuerhake, High prevalence of chronic lymphocytic leukemia and B cell lymphomas in nuclear workers after incorporation of alpha emitters: Case report and review of the literature

M. Janiak, Cancer immunotherapy with low-level whole-body exposures to ionizing radiation

K. Gopcevic, D. Stanisavljev, A. Hozic, M. Cindric, Influence of microwave irradiation on proteomic profile of an adder

K. Gopcevic, D. Stanisavljev, L. Izrael-Zivkovic, A. Medic, A. Isakovic, Effects of microwave irradiation on proteolytic and cytotoxic activity of an adder

C. H. Jin, H. Y. Kim, J.-B. Kim, The mixed extract of radiation mutated plant alleviates development of arthritis in animal and human body.

S. Paras, Lj. Amidzic, N. Vojinovic, M. Matavulj, Impact of high-frequency electromagnetic fields produced by antennas for mobile communication on thymus structure in rats

15:30 **Refreshments**

16:00 **Oral Session: Radioecology** **Biljana Hall**

Q. Wu, C. Wang, Z. Cao, Y. Yu, Overview of NORM industries in China

O. Jefanova et al., Vertical distribution of Cs-137 in bottom sediments of lakes in Baltic region

D. Vasilache, R.-Cs. Begy, C. Baciu, Reconstruction of historical land use changes in Fântânele Lake`s area (Romania), based on ¹³⁷Cs and ²¹⁰Pb_{ex} measurements

İ. Sert, Application of modified constant rate of supply model to lake sediments in ²¹⁰Pb dating and assessment of some heavy metals

N. Mohammed, C. Khiari, A. Ioannidou, Vertical profile of ²¹⁰Pb, ⁴⁰K and ¹³⁷Cs in Reggane and Ghardaia regions, Algeria

E. O. Agbalagba, Radiological and radiogenic heat evaluation of natural radioactivity in soil around solid mineral mining environment in Nigeria

M. A. Abdullahi, R. Nasiru, A. Yusuf, Distribution of gamma-emitting radionuclides and hazard indices in dust around Ririwai artisanal tin mine Kano state, North Western Nigeria

O. Günay, S. Aközcan, Determination of natural radioactivity levels in soil samples in Anatolian district of Istanbul

Yu. Konevnik, Time and temperature dependent changes of radionuclide sorption behavior of clays in Yeniseysky site environment

M. Zheltonozhskaya, V. Zheltonozhsky, A. Tugay, T. Tugay, A. Chernyaev, Research of interaction of microbiological component of nuclear fuel contaminated soils with fuel-containing materials

16:00 **Oral Session: Radiation Detectors** **Ohrid Hall**

Radiation Effects

D. Meskauskaite et al., Comparative analysis of GaN and CdTe materials for radiation detectors

G. Tamulaitis, E. Auffray, M. Korjik, S. Nargelas, A. Vaitkevicius, Exploitation of free carrier absorption in quest for ten picosecond target for time resolution of radiation detectors

M. Biernacka, R. Majgier, A. Mandowski, Time dependence of the OSL regeneration effect in various types of natural sodium chloride samples

D. Spassky et al., Luminescent, optical and electronic properties of Na₂Mo₂O₇ single crystals

S. Abubakar, S. Kaya, R. Lok, A. Aktag, H. Karacali, E. Yilmaz, Effect of irradiation on interface state and series resistance characteristics of Y₂O₃ MOS capacitors

H. Kagan, W. Trischuk, Diamond detector technology: Status and perspectives

A. Gasiorowski, P. Szajerski, Phosphate glasses as passive detectors of ionizing radiation dose measurements

F. Di Capua, M. Campajola, E. Sarnelli, C. Nappi, D. Fiore, Proton irradiation effects on Single-Photon avalanche diodes

S. Kaya, S. Abubakar, R. Lok, H. Karacali, A. Aktag, E. Yilmaz, The evolution of the physical, chemical and electrical characteristics of SnO₂/ Si interface under gamma irradiation

16:00 **European Led Academy session:** **Kaneo Hall**

Photonic signalling and clinical photobiomodulation

L. Fouque, Photonic signalling in acne vicious circle

S. Hausdorfer, Management of swelling due to aesthetic procedures by led device

K. Abdi, Healing cases: Clinical dynamics sequences of PBM effect

M. Pelletier, The "Photo Bio-flexible" Field

A. Ponomarenko, Immunological effects of light therapy

18:00-19:30 **Poster Sessions** **Samoil Hall**

Environmental Chemistry

J.-P. Jeun, Y.-J. Lee, P.-H. Kang, A study on the cation exchange fibers prepared by the radiation-induced grafting

I. Aliji, J. Velevska, M. Najdoski, A. Tanuševski, Chemically deposited electrochromic films and solar light modulation

J. F. Facetti Masulli, P. Kump, M. Delgado, Trace and minor elements in suspended sediments of selected river and brooks from Eastern Paraguay by X-Ray Fluorescence

A. Miletic, E. Pecev Marinkovic, A. Pavlovic, S. Tosic, I. Rasic Misic, Application of novel analytical methods for pesticide dicamba determination in baby food

T. M. Filho, E. Barros Ferreira, M. da Conceição Costa Pereira, J. R. Berretta, The use of the neutron activation analysis technique to determine heavy metals in *Nicotiana tabacum solanaceae*

L. Gerasimova, M. Maslova, A. Nikolaev, E. Shchukina, Ammonium titanyl sulphate salt as a promising precursor for the synthesis of titanosilicate ion-exchanger with tailored sorption properties

R. Pivić, Z. Dinić, J. Maksimović, A. Stanojković-Sebić, Heavy metal pollution - the limiting factor in the use of irrigation water originating from the river Kolubara (Serbia)

- A. Ene, F. Sloata, M. V. Frontasyeva, D. I. Moraru, S. S. Pavlov, Quantification of heavy metals and trace elements in soils around metallurgical industry by combined atomic and nuclear techniques
- A. Ylli, L. Binxhija (Qeska), Heavy metals in *Primula veris* L., *Primulaceae* - their spread in Kosovo

Radiation Chemistry

- A. Paredes-Arriaga, A. Melendez-Lopez, S. Ramos-Bernal, A. Heredia, A. Negron-Mendoza, Irradiation of cytosine adsorbed in a clay mineral
- A. Lopez-Islas, C. Fuentes-Carreón, J. Cruz-Castañeda, A. Heredia, S. Ramos-Bernal, A. Negron-Mendoza, The gamma radiolysis of aldehydes of biological importance in aqueous solutions
- S. Bazhukov, M. Pervova, Study on radiolysis products of organic compounds under electron beam irradiation
- S. S. Kim, D. S. Hwang, J. W. Choi, G. N. Kim, Remediation of radioactive soil and treatment of its washing solution
- K. Radomska, M. Wolszczak, Human serum albumin nanostructures generated on natural fibers by ionizing radiation
- S. Borrely, Ionizing radiation as a tool for reducing organics and toxicity into different effluents

