



## 16<sup>TH</sup> INTERNATIONAL CONFERENCE OF MEDICAL PHYSICS IN THE BALTIC STATES

09-11 November 2023, Kaunas, Lithuania

### Friday, November 10, 2023

8.30-9.00	Registration of participants at Kaunas University of Technology, Santaka Valley, K. Baršausko str. 59–I and II halls, Kaunas
9.00-9.20	Conference opening: <i>prof. Eugenijus Valatka</i> , Kaunas University of Technology Rector; <i>Prof. Sören Mattsson</i> , Lund University, Skåne University Hospital Malmö; <i>Paddy Gilligan</i> , President of the EFOMP; <i>Assoc. Prof. Dr. Bronė Narkevičienė</i> , Faculty of Mathematics and Natural Sciences Dean; <i>Prof. Diana Adlienė</i> , Kaunas University of Technology, Head of Physics Department

#### Session 1. Chair: dr. Benas Gabrielis Urbonavičius

9.20-9:45	<u><i>Sören Mattsson, Diana Adlienė and Jurgita Laurikaitienė.</i></u> CURRENT TRENDS IN MEDICAL PHYSICS.
9:45-10.15	<u><i>Diana Adlienė.</i></u> TWENTY YEARS OF MEDICAL PHYSICS EDUCATION IN LITHUANIA.
10.15-10:35	<u><i>Marco Brambilla.</i></u> EFOMP's ROLE IN PROMOTING THE MEDICAL PHYSICS PROFESSION IN EUROPE.

Coffee break 10.35-10.50



#### Session 2. Chair: dr. Judita Puišo


10.50-11.05	<u><i>Antonio Jreije, Leonid Krynke, Kirill Skovorodko, Birutė Gricienė.</i></u> EVALUATION OF THE PERFORMANCE OF THREE OCCUPATIONAL RADIATION DOSIMETRY EQUIPMENT IN DIFFERENT SETTINGS.
11.05-11.20	<u><i>Vineta Vanaga, Kirill Skovorodko and Dagnis Ābols.</i></u> COMPARISON OF TWO SPECT SYSTEMS: MULTI-DETECTOR CZT-BASED AND CONVENTIONAL SPECT.
11.20-11.30	<u><i>Todor Kereziev and Neli Atanasova.</i></u> EVALUATION AND COMPARISON OF IRRADIATION DOSES BASED ON SINOGRAM AFFIRMED ITERATIVE RECONSTRUCTION AND FILTER BACK PROJECTION FOR HEAD COMPUTED TOMOGRAPHY.
11.30-11.40	<u><i>Vodovatov Aleksandr.</i></u> ASSESSMENT OF PATIENT DOSES IN PEDIATRIC INTERVENTIONAL RADIOLOGY.
11.40-11.50	<u><i>Anthoines Joseph.</i></u> X-RAY FLAW DETECTOR FLOWD 8020: FOR TESTING X-RAY PROTECTIVE CLOTHING AND QUALITY OF MATERIALS WITH ENHANCED SPATIAL RESOLUTION.

11.50-12.05	<b><u>Marco Brambilla.</u></b> STATE OF THE ART OF NUCLEAR MEDICINE TECHNOLOGY FOR ONCOLOGIC IMAGING.
12.05-12.20	<b><u>Leonid Krynke, Antonio Jreije, Kirill Skovorodko and Birutė Gricienė.</u></b> PATIENT RADIATION EXPOSURE IN PEDIATRIC INTERVENTIONAL RADIOLOGY AT VILNIUS UNIVERSITY HOSPITAL SANTAROS KLINIKOS.
12.20-12.35	<b><u>Kirill Skovorodko, Marius Kurminas, Inga Andriulevičiūtė and Renata Komiagienė.</u></b> RADIATION PROTECTION CONSIDERATIONS IN HO-166 RADIOEMBOLIZATION PROCEDURE.
12.35-12.45	<b><u>Marcin Ciesielski.</u></b> iDOSE - MANAGEMENT AND REPORTING.
12.45-12.55	<b><u>Shatsky Ilya.</u></b> DEVELOPMENT OF REFERRAL GUIDELINES FOR PEDIATRIC IMAGING.
12.55-13.10	<b><u>Larisa Chipiga.</u></b> CRITERIA FOR THE RELEASE OF PATIENTS AFTER RADIONUCLIDE THERAPY WITH 177LU FOR DIFFERENT SCENARIOS.

