MEDICAL PHYSICS IN THE BALTIC STATES
13ᵀᴴ CONFERENCE & WORKSHOP PROGRAM (UPGRADED)

Thursday, 9 November 2017

WORKSHOP: **Possibilities and innovations in External Radiotherapy**

Hosting institution: **Republican Šiauliai Hospital, Radiotherapy Department, Darželio str. 10, Šiauliai**

13.30-14.00   Registration of participants at Republican Šiauliai Hospital, Radiotherapy Department, Darželio str. 10, Šiauliai

14.00-14.15   Welcome to the Republican Šiauliai Hospital, Radiotherapy Department
14.15-14.30   *Genadij Aleksejenko, Karolis Jakštas* (Republican Šiauliai Hospital, Radiotherapy Department). New trends and improvements in Radiotherapy department in Republican Šiauliai Hospital.
14.30-15.00   *Lars G Lilja* (C-RAD Positioning AB) Catalyst HD – Surface Tracking System for Positioning, Motion control and Gating.
15.00-15.15   *Romas Vilkas, Rasa Dagienė* (Klaipėda University Hospital) Brachytherapy in Klaipėda University Hospital.
15.15-15.30   *Jurita Laurikaitienė, Trifon Tzirkalov, Todorka Dimitrova, Marius Laurikaitis.* Evaluation of skin dose under bolus for post-operative breast cancer treatment.
15.30-16.00   *Ramune Ulrich* (LAP GmbH Laser) News in LAP product portfolio: easy water family phantoms for QA in radiotherapy
16.00-16.30   Visit to the Radiotherapy Department (Head of department *Jonas Gečas*)

Coffee break 16:30-17.00

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Friday, 10 November 2017

8.30-9.30   Registration of participants at **Kaunas University of Technology, Studentų str. 50–325F, Kaunas**

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9.30-9.45   Conference opening**:** *Giedrius Laukaitis*, *Head of Physics Department,* **Sören Mattsson,** *Lund University, Skåne University Hospital Malmö*, **Diana Adlienė**, *Kaunas University of Technology*

9.45-10.00   *Judita Puišo.* Department of Physics: 95 years with the University of Lithuania

Session 1. Chair: *prof. Diana Adlienė*

10.00-10.30 *Sören Mattsson.* ICRP project "Radiological protection in therapy with radiopharmaceuticals".

10.30-10.45 *Rūta Užupytė, Evelina Visockaitė, Tomas Krilavičius.* Investigation of relation between internal-external markers for respiratory motion conpensation in radiotherapy.

10.45-11.00 *Romualdas Griskevicius, Rita Steponaviciene, Saulius Cicenas, Jonas Venius.* Sparing of perfussion active regions during lung radiotherapy can impove patients quality of life.

11.00-11.15 *Bhargesh K. Shukla, Katharina Spindeldreier, Christian P. Karger, Steffen Greilich, Asja Pfaffenberger.* Magnetic field influence on the response of the Exradin A1SLMR ionization chamber.

11.15-11.45 *Lars G Lilja* (C-RAD Positioning AB) Catalyst HD – Surface Tracking System for Positioning, Motion control and Gating.

Coffee break 11:45-12.00

Session 2. Chair: *Judita Puišo*

12.00-12.15 *Martin Andersson, Lars Herrnsdorf, Sören Mattsson.* IDAC-CAD2VOX - a software for radiation protection calculations for the ICRP reference phantoms which are in an enviorment described by detailed CAD drawings.

12.15-12.30 *Aleksandras Ševčik, Diana Adlienė.* Monte Carlo simulated dose distribution in a human voxel phantom from diagnostic X-ray with visualisation.

12.30-12.45 *Linas Kudrevičius, Andrius Radžiūnas.* Technical overview of gamma knife radiosurgery.

12.45-13. 15 *Ramune Ulrich.* News in LAP product portfolio: easy water family phantoms for QA in radiotherapy

Time for the lunch 13:15 – 14:15

Session 3. Chair: *Kalle Kepler*

14.15-14.30 *Larisa Chipiga, Aleksandr Vodovatov, Irina Zvonova, Christian Bernhardsson.* Assesment of patient doses and possible approaches for implementation of optimization procedures in PET/CT examinations in the Russian Federation.

14.30-14.45 *Ilia Shatskii,* Use of organ dose approach versus effective dose approach in risk assessment for the common radiographic X-ray examinations of children.

14.45-15.00 *Aleksandr Vodovatov, Vladislav Golikov, Irina Kamyshanskaja, Vladimir Cheremysin, Kseniya Yanina, Christian Bernhardsson.* Estimation of effective doses for barium meal fluoroscopic examinations.

