

MEDICAL PHYSICS IN THE BALTIC STATES 10TH CONFERENCE & WORKSHOP PROGRAM

Thursday, 8 November 2012

“Resent Innovative Radiation Technologies and Dosimetry Methods”

BRACHYTHERAPY SEMINAR

- 15.00-15.20** Registration of participants at **Oncology Institute of Vilnius University, Research Centre, P. Baublio 3B -112 a., Vilnius**
- 15.20-15.30** Welcome to the Oncology Institute of Vilnius University (Science Secretary of VUOI, *Dr. Ernestas Janulionis*).
- 15.30-15.45** *Sören Mattsson*. (Lund University, Skåne University Hospital). Skandionkliniken - Proton therapy opens new ways of cooperation in radiation therapy.
- 15.45-16.00** *Laimonas Jaruševičius*. (Lithuanian University of Health Sciences, Oncology Institute, Oncology and Hematology Clinic, Kaunas). Stereotactic radiotherapy.
- 16.00-16.15** *Romas Griškevičius*. (Oncology Institute of Vilnius University). "IMRT experience in VUOI".
- 16.15-16.30** *Andrius Ivanauskas*. (Oncology Institute, Vilnius University) Prostate Brachytherapy in VUOI.
- 16.30-16.45** *Claus E. Andersen*. (Center for Nuclear Technologies, Technical University of Denmark, Risø, Roskilde, Denmark). In vivo dosimetry with fiber - coupled luminescence detectors.
- 16.45-17.00** *Diana Adlienė*. (Kaunas University of Technology). Gel dosimetry for radiotherapy.
- 17.00-17.15** *Ričardas Rotomskis*. (Vilnius University, Oncology Institute of Vilnius University). Nanotechnological solutions in oncology: possibilities and problems.
- 17.15 -** Visit to the Radiotherapy department and Biomedical Physics Laboratory.

Friday, 9 November 2012

9.00-10.00 Registration of participants at **Kaunas University of Technology, Studentų g. 50–325F, Kaunas**

10.00-10.15 Conference opening: **KTU representative, Vytautas Janilionis, Dean of the Faculty of Fundamental Sciences Giedrius Laukaitis, Head of Physics Department, Sören Mattsson, Lund University, Skåne University Hospital Malmö, Diana Adlienė, Kaunas University of Technology**

Session 1, Chair: prof. John Damilakis

- 10.15-10.45 **Sören Mattsson.** Ongoing work within ICRP and other international organizations in the field of radiological protection in medicine.
- 10.45-11.00 **Maciej Budzanowski.** Miniature thermoluminescent detectors for brachytherapy and clinical use.
- 11.00-11.15 **Diana Adlienė, Karolis Jakštas, Maciej Budzanowski, Viktoras Rudžianskas, Benas Urbonavičius, Arturas Inčiūra.** First results on in vivo TLD dosimetry in brachytherapy of Head & Neck cancer patients.
- 11.15-11.30 **Claus E. Andersen.** Pulsed beam dosimetry using fiber-coupled radioluminescence detectors.
- 11.30-11.45 **Lars Herrnsdorf.** A directly readable personal dosimeter for radiation emergency situations – a design approach.

Coffee break 11:45-12:00

Session 2, Chair: prof. Sören Mattsson

- 12.00-12.15 **Leonid Sukhodub.** Metal nanoparticles and apatite-chitosan nanocomposites and coatings on Ti and Mg substrates for biomedical applications.
- 12.15-12.30 **Agata Mlynska, Vita Pašukonienė, Rasa Purvinienė, Simona Steponkienė, Arūnas Jagminas, Ričardas Rotomskis.** The effect of superparamagnetic iron oxide nanoparticles, (SPION) on human pancreatic and ovarian cancer cells.
- 12.30-12.45 **Jan Aleksander Krasko, Agata Mlynska, Vita Pašukonienė.** Side population and surface marker phenotyping of ovarian cancer stem cells in the light of drug resistance – pilot experiments.
- 12.45-13.00 **Judita Puišo, Irena Mačionienė, Joana Šalomskienė, Dovilė Jonkuvienė.** Silver nanoparticle synthesis using lingon berries juice.
- 13.00-13.15 **Judita Puišo, Leonas Jakevičius, Irena Mačionienė.** Ultrasound assisted synthesis of silver nanoparticles in juniper extract.