Radiochemistry

- S. Kulyukhin, I. Melikhov, V. Lavrikov, V. Kulemin, V. Krapukhin, Effect of ionizing radiation field on CsI aerosols formed by condensation of supersaturated vapor
- S. Kulyukhin, V. Kulemin, V. Krapukhin, E. Krasavina, M. Gorbacheva, I. Rumer, Application of microwave radiation for the decomposition of uranyl nitrate in the silica gel matrix
- Iu. Simirskii, A. Stepanov, I. Semin, A. Volkovich, Determination of carbon-14 and tritium in irradiated reactor graphite
- K. Dvoeglazov, P. Mitricas, A. Bessonov, A. Fedoseev, Study of the gas phase composition formed during oxidation-reduction reactions of hydrazine organic derivatives
- E. Pavlyukevich, K. Dvoeglazov, P. Mitricas, The study of reaction rate of Pu(VI) and Np(VI) reduction with diformylhydrazine in nitric acid
- S. Corradetti et al., ISOLPHARM: new ISOL-production method of high specific activity beta-emitting radionuclides as radiopharmaceutical precursors
- A. Gasiorowski, P. Szajerski, Adsorption of Cs-137 on alkali-activated slag and fly ash based sorbents
- S. Dulanská, M. Štofáníková, L. Mátel, M. Nodilo, I. Cocha, Ž. Grahek, Sequential determination of ^{90}Sr and ^{210}Pb in bone samples using molecular recognition technology product AnaLig® Sr-01

Radiation Protection

- S. M. Hosseini Pooya, L. Hafezi, S. M. Arianezhad, Impact of various designs of protective collars on thyroid dose in dental panoramic radiography
- S. M. Hosseini Pooya, Statistical studies on occupational exposure in radiographic non-destructive test practice in Iran (2007-2016)
- S. Nikolova, N. Mitreska, Implementing optimisation of medical exposure in clinical practice at the Institute of Radiology
- V. Stepanov, A. Stepanov, S. Smirnov, Iu. Simirskii, A. Safronov, I. Semin, A. Volkovich, Radiation and video survey of the water cleanup and ventilation system of RFT reactor

Z. Woo, Y. Kim, B. Chang, N. M. Hassan, J. Jang, Rapid Evaluation on the Clean-up of a Titanium Dioxide Production Site

I. Radulescu, M. R. Calin, Chemical and radiological assessment of some raw materials commonly used in Romanian building industry

F. Savino, T. Capussela, M. A. Di Pasquale, M. Quarto, G. Roberti, Occupational eye lens dose to clinical staff in interventional radiology: preliminary results

R. Plukienė et al., Actinide dose magnitude for the personnel during the dismantling of the RBMK-1500 nuclear graphite

F. Ciupagea, G. Rosca Fartat, M. Anghene, A. Zamfirescu, C. Petroiu, C. Ghioca, Ensuring protection and safety in the handling of a deceased person that is known to contain an unsealed source as a result of a medical treatment - Health authority case study

M. Grbić, A. Pavlović, Determining the zone of influence of transmission overhead power lines from the aspect of non-ionizing radiation

C. Popescu, G. Rosca-Fartat, N. Pana, Remote control decommissioning machine of the horizontal fuel channels of nuclear reactor - radiation protection implemented rules

N. Tomić-Petrović, The risks and benefits of ionizing radiation utilization

P. A. Amoah, R. Agalga, D. N. Adjei, D. F. Charles, Theoretical evaluation of the nuclear security risk at a hypothetical nuclear facility using an adversary pathway methodology for an insider - outsider collusion scenario

M. Mladenović, I. Maksimović, D. Arbutina, Enhancing the nuclear security on nuclear research reactors RA and RB

E. Pyszka, I. Milcewicz-Mika, M. Budzanowski, R. Kopeć, Occupational dose measurements in Poland - Results from whole body, finger ring and eye lens dosimetry

Md. S. Rahman, Md. Shamsuzzaman, Photon beam characterization for calibration of dosimeter used in radiation protection practice

H. Joo, Y. N. Kim, A Study on the technology of probabilistic safety analysis for safe management of radiation treatment system

S. Vučković, K. Paunović, M. Vujisić, A tissue-specific method for CT slice dose estimation

K. Paunović, S. Vučković, M. Vujisić, Estimation of CT patient-dose savings from the utilization of different image reconstruction algorithms

A. Milatovic, B. Berisaj, N. Svrkota, Monitoring of occupationally exposed workers in Montenegro: An overview

A. C. Iglesias Rodrigues, T. Madi Filho, D. Gomes da Silva, Analysis and project of the high density storage racks for spent fuel of the research reactor IEA-R1

M. Długosz-Lisiecka, T. Jakubowska, Neutron and gamma radiation levels analysis around the cyclotron facility

O. Stoyanov, Data from security staff personnel monitoring in Bulgaria

20:30-00:30 **Conference Cocktail**

Wednesday, June 20

09:00-18:30 Conference Excursion

Thursday, June 21

08:00-19:30 Registration

08:00-09:30 Poster Sessions

Samoil Hall

Radiobiology

A. Cojocari, M. Gîncu, Li. Coretchi, Health surveillance of radiological workers

N. Shimalina, V. Pozolotina, N. Orekhova, E. Antonova, Biochemical aspect of adaptation of *Plantago major* L. seed progeny from radioactive contaminated area

N. Chueshova, G. Goroch, I. Cheshik, Influence of electromagnetic radiation from a mobile phone (1745 MHz) on the state of the reproductive system of male rats of two generations

I. Cheshyk, N. Puzan, A. Nikitin, Study of radioprotective properties of microbiological preparations EM-1 and EMX-Gold

I. Nikitsina, A. Gritsuk, A. Nikitin, Changes in thymocytes caused by the impact of ionizing radiation and peroxy nitrite

E. Makarenko, A. Oudalova, Morphometry of Scots pine needle in the remote period after the Chernobyl accident

O. Milošević-Djordjević et al., The lack of impact of GSTT1 and GSTM1 null genotypes on radioiodine-induced cytogenetic damage in peripheral blood lymphocytes in vivo

E. Kazakova, P. Volkova, S. Geras'kin, E. Makarenko, Analysis of the genetic diversity in chronically irradiated Scots pine populations using different types of markers

E. V. Koryakina et al., RBE of accelerated carbon ions and of neutron-produced heavy-charged particles in Chinese hamster cells

S. Ulyanenko et al., Biophysical trials of the Russian Proton Therapy Complex with scanning beam

A. Rusakovich, E. Kravchenko, M. Aleksandrova, I. Aleksandrov, Retrotransposon transpositions in haploid male pronuclei arising from irradiated drosophila sperms

A. Panek, J. Miszczyk, DNA repair processes in human lymphocytes irradiated with 60 MeV proton radiotherapeutic beam at IFJ PAN

H. Li, Q. Li, Circular RNA CBL.11 mediates the proliferation of colon cancer cells via sponging up miR-6778-5p and regulating the YWHAE expression

T. Szatmári, E. Kis, E. Persa, G. Sáfrány, K. Lumniczky, Radiation-induced bystander signals in the blood can be mediated by extracellular vesicles

