

**RAD2017**   
CENTRAL EUROPEAN INITIATIVE

**FIFTH INTERNATIONAL CONFERENCE  
ON RADIATION AND APPLICATIONS IN VARIOUS FIELDS OF RESEARCH**

12. 06. - 16. 06. 2017 | Budva | Montenegro | [rad-conference.org](http://rad-conference.org)

**CONFERENCE PROGRAMME**



# CONFERENCE PROGRAMME

**Sunday, June 11**

10:00 - 20:00

Registration

**Monday, June 12**

08:00 - 09:30

Registration

09:30

Official Opening

Room B

10:00 - 19:00

Registration

**Plenary Session**

Invited lecture

Chairperson: Soile Tapio

Room B

10:00

Alexey Moskalev, **Mechanisms of radiation hormesis**

**Oral Session**

**Radiation Measurements**

Chairperson: Nevenka Antović

Room A

10:30

J.-G. Park, S.-H. Jung, J. Moon, Y. Kim, **Determination of detection distance and minimum detectable activity for radiation monitoring system in water**

10:45

B. Kozłowska, **The transfer of radionuclides from the reservoir rocks to the groundwater on the example of Mt. Etna volcano**

11:00

Ş. O. Gürdal, S. S. Keskin, M. Tombakoğlu, **Dust effect on optically stimulated luminescence dosimetry**

11:15

V. Pintilie, L.-P. Georgescu, A. Ene, **Gross alpha and gross beta activities from natural supplements**

11:30

A. Yüksel, M. Tombakoğlu, **A time-dependent Monte Carlo approach for the determination of chance coincidence effects on the HPGe spectrum at high count rates**

**Oral Session**

**Radiobiology**

Chairperson: Maria Moroni

Room B

10:30

S. Tapio et al., **A dose-dependent perturbation in cardiac energy metabolism is linked to radiation-induced ischemic heart disease in Mayak nuclear workers**

- 10:45 V. Monich, A. Bavrina, S. Malinovskaya, K. Sokolova, **Low level photodiode therapy of the heart muscle affected by gamma-radiation**
- 11:00 N. Maznyk et al., **The investigation of the outcome of cytogenetic effects in oncogynecological cancer patients undergoing external and internal radiotherapy**
- 11:15 R. Vazirov, S. Sokovnin, M. Ulitko, **Radiomodification of cell cultures of line Hela by cerium oxide nanoparticles to X-ray irradiation**
- 11:30 N. Koltovaya, A. Kokoreva, N. Zhychkina, N. Shvaneva, **Mutagenic effects induced by accelerated <sup>11</sup>B ions with energy of 30 MeV/n and LET 45 and 60 keV/mkm on yeast *Saccharomyces Cerevisiae***
- 11:45 N. Kudryasheva et al., **Toxic and activation effects of low-level radiation via bacterial luminescent assay. Description in terms of hormesis and threshold models**
- 12:00 A. Bolsunovsky, D. Dementyev, T. Zotina, E. Trofimova, T. Frolova, O. Sinitsyna, **Evaluation of radiosensitivity of plant and bacterial bioassays exposed to low doses**
- 12:15 N. Koshlan, R. Govorun, I. Koshlan, P. Blaha, E. Krasavin, ***Macaca mulatta* monkeys' response to head irradiation with protons and accelerated carbon ions**

### Oral Session

**Microwave, Laser, RF and UV radiations**

**Room C**

Chairperson: **Antonio Lallena**

- 10:30 C. Mekik, S. Inyurt, O. Yildirim, **Investigation of seasonal ionospheric variations from GNSS and IRI-2012**
- 10:45 R. Sagaidak, **Durability of targets and foils irradiated by intense heavy ion beams in experiments on synthesis of super-heavy nuclei**
- 11:00 T. Bayram, S. Akkoyun, **On the nuclear properties of even-even ytterbium isotopes**

### Plenary Session

**Invited lecture**

**Room B**

Chairperson: **Alberto Palma**

- 14:00 Radojko Jaćimović, **Applicability of ko-method for environmental samples**

### Sponsor Presentation

**PerkinElmer**

14:30

### Oral Session

**Radiation Detectors**

**Room A**

Chairperson: **Petr Skorobogatov**

- 14:45 A. Kahraman, E. Yilmaz, **The determination of gamma irradiation response of Gd<sub>2</sub>O<sub>3</sub> MOS capacitors at a low frequency**
- 15:00 S. Kaya, E. Yilmaz, **Characterizations of Co-60 gamma irradiation of HfO<sub>2</sub> NürFETs**
- 15:15 H. J. Kim, G. Rooh, H. Park, S. Kim, **New heavy Tl-based elpasolite scintillators for radiation detection**
- 15:30 M. A. Carvajal Rodriguez, **NFC tag for readout of MOSFET dosimeters**
- 15:45 A. Jaksic et al., **Radiation response of two types of commercial RADFETs**
- 16:00 F. Mattea, J. Vedelago, C. Gómez, M. Strumia, M. Valente, **Synthesis of silver nanoparticles for X-ray dosimetry**
- 16:15 G. Montarou et al., **Construction and first tests of a PET-like detector for hadrontherapy beam ballistic control**
- 16:30 D. Meskauskaitė, E. Gaubas, T. Ceponis, L. Deveikis, J. Pavlov, K. Pukas, **Evolution of GaN-based sensor characteristics during proton irradiation**

### Oral Session

#### Radiobiology

Chairperson: **Alexey Moskalev**

**Room B**

- 14:45 A. Kaur, N. Vemalappally, G. Severson, J. Gulani, D. Bolduc, M. Moroni, **Countermeasure testing in a pediatric model of hematopoietic acute radiation syndrome (H-ARS) using the Gottingen minipig (*Sus scrofa domestica*)**
- 15:00 T. Szatmári et al., **MicroRNA cargo of extracellular vesicles is altered by *in vivo* radiation and can be a mediator of radiation-induced bystander effects**
- 15:15 H. Hegyesi, N. Sándor, V. Léner, V. Lovas, G. Sáfrány, **Local cranial or thorax radiation-induced non-targeted effects in bone-marrow-derived endothelial progenitor cells in ApoE deficient model**
- 15:30 V. Singh, **Biomarkers for assessing radiation injury and efficacy of radiation countermeasures**
- 15:45 V. Nugis, M. Kozlova, V. Nikitina, **The problem of the relationship of cytogenetic indices in peripheral blood lymphocyte cultures with the risk of diseases, in particular, after the exposure**
- 16:00 S. Vasilyev et al., **LINE-1 methylation and frequencies of chromosome aberrations and aneuploidy in lymphocytes of plutonium workers**
- 16:15 V. Jurisic, J. Mrdjanovic, **Changes in blood cells, micronuclei and 8-hydroxy-2'-deoxyguanosine in hospital workers occupationally exposed to ionizing radiation**
- 16:30 A. Sen, **The forward genetic approach combined with gamma ray mutagenesis to enhance drought tolerance in agricultural plants**

### Oral Session

#### Radiochemistry

Chairperson: **Antoaneta Ene**

**Room C**

- 14:45 T. Trifonova, G. Simeonova, S. Ivanova, P. Biyachev, I. Ivanov, **A way to increase the <sup>18</sup>F-FDG yield on a “Dose on demand”<sup>®</sup> cyclotron by optimizing the synthesis time**
- 15:00 K.B. Karatay, A. Yurt Kilçar, E. Derviş, F. Z. Biber Muftuler, **Isolation and radiolabelling of ginger components: 6-gingerol and 6-shogaol**
- 15:15 A. Zaitsevskii, A. Oleynichenko, L. Skripnikov, A. Titov, **Effective states of heaviest atoms in compounds: local and global approaches**
- 15:30 Yu. Demidov, A. Zaitsevskii, **Stability of astatine – carbene bounds in compounds with small biomolecules**
- 15:45 A. V. Titov et al., **Theoretical study of chemical shifts of x-ray emission spectra and effective states of Nb in niobates and Yb in fluorides**
- 16:00 J. F. Facetti-Masulli, P. Kump, J. C. Cabello, L. Lescar, **Manganese as an origin indicator of *Ilex paraguayensis* SH from Paraguay by EDXRF and INAA**
- 16:15 P. Szajerski, A. Bogobowicz, **Leaching characteristics of sulfur polymer concrete (SPC) regarding immobilized Cs-137 and Co-60 radionuclides**
- 16:30 E. Dervis, A. Yurt Kilcar, E. Ilker Medine, V. Tekin, F. Z. Biber Muftuler, **Radioiodination and *in vitro* evaluation of phenolic phytochemical in clove extract**

16:45

### Refreshments

### Oral Session

#### Radiation Measurements, Radiation Effects

Chairperson: **Mustafa Topaksu**

**Room A**

- 17:15 J. Semkova et al., **Space radiation doses and fluxes measured aboard on the ExoMars Trace Gas Orbiter during the transit and in Mars orbit**

- 17:30 B. Demirköz et al., **Space radiation effects and irradiation tests of semiconductor devices in Turkey**
- 17:45 R. Lok, E. Yilmaz, S. Kaya, A. E. Aktag, H. Karacali, **Effects of gamma-ray irradiation on characteristics of Al/ZrSiO<sub>4</sub>/P-Si (MOS) capacitors**
- 18:00 E. Tereschenko et al., **Complementary techniques based on the synchrotron and neutron radiation and electron microscopy for cultural artifact studies**

