
**8TH INTERNATIONAL CONFERENCE & WORKSHOP
“MEDICAL PHYSICS IN THE BALTIC STATES 2010”**

14 - 16 October 2010, Kaunas, Lithuania

CONFERENCE & WORKSHOP PROGRAM (DRAFT)

Thursday, 14 October 2010

13.30-14.00 Registration of participants at
**Kaunas Health University Hospital branch Oncology Hospital,
Volungių st. 16, Kaunas**

Session 1, Chair: Jurgita Laurikaitienė

- 14.00-14.15** Welcome to the Oncology Hospital: *Artūras Andrejaitis, Vice-Director;
Dr. Marius Laurikaitis, Medical physicist.*
- 14.15-14.45** *Tommy Knöös.* Lessons learned from accidents in radiation therapy: How to prevent them?
- 14.45-15.00** *Lina Kasulaitytė, Albert Miller.* IMRT for craniospinal irradiation: challenges and results.
- 15.00-15.15** *E. Jakubovskij, R. Griškevičius, A. Miller.* IMRT commissioning: Comparison of planning and dosimetry in Baltic institutions.
- 15.15-15.30** *Fredrik Nordström:* Methods for quality assurance in radiation therapy.
- 15.30-15.45** *Romas Vilkas, Marius Laurikaitis, Diana Adlienė.* Implementation of the independent dose planning algorithm

15.45-16.00 Coffee break

DOSIMETRY SEMINAR

- 16.00-16.15** *Miglė Šniurevičiūtė.* Quality assurance in brachytherapy.
- 16.15-16.30** *Romas Griškevičius.* Quality assurance of modern radiotherapy procedures.
- 16.30-16.45** *Marius Laurikaitis.* Quality assurance of distance radiotherapy.
- 16.45-17.00** *Tim Thurn (LAP GmbH Laser Applikationen).* Virtual Simulation and Patient Positioning in the field of radiotherapy.
- 17.00-17.45** *Visit to the Radiotherapy department*

18.00-19.00 ANNUAL MEETING OF LITHUANIAN MEDICAL PHYSICISTS SOCIETY

Friday, 15 October 2010

9.00-9.30 Registration of participants at
Kaunas University of Technology,
Studentų st. 50–325Fa., Kaunas

9.15-9.30 Conference opening: *Vytautas Janilionis, Dean of the Faculty of Fundamental Sciences; prof. Sören Mattsson, Lund University, Malmö University Hospital; prof. Diana Adlienė, Kaunas University of Technology.*

Session 2, Chair: prof. Diana Adlienė

- 9.30-10.00 *Sören Mattsson, Marcus Söderberg.* Radiation Dose Management in CT, SPECT/CT and PET/CT techniques.
- 10.00-10.15 *Anatoli Vladimirov, Kalle Kepler.* Analysis of AEC calibration methods for computed radiography by estimating TCDD at different tube potentials.
- 10.15-10.30 *Lada Bumbure, Yuri Dekhtyar, Alexey Katashev, Tatyana Kirsanova, Ella Pacukevich, Lubova Shuvalova.* Digital QA method's calibration in Digital radiography.
- 10.30-10.45 *Hanna Holstein, Marie-Louise Olsson, Anders Tingberg.* Optimization of image quality and determination of effective dose to assisting persons in veterinary radiology.
- 10.45-11.00 *Raju Srivastava, Sofie Gillis, Carlos de Wagter.* Radiographic film: still a viable dosimeter?

Coffee break 11:30-11:45

Session 3, Chair: prof. Carmel J. Caruana

- 11.00-11.15 *Jurga Valančiūnaitė, Ričardas Rotomskis.* Quantum dots as energy donors for photosensitizers: perspectives for photodynamic therapy of cancer.
- 11.15-11.30 *Vytautas Kulvietis, Ričardas Rotomskis.* Accumulation of quantum dots in ehrlich ascites tumour in mice
- 11.30-11.45 *Juras Kišonas, Vytautas Kulvietis.* Spectroscopic study of quantum dots distribution in vivo.
- 11.45-12.00 *Artiom Skripka, Jurga Valančiūnaitė, Ričardas Rotomskis.* Spectral study of the formation of quantum dots and chlorin E6 complex in the presence of protein.
- 12.00-12.15 *Vilius Poderys, Algirdas Selskis, Adelina Ilie, Ričardas Rotomskis.* Ring like TPPS₄ J-aggregate structure.
- 12.15-12.30 *Matulionytė Marija, Vilius Poderys, Ričardas Rotomskis.* Influence of surface coating on CdTe quantum dots stability and interaction with bovine serum albumin
- 12.30-12.45 *Simona Petrošiūtė, Rasa Purvinienė, Vita Pašukonienė, Simona Lukoševičiūtė, Petras Juzėnas, Ričardas Rotomskis.* Characterization of cancer stem cells and their response to CdTe quantum dots.
- 12.45-13.00 *Karolis Stašys, Vitalijus Karabanovas, Ričardas Rotomskis, Mindaugas Valius.* Surface modification of (CdSe)ZnS quantum dots using Thiols – characterization, photo physical and biological studies.