V. I. Potetnya, E. V. Koryakina, M. V. Troshina, N. G. Boldueva, S. N. Koryakin, S. E. Ulyanenko, Dosimetric and radiobiological aspects of cell monolayer irradiation with 14 MeV neutrons in the presence and absence of proton equilibrium

- A. Gapeyev, N. Lukyanova, Radiation protective action of pulse-modulated electromagnetic radiation of extremely high frequencies: participation of SAPK/JNK-dependent intracellular signaling systems
- A. Gapeyev, M. Yashanova, V. Nikolaev, O. Zanozina, T. Shcherbatyuk, Correction of the glycemic profile under the action of low-intensity electromagnetic radiation of extremely high frequencies in the combined therapy of diabetes mellitus in rats
- K. Wakimura, M. Kato, Effect of irradiation with gamma rays on chemotactic response and motility of *Escherichia coli*
- M. Matjanovski, The role of the long-non coding RNA Linc166/8 in post-irradiation aging of mesenchymal stem cells
- E. Evstratova, M. Podobed, The relative biological effectiveness of alpha particles in the manifestation of heritable late damages
- M. Podobed, E. Evstratova, The role of UV radiation and ploidy in the manifestation of cell genetic instability
- M. Bacalum et.al, Set-up optimization and dosimetry of IFIN-HH 3 MV Tandetron™ proton beam to be used in radiobiology experiments
- M. Kuranova, A. Nozdracheva, R. Ushakov, N. Pleskach, I. Spivak, V. Mikhelson, Mosaicism in cell of ataxia-telangiectasia patients
- A. Ylli, L. Binxhija (Qeska), E. Ylli, The chlorophyll pigment measurement in different generations at *Phaseolus Vulgaris* mutant lines
- K. Voskanyan, A. Rzyanina, G. Mitsyn, V. Gaevskiy, Radioprotective effect of laser radiation with a wavelength of 532 nm on fibroblast cells

Radiation Effects

- A. Cojocari, L. Bejenaru, I. Plavan, The diseases of the children of participants in liquidation of consequences of Chernobyl disaster
- A. Petrova, D. Dementyev, N. Kudryasheva, Effect of low-dose gamma-radiation on luminous marine bacteria *Photobacterium Phosphoreum*
- N. Shevtsova, D. Gudkov, A. Yavnuk, Radiation-induced biological effects in higher aquatic plants from the Chernobyl Exclusion Zone
- T. Andriichuk, N. Raksha, S. Vakal, L. Ostapchenko, Aspects of ionizing radiation effects on purine metabolism in spleen lymphocytes upon injection of inosine
- G. Goroch, A. Kazlou, M. Bakshayeva, R. Novikov, N. Chueshova, A. Shubianok, Consequences of the combined action of immobilization stress and the electromagnetic field of the industrial frequency on the blood and reproductive system of male rats
- T. Shcherbatyuk, E. Plekhanova, I. Chernigina, V. Chernov, A. Gapeyev, Free radical activity of low-level led light with 400 nm and 460 nm wavelengths at the cholangiocellular RS-1 carcinoma of early and late growth stages in rats
- M. Lekovic, E. Mahmutovic, N. Drekoivic, N. Djordjevic, Effects of extremely low-frequency electromagnetic field on human lung fibroblast cell line MRC-5

Medical Imaging

- I. Sazdova, V. Gershan, J. Chabukovska - Radulovska, G. Spirov, Analyses of technical and clinical protocol of abdomen CT examinations in the University clinic of surgical diseases "St. Naum Ohridski" in Skopje

Lj. Nedović, M. Delić, N. Ralević, Segmentation of X-rays and related images using aggregated distance functions

D. Karaklić, S. Ralević, N. Ralević, Filtering of X-rays and related images using fuzzy metrics

M. Cvijovic, L. Ranin, Multislice Computed Tomography in the evaluation of hard and spotty calcificated plaque

D. Zoul, P. Zháňal, 3D reconstruction of inner structure of radioactive sample utilizing gamma tomography

D. Flechas, F. Cristancho, Technical applications of an imaging gamma-ray Compton backscattering device and simulation with GEANT4 of a new prototype

Radiotherapy

Y.-N. Kim, H.-M. Joo, Reduction of dose estimation error of an artificial neural network algorithm for radiation treatment

S. Song, H. Chun, T. Yu, H.-M. Joo, S. K. Kim, Y. N. Kim, A study on the optimization strategy of intensity-modulated radiotherapy for prostate cancer

D. Jaroš, G. Kolarević, B. Pavičar, Dosimetric study on comparison of gamma index in pre-vmat treatment verification procedure using Delta4 and portal dosimetry

W. Jeon, H. J. An, J.-I. Kim, J. M. Park, H. Kim, E. K. Chie, Preliminary analysis of the MR-based synthetic CT generation using deep learning for Image Guided Radiotherapy

P. Tulik, M. Tulik, M. Maciak, D. Kabat, J. Lesiak, Consideration regarding the secondary mixed radiation field around the medical linear accelerator - Measurements with and without an anthropomorphic phantom placed in the radiation field

I. Yakovlev, S. Akulinichev, Proton therapy: Passive scattering technique improvement

S. Petkovska, Y. Acarbas, M. Ginovska, H. Spasevska, Small field output factors and their impact in calculation model configuration

Medical Physics

D. Ćirić, D. Otašević, B. Radojčić, D. Jovanović, G. Nišević, In vivo verification of entrance dose for head and neck treatments

Z. Alirezaei, T. Dehghani, Investigating the effect of exposure factors on absorbed dose to salivary glands and mandible in CBCT

D. Krstic, D. Nikezic, M. Jeremic, M. Matovic, Monte Carlo MCNP code in Boron Neutron Capture therapy for several organs of the ORNL voxel phantom

Plenary Session

Biljana Hall

09:30

Invited Lectures

Arkadiusz Mandowski, Novel methods and development of radiation-induced optically stimulated luminescence (OSL) measurements

Peter Bossew et al., The European atlas of natural radiation

10:30

Refreshments

11:00 **Oral Session: Radioecology** **Biljana Hall**

R.-Cs. Begy, Sz. Kelemen, D. Vasilache, Preliminary results on study of the behavior of Pb-210, Cs-137 and Po-210 isotopes in the sediment column under different chemical conditions

İ. Sert, Estimation of sediment accumulation rates using naturally occurring ²¹⁰Pb models and heavy metal measurements in Gülbahçe hydrothermal vent zone

A. Nikitin, O. Shurankova, I. Chesnyk, Y. Mischenko, Impact of soil water-regime on accumulation cesium isotopes in the above-ground organs of wheat

T. Paramonova, M. Godyaeva, N. Kuzmenkova, O. Komissarova, Soil-to-wheat transfer of ¹³⁷Cs in conditions of post-Chernobyl landscape and in model pot experiment

N. Larionova, S. Lukashenko, Transfer of radionuclides from the soil to plants in venues of excavation explosions at the Semipalatinsk test site

P. Volkova, G. Duarte, S. Geras'kin, Transcriptomic profiling of pine trees chronically exposed to the mixture of radionuclides in the areas contaminated after the Chernobyl accident