### Oral Session

**Radiation and Environmental Chemistry**

**Room B**

Chairperson: **Alicia Negron-Mendoza**

- 17:15 N. Shchepina, V. Avrorin, G. Badun, R. Shchepin, **Generation of nucleogenic phenyl cations - new approach for their application in organic chemistry, biochemistry and pharmaceuticals**
- 17:30 A. Banyasz et al., **Base-pairing effect on UV-induced adenine radicals in DNA A-tracts**
- 17:45 I. Pozdnyakov et al., **Mechanism of As(III) photooxidation by Fe(III) ions and humic substances in aqueous solutions**
- 18:00 A. Ene, M. Frontasyeva, F. Sloata, L. Moraru, S. Pavlov, **Major and trace elements in soils around iron and steel industry facilities**
- 18:15 E. Kam, Z. Ü. Yümün, D. Kurt, **Elemental analysis of sediment specimens by wavelength dispersive X-ray spectroscopy (WDXRF) in Gulf of Izmir (Eastern Aegean Sea, Turkey)**

18:15 - 19:45

**Poster Sessions**

**Lobby**

### Radiochemistry

Chairpersons: **Acos Banyasz, Yuriy Demidov**

- RC1 M. Maslova, L. Gerasimova, N. Ryzhuk, **Performance characteristics of a sorbent based on titanium phosphate in Liquid Radioactive Waste treatment systems**
- RC2 S. Kulyukhin, Yu. Nevolin, M. Gorbacheva, A. Gordeev, **Conversion of oxygen-containing compounds of Sr, Mo, Zr, and U(VI) in nitrating media**
- RC3 Ly. Podrezova, V. Volk, K. Dvoeglazov, S. Veselov, **The development of the liquid chromatography process for the spent nuclear fuel reprocessing technology**
- RC4 P.V. Nazarova, V.I. Volk, K.N. Dvoeglazov, **Reagentless catalytic oxidation of organic derivatives of hydrazine and Pu(III) with nitric acid**
- RC5 E. Pavlyukevich, K. Dvoeglazov, A. Shadrin, **Dissolution of uranium and noble metals intermetallic compounds in nitric acid solutions**
- RC6 K. Dvoeglazov, O. Zavalina, E. Pavlyukevich, P. Nazarova, **Kinetics of the interaction of Pu(VI) and Np(VI) with carbohydrazide in nitric acid solutions**
- RC7 S. Inan, B. Cetinkaya, B. Ozkan, **Column studies of strontium adsorption by zirconium-antimony oxide/PAN composite**
- RC8 M. Dymecka, K. Rzemek, T. Pliszczczyński, J. Oško, **Determination of <sup>90</sup>Sr in environmental samples – comparison of two methods**
- RC9 M. Mihon, C.-S. Tuta, C. Manea, D. Niculae, **Improved radioanalytical methods for quality control of <sup>68</sup>Ga radiolabeled peptides**
- RC10 V. M. Shakhova et al., **Calculation of chemical shift of X-ray emission K $\alpha$  lines for ytterbium fluorides**

### Radiation Chemistry

Chairpersons: **Acos Banyasz, Yuriy Demidov**

- RA1 S. Matveeva, E. Glebov, I. Pozdnyakov, A. Melnikov, **Primary photochemical processes for hexachloroplatinate(IV) and hexachloroosmate(IV)**
- RA2 E. Belova, I. Skvortsov, A. Rodin, **Study of radiation-thermal extractant stability based on diamide 2,6-pyridinedicarboxylic acid in FS-13**

- RA3 M. Kadyko, I. Skvortsov, E. Belova, **Products of the extraction system destruction based on diluent FS-13 in the conditions of radiation, chemical and thermal loads**
- RA4 A. Meléndez-López, A. Paredes-Arteaga, A. Heredia, S. Ramos-Bernal, A. Negrón-Mendoza, **The stability of guanine adsorbed in a clay mineral under a high radiation field**
- RA5 L. Ramírez, A. Heredia, S. Ramos-Bernal, A. Negrón-Mendoza, M. Colín-García, **Radiolysis of alpha keto-glutaric acid in aqueous solution**
- RA6 R. Michalski, A. Sikora, M. Hardy, J. Adamus, A. Marcinek, **In search for better probes for the detection of the superoxide radical anion in biological systems – A pulse radiolytic study of one-electron oxidation of hydroethidine derivatives**
- RA7 A. Sikora et al., **The pulse radiolytic study of one-electron oxidation of hydroethidine, the probe for the detection of the superoxide radical anion**

### Environmental Chemistry

Chairpersons: **Acos Banyasz, Yuriy Demidov**

- EC1 L. Gerasimova, A. Nikolaev, M. Maslova, **Radioecological assessment of the titanite sulphuric acid technology**
- EC2 A. Negrea, V. F. Minzatu, P. Negrea, M. Ciopec, O. Grad, M. Vajda, **Removing cesium and strontium from hazardous wastewater by electrocoagulation**
- EC3 F. Sloata, A. Ene, **Mercury in highly contaminated soils from a derelict chlor-alkali plant**
- EC4 B. Adnadjevic, D. Rankovic, J. Jovanovic, **Hydrodynamic cavitation-assisted formation of OH-radicals in aqueous solution**
- EC5 N. Avramović, I. Karadžić, **Cr(VI) removal capacity of rhamnolipids produced by *Pseudomonas aeruginosa* NCAIM(P), B001380**
- EC6 N. Avramović, I. Karadžić, **Application of spectroscopic methods in studies of rhamnolipid-Cr(VI) complex formation and influence of Cr(VI) on rhamnolipid congener distribution produced by *Pseudomonas aeruginosa* NCAIM(P), B001380**
- EC7 A. Mihailović et al., **A study of lead contamination in the urban soil of Novi Sad**
- EC8 A. Mihailović et al., **Concentration of As, Co, Cr and Ni in urban soil in Novi Sad, Serbia**

### Environmental Physics

Chairperson: **Luminita Moraru**

- EP1 M. Čargonja, G. Žauhar, I. Orlić, **Analysis of aerosols in indoor working environment by X-Ray Fluorescence technique (XRF)**

### Neutron and Heavy Ion Radiation

Chairperson: **Luminita Moraru**

- NH1 M. A. Menezes et al., **Neutron activation technique: a reliable tool to determine the mineral composition in agro industrial products**
- NH2 T. Chuvilskaya, **Nuclear reaction  $^{41}\text{K}(\alpha, n)^{44\text{m}}\text{gSc}$  and isomeric cross section ratios**
- NH3 K. Krezhov et al., **Oxygen-deficient perovskites for improved performance of electrodes in intermediate-temperature solid-oxide fuel cells: Structural details**
- NH4 A. V. Glushkov, V. V. Buyadzhi, O. Yu. Khetselius, A. A. Svinarenko, V. B. Ternovsky, **Resonance phenomena in heavy ion collisions and optimal laser ionization schemes for separating long-lived actinides and fission products in nuclear fuel**

21:00 - 24:00

**Conference Cocktail**

## Tuesday, June 13

08:00 - 19:00

**Registration**

08:15 - 09:45

**Poster Sessions**

**Lobby**

### **Radiation Measurements**

**Chairpersons: Jelena Ajtić, Dušan Mrđa**

- RS1 M. Andjelkovic, M. Nenadovic, V. Petrovic, M. Krstic, R. Kraemer, **Evaluation of pulse stretcher for detection of very short single event transients**
- RS2 M. Sahagia, **Study of influence of radionuclidic impurities in radionuclide metrology**
- RS3 N. Todorovic, J. Nikolov, I. Stojkovic, B. Tenjovic, **Direct method for gross alpha/beta determination in water samples by LSC**
- RS4 F. Bautista, W. Rodríguez, E. Fajardo, J. Gomez Muñoz, D. Flechas, F. Cristancho, **Comparison of measurement of NORM by gamma-ray spectroscopy using detectors of Ge, CsI, NaI and BGO**
- RS5 J. Nikolov et al., **Biogenic component determination in liquid fuels – comparison of different LSC methods**
- RS6 S. Samardžić, M. Milošević, I. Maksimović, U. Kozmidis Luburić, **<sup>90</sup>Sr and <sup>137</sup>Cs activity determination in water from spent fuel storage basins using Monte Carlo simulation**
- RS7 N. Mirzajani, S. de Souza Lalic, F. d'Errico, **Monte Carlo simulations of thin films loaded with OSL detectors**
- RS8 N. Antović, S. Andrukhovich, N. Svrkota, **Background double coincidences at a multidetector gamma spectrometer**
- RS9 N. Svrkota, N. Antović, J. Mijušković, **The registration of Cs-134 by gamma detector pairs at an angle of 90°**
- RS10 T. Dogan, M. Yüksel, Z. G. Portakal, S. Balci Yegen, S. Akça, M. Topaksu, **Calculation of activation energy using VHR method for low temperature peak of gypsum mineral**
- RS11 Z. G. Portakal et al., **Determination of gamma-emitting radionuclides in pistachio samples from southeastern Anatolia region, Turkey**
- RS12 Sz. Kelemen, Cs.-R. Begy, D. Vasilache, **The examination of the changes in the Sacalin Lagoon's (Romania) sedimentation rate with the Lead-210 dating method**
- RS13 A. Jancar, Z. Kopecky, F. Mravec, Z. Matej, **Neutron digital spectrometer**
- RS14 N. Kolobylyna, **Electron microscopy studies of cultural heritage objects**

### **Radiation Detectors**

**Chairperson: Ercan Yilmaz**

- RD1 M. S. Martinez-Garcia et al., **MOSFET radiation sensors for the QB50-URSA MAIOR CubeSat**
- RD2 A. J. Palma López et al., **Response of different electrical parameters of irradiated pMOSFET**
- RD3 H. Park, K. Kang, H. Jeon, S. Lee, **A silicon photo-strip detector coupled with a CsI(Tl) crystal**
- RD4 W. Gieszczyk, P. Bilski, **Response of differently doped lithium magnesium phosphate crystals to neutrons, protons and alpha particles**
- RD5 Y. Zhydachevskyy et al., **Pulsed OSL readout of detectors based on YAlO<sub>3</sub>:Mn crystals**
- RD6 S. Akça et al., **The effects of annealing on the thermoluminescence glow peaks of the natural muscovite mineral**
- RD7 M. Yüksel, T. Dogan, Z. G. Portakal, S. Balci Yegen, S. Akça, M. Topaksu, **A preliminary study of TL and OSL traps for the aragonite mineral**
- RD8 M. Topaksu et al., **Analysis of thermoluminescence kinetic parameters of apatite with CGCD method**
- RD9 S. Balci Yegen et al., **Thermoluminescence (TL) dose response characteristics and reusability properties of natural muscovite mineral**