Time for the lunch 13:10 – 14:30 

**Session 3. Chair: prof. dr. Diana Adlienė**

14.30-14.40	<b><u>Vladimirs Kozlovs, Dmitrijs Merkulovs, Shimons Svirskis.</u></b> MEASUREMENT OF THE CONCENTRATION OF NANOPARTICLES IN LIQUIDS WITH A NEW TYPE OF DIFFERENTIAL REFRACTOMETER.
14.40-14.55	<b><u>Mantvydas Merkis, Jurgita Laurikaitienė, Judita Puišo and Diana Adlienė.</u></b> EVALUATION OF POTENTIAL INCREASE SENSITIVITY OF DOSE GELS USING VARIOUS METAL NANOPARTICLE ADDITIVES.
14.55-15.05	<b><u>Greta Vainiūtė, Monika Jonušaitė, Reda Čerapaitė-Trušinskienė, Kristina Šutienė, Jurgita Laurikaitienė and Marius Laurikaitis.</u></b> INVESTIGATION OF POSITIONING DEVIATIONS AND IRRADIATION DOSE FOR DAILY HEAD AND NECK PATIENTS IMAGE-GUIDED RADIOTHERAPY.
15.05-15.15	<b><u>Milda Kuprytė, Patricija Skučaitė, Vestina Martinkutė, Vytautas Ankudavičius, Marius Žemaitis and Lina Poškienė.</u></b> DIGITAL MICROIMAGING ANALYSIS TECHNIQUE IN STUDY OF IMMUNE MICROENVIRONMENT IN NON-SMALL CELL PULMONARY CARCINOMA MODEL.
15.15-15.25	<b><u>Ramune Ulrich.</u></b> NEW LAP DEVELOPEMENTS FOR AUTOMATED PATIENT QA, PATIENT POSITIONING AND MONITORING.
15.25-15.40	<b><u>Belikse Ramljak, Alexandr Malusek, Kristina Eriksson Stenström and Christopher Rääf.</u></b> SENSITIVITY ANALYSIS OF THE ICRP BIODYNAMIC MODEL PREDICTING THE ACTIVITY OF GD IN LUNGS AND 24-HOUR EXCRETION SAMPLES.
15.40-15.55	<b><u>Kristina Mikalauskienė, Marina Konstantinova, Darius Germanas, Rita Plukienė, Elena Lagzdina and Artūras Plukis.</u></b> ASSESSMENT OF COMPTON/PHOTOPEAK RATIO IN GAMMA SPECTRA OF DIFFERENT DETECTORS FOR VARIOUS THICKNESS METAL SHIELDING.

Coffee break 15.55-16.20 

#### **Session 4. Chair: Christian Bernhardsson**

16.20-16.35	<b><i>Birutė Gricienė, D. Paškevičiūtė, A. Bilotiene Motiejūniene, R. Dastikas, L. Krynke.</i></b> RECURRENT COMPUTED TOMOGRAPHY PROCEDURES. CUMULATIVE EXPOSURE ASSESSMENT.
16.35-16.50	<b><i>David J. M. Scicluna, Eric Pace, Carmel J. Caruana and Johann A. Briffa.</i></b> COMPARISON OF DEEP LEARNING CASCADE FRAMEWORK MODELS FOR AUTOMATIC SEGMENTATION OF HEALTHY LIVER COMPUTED TOMOGRAPHY SLICES: ASSESSMENT ON A PUBLICLY AVAILABLE DATASET.
16.50-17.05	<b><i>Milda Kuprytė, Kajus Merkevičius, Milda Adomaitytė, Arvydas Čižauskas, Renata Paukštaitienė and Lina Poškienė.</i></b> APPLICATION OF STATISTICAL PROGNOSTIC MODEL WITH ARTIFICIAL DYNAMIC LEARNING ABILITY IN PATHOLOGY DIAGNOSTICS OF CANCER.
17.05-17.20	<b><i>Martin Andersson and Sören Mattsson.</i></b> THE ICRP DOSE VIEWER APP -A MOBILE APP TO SIMPLIFY AND IMPROVE ACCESSIBILITY OF ICRP DOSE DATA FOR INTAKE OF RADIONUCLIDES IN PATIENTS, STAFF AND MEMBERS OF THE PUBLIC.

Social event 19.00 at Victoria Hotel Kaunas, Miško st. 11 


**Saturday, November 11, 2023**

8.30-9.00	Registration of participants at <b>Kaunas University of Technology, Santaka Valley, K. Baršausko str. 59–I and II halls, Kaunas</b>
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#### **Session 5. Chair: dr. Jurgita Laurikaitienė**