B. Vranješ, V. Andrić, M. Vranješ, J. Ajtić, B. Mitrović, Caesium-137 and potassium-40 in blueberry-based products on the market in Serbia

C. Ganzha, D. Gudkov, Physicochemical forms of radionuclides and dose rates on *Bivalve Molluscs (Dreissenidae)* in the Chernobyl NPP cooling pond

11:00 **Oral Session: Biomedicine** **Ohrid Hall**

Radiopharmacology

L. Traikov et al., Vasculature tone low-frequency rhythm disorders and micro-vascular shear stress changes in brain vessels as indicators of pathological changes in nerve tissue

O. Pechanova, M. Cebova, A. Barta, Protective effect of nanoparticle-loaded aliskiren on cardiovascular system in spontaneously hypertensive rats

Ju. Samoylova, M. Rotkank, M. Matveeva, N. Zhukova, The possibilities of proton magnetic resonance spectroscopy in evaluating neurometabolism in patients with type 1 diabetes mellitus

O. Pechanova, S. Vrankova, M. Cebova, Ambivalent effect of chronic L-NAME treatment in peripheral tissue and brain

S. Shubeska Stratrova, S. MishevskaJovanovska, G. Petrovski, M. Zivkovic, Legs/trunk and arms and legs sum to trunk fat mass indexes determined with dual-energy x-ray absorptiometry in Cushing's and non-Cushing's obese women

N. Stavreva, B. Kapusevska, E. Zabokova Bilbilova, O. Kokocheva Ivanova, A. Mijoska, Managing of common complications with implants in prosthodontic dentistry

O. Storchylo, Phytopreparations in the correction of radiation effects

S. Oglak, A. Canatan, S. Acar, Importance of patient-centered home care models for patients with cancer

11:00 **Oral Session: Radiation Physics** **Kaneo Hall**

D. Mrdja, K. Bikit-Šreder, I. Bikit, J. Slivka, S. Forkapic, Monte-Carlo simulation of background components for shielded HPGe detector

M. Cherepnev, V. Yakovleva, A. Zelinskiy, The estimation of the cosmic ray component and the total γ -background of atmosphere, comparison with the experiment

A. Voinov, Experimental studying of the region of the superheavy elements at the Dubna Gas-filled Recoil Separator: recent experiments and results

M. Zheltonozhskaya, V. Zheltonozhsky, E. Lykova, A. Chernyaev, Photoactivation method of ^{10}Be activity measurement in nuclear power point constructions

R. Figueroa, M. Valente, F. Malano, X-ray production in different anode geometries: Theoretical and Monte Carlo simulation approaches

M. Manziolaro et al., The SPES facility at Legnaro National Laboratories

Z. M. Cinan, A. H. Yilmaz, The large angle quasi-elastic scattering cross sections and the effective weight function based on the barrier distribution for $^{32}\text{S} + ^{92,94,96,98,100}\text{Mo}$ reactions

B. Erol, A. H. Yilmaz, Heavy-Ion Fusion Cross Sections for $^{20}\text{Ne} + ^{90,92,94,96}\text{Zr}$

S. Cakmak, Study of Gamow-Teller transitions for germanium isotopes

14:00 **Oral Session: Radiation Protection** **Biljana Hall**

K. Chizhov, V. Kryuchkov, M. Sneve, Operational research and data mining methods for regulatory supervision of nuclear legacy site Andreeva Bay

S. Pflugbeil, I. Schmitz-Feuerhake, Relevance of the Chernobyl research for the evaluation of radiation effects in cases of low dose rate exposure

P. Kuča, J. Helebrant, I. Češpírová, J. Hůlka, Citizen monitoring network in the Czech Republic

I. Iorga, Simulated dose rate calculation for radioactive effluent transport pipes at VVR-S Nuclear Research Reactor from Bucharest - Magurele, Romania

C. Tuca, A. Stochioiu, R. Deju, Aspects of the radiological monitoring of the gaseous effluents released in the decommissioning of the biological concrete shielding of VVR-S nuclear reactor

D. Vasovic, S. Musicki, S. Hristov, CBRN decontamination observed from multiple perspectives

A. Çiriş, V. Nevruzoglu, U. Çevik, The mass attenuation coefficients of Pileki stone in the province of Rize, Turkey

14:00 **Oral Session: Radiation Oncology** **Ohrid Hall**

Cancer Research

G. Woloschak, Use of nanoparticles to improve efficiency of radiation therapy

M. Bilski et al., Abscopal effect of radiotherapy - The pursuit of the unknown

P. Cisek, D. Kieszko, M. Bilski, I. Kordzińska-Cisek, P. Kozakiewicz, L. Grzybowska-Szatkowska, 3D-HDR intraluminal brachytherapy in oesophageal cancer

V. Solodky, A. Tsibulskii, A. Pavlov, A. Ivashin, S. Garmash, Salvage high-dose-rate brachytherapy of local prostate cancer recurrence

Y. Yahşi Çelen, Assessment of changes in tumor volume in head and neck cancers in terms of critical organs

M. Filimonova, A. Filimonov, Lj. Shevchenko, V. Makarchuk, E. Chesnakova, Prospects for the use of NOS inhibitors as adjuvants for experimental radio- and chemotherapy

N. Anastasov et al., Molecular characterization of combined MEK1 and HDAC inhibitor treatment upon irradiation in breast cancer cells

E. Glebov, A. Shushakov, I. Pozdnyakov, D. Vasilchenko, A. Melnikov, Photochemistry of Pt(IV) complexes prospective in photodynamic therapy of tumors

14:00 **Oral Session: Radiation Physics** **Kaneo Hall**

Radiation Effects

S. Nikiforov, I. Avdiushin, A. Kiryakov, Synthesis, luminescent and dosimetric properties of ultrafine anion-defective ceramics on the basis of aluminium oxide for registration of high-dose ionizing radiation

T. Chuvilskaya, Investigations of isomeric cross section ratios for the reactions on ^{187}Re and ^{194}Pt targets

T. Bayram, S. Akkoyun, Determinations of transition energies and half-lives for photo-nuclear reaction products of some rare earth nuclei

M.-V. Ilie, T. B. Sava, Radiocarbon dating applications of accelerator mass spectrometry

M. Mehrabova et al., Photoelectrical properties of CdMnTe thin films irradiated by gamma quanta

M. Thakurdesai, S. Survase, Comparative study of Swift Heavy Ion (SHI) irradiation induced athermal annealing and Rapid Thermal Annealing (RTA) of Te/Cd/Te trilayer films

M. Mehrabova et al., Effect of gamma irradiation on the structural and optical properties of CdMn(Fe)Te thin films

T. Torchynska, B. El Filali, G. Polupan, L. Shcherbyna, Emission, structure and aging of ZnO:Ag Nanocrystal films

B. Papajani, E. Vataj, A. V. Hasimi, A. Sinanaj, The study of the influence of additives in the crystallinity of LDPE recycled by IR and XRD analysis

15:30 **Refreshments**

16:00 **Oral Session: Radiation Protection** **Biljana Hall**

V. Singh, Biomarkers for acute radiation injury and efficacy of radiation countermeasures: Latest developments

J. Sabol, B. Šesták, Radiation risks of medical use of ionizing radiation in the Czech Republic: A conservative assessment