15.00-15.15 *Marijus Astrauskas, Marius Burkanas, Arijanda Neverauskienė, Jonas Venius.* Optimisation of low dose computed tomography protocol for diagnostics of developmental dysplasia of the hip using a phantom based noise simulation approach.

15.15-15.30 *Alvar Aasna, Mait Nigul, Kalle Kepler.* Adaptation of ECG-gated non-contrast enhanced magnetic resonance angiography trigger delay technique for patients with high heart rate.

15.30-15.45 *Sofie Ceberg, Diana Adliene and <u>Sören Mattsson</u>.* 3D polymer gel dosimetry for quality assurance in radiation therapy.

15.45-16.00 *Kristina Kristinaitytė, Jonas Ražanskas, Vaida Paketurytė, Nomeda R.Valevičienė, Vytautas Balevičius.* Methods of Sample Preparation for Analysis and Quality Assurance of Prostate MR Spectroscopy.

Coffee break 16.00-16:15

Session 4. Chair: *Aleksandr Vodovatov*

16.15-16.30 *Judita Puišo, Matas Damonskis, David Lopes.* Photon induced synthesis of silver nanoparticles.

16.30-16.45 *Oskars Vilitis, Dmitrijs Merkulovs, Vladimirs Kozlovs.* Measurement of low concentration of nanosized objects in bioliquids by means of refractometric methods

16. 45-17.00 *Tadas Didvalis, Paulius Ruzgys, Saulius Šatkauskas, Diana Adlienė, Saulius Mickevičius.* Cell viability, DNA damage and relative mitotic arrest dependance on ionising radiation dose.

17.00-17.15 *Miglė Staliulionytė, Paulius Ruzgys, Darius Germanas, Saulius Mickevičius.* Evaluation of low-dose neutron irradiation impact on CHO cells

17.15-17.30 *Akvilė Andziukevičiūtė-Jankūnienė, Daiva Mikučionienė, Virginija Jankauskaitė.* Development of complex hypertrophic scars treatment.

17.30-17.45 *Florentina Sederavičiūtė, Jurgita Domskienė, Judita Puišo, Viktorija Vaitkevičienė.* Influence of drying temperature on mechanical properties of bacterial cellulose.

19:00 -22:00 Get-together party

EUROPA ROYALE HOTEL KAUNAS,
Miško g. 11, Kaunas

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Saturday, 11 November 2017

9.30 -10.00   Registration of participants at **Kaunas University of Technology, Studentų str.50-325F, Kaunas.**

Session 5. Chair: *Ilia Shatskii*

10.00-10.15   *Varmo Ernits, Kalle Kepler, Anatoli Vladimirov*. Quantitative quality control measurements of a diagnostic digital x-ray image detector.

10.15-10.30   *Kirill Skovorodko, Birute Griciene, Milda Petkelyte*. Comparison of personnel radiation monitoring dosimeters designed for medical field.

10.30-10.45   *Christian Bernhardsson, Lovisa Waldner, Aleksandr Vodovatov*. Advancements in prospective dosimetry with NaCl read-out by Optically Stimulated Luminescence.

10.45-11.00   *Benas Gabrielis Urbonavičius*. Surface plasmon resonance based dosemeter for fixed geometry measurements *in situ*

11.00-11.15   *Evelina Jaselskė, Diana Adlienė, Viktoras Rudžianskas, Erika Korobeinikova*. Dosimetric characteristics of 3D printed materials

Coffee break 11:15 -11.45

POSTERS: *Kęstutis Akelaitis, Violeta Nevulis-Obuchovska, Jonas Venius.* Interstitial brachytherapy for cervical cancer - a way to better target dose coverage.
Virgilijus Minialga, Robertas Samavičius. Modelling of diamagnetic levitation control of pyrolytic graphite.
Justė Lazauskaitė, Arvydas Kanapickas. Extremely low frequency electric and magnetic fields in passenger cars.
Viktorija Juškaitė. ICT use in the carers' work: technostress.

Session 5. Chair: *Larisa Chipiga*

11.45-12.00.   *Donatas Opulskis, Evelina Jaselskė, Tadas Didvalis*. Evaluation of overlapping doses for gynaecologic cancer patients using semiconductor diodes.

12.00-12.15   *Severina Paukštytė, Benas Gabrielis Urbonavičius*. TLD dose response in different radiation beam qualities.

12.15-12.30   *Diana Adlienė.* Recognition of medical physicists as health professionals in Lithuania

12.30-13.00   *Sören Mattsson.* Fresh impressions from Fukushima, Asia-Oceania Nucleaar medicine in Yokohama and National Institute of Radiological Sciences in Chiba.

13.00-13.15   **Final remarks:** *prof. Sören Mattsson*