RD10 F. Mattea, D. Chacón, M. Strumia, M. Valente, **Effect of inorganic salts on polymer gel dosimetry based on acrylamide**

#### Radiation Effects

Chairperson: **Miguel Angel Carvajal Rodriguez**

RF1 M. Andjelkovic, A. Ilic, Z. Stamenkovic, M. Krstic, R. Kraemer, **An overview of the current models for the circuit-level simulations of single event transients**

RF2 G. Davydov, P. Skorobogatov, **Behavior of the modern integrated circuits after the latch-up parrying**

RF3 A. Antonova, P. Skorobogatov, **Modeling of the bipolar structures under pulse ionizing radiations**

RF4 S. Kaya et al., **Influence of irradiation on interface state and series resistance characteristics of Sm<sub>2</sub>O<sub>3</sub> MOS capacitors**

RF5 E. Vlasenkov, P. Chernikov, T. Kombaev, I. Zefirov, N. Khamidullina, **Radiation environment on board of the descent module and rover of "ExoMars 2020" spacecraft**

RF6 P. H. Kang, J. P. Jeo, Y. C. Nho, J. M. Yun, D. H. Koo, **Electron beam irradiation-induced structural changes of CNT fiber**

#### Medical Imaging

Chairperson: **Dursun Üstündağ**

MI1 D. Lee, K. Park, G. Cho, **Detector shift method to further increase spatial resolution at a photon-counting detector under charge sharing**

MI2 P. Liaparinos, N. Kalyvas, E. Katsiotis, I. Kandarakis, **Monte Carlo study of particle packing effects of powder phosphors for medical imaging purposes**

MI3 D. Glotsos, S. Kostopoulos, P. Ravazoula, C. Stefanoudakis, P. Bavela, D. Cavouras, **Creation of synthetic microscopic images for evaluation of Computer Aided Diagnostic Histopathology systems**

#### Microwave, Laser, RF and UV radiations

Chairperson: **Gordana Žauhar**

NI1 P. Pál Necz, I. Gresits, N. Nagy, G. Thuróczy, **Indoor RF exposure assessment in urban area conducted by personal RF exposimeter**

NI2 L. Dimitrievici, D.-E. Constantin, A. Rosu, L. Moraru, **A perspective view over the worldwide O<sub>3</sub> and NO<sub>2</sub> evolution during 2002-2016 using UV-Vis observations from space**

NI3 J. Jovanovic, T. Djajic, B. Adnadjevic, **Nicotinamide release from PAM xerogel into water solution under isothermal microwave conditions: Kinetic study**

NI4 M. Stoynovska, R. Toncheva, **Particularity of thermal-radiation factor in the work environment and eye health prevention among Bulgarian metallurgy workers**

#### Mini Symposia

##### Radiation Research and Protection in Europe – HORIZON 2020

Room B

Chairperson: **Michael Atkinson**

09:00	Soile Tapio on behalf of PROCARDIO consortium, <b>Understanding the response of the heart to low dose radiation</b>
09:30	Rafi Benotmane on behalf of CEREBRAD consortium, <b>Cognitive and cerebrovascular effects of low dose radiation</b>
10:00	Nataša Anastasov on behalf of the DARK.RISK consortium, <b>A new era of molecular epidemiology requires biological markers: The dark matter of the genome emerges into the light</b>
10:30	Michael Rosemann on behalf of RISK IR consortium, <b>The radiation biology of the stem cell</b>
11:00	Michael Atkinson on behalf of SOPRANO consortium, <b>A coordinated systems biology approach to low dose radiation effects</b>

### Oral Session

#### Radiation Protection

Chairperson: **Vijay Singh**

Room A

10:00

H. Baysson, S. Dreuil, F. De Zordo-Banliat, M.O. Bernier, **Risk of cancer associated with cardiac catheterization procedures: The French “Coccinelle” study**

10:15

M. Filimonova, Lj. Shevchenko, V. Makarchuk, E. Chesnakova, A. Filimonov, S. Ulyanenko, **The development of new approaches to the prevention of complications of radiation therapy in oncology**

10:30

J. Kubinyi, J. Sabol, J. Hudzietzová, **Radiation risk communication to the patients**

10:45

Z. Mirkov, **Quality control in dental radiology in Serbia: preliminary results**

11:00

L. Stadnyk, I. Yavon, I. Smirnova, E. Kurguzov, **Results of centralized personal dose monitoring of medical staff in Ukraine**

11:15

L. Stadnyk, O. Nosyk, O. Shalopa, **Study of patient doses in conventional diagnostic radiology**

### Oral Session

#### Medical Imaging

Chairperson: **Michel Israel**

Room C

10:00

S. Baranovskii, O. Bubon, K. Jandieri, S. Kasap, A. Reznik, **Columnar recombination in x-ray detectors based on a-Se**

10:15

L. Moraru, L. Dimitrievici, A. Ene, S. Moldovanu, **Magnetic field gradients and their effects on the diffusion tensor derivate measures**

10:30

N. Dukov et al., **Development and implementation of an algorithm for segmentation of irregular lesions in Digital Breast Tomosynthesis and CT images**

10:45

N. A. Pasare (Tudor), R. Mutihac, **Statistical differentiation of stages in Parkinson’s disease by Magnetic Resonance Imaging**

11:00

D. Ustundag, **Reconstruction of MaxEnt images from PET camera**

### Special talk

Chairperson: **Michael Atkinson**

Room B

13:00

Sofia Guedes Vaz, **NUCLEU2020 – A network of Horizon 2020 National Contact Points (NCP)**

### Mini Symposia

#### Administrative organization of EU Project

#### Proposals

Chairperson: **Michael Atkinson**

Room B

13:30

Sisko Salomaa, **A European network of excellence in low dose risk**

14:00

Sonja Pavlovic, **European research funding: A Serbian perspective**

11:30

Geza Safrany, **A Hungarian perspective on EURATOM research partnerships**

15:00

Michael Atkinson, Sisko Salomaa, **The CONCERT European Joint Project, joining and partnering**

15:30

Michael Atkinson, Sisko Salomaa, Geza Safrany, **So you want to write, coordinate, participate in a EURATOM project proposal**

**Oral Session****Radiation Protection**Chairperson: **Radojko Jaćimović****Room A**

- 15:30 Y. Lee, **An easy method for the monitoring of radioactive contamination near radiation facilities**
- 15:45 C. Tuca, R. Deju, A. Stochioiu, **The assessment of the radioactive inventory for the radioactive solid wastes resulting from reactor decommissioning**
- 16:00 I. Iorga, R. Deju, **Role played by the operational radioprotection for the cutting activities of the aluminum vessels for the VVR-S Nuclear Research Reactor from Bucharest - Magurele, Romania**
- 16:15 A. L. Casimiro, J. M. Sampaio, P. Gonçalves, **Assessment of radiation exposure in manned missions to Mars for three mission profiles**

**Refreshments****Oral Session****Radiation Protection**Chairperson: **Ištvan Bikit****Room A**

- 17:00 S. Musicki, D. Vasovic, S. Markovic, **Radiation hazards and radiation protection practices observed from different perspectives**
- 17:15 J. Sabol, B. Šesták, **Quantification of the risk-reflecting stochastic and deterministic radiation effects**
- 17:30 P. Švrčula, O. Srba, M. Zimina, **Test of biological shielding of hot cells with high active source  $^{60}\text{Co}$  (300 TBq)**
- 17:45 M. E. Erturk, C. Kocar, M. Tombakoğlu, S. Gürdalli, **A pencil beam kernel model for flattening filter free X-ray beams**

**Oral Session****Radon and Thoron**Chairperson: **Tibor Kovács****Room C**

- 17:00 P. Vukotic et al., **Maps of indoor radon in Montenegro**
- 17:15 L. Dobrzyński, K. Fornalski, J. Reszczyńska, **Collective data analysis of correlation between lung cancer incidences and residential radon concentration**
- 17:30 A. Mladenov, K. Krezhov, **Radon concentration measurements at the IRT-Sofia research reactor site**
- 17:45 J. Vaupotič, M. Bezek, **The effect of air filtration on the fraction of unattached radon products**

18:15 - 19:45

**Poster Sessions****Lobby****Radiation Protection**Chairpersons: **Nataša Todorović, Róbert-Csaba Begy**

- RP1 I. Cheslyk, D. Suchareva, A. Nikitin, **Impact of microbiological preparations on radioactive cesium excretion rate under condition of its chronic ingestion**
- RP2 A. Cheslyk, A. Rozhko, E. Nadyrov, I. Veyalkin, **Medical effects of the Chernobyl disaster in the Republic of Belarus: 30 years after**
- RP3 O. Nosyk, L. Stadnyk, **Estimation of effective doses in computed tomography by thermoluminescent dosimetry**
- RP4 B. Mitrović, J. Ajtić, B. Vranješ, D. Sarvan, V. Andrić, M. Stojanović, **Natural radionuclides in bottled mineral water at the Serbian market**