G. Pretzsch, Radiation risk during the criticality of fuel in the new safe confinement at Chernobyl

J. Liu et al., US DOE technical standard "Clearance and release of personal properties from accelerator facilities"

I. Iorga, Methods of evaluation using MicroShield code for the biological concrete shield at the WVR-S Nuclear Research Reactor from Bucharest - Magurele, Romania

L. Petrenko, Geological disposal of radioactive waste in Ukraine: approaches and concepts

M. Pietrzak, S. Pszona, A. Bantsar, Nanodosimetry for radiation exposure assessment

T. Bayram, A. H. Yilmaz, S. S. Yilmaz, Y. Misirliođlu, A. Kucuk, E. Tutuncu, On the gamma attenuation of various polymer compounds

16:00 **Oral Session: Nuclear Medicine** **Ohrid Hall**

Radiology

Keynote talk: N. İ. Karabacak, Personalized therapy in cancer and theranostic approaches in nuclear and molecular medicine

S. Dugonjić, B. Ajdinović, D. Pucar, M. Šišić, Comparison of positive ^{99m}Tc -MIBI/ ^{99m}Tc subtraction scintigraphy and parathyroid hormone levels and histological type of parathyroid hyperplasia in patients operated from secondary hyperparathyroidism

Lj. Jaukovic, M. Rajovic, M. Radulovic, L. Kandolf-Sekulovic, Prediction of sentinel lymph node status by patient and primary tumor characteristics in cutaneous melanoma - A single center study

A. Vasiliev, S. Ermolaev, E. Lapshina, N. Betenekov, E. Denisov, B. Zhuikov, ²²⁵Ac/²¹³Bi generator based on inorganic sorbents

B. Ajdinovic, Imaging in children with urinary tract infection

A. Bonfanti et al., Thoraco-abdominal triphasic CT in oncologic follow-up: assessment and advantages of "LOW DOSE" protocol

E. Petrova, Pulmonary dust diseases in Bulgaria

D. Obad Kovačević, J. Popić, V. Vidjak, Ultrasound guided percutaneous sclerotherapy of simple renal cysts: primary success and procedure safety

J. Popić, D. Obad Kovačević, Đ. Milković, V. Garay Vrhovac, V. Vidjak, The possibilities and limitations of direct digital radiography, ultrasound and computed tomography in diagnosing pleural mesothelioma

16:00 **Oral Session: Neutron and Heavy Ion Radiation**

Microwave, Laser, RF and UV radiations

Environmental Physics **Kaneo Hall**

R. Bedogni, A. Pietropaolo, J.-M. Gomez-Ros, A new concept of thermal neutron irradiator

V. Monti et al., Characterization measurements of E_LiBANS thermal neutron source

M. Costa et al., The e_LiBANS project: intense thermal and epithermal neutron fields based on a medical LINAC

M. Karetnikov, Application of tagged neutron technology for measuring response of gamma-detectors to 14 MeV neutrons

H. K. Namburi, J. Soltés, J. Krejci, Application of neutron radiography for detection of hydrogen distribution in nuclear fuel claddings in LVR15 research reactor

S. Mitrofanov, Beam instrumentation of FLNR JINR accelerator complex for applied physics researches

I. Shpachenko, N. Brandt, A. Chikishev, Variations in ATR FTIR spectra of several liquids

S. Brkić, B. Tuka, Estimation of global solar radiation from sunshine duration for Mostar and Split area

Z. Kovač, J. Parlov, J. Barešić, Environmental isotope research for a more efficient protection of the future Kosnica well field (Zagreb, Croatia)

18:00-19:30 **Poster Sessions**

Samoil Hall

Radon and Thoron

M. Mostafa, M. Zhukovsky, Alpha particle penetration in radiometric filter materials using Monte Carlo computer program (SRIM)

P. Vukotic, R. Zekic, N. Antovic, Radon concentrations in multi-storey buildings in Montenegro

A. Gusev, I. Martin, M. Gomes, R. Gomes, Thermal neutrons of the terrestrial origin in the Brazilian region

G. Nafezi, N. Mahmudi, A. Sinani, G. Hodolli, B. Uka, Comparison of radon activity concentrations between four different countries

M.A. Misdaq, M. Benelfakir, J. Ouguidi, Radiation doses to spa workers due to radon and its daughters from the inhalation of air

L. Fijałkowska-Lichwa, T. A. Przylibski, First ^{222}Rn activity concentration measurements in newly discovered parts of deeper-lying passages of Bear Cave in Kletno (South-West Poland)

B. Küçükömeroğlu, S. U. Duran, A. Şen, A. Çiriş, H. Taşkın, U. Çevik, Radon concentrations in drinking waters of Trabzon province, Turkey

S. Sakr, A. Ahmed, A. Mohamed, M. Moustafa, M. Mostafa, Deposition fractions of inhaled indoor radon decay products in human respiratory system with various levels of physical exertion

K. Tushe, H. Recic, B. Daci, E. Bylyku, I. Berdufi, E. Kiri, Indoor radon concentration related to geological soils at different workplaces of Albania

J. Nikolov, N. Todorovic, I. Stojkovic, B. Tenjovic, Influence of ^{226}Ra on ^{222}Rn in water measurements

M. Poje Sovilj, J. Nikolov, I. Stojković, G. Šmit, N. Todorović, V. Radolić, Comparison of several methods for measuring ^{222}Rn in drinking water between two laboratories

T. Petrova, P. Miklyaev, High radon exhalation rate in Moscow

P. Szajerski, A. Zimny, Fast protocol for Rn-222 diffusion measurements in building materials

Z. Podgórska, K. Wołoszczuk, Z. Baranowska, Measurements of radon concentrations in drinking water samples in Poland

B. Kunovska, Z. Stojanovska, K. Ivanova, A. Angelova, A study of building factors affecting indoor radon concentration

Biophysics

D. Krezhova, K. Velichkova, N. Petrov, Remote sensing-based empirical approaches for estimation of biophysical variables of plants under stress

K. Velichkova, D. Krezhova, Comparative analysis of hyperspectral vegetation indices for stress detection and estimation of biophysical variables in crops

A. Filimonova, O. Vorobey, Effect of copper sulfate on the cell survival after the action of hyperthermia

Biomedical Engineering

D. Djurovic Koprivica, T. Puskar, M. Jeremic Knezevic, B. Milekic, M. Paut Kusturica, Computer analysis of occlusion in fixed dental implant replacement

Radiation Physics

N. Hasanli, M. Isik, Defect center parameters in β -irradiated MgO nanoparticles

I. Lončarević, Lj. Budinski-Petković, Z. Jakšić, S. Vrhovac, Adsorption-desorption processes on discrete substrates - optimization of the monolayer growth

O. Sydor, O. Sydor, High-energy gamma-radiation influence on GaSe-InSe photoconverters and comparison of their radiation stability with silicon-based ones

Radiation Effects

K. Kurochka, N. Melnikova, T. Kurennykh, D. Alikin, Irradiation effect on the ionic conductivity of $\text{AgGe}_{1.6}\text{As}_{0.4}(\text{S}+\text{CNT})_3$ glassy composite material