Time for lunch 13:00 – 14:00

Session 4. Chair: prof. Sören Mattsson

- 14.00-14.15** *Maksims Polakovs, Nina Mironova-Ulmane, Andrejs Pavlenko, Tija Zvagule, Natalija Kurjane, Natalija Gabrusheva.* The investigation of Chernobyl clean - up workers' blood by EPR technique.
- 14.15-14.30** *Alevtina Leice, Yuri Dekhtyar, Natalya Britzina.* Behaviour of blood cells being in contact with hydroxyapatite-coated titanium plate within an hour.
- 14.30-14.45** *Andrej Rožkov.* Radionuclide activity determination in medical sources of complex geometries.
- 14.45-15.00** *Ana Usovaite, Dmitrijus Styra, Jelena Stankevič.* Data processing for connection between hard cosmic ray flux variations and human health disorder analysis.
- 15.00-15.15** *Rita Plukienė, Artūras Plukis, Laurynas Juodis, Vidmantas Remeikis.* The radiation safety of educational neutron laboratory
- 15.15-15.30** *Gediminas Adlys.* Theoretical assessment of neutron generation at medical linear accelerator.

Coffee break 15:30-15:45

Session 4. Chair: Prof. Tommy Knöös

- 15.45-16.30** *Carmel J. Caruana.* European commission project guidelines on medical physicists education: proposed qualification and curriculum frameworks.
- 16.30-16.45** *Vojtěch Mornstein, Daniel Vlk, Carmel. J. Caruana.* Teaching of medical physics to medical, dental, health care and biomedical engineering students in the Czech Republic .
- 16.45-17.00** *Daniel Vlk, Vojtěch Mornstein, Carmel. J. Caruana.* Medical physics and biomedical engineering at the Faculty of Medicine, Masaryk University, Brno.
- 17.00-17.15** *Sören Mattsson.* Education and training of medical physicists in Sweden.
- 17.15-17.30** *Kalle Kepler.* Education and training of Medical Physicists in Estonia.
- 17.30-17.45** *Yuri Dekhtyar.* Education and training of Medical Physicists in Latvia.
- 17.45-18.00** *Diana Adlienė.* Highlights from IAEA seminar & workshop "Synergy of nuclear sciences and medical physics: Education and training of medical physicists in the Baltic states". Kaunas, 22-24 September 2010.
- 18.00-18.15** *C.J. Caruana, M. Wasilewska-Radwanska, A. Aurengo, P.P. Dendy , V.Karenauskaite, M.R. Malisan, J.H. Meijer, D. Mihov, V. Mornstein, E. Rokita, E. Vano, M. Weckstrom, M. Wucherer.* EFOMP project 'Biomedical physics education for the medical/health care professions' – an update for FOR MEDPHYS2010.
- 18.15-19.00** **Discussion**

19:30-22:00 Get-together party

Saturday, 16 October 2010

9.00-9.30 Registration of participants at
Kaunas University of Technology,
Studentų st. 50-325F, Kaunas.

Session 6. Chair: prof. Kalle Kepler

- 9.30-9.45** *Joosep Keppler, Kalle Kepler, Tiiu Tomberg, Pilvi Ilves.* Uncertainty in functional magnetic resonance imaging methods for Cortex motor and language area examinations.
- 9.45-10.00** *Carl Siversson.* Early diagnosis of osteoarthritis using contrast enhanced 3-dimensional MRI.
- 10.00-10.15** *Therese Geber, Mikael Gunnarsson, Sören Mattsson.* Dosimetry for the lens of the eye: applications for medical staff involved in interventional radiology procedures.
- 10.15-10.30** *Aušra Urbonienė, Birutė Gricienė.* Extremity and eye lens doses of the interventional radiology and cardiology workers.
- 10.30-10.45** *Agnė Usaite, Julius Žiliukas, Leonidas Krynke, Jonas Marcinkevičius.* Survey of pediatrics patient exposure in radiography examinations.
- 10.45-11.00** *Rita Pikaitė, Jurgita Laurikaitienė, Diana Adlienė.* Patient's dose assessment in digital diagnostic radiography.
- 11.00-11.15** *S. Luchkovsky, I. Kadenko. Yu. Spizhenko.* The assessment of absorbed dose value for calculations of irradiation plan for patients lungs cancer tumors with application of CyberKnife system.

Coffee break 11:15-11.30

Session 7. Chair: prof. Nina Mironova-Ulmane

- 11.30-11.45** *Karolis Jakštas, Miglė Šniurevičiūtė.* Dosimetric comparison between linked and strand seeds for I-125 permanent seed prostate brachytherapy
- 11.45-12.00** *Nikolajus Medvedevas, Diana Adlienė, Jurgita Laurikaitienė.* Distribution of scattered radiation in superficial X-ray therapy.
- 12.00-12.15** *Vaida Pupkaitė, Jurgita Laurikaitienė.* Optimization of 3D and 2D treatment planning for palliative patients with lumbar spine metastasis.
- 12.15-12.30** *Virgilijus Minialga, Rolandas Paulauskas.* Heat dissipation investigation by thermovision.
- 12.30-12.45** *Algimantas Meškauskas.* Radiation impact on polymer structures.
- 12.45-13.00** Final remarks: *prof. Sören Mattsson.*