- RP5 E. Hernandez, R. Contreras, **The creation of the National Committee of medical physics in Guatemala, Central America**
- RP6 M. Vićentijević, D. Vuković, V. Vuković, S. Vuković, B. Mitrović, D. Živanov, **RH control of <sup>137</sup>Cs in animal food and animal products**
- RP7 E. Lee, C. Lee, G. Cho, **Preliminary shielding analysis for the BNCT facility**
- RP8 E. Ionescu, D. Gurau, R. Deju, A. Zorliu, **The management of materials that arise from decommissioning the vessels of the VVR-S reactor**
- RP9 N. Tkatchenko, **EPR dosimetry on human fingernails: study of the variability of the endogenous signal and dose response subjected to gamma rays and sunlight exposure**
- RP10 A. N. Ngwa, M. Mahmutovic, **Determination of layer-thickness using X-ray fluorescence analysis**
- RP11 Y. N. Kim, S. K. Kim, **A preliminary study on photoneutron shielding calculation in a medical accelerator room using an empirical formula for dose estimation**
- RP12 T. Adamíková, O. Srba, P. Švrčula, **Construction of hot cells**
- RP13 N. Gan, K. Cen, N. Wang, **Evaluation of the gamma exposure dose rate of the public in Xiangshan Uranium Deposit of China**
- RP14 M. Prusińska, M. Dymecka, K. Rzemek, T. Pliszczyski, **Determination of polonium (<sup>210</sup>Po) in urine samples**
- RP15 Ts. Shalamanova, I. Topalova, V. Zaryabova, M. Israel, P. Ivanova, **Evaluation of EMF field levels in urban areas**
- RP16 V. Zaryabova, M. Israel, Ts. Shalamanova, H. Petkova, **Electronic register of sources of electromagnetic radiation in residential areas**
- RP17 F. Mihai, A. Stochioiu, C. Stochioiu, **Study on the personal passive dosimeters regarding the measurement accuracy of the limit doses recorded in different radiation exposure conditions**
- RP18 A. Stochioiu, **Assessment of derived emission limits for radioactive effluents from Horia-Hulubei national institute for R&D in physics and nuclear engineering**
- RP19 F. Ciupagea, C. Sima, D. P. Munteanu, A. I. Demetriu Coroianu, G. Rosca Fartat, **A case study on the use of an x-ray inspection system for a safe screening of passenger vehicles and vans with a minimal effect on the traffic flow**
- RP20 C. Popescu, G. Rosca-Fartat, N. Pana, D. Fluerasu, **The remote control robot for the horizontal fuel channels decommissioning from the nuclear reactor**
- RP21 S. Boneva, N. Mikhajlov, M. Manolova, **Dry storage of spent nuclear fuel – Analysis of fuel properties during long time storage**
- RP22 M. Mitev, M. Manolova, **Preservation and transition of specific VVER knowledge for non-nuclear professionals through CORONA academy**

### Radon and Thoron

Chairperson: **Janja Vaupotič**

- RT1 L. Corețchi, I. Plăvan, **Monitoring and control of radon in waters of Moldova in order to prevent public exposure to ionizing radiation**
- RT2 I. Plăvan, **Health risk assessment resulting from exposure to ionizing radiation**
- RT3 A. A. Salem Awhida et al., **Merits and demerits of different methods for radon exhalation measurements**
- RT4 N. Wang, X. Meng, **Radon potential mapping in the southern cities of China**
- RT5 T. Li, N. Wang, **Preliminary investigation of radon concentration in surface and drinking water in some regions of Beijing**
- RT6 F. P. Carvalho, J. M. Oliveira, M. Malta, **Radon in a uranium bearing region of Portugal**
- RT7 C. Taşköprü, M. İçhedef, M. M. Saç, H. Sözbilir, **Preliminary results of soil gas radon levels around Manisa fault**

RT8 A. V. Glushkov, Yu. A. Kruglyak, O. Yu. Khetselius, V. V. Buyadzhi, E. V. Ternovsky, **New non-linear approach to analysis, modelling and prediction of chaotic variability of atmospheric radioactive radon <sup>222</sup>Rn concentration in atmosphere environment**

21:00 - 24:00

Conference Cocktail

## Wednesday, June 14

09:00 - 19:00

Conference Excursion

21:00 - 24:00

Conference Cocktail

## Thursday, June 15

08:00 - 19:00

Registration

08:15 - 09:45

Poster Sessions

Lobby

Radiobiology

Chairpersons: **Nataša Anastasov, Natalia Koltovaya**

- RB1 I. Nikitsina, A. Gritsuk, **Respiration of rats' thymus tissues under the exposure to ionizing radiation**
- RB2 A. Brech, G. Kubinyi, Zs. Németh, E. Laczkovich-Szaladják, J. Bakos, G. Thuróczy, **Genotoxic effects of intermediate frequency magnetic field on dog and human blood leukocytes in vitro**
- RB3 Zs. Németh et al., **Genotoxic effects of ultraviolet (UV) radiation on human 3D skin model in vitro**
- RB4 S. Koryakin et al., **The photon capture therapy model for *in vivo* and *in vitro* studies using Au nanocomposites with the hyaluronic acid based compounds**
- RB5 E. Beketov, E. Isaeva, S. Koryakin, S. Ulyanenko, A. Solovev, A. Lychagin, **The study of biological effectiveness of U-70 accelerator carbon ions using melanoma B-16 clonogenic assay**
- RB6 M. Ohgami, N. Takai, Y. Aikawa, S. Maeda, S. Nakamura, Y. Ohba, **Effect of N-methyl-D-aspartate receptor antagonist on radiation-induced gut injuries in mice**
- RB7 N. Takai, M. Ohgami, S. Maeda, S. Nakamura, Y. Ohba, K. Ando, **The focal brain proton beam irradiation insult in rats - induced memory disturbance related change in acetylcholine receptor binding**
- RB8 I. V. Kozhukharova, A. P. Domnina, I. I. Suvorova, N. N. Nikolsky, **The effects of X-ray irradiation on the inherent stemness of human embryonic stem cells and human mesenchymal stem cells**
- RB9 K. Wakimura, M. Kato, **Motility of *Escherichia coli* after irradiation with gamma-rays**
- RB10 E. Evstratova, A. Khryachkova, O. Pereklad, M. Podobed, **The relative biological effectiveness of alpha particles in the manifestation of heritable late damages**
- RB11 E. Chesnakova et al., **The possibility of using NOS inhibitors as radioprotective agents and in the therapy of combined radiation injuries**
- RB12 I. Koshlan et al., **HPRT mutant analysis in V79 cells induced by ionizing radiation of various LET**

### Cancer Research

Chairpersons: **Nataša Anastasov, Natalia Koltovaya**

- CR1 I. Gresits, I. Szabó, F. Simon, G. Thuróczy, **Localised hyperthermia with magnetic nanoparticles: temperature measurements and development of laboratory devices**
- CR2 A. Samsonova et al., **Antitumor activity of NOS inhibitor is due to antiangiogenic mechanism of action**
- CR3 T. Korneeva et al., **Antitumor efficacy of combined use of NOS-inhibitor and electron-affinic compound**
- CR4 O. Mihaljevic, S. Zivancevic-Simonovic, I. Majstorovic, O. Milosevic-Djordjevic, I. Kostic, L. Mijatovic-Teodorovic, **Production of IL-12p70 correlates with radioiodine-induced micronuclei frequency in patients with papillary thyroid carcinoma**
- CR5 J. Marjanović Vičentić et al., **Combined effect of radiation and miR-21 downregulation on glioblastoma cell fate changes**

### Radiation Effects

Chairpersons: **Nataša Anastasov, Natalia Koltovaya**

- RF7 N. Pomortseva, D. Gudkov, A. Kaglyan, A. Nazarov, **Changes in haematological parameters of fishes in the gradient of radioactive contamination of water bodies within the Chernobyl exclusion zone**
- RF8 T. Grinchuk, Z. Kovaleva, M. Shilina, N. Nikolsky, **Sublethal dose of X-ray irradiation induces genetic instability in endometrial mesenchymal stem cells at the karyotypic level**
- RF9 M. Shilina, Z. Kovaleva, N. Nikolsky, T. Grinchuk, **Comparison of X-ray and heat shock effects on genetic stability of stem cells in culture**

### Plenary Session

#### Invited lectures

Chairperson: **Wojciech Bulski**

Room B

10:00

Pablo Antonio Giuseppe Cirrone, **Hadrontherapy: from the conventional to the laser-driven approach**

### Oral Session

#### Radioecology

Chairperson: **Fernando Carvalho**

Room A

10:30

G. Pretzsch, A. Artmann, V. Krasnov, **Radioecological situation at the Chernobyl NPP cooling pond**

10:45

D. Ganzha, C. Ganzha, A. Nazarov, B. Sploshnoi, **The evaluation of observation uncertainty in ecosystems during the regional contamination monitoring of the Chernobyl exclusion zone**

11:00

D. Vasovic, S. Musicki, J. Malenovic Nikolic, **Importance of radionuclide monitoring with particular regard to environmental impact assessment**

11:15

R.-Cs. Begy, D. Vasilache, Sz. Kelemen, **Practical aspects of Lead-210 dating method from sample preparation to age depth model**

11:30

J. Paatero, B. Veleva, J. Hatakka, E. Hristova, **The measurements of lead-210 activity concentration in the ground-level air in Finland and Bulgaria**

11:45

M. Zhukovsky, A. Ekidin, A. Vasilyev, M. Vasyanovich, **Radioactive atmospheric emissions of the European and Russian nuclear plants**

### Oral Session

#### Radiation Physics, Radiotherapy

Chairperson: **Zdenka Kuncic**

Room B

10:30

S. Di Maria, A. Belchior, Yu. Romanets, P. Vaz, **The energy deposition distribution at the micro and nano-scale for molecular targeted radiotherapy: Comparison between <sup>125</sup>I, <sup>99m</sup>Tc and <sup>64</sup>Cu**

10:45

M. Sawicki, J. Łyczek, Ł. Kowalik, D. Kazalski, **Comparison of 3D and 2D methods with the use of three-dimensional images in HDR endobronchial brachytherapy**