V. Kolokoltsev, V. Degtyarev, E. Vitoshkin, Study of deformation in irradiated inorganic glasses by means of interference patterns of rays in transmitted light

Microwave, Laser, RF and UV radiations

G. Polupan, R. Cisneros Tamayo, L. G. Vega Macotela, T. Torchynska, Impact of AlGaInAs strain reducing layer on Emission of InAs quantum dots embedded in GaAs/AlGaAs laser structures

P. Skorobogatov, K. Epifantsev, A. Shemonaev, N. Diatlov, Method and mean of IC's testing on electrical overstress hardness caused by the spacecraft charging

Z. Podrascanin, M. Atlagic, Z. Mijatovic, A. Firanj Sremac, UV index forecast in Vojvodina region

A. Nikitin, D. Suhareva, Y. Mishchanka, Analysis of the mm-length electromagnetic field influence on the general resistance of plants

V. Belyakov et al., The comparison of different ionization sources for ion mobility spectrometry

M. Grbić, A. Pavlović, Quantification of operator proximity effect on measuring results of electric field strength in the vicinity of overhead power lines

O. Konotop et al., Vacuum ultraviolet study of substrate-free nanoclusters of argon, krypton, and xenon excited by an electron beam

A. Tačić, S. Petrović, V. Nikolić, S. Savić, Lj. Nikolić, I. Nikolić, Identification of sulfanilamide degradation products after UV irradiation

A. Tačić, S. Petrović, S. Savić, S. Savić, V. Nikolić, Lj. Nikolić, UV-stability studies of sulfanilamide in liposome vesicles

I. Topalova, Ts. Shalamanova, V. Zaryabova, M. Israel, Electromagnetic field exposure from telecommunication sources in areas with "sensitive" buildings and places

M. Israel, M. Ivanova, V. Zaryabova, Ts. Shalamanova, P. Ivanova, Occupational exposure to electromagnetic field - transposition of the European policy

M. Ivanova, Ts. Shalamanova, I. Topalova, M. Israel, Evaluation of the electromagnetic field exposure of the general public around telecommunication sources

B. Adnadjevic, J. Jovanovic, Kinetic study of water evaporation and PMA hydrogel dehydration under the microwave field

Neutron and Heavy Ion Radiation

Ş. Şentürk, T. Bayram, On the ground-state nuclear properties of superheavy hs, ds and cn nuclei

Environmental Physics

R. Werner, D. Valev, A. Atanassov, V. Guineva, A. Kirillov, Observation of UV solar irradiances and determination of the stratospheric ozone amount over the Stara Zagora location

J. Barešić et al., Study of the bank-filtered Zagreb aquifer system using isotope analyses near well field Kosnica

G. Žauhar, M. Čargonja, D. Mekterović, Analysis of aerosols in air after fireworks in the city of Rijeka by X-ray fluorescence technique (XRF)

M. Cukavac, E. Hasanagic, S. Mihajlovic, L. Pekevski, J. Jankovic, M. Rasic, Geoeffective impacts of solar and geomagnetic disturbances

N. Yagova, E. Fedorov, Space weather effects on ionosphere contamination by heavy ions originated from space debris

Other topics

V. Guineva, I. Despirak, B. Kozelov, R. Werner, Substorm developments at Apatity by simultaneous THEMIS satellite measurements and ground-based observations - A case study

20:30-01:00 Conference Gala Diner

Friday, June 22

09:00-15:00 **Registration**

Plenary Session

Biljana Hall

09:30 **Invited Lecture**

A. Pejovic-Milic, Use of radiation in non-conventional medical diagnostic procedures

10:00 **Special Talk**

Byung Yeoup Chung, Current status and future perspectives of Advanced Radiation Technology Institute (ARTI)

10:30 **Refreshments**

11:00 **Oral Session: Radiation Protection**

Biljana Hall

G. Žauhar, B. Dresto Alač, Comparison of professional radiation exposures of medical staff covered by personal dose monitoring considering the type of occupation and workplace

A. Szumska, R. Kopeć, M. Budzanowski, Eye lens doses of medical staff incurred in interventional procedures in Poland

Z. Mirkov, N. Todorović, K. Bikit, J. Nikolov, Comparative measurement of dental X-ray devices in order to improve the quality control in the country

M. Fadil, Modeling of the nuclear facility S3 of SPIRAL2: Neutron environment and radiological study

M. Voytchev, R. Radev, The role of international standards for radiation protection instrumentation

M. Geçin, S. Çömlekçi, E. Eroğlu, Electromagnetic environmental problem in dental clinics

G. Lastovicka-Medin, A lab of one's own & Modern Suffrage: Mothers who set up a radiation lab and those used as guinea pigs

11:00 Oral Session: Radon and Thoron Ohrid Hall

Li. Coretchi, I. Plavan, Monitoring of indoor radon in the Republic of Moldova

J. Park, Y.-J. Kim, J.-J. Nam, B.-U. Chang, Indoor radon survey in Danyang County, one of radon-concerned areas in Korea

A. Vasilyev, G. Malinovsky, A. Onischenko, Variations of radon concentrations by floors in big building: experimental and modeling study

S. Forkapić, R. Lakatoš, K. Bikit-Šreder, I. Čeliković, P. Repić, D. Mrđa, The comprehensive radon survey in single-family houses in Vojvodina region

D. Avramović et al., Radon exhalation rate of some building materials common in Serbia

G. Malinovsky, I. Yarmoshenko, Meta-analysis of case-control studies of lung cancer and indoor radon relationship

K. Jilek, A. Fronka, M. Fejgl, J. Lenk, I. Hupka, The NRPI integral system for measurement of an average air exchange rate in buildings

N. Yagova, A. Sinha, A. Schekotov, E. Fedorov, G. Vichare, A possible relation between pre-seismic variations of natural ULF-ELF electromagnetic noise and regional thunderstorm activity

D. Kikaj, J. Vaupotič, Role of meteorology and lithology in temporal variation of outdoor radon level

11:00 Oral Session: Radiation in Medicine Kaneo Hall

S. Vargas Castrillon, F. Cutanda Henriquez, Absolute dose determination in flattening filter-free beams: AAPM TG 51 and IPEM recommendations

J. Sampaio, M. D. Pires, J. Marques, An atomic physics perspective on targeted therapy with Auger emitting radionuclides

V. Panteleev et al., A new method development for medical radionuclide $^{223,224}\text{Ra}$ and ^{225}Ac production

E. Lapshina, S. Ermolaev, B. Zhuikov, V. Ostapenko, A. Vasiliev, ^{230}Pa isolation from irradiated Th-target and development of a $^{230}\text{U}/^{226}\text{Th}$ generator

T. Paunesku, Distribution and effects of TheraSpheres in liver

A. Pejovic-Milic, G. Mankovskii, Use of total reflection energy dispersive X-ray fluorescence spectrometry in nanomedicine

G. M. Grittani, C. M. Lazzarini, M. Nevrkla, M. F. Nawaz, T. Levato, HELL: the high energy electron beamline for external users at ELI-Beamlines

