

**MEDICAL PHYSICS IN THE BALTIC STATES
12TH CONFERENCE & WORKSHOP PROGRAM**

Thursday, 5 November 2015

WORKSHOP: Integration of PET in Nuclear Medicine Department
Hosting institution: Vilnius University Hospital Santariškių klinikos

- 13.30-14.00** Registration of participants at **Vilnius University Hospital Santariškių klinikos, Santariškių str. 2, Vilnius**
- 14.00-14.15** Welcome to the Vilnius University Hospital Santariškių klinikos
- 14.15-14.45** **Prof. Sören Mattsson** (Lund University, Skåne University Hospital). Technological advances and improved clinical routines in hybrid imaging and impact on dose.
- 14.45-15.00** **Dr. Inga Cibulskaitė** (University Hospital Kauno Klinikos of Lithuanian University of Health Sciences). Radiation protection in PET.
- 15.00-15.15** **Dr. Birutė Gricienė** (Vilnius University Hospital Santariškių klinikos). Quality management in nuclear medicine.
- 15.15-15.30** **Dovilė Šerėnaitė** (Radiation Protection Centre of Lithuania). New trends and radiation protection requirements in nuclear medicine for PET and cyclotron.
- 15.30-15.45** **Antons Drobovičs**. Bringing 3D Tomographic in-vivo animal imaging to LIFE.

Coffee break 15.45-16.00

- 16.00-16.15** **Karolis Ulinskas** (National Cancer Institute). Treatment of bone metastases with alfa particles using Radium-223.
- 16.15-16.30** **Juras Kišonas** (National Cancer Institute). Evaluation of skin reactions during radiotherapy for the better management of radiodermatitis.
- 16.30-16.45** **Arijanda Neverauskienė** (Children's Hospital, Affiliate of Vilnius University Hospital Santariskiu Klinikos). Low-dose CT protocol optimization for children's cranial deformity with a phantom-based noise simulation technique.
- 16.45-17.00** **Dr. Donatas Vajauskas** (Vilnius University Hospital Santariškių klinikos). PET/CT in hematology.
- 17.00-17.30** Visit to the Nuclear Medicine Department and Positron Emission Tomography premises (Head of department **Dr. D. Vajauskas**)

Friday, 6 November 2015

08.30-09.30 Registration of participants at **Kaunas University of Technology, Studentų str. 50–325F, Kaunas**

09.30-09.45 Conference opening: **Dr. Bronė Narkevičienė**, *Dean of the Faculty of Mathematics and Nature Sciences*, **prof. Giedrius Laukaitis**, *Head of Physics Department*, **prof. Sören Mattsson**, *Lund University, Skåne University Hospital Malmö*, **prof. Diana Adlienė**, *Kaunas University of Technology*

Session 1. Chair: prof. Diana Adlienė

- 09.45-10.15** *Sören Mattsson and Diana Adlienė*. Medical physics - Current trends and future needs.
10.15-10.30 *Kristina Kristinaitytė and Birutė Gricienė*. Patient radiation doses in head, chest, abdominal and pelvis CT procedures.
10.30-10.45 *Kirill Skovorodko, Birutė Gricienė*. Estimation of Occupational Radiation Dose in PET/CT Facility using Automatic Infusion Systems.
10.45-11.00 *Leonid Krynke*. Exposure of patients and staff during fluoroscopically guided interventional procedures at Vilnius University Hospital Santariškių Klinikos.
11.00-11.15 *Aleksandr Vodovatov, Christian Bernhardsson*. Establishing national diagnostic reference levels in the Russian Federation based on regional dose surveys.
11.15-11.30 *Vaida Grigorienė*. Medical radiation exposure in Lithuania and it's future tendencies.

Coffee break 11:30-11.45

Session 2. Chair: Christian Bernhardsson

- 11.45-12.00** *Ramunė Mineikytė, Vydmantas Atkočius*. The future perspective for Lithuanian radiation therapy.
12.00-12.15 *Tomas Krilavičius, Rūta Užupytė, Indrė Žliobatė, Henrikas Simonavičius*. Application of multiple linear regression for indirect tracking of functional target for respiratory compensation in radiotherapy.
12.15-12.30 *Eldar Jakubovskij, M. Rudgalvytė, R. Steponavičienė, M. Grybauskas, D. Sendiulienė*. Evaluation of volumetric intensity-modulated arc therapy and conventional IMRT in head and neck cancer.
12.30-12.45 *Tadas Didvalis, Antanas Vaitkus, Evelina Jaselskė*. Evaluation methods for speed and positioning of Multileaf collimator leaves.
12.45-13.00 *Romualdas Griškevičius, Tautvydas Strioga, Aleksandras Cicinas, Jonas Venius*. Design and development of 3D printed bolus for personalized radiotherapy.
13.00-13.15 *Jurgita Laurikaitienė, Reda Čerapaitė-Trušinskienė, Akvilė Petraitienė, Rūta Adlytė*. 3D Radiation Treatment Planning System "PLUNC" for medical physics students' education.

Time for the lunch 13:15 – 14:00

13.15-18.00 Poster Session. Chair: Dr. J.Puišo

Session 3. Chair: Dr. Birutė Gricienė

- 14.00-14.15** *Sören Mattsson, Maria Christiansson, Christian Bernhardsson.* A passive neutron dosimeter for measurements in mixed neutron-photon radiation fields.
- 14.15-14.30** *Benas Urbonavičius.* New concept of plasmon based detector.
- 14.30-14.45** *Juhan Saaring and Kalle Kepler.* Estimation of peak skin dose in interventional cardiology procedures.
- 14.45-15.00** *Christian Bernhardsson, Maria Christiansson, Theresé Geber-Bergstrand, Jonas Jarneborn, Sören Mattsson, Christopher Rääf.* Assessment of effective dose to an individual carrying materials useful for radiation dosimetry by optically stimulated luminescence.
- 15.00-15.15** *Martins Piksis.* Novel technique for radiation dose visualization in large volume.
- 15.15-15.30** *Antons Drobovičs.* Bringing 3D Tomographic in-vivo animal imaging to LIFE.