- 11:00 S. V. Akulinichev, V. I. Derzhiev, S. A. Chaushansky, I. A. Yakovlev, **Ytterbium sources for brachytherapy**
- 11:15 R. Augusto et al., **On the feasibility of using radioactive ion beams for hadrontherapy**
- 11:30 R. Leanza et al., **Innovative approaches in the absolute and relative dosimetry for the ELIMED beam line**
- 11:45 G. Petringa et al., **The proton-Boron fusion therapy: a new clinical treatment and a powerful online imaging technique**

### Oral Session

**Cancer Research, Radiation Effects**

**Room C**

Chairperson: **Katalin Lumniczky**

- 10:30 F. Novelli, M. Vadrucchi, E. Benvenuto, C. Pioli, **Effects of *in vivo* proton irradiation on mouse spleen cells**
- 10:45 S. Sorokina, S. Zaichkina, O. Rozanova, H. Smirnova, A. Malkov, V. Pikalov, **The effect of accelerated carbon ions with an energy of 450 MeV/n on the cognitive functions in mice *in vivo***
- 11:00 S. Sokovnin, R. Vazirov, M. Balezin, **Surface irradiation of chicken eggs by nanosecond electron beam**

### Plenary Session

**Invited lectures**

**Room B**

Chairperson: **Nikolay Kushlinskii**

- 14:00 Nese Ilgin (Karabacak), **Clinical applications of PET/MR and technical considerations**

### Oral Session

**Radioecology**

**Room A**

Chairperson: **Gunter Pretzsch**

- 14:30 M. Vasyanovich, A. Ekin, M. Zhukovsky, **Experimental assessment of atmospheric emissions of Russian NPP with different kinds of reactors**
- 14:45 A. Nikitin, O. Shurankova, **The impact of heat stress on the plants' root uptake of <sup>137</sup>Cs**
- 15:00 Z. Žukauskaitė, B. Lukšienė, V. Filistovič, E. Maceika, N. Tarasiuk, **Mosses as a potential biosorbent for <sup>137</sup>Cs and <sup>239,240</sup>Pu sorption and modelling**
- 15:15 D. K. Gupta, W. Schulz, G. Steinhäuser, C. Walther, **Plants and mushroom in remediation of radioactively contaminated areas**
- 15:30 B. Vranješ, B. Mitrović, V. Andrić, J. Ajtić, M. Vranješ, **Radioactivity in monocalcium phosphate and complete feed mixtures for pigs**

### Oral Session

**Nuclear Medicine, Radiology**

**Room B**

Chairperson: **Nese Ilgin (Karabacak)**

- 14:30 Y. Gholami, R. Maschmeyer, D. Bailey, L. Josephson, G. El Fakhri, Z. Kuncic, **A novel radionanomedicine platform for PET-MRI**
- 14:45 J. Popić Ramač, **Safety of radiographic imaging in pregnancy**
- 15:00 D. Obad-Kovačević, J. Popić-Ramač, I. Kardum-Skelin, V. Vidjak, **Correlation between sonographic features and cytology findings in thyroid gland nodules**
- 15:15 E. Petrova, **Relationship between impairments of FEF<sub>50%</sub> and lung emphysema among workers exposed to mineral dusts**
- 15:30 I. V. Di Molfetta, S. Del Monte, A. Guerrisi, A. Forbidussi, B. Lippi, **Low radiation and contrast medium dose in 64 multidetector CT angiography of thoracic aorta**
- 15:45 Yu. Stepanova, **Radiology of rare cystic formations of the pancreas**
- 16:00 Yu. Stepanova, I. Timina, O. Chekhoyeva, M. Morozova, A. Teplov, D. Kalinin, **Diagnostic efficacy of contrast-enhanced ultrasound for renal cell carcinoma**

### Oral Session

#### Radiation Physics

Room C

Chairperson: Kiril Krezhov

14:30

#### Keynote talk:

I. Bikit, D. Mrdja, K. Bikit, **Advances in cosmic muon imaging**

15:00

D. Mrdja, K. Bikit, S. Forkapic, I. Bikit, **Backscattering of terrestrial-origin gamma radiation in atmosphere at sea level**

15:15

A. Selva, V. Conte, P. Colautti, **Towards a portable nanodosimeter**

15:30

S. Akkoyun, T. Bayram, **Neural network estimations for stopping power, radiation yield, CSDA range and density effect parameter for electrons**

15:45

R. Mehra, S. Kaur, **Assessment of physico-chemical properties and radiological dose due to uranium in water samples belonging to Solan and Shimla districts of Himachal Pradesh, India**

16:00

### Refreshments

### Oral Session

#### Radioecology

Room A

Chairperson: Dharmendra Gupta

16:30

A. Nikitin, E. Tankevich, R. Spirov, O. Shurankova, **Impact of mycorrhizal fungi on <sup>137</sup>Cs accumulation by barley biomass**

16:45

D. Demytyev, A. Bolsunovsky, S. Kosinenko, **Co-60 microparticles as markers of the redistribution of artificial radionuclides in the bottom sediments of the Yenisei River floodplain (Russia)**

17:00

N. Andryushchenko, A. Safonov, Yu. Konevnik, A. Kondrashova, **Sorption characteristics of materials for permeable reactive barriers**

17:15

A. Walencik-Łata, B. Kozłowska, T. Przylibski, **Hydrochemical behavior of dissolved uranium in selected groundwaters of the Sudety Mountains**

17:30

G. Bátor, A. Bednár, E. Tóth-Bodrogi, T. Kovács, **The validation of the radiocarbon sample preparation method and LSC measurements on the environmental samples**

### Oral Session

#### Biomedicine, Pharmaceutical Sciences

Room B

Chairperson: Elena Gershtein

16:30

S. Hausdorfer, **Non-surgical lift and control of inflammation with photobiomodulation**

16:45

P. d'Alessio, J.-F. Bisson, A. Rossi, M. Mirshahi, **A new anti-inflammatory molecule mastering tissue repair and anti-angiogenesis**

17:00

E. Ozcan, I. Kus, O. Karaca Saygili, B. Gulcen, T. Karlidere, B. Keyik, **Evaluation of the volume of basal ganglia in the patients with major depression by stereological methods**

17:15

B. Zama, T. Kalo, M. Schumacher, **Necrotizing fasciitis of the right arm caused by *Staphylococcus aureus*, status post-chemotherapy**

17:30

O. V. Storchylo, **The use of milk thistle fruits for the correction of the results of  $\gamma$ -irradiation of parents in 2 generations of their posterity *in vivo***

17:45

A. Antsiferova, M. Kopaeva, P. Kashkarov, M. Kovalchuk, **The influence of silver nanoparticles on mammal behavior**

### Oral Session

#### Radiation Physics, Radiation Effects

Room C

Chairperson: Sergei Baranovskii

16:30

N. Çelik, U. Çevik, B. Küçükömeroğlu, N. Damla, **Monte Carlo determination of the effect of dead-layer thickness of a coaxial HPGE detector on full energy peak efficiency**

16:45

V. Laguta, M. Buryi, M. Nikl, **Electron Spin Resonance study of paramagnetic defects and related charge carrier traps in complex oxide scintillators**

17:00	E. Zabelina, N. Kozlova, A. Kozlova, A. Siminel, O. Buzanov, D. Spassky, <b>Influence of electron irradiation on optical and electrophysical properties of <math>\text{La}_3\text{Ga}_{5,5}\text{Ta}_{0,5}\text{O}_{14}</math> crystals</b>																																								
17:15	M. E. Turgay, <b>Density assessment of different metals and alloys by gamma-ray transmission technique using Co-60 radioactive source</b>																																								
17:30	K. Leiger, A. Freiberg, <b>Modification of spectral properties of photosynthetic light-harvesting complexes by intense optical irradiation</b>																																								
17:45	G. Laštovička-Medin, <b>Thermal imaging as a tool for pattern recognition and anomaly studies: identifying the changes in the condition of an object over time by spotting a trend of changing temperatures</b>																																								
18:15 - 19:45	<table border="1"> <thead> <tr> <th>Poster Sessions</th> <th>Lobby</th> </tr> </thead> <tbody> <tr> <td colspan="2"> <b>Biochemistry</b>  Chairpersons: <b>Jelena Popić Ramač, Dragica Obad Kovačević</b> </td> </tr> <tr> <td>BC1</td> <td>N. Kushlinskii et al., <b>Receptor activator of nuclear transcription factor NF-kappaB (RANK), its ligand (RANKL) and natural inhibitor osteoprotegerin (OPG) in blood serum of primary bone tumor patients: Association with clinicopathological features and inflammatory cytokines levels</b></td> </tr> <tr> <td>BC2</td> <td>S. Mandal, A. Causevic, S. Semiz, <b>Molecular markers for precise diagnosis and therapy of Type 2 diabetes</b></td> </tr> <tr> <td>BC3</td> <td>N. Popović et al., <b>Relationship between behaviors and catecholamine content in prefrontal cortex and hippocampus of chronically stressed rats</b></td> </tr> <tr> <td>BC4</td> <td>M. Temelie, N. Moisoï, D. 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BD11	V. Monich, <b>The system of optical correction of oxidative stress processes in the brain</b>																																								
BD12	D. Stanojević, G. Antonijević, V. Milanović, V. Jurišić, <b>Significance of fluoroscopically-guided trans-bronchial biopsy for diagnosis of solitary lung nodules</b>																																								
BD13	G. Antonijević, D. Stanojević, I. Milivojević, N. Jonić, V. Jurišić, <b>Can a multi-slice CT scan help to resolve a dilemma: Pulmonary tuberculosis or sarcoidosis</b>																																								

## Radiology

Chairpersons: **Jelena Popić Ramač, Dragica Obad Kovačević**

- RG1 V. Opančina, M. Mijailović, S. Lukić, **Radiation exposure during interventional neuroradiology procedures**
- RG2 M. Marković, M. Petrović, A. Dagović, V. Jurišić, **Problems of differential diagnosis between tuberculosis and lung cancer using CT scan**