M. Zhukovsky, H. M. H. Zakaly, Dose coefficients for monoclonal antibodies and antibody fragments labeled by zirconium-89

14:00 Oral Session: Radiation Protection Biljana Hall

Z. Mirkov, D. Šegota, A. Milatović, Joint research for the purpose of determining local diagnostic reference levels in a part of the Republic of Serbia, the Republic of Croatia and the Republic of Montenegro

J. Sabol, J. Studený, Z. Zelenka, Radiation burden of workers in nuclear medicine in the Czech Republic: An overview over the last five years

Z. Mirkov, J. Pajić, Handheld X-ray unit in diagnostic radiology procedures - risks and recommendations

A. Volchkova, E. Shishkina, M. Degteva, B. Napier, Dose coefficients to convert air kerma into organ dose rate values for people of different ages externally exposed to ¹³⁷Cs in soil

A. Stochioiu, C. Tuca, Analysis of radiological risks for critical group members as a result of nuclear activities in IFIN-HH, Romania

E. Vataj, U. Gjoka, F. Ylli, B. Papajani, Evaluation of doze rate field of industrial X-ray equipment for NDT

Md. S. Rahman, R. Sultana, S. Purohit Purohit, A.K.M. M. Haque Meaze, Measurements of patient doses in diagnostic radiography and assessment of fetal cancer risk

M. Benelfakir, M.A.Misdaq, Evaluation of committed effective doses to skin from the application of various plant oils inside saunas by bathers

14:00 Oral Session: Radon and Thoron Ohrid Hall

J. Vaupotič, D. Kikaj, M. Ferfolja, D. Vodopija, T. Dizdarevič, Radon concentration in “Anthony’s Shaft - Tourist Mine”, Idrija, Slovenia

H. Khalaf, M. Zhukovsky, M. Mostafa, M. Vasyanovich, Number, specific surface area and mass distribution comparison of radioactive aerosols

P. Miklyaev, T. Petrova, A. Marenyy, Cases of very high seasonal variations of radon levels in fault zones

H. Bem, M. Dlugosz-Lisiecka, A. Gasiorowski, P. Szajerski, Measuring of soil radon by liquid scintillation counting

I. Yarmoshenko, G. Malinovsky, A. Vasilyev, Experimental system for measurement of radon-activated advection from the soil

I. Čeliković, G. Pantelić, M. Živanović, I. Vukanac, P. Ujić, B. Lončar, Radon in soil gas in the vicinity of Niška Banja, a high radon area

A. S. Silva, M. de Lurdes Dinis, Measurements of radon concentration in natural mineral water

W. Hofmann, R. Winkler-Heil, H. Lettner, A. Hubmer, Simulation of the radon transfer from thermal water through the skin in radon therapy

14:00 Oral Session: Medical Devices Kaneo Hall

Biomedical Engineering

Biomechanics

Biophysics

Yu. Kovalenko, S. Miroshnichenko, A. Nevgasymy, Increase of diagnostic roentgenology efficiency by adding dynamic digital receivers to the operated conventional x-ray equipment

D. Yurkov et al., Novel generators for nuclear medicine: technical and antitumor characteristics

R. Pop-Iliev, W. Yi Pao, P. Karimipour-Fard, G. Rizvi, Visualization and morphological characterization of integral skin cellular polymeric composites using X-ray microtomography

M. Radu, M. Bacalum, M. Straticiuc, R. Vasilache, M. Temelie, D. Savu, Radiobiological effects of laser driven ion beams - Preparation for ELI-NP perspective

A. Hedrih, K. (Stevanovic) Hedrih, Kinetic energy of homologue chromosome pairs in biomechanical oscillatory model of mitotic spindle

A. Freiberg, Functional pathways of the solar energy transformation in photosynthesis from Far-UV to Near-IR

T. Stankovski, Coupling functions: Universal insights into dynamical interactions

I. Shpachenko, N. Brandt, A. Chikishev, Raman spectroscopy in the study of enzyme kinetics

T. Torchynska, Antibody impact on emission of bioconjugated CdSe/ZnS and CdSeTe/ZnS quantum dots

Yu. P. Chukova, Radiation hormesis in the light of laws of quantum thermodynamics

Virtual Session

Radiobiology

N. Metlyaeva, A. Bushmanov, V. Krasnuk, O. Shcherbatykh, Ly. Yunanov, Assessment of the adaptation of patients with ARS, the victims of ChNPP and different radiation accidents, past psychophysiological examination

E. Beketov, E. Isaeva, N. Nasedkina, E. Malakhov, O. Golovanova, S. Ulyanenko, Relative biological effectiveness of "Prometeus" scanning proton beam on B-16 cells in vitro

J. Pajić, D. Jovičić, A. P. S. Milovanović, Inter-individual variability in biological response to ionizing radiation measured by dicentrics and micronuclei

J. Pajić, D. Jovičić, A. P. S. Milovanović, Micronuclei frequency in peripheral blood lymphocytes of the serbian adult population: database for dose assessment by biodosimetry tools

D. Jovičić, J. Pajić, A. P. S. Milovanović, Biodosimetry and physical dosimetry tools in radiation exposure assessment

D. Jovičić, J. Pajić, A. P. S. Milovanović, Cytogenetic changes in persons occupationally exposed to radionuclides

S. Litvinov, N. Rashydov, M. Krivohizhaya, Radiation-induced long-term changes in the non-pigmented compounds in leaves of *Arabidopsis thaliana* (L.) Heynh.

U. Bliznyuk, P. Borschegovskaya, F. Studenikin, A. Chernyaev, The influence of accelerated 1 MeV electron beam on microbiological parameters of chilled trout

A. A. Oleshkevich, Cell sensitivity to doxorubicin after application of ultrasound

E. Gulik, N. Kostesha, Radioprotective activity of chitabis

Radiochemistry

A. Lazarević, S. Petrović, J. Stanojević, D. Cvetković, Lj. Stanojević, J. Zvezdanović, Apigenin and apigenin stability to UV-irradiation treatment in methanol solutions

H. Vasylyeva, I. Myroniuk, Sorption removal of Sr^{2+} and Y^{3+} ions from aqueous solutions by a TiO_2 - based sorbents

Radiation Measurements

J. Czub et al., Absorbed dose readings using Gafchromic films EBT2 and XR-RV3 in an experimental system with low radiation X-rays

J. Czub et al., Measurements of half value layer using different detectors and calculations of effective energies for low energy X-ray experimental setup

M. Shyti, M. Trdin, Determination of ^{226}Ra and ^{228}Ra in water using LabSOCS efficiency calibration software for gamma spectrometric analysis

C. Cantaluppi, D. Zannoni, F. Ceccotto, A. Cianchi, Drinking water pre-treatments for high-resolution gamma spectrometry analysis: a comparison of methods

K. El Korchi, Coking phenomenon detection in liquid-flow through a solid phase in a lab-scale distillation column using radiotracer and sealed source techniques

Radiation Protection

A. Talbi, M. A. Misdaq, A. Chaouqi, Study of alpha and beta radioactivity of clay originating from the nuclei of the ^{238}U and ^{232}Th radioactive series and resulting radiation doses to the skin of potters