Coffee break 15.30-16:00

Session 4. Chair: prof. Sören Mattsson

- 16.00-16.15** *Marius Stašys, Marija Matulionytė-Safinė, Jonas Venius, Ričardas Rotomskis.* Dual imaging tracer Au-BSA-Tc99m biodistribution comparison with conventional BSA-Tc^{99m} in living rats.
- 16.15-16.30** *Mažena Maciusovič, Marius Burkanas, Jonas Venius.* Comprehensive quality control of NMR tomography using 3D printed phantom.
- 16.30-16.45** *Denisas Dankinas, Simona Mėlynytė, Aldona Šiurkutė, Kastytis Dapšys.* Response preparation in shizoffective disorder.
- 16.45-17.00** *Sylwester Bulka.* Industrial accelerator application in the field of environmental protection and food processing.
- 17.00-17.15** *Andrzej Rafalski.* Industrial accelerator application in the field of radiation processing.
- 17.15-17.30** *Andrius Tidikas.* Radioactivity assessment in nuclear fusion reactors.
- 17.30-17.40** *Judita Puišo. Poster overview*
- 17.40-18.10** *Darius Gleiznys, Vinanta Taučė, Matas Daraganas.* Edentulous and overdentures (Overview of challenges and new trends in odontology).

19:15-22:00 Get-together party
Best Western hotel Santaka, Gruodžio str. 21, Kaunas

Saturday, 7 November 2015

09.30 -10.00 Registration of participants at **Kaunas University of Technology, Studentų str.50 - 325F, Kaunas.**

Session 5. Chair: Aleksandr Vodovатов

- 10.00-10.15** *Marius Laurikaitis, Jurgita Laurikaitienė.* Highlights of EUTEMPE-RX project.
- 10.15-10.30** *Erkki Luhama, Kalle Kepler, Mait Nigul, Tiiu Tomberg.* Diffusion tensor imaging and diffusion kurtosis imaging as basis for studying brain tissue microstructure.
- 10.30-10.45** *Ilya Shatskiy, Alexander Vodovатов.* Impact of tube voltage and filtration on pediatric dose during chest radiography.
- 10.45-11.00** *Larisa Chipiga, Ekaterina Shleenkova, Christian Bernhardsson.* Comparison between measured and calculated equivalent doses in CT using anthropomorphic pediatric phantoms.

Session 6 Chair: dr. Marius Laurikaitis

- 11.00-11.15** *Vaidas Jackevičius, Saulius Mickevičius, Diana Adlienė, Saulius Šatkauskas, Severina Paukštytė.* Determination of irradiated cell survival with clonogenic assay.
- 11.15-11.30** *Evelina Jaselskė, Diana Adlienė, Viktoras Rudžianskas, Karolis Jakštas* Free standing polymerized gels and in vivo TLD dosimetry in catheter-based HDR brachytherapy
- 11.30-11.45** *Neringa Vaičiūnaitė, Rimas Šeperys.* Raman spectroscopy of nPAG and nMAG dose gels.
- 11.45-12.00** *Laurynas Gilys, Egidijus Griškonis.* Investigation of optical and X-ray absorption properties of polymeric composites containing sodium tungstate.
- 12.00-12.15** *Judita Puišo, Algimantas Paškevičius, Jurgita Švedienė, Karolis Kazlauskas, Matas Damonskis.* Antimicrobial activities of silver nanoparticles synthesized from Vitis vinifera juice.
- 12.15-12.30** Final remarks: prof. Sören Mattsson

POSTERS

- P01** *Matas Daraganas, Aušra Baltrušaitytė, Vinanta Taučė, Eglė Ivanauskienė.* Post-traumatic Craniomandibular disorders and rehabilitation after of temporomandibular joint head amputation.
- P02** *Vinanta Taučė, Alvydas Gleiznys, Eglė Ivanauskienė, Matas Daraganas.* Maxillofacial Prosthetics: adhesion in congenital cleft lip - palate treatment.
- P03** *Erika Bumblauskienė, Matas Daraganas, Justina Ivanauskaitė, Eglė Ivanauskienė.* Craniomandibular dysfunction duo to the loss of teeth and rehabilitation by restoring vertical dimension.
- P04** *Vinanta Taučė, Alvydas Gleiznys, Eglė Ivanauskienė, Jurgina Sakalauskienė, Matas Daraganas.* Resetting masticatory muscles by „Aqualiser“.
- P05** *Darius Gleiznys, Lina Abraškevičiūtė, Eglė Zdanavičienė, Eglė Ivanauskienė, Jurgina Sakalauskienė, Alvydas Gleiznys.* Biomechanical comparison of implant- supported overdentures based on attachment type.
- P06** *Aira Ragauskaitė, Matas Daraganas, Justina Ivanauskaitė, Eglė Ivanauskienė.* Registration and inarticulation of maxilla position with face - bow and headline systems, comparative analysis.
- P07** *Benas Gabrielis Urbonavičius, Karolis Jakštas, Diana Adlienė, Paulius Ruželė.* Comparison of *in vivo* brachytherapy doses evaluated using TLD rods and TLD “pin worms”: a case study.
- P08** *Mindaugas Malcius, Evaldas Maceika, Aušra Urbonienė, Jonas Marcinkevičius, Feliksas Sakalauskas.* Comparison of different methods to evaluate scattered x-ray radiation dose rate at workplaces with surgical diagnostic x-ray machines.