## Nuclear Medicine

Chairpersons: **Jelena Popić Ramač, Dragica Obad Kovačević**

- NM1 T. Steinberger, J. Antoš, **Proposals for improvements of the synchronizer OHM 002SYNC for the easier exchange of the ECG TRIGGER without additional data manipulation**
- NM2 I. Sazdova, A. Peshevska, B. Andonovski, A. Ugrinska, **Comparison of glomerular filtration rate by gates method with CKD-EPI creatinine equation in patients with different GFR values**

21:00 - 01:00

## Conference Gala Dinner

# Friday, June 16

08:00 - 16:00

## Registration

08:15 - 09:45

## Poster Sessions

## Lobby

## Medical Physics

Chairperson: **Lubomir Traikov**

- MP1 Z. Alirezai, R. Kamran-Samani, P. Kaviani, S. Lashkari, F. Maghsoodinia, P. Shokrani, **Assessment of Reference levels for cardiac interventional fluoroscopically guided procedures in Isfahan province in Iran**
- MP2 M. Jeremic, M. Matovic, S. Pantovic, D. Nikezic, D. Krstic, **Compartment biokinetic model for <sup>90</sup>Y-DOTATOC**
- MP3 D. Krstic, Z. Jovanovic, D. Nikezic, J. M. Gomez Ros, P. Ferrari, **Assessment of absorbed dose in some organs of ORNL and voxel phantom due to application of radiopharmaceutical <sup>99m</sup>Tc**

## Radiation Physics

Chairperson: **Lubomir Traikov**

- RH1 N. Tkatchenko, **EPR dosimetry of human fingernails: study of the variability of the endogenous signal and dose response subjected to gamma rays and sunlight exposure**
- RH2 L. Dobrzyński, K. Fornalski, J. Reszcyńska, **Low dose radiation response: Modeling of irradiated cell transformation**
- RH3 V. T. Gritsyna, Yu. G. Kazarinov, **Effects of transition-metal-doping on the radio-luminescence properties of magnesium aluminate spinel crystals**
- RH4 A. Zolotarjovs, L. Grigorjeva, K. Smits, D. Millers, **Thermoluminescence and dosimetric characteristics of ZnO:In nanopowders and ceramics**
- RH5 E. Konovalova, Yu. Demidov, M. Kozlov, **Calculation of thallium hyperfine anomaly**
- RH6 P. Szajerski, A. Gasiorowski, **Phase composition effect on thermoluminescence behavior of Dy<sup>3+</sup> and Tb<sup>3+</sup> doped phosphate glassy crystalline materials**
- RH7 A. Petrova, A. Lukonina, N. Kudryasheva, **Effect of low-dose beta- and gamma-radiation on photoluminescence of coelenteramide-containing fluorescent protein obelin from *Obelia longissima***
- RH8 Lj. Budinski-Petković, I. Lončarević, A. Mihailović, S. B. Vrhovac, **Impact of defect concentration on percolation in discrete irreversible deposition**

## Radiation Effects

Chairperson: **Natalia Kamanina**

- RF10 O. Shpotyuk, A. Ingram, M. Shpotyuk, R. Szatanik, **Positronics of radiation effects in chalcogenide semiconductor glasses**
- RF11 O. Shpotyuk, M. Shpotyuk, S. Ubizskii, **Radiation-induced optical effects in chalcogenide semiconductor glasses**
- RF12 S. Ubizskii, A. Kozdras, O. Shpotyuk, D. Chalyy, M. Shpotyuk, **Natural and radiation-induced physical ageing in Ge-As-Se chalcogenide glasses**
- RF13 A.-I. Cadis et al., **Studies regarding CuInS<sub>2</sub> powders prepared by ultrasound-assisted precipitation method with different Cu/In ratio**
- RF14 E. Pajuste, S. Yu. Sokovnin, G. Kizane, J. Prikulis, I. Igaune, V. G. Il'ves, **Radiation induced luminescence of carbon-doped Al<sub>2</sub>O<sub>3</sub> nanopowders produced by pulsed electron evaporation**
- RF15 S. Jovanović et al., **Irradiation resistance of elastomers based on ternary rubber blends reinforced by nano filler**
- RF16 M. Marinović-Cincović et al., **Gamma irradiation ageing study of elastomers based on ethylene/propylene/5-ethylidene-2-norbornene rubber**
- RF17 J. Budinski-Simendić et al., **The assessment of gamma irradiation ageing of elastomeric materials filled with recycled rubber powder**
- RF18 D. Kojić et al., **Thermal degradation of gamma irradiated elastomers based on different network precursors**

## Radiotherapy

Chairpersons: **Lubomir Traikov**

- RR1 I. A. Yakovlev, S. V. Akulinichev, Yu. K. Gavrilov, R. D. Ilić, **The way to improve conformity of proton and ion therapy with passive scattering**
- RR2 D. Jaros, **Setup component of PTV margin in preoperative radiotherapy of rectum carcinoma**

## Biotechnology

Chairperson: **Dora Krezhova**

- BT1 S. P. Barbu, M. Ciuca, A. Giura, **Gamma irradiation for useful wheat genetic variability**
- BT2 L. Izrael Živković, Lj. Živković, **Candida rugosa lipase immobilized onto titania: improved thermal stability and reuse potential**
- BT3 L. Izrael Živković, Lj. Živković, V. Beškoski, K. Gopčević, D. Radosavljević, I. Karadžić, **The Candida rugosa lipase immobilized onto titania as nanobiocatalyst in organic solvent**
- BT4 M. Alili, G. Munim, A. Abdelwahab, **Study of dextranase properties produced by Streptomyces sp. AM**

## Plenary Session

Invited lectures

Chairperson: **Michael Zhukovsky**

**Room B**

10:00

Fernando Carvalho, **Uranium mining legacy and radiation protection**

## Oral Session

Medical Physics

Chairperson: **Parvaneh Shokrani**

**Room A**

10:30

W. Bulski, K. Chelminski, **Multileaf collimator performance audit in Poland**

10:45

K. Chelminski, W. Bulski, **Dose delivery quality audit for IMRT technique in Poland**

11:00

M. Gumeniuk, S. Odarchenko, K. Gumeniuk, O. Zinvaliuk, D. Synchuk, **Specific approaches to planning of patients with primary and secondary brain tumors using the TomoTherapy Planning System**

11:15	T. Hanušová, I. Horáková, I. Koniarová, <b>Establishing radiochromic film dosimetry for IMRT plan verification in radiotherapy</b>
11:30	K. Karadzic, V. Karadzic, <b>Estimation of mean glandular dose in mammography using voxel phantom and Monte Carlo simulation</b>
<b>Oral Session</b> <b>Radioecology</b> <span style="float: right;"><b>Room B</b></span> Chairperson: <b>Beata Kozłowska</b>	
10:30	Q. Wu, Y. Feng, X. Wang, G. Liu, <b>Radioactivity assessment in rare earth mining sites in China</b>
10:45	L. Nedzveckienė, B. Lukšienė, N. Tarasiuk, R. Gvozdaitė, <b>The distribution of <sup>137</sup>Cs and Pu isotope activity concentrations in the soil profiles of the lake shores</b>
11:00	M. E. Turgay, <b>Primordial and artificial radioactivity levels for soil samples of Hatay region, Turkey</b>
11:15	M. Hegedűs, E. Tóth-Bodrogi, J. Somlai, T. Kovács, <b>Radiological investigation of red mud: Th and Po leaching studies</b>
11:30	Yu. Konevnik, K. Martynov, <b>Temperature-dependent changes of radionuclide sorption behavior on crystalline rock samples of the Yeniseisky site (Nizhne-Kansky rock massive, Krasnoyarsk region, Russia)</b>
11:45	D. Vasilache, R.-C. Begy, C. Baciu, <b>The evaluation of deforestation effects on the sedimentation rates of anthropogenic lakes in Romania using radiometric dating methods</b>
12:00	E. Kam, Z. Ü. Yümün, D. Kurt, <b>Determination of gross alpha and gross beta activity concentration in marine sediments in the Marmara Ereğlisi (Tekirdağ, Turkey)</b>
<b>Oral Session</b> <b>Radiation in Medicine, Medical Devices, Radiation Oncology</b> <span style="float: right;"><b>Room C</b></span> Chairperson: <b>Vladimir Jurišić</b>	
10:30	V. Massaut, R. Benotmane, <b>The BR2 reactor and other facilities at SCK•CEN - usage for science, training, education and medical applications</b>
10:45	V. Pantelev et al., <b>Target development for medical radionuclide production at radioisotope complex RIC-80 at PNPI</b>
11:00	A. Madumarov, G. Bozhikov, V. Semin, N. Aksenov, <b>Methods for production and separation of platinum isotopes</b>
11:15	Yu. Kovalenko, I. Myronova, S. Miroshnichenko, Ya. Zarutsky, <b>Use of tele-roentgen-diagnostic complexes for improving medical care of patients</b>
11:30	P. Cisek et al., <b>The assessment of the biochemical parameters of the liver after the CT-guided brachytherapy of metastasis to the liver</b>
11:45	S. Lauk-Dubitsky, V. Brumberg, T. Astrelina, A. Gordeev, Yu. Bushmanov, A. S. Samoilov, <b>Novel method of preliminary cryopreservation of human cadaveric vascular allografts for safety radiation sterilization</b>
<b>Plenary Session</b> <b>Invited Lecture</b> <span style="float: right;"><b>Room B</b></span> Chairperson: <b>Peter Burns</b>	
14:00	Tibor Kovács, <b>Screening method for radiological characterisation of reused by-product in building materials</b>
<b>Oral Session</b> <b>Medical Physics</b> <span style="float: right;"><b>Room A</b></span> Chairperson: <b>Erik Hernandez</b>	
14:30	D. Segota, A. Diklic, S. Jurkovic, E. Grgurevic Dujmic, V. Kos, <b>A model of establishment and implementation of the quality assurance programme in diagnostic radiology in a multi-facility region</b>
14:45	L. Traikov, T. Bogdanov, S. Abarova, R. Hadjiolova, M. Gradinarova, J. Petrova, <b>Measurement of Arterial Wall Shear Stress in cases of asymptomatic carotid stenosis and restenosis in human carotid arteries <i>in vivo</i></b>