O. Girjoaba, A. Cucu, Medical exposure in 2016 in Romanian radiological departments

L. Aslamova, O. Nasvit, I. Kulich, N. Melenevska, Safety culture as a key issue of radiation safety in medical activities with ionizing radiation sources

H. Harrass, M.A. Misdaq, H. Saikouk, A. Matrane, Determination of gamma dose to the medical personnel from patients having ingested ^{131}I for the treatment of hyperthyroidism diseases

S. Musicki, D. Vasovic, S. Markovic, CBRN defence: organization, resources and tasks of armed forces

Radioecology

M. Shyti, I. Bërdufi, F. Cfarku, G. Xhixha, Analysis of terrestrial natural radionuclides and the assessment of annual effective dose in the soils of the Institute of Applied Nuclear Physics in Albania

Ly. N. Mikhailovskaya, V. N. Pozolotina, E. V. Antonova, M. V. Modorov, Accumulation of radionuclides by plants of different taxonomic groups within the East-Ural radioactive trace

- R. Spirov, A. Nikitin, The activity concentration of transuranic elements in *Corynephorus canescens* and *Vaccinium myrtillus* growing in Polesye state radiation ecological reserve
- R. Spirov, A. Nikitin, The activity concentration of transuranic elements in *Betula pendula* growing in Polesye state radiation ecological reserve
- R. Spirov, A. Nikitin, O. Shurankova, The activity concentration of transuranic elements in *Pinus sylvestris* growing in Polesye state radiation ecological reserve
- R. Spirov, A. Nikitin, E. Zhukovskaya, Mobile application "EcoJournal" for radioecologists
- M. Asztemborska, M. Bembenek, M. Jakubiak, R. Stęborowski, The effect of TiO₂ and ZnO nanoparticles on the bioaccumulation of strontium ions by aquatic plants *Salvinia natans* and *Elodea Canadensis*
- M. Varbeva, P. Kovacheva, Effects of sharp temperature change on the binding of Americium with humic and fulvic acids in soils
- M. Varbeva, P. Kovacheva, Effects of soil properties on the binding of Europium to humic and fulvic acids after rapid warming
- R. Petrova, E. Tsvetkova, Modeling the behavior of natural radionuclides and environmental risk in the sites from the mining uranium ore in Bulgaria
- H. Vasylyeva, Yu. Kylyvnyk, O. Sych, Purification of water solutions from some radionuclides with natural and synthetic inorganic sorbents

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- S. Vîrlan, Exposure of the population of the Republic of Moldova to natural sources of radon and its progeny
- O. Symkanych et al., Measurement of radon content using Cr-39 solid state track detector
- A. Talbi, M. A. Misdaq, Radon, thoron and their progenies measured in the air of different marble factories and resulting alpha-dose to the respiratory tract of workers
- D. Guimarães, C. Monteiro, L. Peralta, S. Barbosa, Fiber optic sensor for radon monitoring: proof of concept
- M. Hanfi, Radiological assessment of gamma and radon dose rates at former uranium mining tunnels in Egypt

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- E.-S. Badita, C. Vancea, I. Calina, Testing of a new ionizing radiation detection system based on optical fibres
- A. Tanushevski, M. Lazarova, I. Boev, Determination of structural and photoelectric characteristics of ZnO polycrystalline thin films and ZnO nanorod arrays obtained by spray pyrolysis

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- P. Kovacheva, N. Boshnakova, D. Zhekov, Effects of gamma-irradiation disinfestation with different dose rates on leather materials
- P. Kovacheva, N. Boshnakova, Long-term side-effects of gamma-irradiation disinfestation on some properties of archives

- N. Orekhova, The hematological effects of chronic radiation exposure in pygmy wood mouse (*Apodemus uralensis* Pall., 1811) from the East Ural Radioactive Trace (Russia)
- U. Bliznyuk, V. Avduhina, P. Borschegovskaya, E. Kondratieva, F. Studenikin, A. Chernyaev, The impact of x-ray irradiation on the sprouting of potato tubers
- N. Kizilova, L. Batyuk, Dielectrophoretic study of radiation protection ability of nanodiamonds
- I. Kovalchuk, M. Gzhegotskyi, Influence of radiation on heart rate variability (HRV) of rats at different terms of post-radiation period
- E. Calabrò, S. Magazù, Increasing of ion flux in cellular membrane channels can be induced by exposure to electromagnetic fields
- E. Calabrò, S. Magazù, Diamagnetic effects in a methylene group induced by low intensity exposure to a static magnetic field

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- Li. Aslamova, I. Kulich, N. Melenevska, Experience of Ukraine in education and refresher training of medical physicists as quality assurance of medical irradiation services
- B. El Ouardi, M. A. Misdaq, A. Chaouqi, J. Ouguidi, Analysis of ^{238}U , ^{232}Th , ^{222}Rn and ^{220}Rn in different optical contact lenses and resulting radiation doses to the eyes of individuals
- V. Morozov et al., Monte Carlo simulation of combined effect of gold nanoparticles and proton radiation beams

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- I. V. Di Molfetta, Low dose CT with kV reduction in thoracic study
- V. Shchedrenok, M. Kotov, T. Zakhmatova, O. Moguchaya, Radiation predictors of outcomes of ischemic stroke

Radiation Oncology

- P. Chakalaroski, V. Klisarovska, I. Stojkovski, Dose differences between two-dimensional and three-dimensional approach to high dose brachytherapy dose reporting of organs at risk in inoperable cervical cancer treatment
- V. Klisarovska, P. Chakalaroski, I. Stojkovski, G. Petkovska, The effect from Paclitaxel/Carboplatin regimen to advanced ovarian carcinoma

Biomedicine

- S. Milisic, Cyclocryotherapy in the treatment of neovascular glaucoma
- N. Radzikhovska, Evaluation of forecast changes in the sexual function in patients with multiple sclerosis under the influence of various factors

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- A. A. Oleshkevich, Physiological state of horse blood cells in continuous and pulsed ultrasonic field

A. V. Novikova, A. A. Oleshkevich, V. E. Novikov, Change in acid erithrogram of laboratory animals in constant electric and magnetic field

A. A. Novikova, A. A. Oleshkevich, V. E. Novikov, Effect of constant electric field on the change of erithrocite membrane permeability for glucose

S. A. Komarova, A. A. Oleshkevich, Determination of the features of the coat by biophysical methods

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O. Molchan, E. Zaprudskaya, Influence of LED-light on the pharmacologically significant terpenoid indole alkaloids biosynthesis in *Catharanthus roseus* plants

Other Topics

C. J. Odi, M. N. Sanka Ansah, B. K. Afornu, E. B. Agyekum, Validation of results of analytical solution of steady state heat transfer in nuclear fuel element using ANSYS APDL

M. S. Jankulovska, V. Dimova, M. Jankulovska, The application of the semiempirical methods to determine the proton transfer of some benzoyl hydrazones

V. Dimova, M. S. Jankulovska, M. Jankulovska, A quantum chemical investigation of N1-substituted 1,2,4-triazole