9.00-9.15	<b><i>Jason Schembri, Carmel J. Caruana and Eric Pace.</i></b> SWOT ANALYSIS BASED STRATEGIC PLANNING IN MEDICAL PHYSICS: A LITERATURE REVIEW.
9.15-9.25	<b><i>Linas Kudrevičius, Šarunas Tamašauskas, Benas Gabrielis Urbonavičius and Diana Adliene.</i></b> PILOT STUDY OF INVESTIGATION OF DIFFERENT COLLIMATOR SETTINGS FOR TREATING BRAIN METASTASES WITH GAMMA KNIFE.
9.25-9.35	<b><i>Dace Purina.</i></b> NEW HORIZONS IN RADIOTHERAPY.
9.35-9.50	<b><i>Mindaugas Džiugelis, Marius Burkanas, Kęstutis Akelaitis, Ieva Markevičienė, Gitana Lukoševičienė, Aleksandras Cincinas, Tomas Čėponis, Vytautas Rumbauskas, Eugenijus Gaubas, Justinas Jonušas, Ernestas Janulionis and Jonas Venius.</i></b> ASSESSMENT OF <sup>192</sup> Ir SOURCE POSITION AND DOSE ACCURACY CALCULATION USING SEMICONDUCTOR-BASED SYSTEM FOR IN-VIVO DOSIMETRY IN HDR BRACHYTHERAPY.
9.50-10.05	<b><i>Agnieszka Kuchcinska, Elżbieta Wojciechowska-Lampka and Wojciech Bulski.</i></b> OPTIMISATION OF PREGNANT PATIENT'S RADIOTHERAPY BY CHOOSING ACCELERATOR WITH THE LOWEST OUTFIELD DOSES.
10.05-10.15	<b><i>Akvilė Šlėktaitė-Kišonė, Marius Burkanas, Aleksandras Cincinas, Tomas Čėponis, Mindaugas Džiugelis, Mantvydas Merkis, Diana Adlienė, Jonas Venius.</i></b> FIRST EXPERIENCE ON VARIAN TRUEBEAM GENERATED ULTRA-HIGH DOSE RATE (FLASH TYPE) ELECTRON BEAM DOSIMETRY USING CONVENTIONAL DOSIMETRY METHODS.

10.15-10.25	<b><i>Ivan Igrutinovic and Ana Rato.</i></b> RADFORMATION: AUTOMATION FROM START TO FINISH.
10.25-10.35	<b><i>Elina Stencele, Martins Piksis and Sandra Stepina.</i></b> RECEIVED DOSE TO ADJACENT ORGANS IN PROSTATE CANCER PATIENTS DUE TO ORGAN INTER-FRACTIONAL DISPLACEMENT.
10.35-10.50	<b><i>Toms Torims, Diana Adlienē, Maurizio Vretenar, Erika Korobeinikova, Kristaps Paļskis and other members of CERN Baltic Group Working Group “Advanced Particle Therapy center for the Baltic States”.</i></b> STATUS REPORT AND CONCEPT OF AN IN INNOVATIVE PARTICLE THERAPY CENTER IN THE BALTIC STATES.
10.50-11.05	<b><i>Aurimas Krauleidis, Diana Adlienē, Dainius Burdulis and Gustė Laurikaitytė.</i></b> INVESTIGATION OF THE ARCCHECK-3DVH SYSTEM IN COMPARISON WITH PORTAL AND GEL DOSIMETRY FOR VMAT DOSE VERIFICATION.
11.05-11.20	<b><i>Marijus Astrauskas, Romualdas Griškevičius, Rita Steponavičienė and Jonas Venius.</i></b> IMPACT OF LUNG VENTILATION ZONE SPARING DURING FUNCTIONAL DOSIMETRIC PLANNING ON PATIENT QUALITY OF LIFE.
11.20-11.30	<b><i>Vladislav Galyautdinov.</i></b> SUNNUCLEAR SOFTWARE "SUNCHECK".
11.30-11.40	<b><i>Nur Kodaloglu, Ebru Karakaya, Fatma Alioğlu, Zafer Özdoğan and Fatih Göksele.</i></b> A RETROSPECTIVE DOSIMETRIC COMPARISON OF APPLICATIONS OF RING AND FLETCHER APPLICATORS FOR CERVIX CA PATIENTS.