15:00	K. Gumeniuk, S. Odarchenko, M. Gumeniuk, O. Zinvaliuk, D. Synchuk, <b>TomoTherapy in Ukraine - general analysis of first treatment results</b>
15:15	P. Shokrani, F. Felfeliyan, M. Atarod, A. Amouheidari, S. Noshadi, <b>Application of beam spoilers for dose uniformity in abutting low energy electron fields: A Monte Carlo simulation study</b>
15:30	D. Ivanov, K. Bliznakova, I. Buliev, Z. Khalaf, <b>New materials as tissue substitutes for use with physical breast phantoms dedicated to x-ray based imaging techniques</b>
<b>Oral Session</b>	
<b>Biophysics, Biomaterials, Bioengineering</b>	
<b>Chairperson: Boris Lončar</b>	
14:30	S. Brkić, <b>Biocompatibility of CdSe quantum dots</b>
14:45	D. Krezhova, K. Velichkova, N. Petrov, <b>The effect of plant diseases on hyperspectral leaf reflectance and biophysical parameters</b>
15:00	A. Ponomarenko, A. Pereira Jr., V. Nunes, V. Zaporozhan, <b>Perception, feelings and neuroregulatory signals as music-like patterns embodied in ionic waves induced by proteins</b>
15:15	N. Kamanina, <b>The optical limiting effect in the organics doped with nanoparticles</b>
15:30	R. C. Popescu et al., <b>Fabrication and testing of novel multifunctional nanosystems for chemo- and radio-sensitization of tumor cells</b>
16:00 - 17:30	<b>Poster Sessions</b>
	<b>Lobby</b>
	<b>Biophysics</b>
	<b>Chairperson: Andrii Ponomarenko</b>
BP1	A. Šetrajčić-Tomić, Lj. Džambas, J. Šetrajčić, M. Vojnović, I. Šetrajčić, <b>Optical specificity of thin shell for nano-delivery model</b>
BP2	S. Vučenović, J. Šetrajčić, M. Vojnović, A. Šetrajčić-Tomić, Lj. Džambas, <b>Physiological processes when an electrical current passes through the tissues</b>
BP3	N. Kamanina, <b>Erythrocytes and DNA study via optical- and bio-technology</b>
BP4	Yu. Chukova, <b>Radioactivity in the light of the fundamental law of physics</b>
BP5	K. Velichkova, D. Krezhova, <b>Sensitivity of remotely-sensed spectral reflectance to biophysical variables of plants</b>
	<b>Biomaterials</b>
	<b>Chairpersons: Andrii Ponomarenko</b>
BM1	V. Kolokoltsev, G. Folmanis, M. Fedotov, <b>Obtaining an aqueous colloidal solution of selenium by mechanical dispersion</b>
	<b>Radioecology</b>
	<b>Chairpersons: Maria Sahagia</b>
RE1	Y. H. Ryu, K. R. Dong, M. Y. Kim, E. J. Choi, W. K. Chung, <b>Comparative analysis of regional soil components and radioactivity</b>
RE2	M. Kropacheva, M. Melgunov, I. Makarova, <b>Determination of artificial and natural isotope distribution in sedge (<i>Carex L.</i>) biomass by sequential elution technique</b>
RE3	M. Melgunov, B. Sherbov, M. Rubanov, <b><sup>210</sup>Pb, <sup>7</sup>Be and <sup>137</sup>Cs in snow deposits in different landscape zones of the south of Western Siberia</b>
RE4	J. Ajtić et al., <b>Beryllium-7 in surface air multidecadal measurements in Serbia and Slovenia</b>
RE5	O. Jefanova, E. Danutė Marčiulionienė, D. Montvydienė, J. Mažeika, Z. Žukauskaitė, B. Lukšienė, <b>The ecotoxicological impact of the nuclear facilities effluent and <sup>137</sup>Cs on the test organism <i>Lepidium sativum</i></b>
RE6	B. Kucukomeroglu, S. U. Duran, N. Damla, N. Celik, <b>Investigation of radioactivity levels in soils and drinking waters of Andon region (Rize city, Turkey)</b>
RE7	N. Todorovic, J. Nikolov, S. Bjelovic, S. Lucic, I. Stojkovic, <b>Radionuclides in drinking water and risk assessment</b>

- RE8 Ya. Ershova, E. Zakharova, A. Pryadko, E. Tyupina, V. Krupskaya, **Sorption of fission products and actinides on monocationic types of bentonite clays**
- RE09 M. Nadri, C. Khiari, A. Ioannidou, **Vertical profile of  $^{210}\text{Pb}$ ,  $^{40}\text{K}$  and  $^{137}\text{Cs}$  in Reggane and Ghardaia regions, Algeria**

## VIRTUAL SESSION

### Radiobiology

N. Shimalina, E. Antonova, V. Pozolotina, **Allozyme variability and quality of seed progeny in *Plantago major* L. populations from East-Ural radioactive trace area**

A. Karapetyan, **The morbidity study of the liquidators of Chernobyl Power Plant disaster consequences living at high altitudes**

N. Hovhannisyan, A. Karapetyan, V. Grigoryan, **The assessment of cytogenetic indices of Chernobyl Power Plant disaster liquidators**

A. Solovov, A. Chernukha, V. Potetnya, S. Uliyanenko, **The Monte-Carlo based survival prediction for *in vitro* studies with various cell types in carbon ion fields**

L. P. Blinkova, L. G. Stoyanova, Yu. D. Pakhomov, **Appearance and resuscitation of VBNC bacteria induced by different factors**

J. Czub et al., **Effect of irradiation of CHO-K1 cells by dual ion beam**

A. Grebenyuk, B. Lukashin, N. Aksenova, V. Zatsepin, A. Timoshevsky, **Radiation protection with Heparin and Interleukin-1**

A. Cebulska-Wasilewska, M. Krzysiek, G. Krajewska, A. Stepien, **Influence of low iodine-131 doses on susceptibility to ionizing radiation and biomarkers of health risk**

A. Cebulska-Wasilewska, M. Krzysiek, B. Glazar, Z. Dobrowolski, **Studies on vulnerability of lymphocytes to ionizing radiation in prostate cancer and BPH patients**

### Radiation Chemistry

G. Nikolova, V. Gadjeva, Ya. Karamalakova, ***Lemna minor* L. (duckweed) antioxidant and antiradical activity caused by gamma radiation**

### Radiation Physics

H. Vasylyeva, I. Myronyuk, O. Vasylyev, **Measurement of neutron flux in  $(\alpha, n)$  reaction on zirconium nuclei**

### Radiation in Medicine

M. Vadrucchi et al., **Irradiation activity with the top-implant proton linear accelerator**

### Radiation Measurements

M. Natić, D. Dabić Zagorac, D. Filipović, **Carbon stable isotope analysis of archaeological plant remains**

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

### Radiation Protection

V. Stevanovic, Lj. Gulan, A. Valjarević, **Measurements of ambient dose equivalent rates in municipality of Kursumlija, Serbia**

M. Tanić, Lj. Janković Mandić, M. Daković, **The assessment of the potential risk to human health due to natural radionuclides in surface soil around “Nikola Tesla A” coal-fired power plant, Serbia**

J. Davidovic, **Practical issues in implementation of radiation protection in healthcare institutes**

V. Finta, Á. Kiss, **Measurements of public exposure to radiofrequency electromagnetic fields in Hungary**

V. Finta, S. Rácz, **Radiation protection of firefighters in radiological emergencies**

- C. Kurnaz, B. Korunur Engiz, A. Turgut, **Monitoring of long term RF radiation from cellular base stations**
- C. Kurnaz, D. Yıldız, S. Karagol, **Determining the effect of establishment of 4G systems on electromagnetic radiation levels in a pilot district**
- J. Sabol, B. Šesták, **Assessing the real threat and risk of a terrorist use of radiological weapons**
- N. Ivanova, S. Ivanova, **Consequences of the radiation accident in 2012 in "Polymers" AD Denya, Varna region**
- S. Ivanova et al., **On site "dose on demand"<sup>®</sup> cyclotron dose rate measurements and radiation exposure of personnel**

### Radioecology

- C. Betsou, E. Tsakiri, J. Hansman, M. Krmar, A. Ioannidou, **Radionuclide concentrations in mosses**
- E. Ioannidou, A. Ioannidou, G. Vargemezis, **Radioactivity monitoring of contaminated sites in Northern Greece by *In Situ* gamma spectrometry**
- T. Paramonova, O. Komissarova, L. Turykin, N. Kuzmenkova, **Comparative distribution of Cs-137 and mineral nutrients in above- and belowground biomass of grassy ecosystems**
- T. Paramonova, **Homo/heterogeneity of Cs-137 distribution within ploughed horizon of arable chernozems - 30 years after Chernobyl accident**
- V. Starichenko, N. Lyubashevskiy, **The migration activity of rodents in the territory of EURT: Comparison of estimations**
- A. Safonov et al., **Permeable biological reactive barriers for nitrates and radionuclides in environment**
- A. Safonov, K. Boldirev, T. Babich, E. Zakharova, K. German, **Biogeochemical aspects of U and Tc migration modelling in sand aquifers**
- T. Tugay, V. Zheltonozhskiy, M. Zheltonozhskaya, L. Sadovnikov, A. Tugay, **Investigation of transfer factor for americium uptake from fuel particles into biomass of *Cladosporium cladosporioides* with radioadaptive properties**
- M. Zheltonozhskaya, N. Kulich, A. Lipskaya, D. Myznikov, **Non-destructive method of <sup>90</sup>Sr measurement in small animals**
- Z. Čurguz et al., **Measuring the current state of radioactivity of air, water and soil in the city of Novi Grad, Republic of Srpska**

### Radon and Thoron

- A. S. Silva, M. de Lurdes Dinis, **Variability of indoor radon level accumulation: A study in Portuguese thermal spas**
- Ch. Aliev, A. Feyzullaev, R. Baghirli, F. Mahmudova, **The estimation of radon concentration in dwellings and geological environment on the territory of Azerbaijan**
- Lj. Gulan, **Indoor radon concentration in Dragaš municipality, Kosovo and Metohija, Serbia**
- Lj. Gulan, L. Spasović, **Outdoor and indoor ambient dose equivalent rates in Berane town, Montenegro**

### Radiation Detectors

- W. Wagner, V. Oeser, H.-R. Dörfel, Th. Streil, **An analytic method for in situ nuclide identification in mobile gamma spectrometers**
- A. Tanushevski, D. Sokolovski, **Structural and optical properties of CdTe thin films obtained by electrodeposition**

### Radiation Effects

- Lj. Lioshyna, O. Bulko, S. Pchelovska, S. Litvinov, N. Pushkarova, N. Kuchuk, **Effect of chronic  $\gamma$ -irradiation on Ri-transformant and hairy roots of *Digitalis purpurea* L. *in vitro***
- Lj. Lioshyna et al., **Effects of different spectrum LED-lighting on several medical plants**

## Radiology

M. Dakovic Bjelakovic, J. Popovic, D. Stojanov, T. Dzopalic, J. Ignjatovic, **Morphometric characteristics of the infraorbital foramen on volume rendered CT scans**

## Radiotherapy

V. Klisarovska, **Dosimetric evaluation of two different brachytherapy techniques for inoperable uterine cervix cancer**

P. Chakalaroski, V. Klisarovska, N. Dimitrovska, D. Nikolovski, **Dose comparison of organs at risk in cervical cancer intracavitary brachytherapy: Organ wall versus whole organ contour**

E. Maslyukova, L. Korytova, A. Bondarenko, **The comparison of the doses to the heart and the left anterior descending coronary artery for various modes of radiation treatment of the breast cancer patients**

L. Korytova, E. Maslyukova, A. Bondarenko, **The estimation of the radiation dose to the left lung for various modes of conformal radiation therapy of the breast cancer patients**

## Environmental Chemistry

M. Jakubiak, M. Asztemborska, **The application of neutron-activated silver nanoparticles in the studies of nanosilver bioaccumulation by mycelia of macrofungi: *Pleurotus eryngii* and *Trametes versicolor***

## Microwave, Laser, RF and UV radiations

O. Kara, B. Yaniktepe, C. Ozalp, **A study of determining a model for the prediction of solar radiation**

B. Yaniktepe, O. Kara, C. Ozalp, **Estimation of solar radiation model using measured data in specific region**

V. Barna, **Highly efficient laser action from free-shape dye-doped soft matter systems**

## Medical Imaging

O. Slesarev, S. Abul'khanov, N. Kazanskiy, **Automatic processing of temporomandibular joint X-ray images using parameterization technique**

## Pharmaceutical Sciences

H. Harbatsevich, K. Nabebina, N. Loginova, G. Ksendzova, N. Osipovich, **Redox-active nickel(II) complexes with 1,2-dihydroxybenzene derivatives**

H. Harbatsevich, S. Stakhevich, N. Loginova, G. Ksendzova, N. Osipovich, **SOD-like activity of sulfur-containing ortho-diphenols and their metal complexes**

## Biomedicine

A. Selimović, S. Milišić, E. Mujičić, Z. Cecunjanin, **Assessment of hematological parameters, acid-base status and arterial blood gas test before and after management of acute bronchiolitis in children**

N. Bagdasaryan, V. Erichev, T. Aksyonova, M. Mitropanova, Y. Ovcharenko, P. Bagdasaryan, **The effectiveness of the complex treatment of patients suffering from chronic gingivitis**

Y. Ovcharenko, V. Erichev, T. Aksyonova, N. Bagdasaryan, **Immunological and microbiological aspects of hygiene effectiveness for the oral cavity in patients suffering from inflammatory parodontium diseases**

O. Slesarev, D. Trunin, I. Bayricov, S. Abul'khanov, N. Kazanskiy, **Appealability structure in patients with temporomandibular disorders**

V. Stevanovic, Lj. Gulan, A. Valjarević, **Analysis of bioclimatic characteristics of Niška Banja**

S. Milišić, M. Lika Pranjčić, **Evaluation of cyclocryotherapy during 7 years**

V. Boyko, Yu. Ivanova, E. Mushenko, A. Korobov, O. Sukachova, D. Voloshyna, **Photodynamic therapy and psychological support of patients with diabetic foot syndrome (clinical case)**

M. Surcel, D. Surcel, S. Toader, M. Butan, **Electromagnetic field therapy and immune mechanisms which are involved in anti-inflammatory response**

### Biochemistry

Ya. Karamalakova, V. Gadjeva, G. Nikolova, **UV /  $\gamma$  irradiation: Activation and antioxidant activity after low-level irradiation of Bulgarian essential oils**

V. Dimova, M. S. Jankulovska, **QSAR modeling of antimicrobial activity of some substituted hydrazones**

L. G. Stoyanova, S. Dbar, L. P. Blinkova, **Induction of biochemical activity of *Lactococcus lactis* ssp. *lactis* under the influence of ultraviolet radiation**

T. Andriichuk, N. Raksha, S. Lugova, L. Ostapchenko, **The role of xanthine oxidase system in rat's lymphocytes apoptosis under X-ray exposure**

### Biophysics

A. A. Oleshkevich, **Directed impact of therapeutic ultrasound on physiological state of animal platelet**

S. A. Komarova, A. A. Oleshkevich, V. E. Novikov, **Pelage alkaline hydrolysates' redox change via light flash**

S. A. Komarova, A. A. Oleshkevich, V. I. Maksimov, **Spectrophotometry research of fleece alkaline hydrolysates**

I. Shpachenko, N. Brandt, A. Chikishev, **Calculation of chemical reaction rates based on Raman and FTIR spectral data**

### Biomaterials

S. Petrović, J. Zvezdanović, S. Savić, D. Cvetković, **Chlorophyll stability to continual UVA, UVB and UVC irradiation inside the liposomes**

J. Zvezdanović, S. Petrović, J. Stanojević, D. Cvetković, A. Lazarević, **UHPLC-MS/MS analysis of hematoporphyrin derivatives mixture**

### Biomedical Engineering

J. Czub et al., **Experimental setup using low energy X-rays for radiobiological studies**

### Biotechnology

A. A. Oleshkevich, **Effects of modulated ultrasound on growth and emission processes**

### Bioinformatics

D. Voloshyna, **Electronic survey as effective data collection tool for research, particularly to study predictors of alcohol addiction among youth in Ukraine**

### Physical Chemistry

M. S. Jankulovska, V. Dimova, I. Spirevska, **Investigation of acid-base properties of aromatic hydrazones in basic media at constant ionic strength**

### Other topics

K. Doraci, A. Hasanaj, **The optimising force balance exercised in the wheel – profile contact force during the curved path. An experimental approach of using curvilinear profiles**

K. Doraci, A. Hasanaj, **Optimization of wheel – rail profile combinations in terms of accurate wear prediction**

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and Saša Trenčić

**DESIGN AND TECHNICAL EDITING** Vladan Nikolić

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Niš, June 2017



SLOVENSKA PLAŽA  
BUDVA MONTENEGRO



# DOBRODOŠLI / WELCOME

## SLOVENSKA PLAŽA / BUDVA

### MAPA

- 42 Turistična agencija
- 41 All inclusive bar
- 44 Restoran
- 45 Cosmetics
- 46 Shop
- 47 Igralnica



**Lobby**  
**Registration Desk**

**Room C**

**Room B**

**Room A**

- RECEPCIJA
- RECEPTION
- RESTORAN
- BAZEN
- POOL
- TENISKI TEREN
- MINI CLUB
- WELLFIT AREA
- PARKING
- KAVNA BARA
- DOMAČINSTVO
- HOUSE KEEPING

#### PLAŽA / BEACH

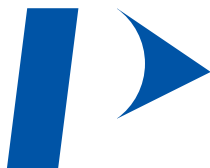
- 1 Real estate agency
- 2 Dental center
- 3 Aperitiv bar
- 4 Souvenir shop
- 5 Frizersko kozmetički salon
- 6 Haircut & cosmetics
- 7 Market
- 7 Restaurant Pijaca
- 8 Ambulance
- 9 Boutique
- 10 Souvenir shop
- 11 Boutique
- 12 Retail store
- 13 Konferenjska sala
- 14 Conference room
- 15 Super market
- 16 Perionica / Laundry
- 17 Restoran Del Mare
- 18 Touristic agency
- 19 Cocktail Bar
- 19 Konferenjska sala
- 20 Conference room
- 21 Raspuštin Caffe pizzeria
- 22 Kozmetički salon
- 23 Pijaca
- 24 Ambulanta
- 25 Restoran 4\*
- 26 All inclusive bar 4\*
- 27 Raspuštin Caffe pizzeria
- 28 Kozmetički salon
- 29 Pijaca
- 30 Ambulanta
- 31 Boutique
- 32 Shop
- 33 Raspuštin Caffe pizzeria
- 34 Kozmetički salon
- 35 Perionica/Laundry
- 36 Galerija
- 37 Boutique
- 38 Shop
- 39 Restoran Del Mare
- 40 Cocktail Bar
- 41 All inclusive bar 3\*\*
- 42 All inclusive bar
- 43 Caffe pizzeria Raspuštin
- 44 Restoran 3\*\*
- 45 All inclusive 3\*\*



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