Coffee break 11:40 -12.00 

**Session 6. Chair: dr. Birutė Gričienė**

12.00-12.20	<b><i>Sören Mattsson, Kristina Eriksson Stenström and Guillaume Pédehontaa-Hiaa.</i></b> GADOLINIUM IN COASTAL WATERS – TIME TRENDS AND POSSIBLE SOURCES.
12.20-12.35	<b><i>Guillaume Pédehontaa-Hiaa, Robert Frost, Vytenis Barkauskas, Kristina Eriksson Stenström, Mikael Elfman, Christian Bernhardsson and Christopher Rääf.</i></b> HOW TO DETECT RADIONUCLIDES SPECIFIC TO THE EUROPEAN SPALLATION SOURCE IN SOIL SAMPLES.
12.35-12.50	<b><i>Andrius Puzas, Christian Bernhardsson, Guillaume Pédehontaa-Hiaa, Mattias Jönsson, Sören Mattsson, Nikolaj Tarasiuk, Diana Adlienē, Ieva Jogaitė, Marina Konstantinova, Rasa Gvozdaite, Rūta Druteikienė, Vida Juzikienė and Vidmantas Remeikis.</i></b> <sup>137</sup> Cs AND ISOTOPIC PU BACKGROUND SCREENING FOR POTENTIAL POSSIBLE RADIATION ENVIRONMENT CHANGES IN EASTERN LITHUANIA.
12.50-13.05	<b><i>Christian Bernhardsson, Kristina Eriksson Stenström, Guillaume Pedehontaa-Hiaa, Christopher RÄÄf, Sören Mattsson, Charlotta Nilsson, Aliksandr Dvornik, Valery Ramzaev, Aleksandr Vodovatov, Vytenis Barkauskas and Andrius Puzas.</i></b> ENVIRONMENTAL RADIATION BASELINE AROUND THE BELARUSSIAN NUCLEAR POWER PLANT – ASSESSMENTS IN BELARUS AND IN LITHUANIA.
13.05-13.20	<b><i>Maria Karampiperi, Christopher Rääf and Christian Bernhardsson.</i></b> FEASIBILITY OF USING A PORTABLE OSL READ-OUT UNIT FOR DOSE ASSESSMENT OF NaCl PELLETS.

Short break 13:20-13.30

**ePoster Session 7. Chair: *dr. Kristina Stenström***

13.30-13.45	<b><i>Agnese Katlapa, Antonio Jreije and Leticia Irazola.</i></b> THE MAIN ACTIVITIES OF THE EFOMPs SPECIAL INTEREST GROUP FOR EARLY CAREER MEDICAL PHYSICISTS.
13.45-13.50	<b><i>Ieva Jogaitė, Reda Čerapaitė-Trušinskienė, Artūras Andrejaitis and Jurgita Laurikaitienė.</i></b> RE-CALCULATION AND EVALUATION OF COMPENSATIVE BIOLOGICAL EFFECTIVE DOSE FOR UNSCHEDULED INTERRUPTION IN HEAD AND NECK CANCER RADIOTHERAPY.
13.50-13.55	<b><i>Vilius Milašius, Jurgita Laurikaitienė, Todorka L. Dimitrova, Sofia Milenkova, Militsa Milusheva, Diana Adlienė and Reda Venskauskaitė.</i></b> COMPARISON OF THE PHANTOM BASED OUT-OF-FIELD DOSE MEASUREMENTS IN INTENSITY MODULATED RADIOTHERAPY AND VOLUMETRIC MODULATED ARC THERAPY.
13.55-14.00	<b><i>Anka Georgieva-Hristeva, Todorka L. Dimitrova.</i></b> ON ISOTOPIC LABELING IN PLANT PHYSIOLOGY RESEARCH.
14.00-14.05	<b><i>Džiugilė Valiukevičiūtė, Greta Butkienė, Mindaugas Džiugelis, Sigitas Tiškevičius, Mantas Grigalavičius, Jonas Venius.</i></b> THE EFFECT OF DIFFERENT ACTIVITIES OF ALPHA PARTICLES IRRADIATION ON GLIOBLASTOMA 3D CELL CULTURE.
14.05-14.10	<b><i>Antonio Jreije, Neringa Keršienė, Paulius Griškevičius, Diana Adlienė.</i></b> DEVELOPMENT OF 3D PRINTING COMPOSITES FOR PATIENT-TAILORED APPLICATIONS IN RADIOTHERAPY.
14.10-14.15	<b><i>Mindaugas Ilickas, Asta Guobienė, Brigita Abakevičienė.</i></b> INVESTIGATION OF THE SURFACE MORPHOLOGY OF PHOTOCHEMICALLY SYNTHESISED AgNP-PVB NANOCOMPOSITE COATINGS USING ATOMIC FORCE MICROSCOPY.
14.15-14.20	<b><i>Laura Lukavičiūtė, Justina Karčiauskaitė, Inga Grigoravičiūtė and Aivaras Kareiva.</i></b> CALCIUM HYDROXYAPATITE COATINGS: FORMATION PECULIARITIES AND INVESTIGATION OF ANTIBACTERIAL PROPERTIES.
14.20-14.25	<b><i>Georgi Tankovski, Todorka L. Dimitrova.</i></b> BIOLOGICAL DOSIMETRY - ADVANTAGES AND APPLICATIONS.
14.25-14.30	<b><i>Zhivka Marovska, Todorka L. Dimitrova.</i></b> LOW DOSE BRACHYTHERAPY - ADVANTAGES AND APPLICATIONS.
14.30-15.00	<b>Final remarks: <i>prof. Sören Mattsson</i></b>