Time for the lunch 13:15 – 14:15

Session 3, POSTER SESSION, Chair: dr. Judita Puišo, dr. Claus E. Andersen

- P01 **Nikolajus Medvedevas, Jurgita Laurikaitienė, Diana Adlienė, Artūras Andrejaitis, Reda Čerapaitė-Trušinskienė.** Evaluation of lead eye shielding effectiveness in superficial x-ray therapy using different dosimetrical methods.
- P02 **Igoris Prosyčevs, Diana Adlienė, Žana Kaminskienė, Julija Stonkutė.** Low dose optical dosimeter.
- P03 **L. Aslamova, N. Melenevska, S. Mironichenko, N. Mironichenko, D. Radko, E. Grabovska.** The possibilities of contrast digital improvement in chest screening imaging.

- P04** *Alvydas Gleiznys, Justina Navickaitė, Eglė Ivanauskienė, Jurgina Sakalauskienė.* Limits of complete dentures in presence of high degree atrophy in alveolus process.
- P05** *Alena Feskova, Valery Luhin, Viktor Leontiev, Olga Ignatovec, Elena Manina, Vladimir Titok.* Anticancer properties of the potential radioprotectant secoisolariciresinol diglucoside.
- P06** *Valery Luhin, Alena Feskova, Vladimir Titok, Danila Dubar, Viktor Leontiev.* Investigation of the biological potential of Jerusalem artichoke (*Helianthus tuberosus* L.) for drugs and food additives development.
- P07** *Virgilijus Miniąla, Rolandas Paulauskas.* Thermograms obtained through NaCl Infrared Window.
- P08** *Virginija Jankauskaitė, Karolis Jakštas, Lina Drumstaitė, Indrė Jakimavičiūtė.* Effect of gamma radiation on the properties of polymethylsiloxane rubber.
- P09** *Kaspars Kaprans.* The influence of mobile communications exposure on the human blood cells.

Session 4. Chair: prof. Leonid Sukhodub

- 14.15-14.30** *Justinas Jonušas, Marina Juralevičiūtė, Rūta Araminaitė, Vitalijus Karabanovas, Ričardas Rotomskis.* Characterization of Glutathione – capped CdSe quantum dots.
- 14.30-14.45** *Romualdas Rudys, Saulius Bagdonas, Gailutė Kirdaitė, Jurga Papečkienė, Ričardas Rotomskis.* Fluorescence morphology and fluorescence lifetime imaging microscopy (FLIM) of rabbit knee tissues in the experimental arthritis model.
- 14.45-15.00** *Raminta Marcinytė, Marija Matulionytė, Ričardas Rotomskis.* Stability and Photostability of MES capped gold nanoparticles.
- 15.00-15.15** *Edita Jazdauskaitė, Vytautas Kulvietis, Ričardas Rotomskis.* Combined risk effects of quantum dot nanoparticles exposure and ultraviolet radiation to skin.
- 15.15-15.30** *Sigita Ponelytė, Asta Guobienė, Judita Puišo, Igoris Prosyčėvas, Pranas Narmontas.* Optical detection of skin tumefaction by polymer nanocomposites.
- 15.30-15.45** *Dalia Jasevičiūtė.* Human skin damage reconstruction by physical –chemical methods for crime investigations.

Coffee break 15:45-16:00

Session 5. Chair: dr.Jurgita Laurikaitienė

- 16.00-16.15** *Romas Griškevičius, Lina Kasulaitytė, R. Mickevičius.* Case report: radical radiotherapy planning technique of whole scalp squamous cell carcinoma after surgical failure.
- 16.15-16.30** *A. Plieskienė, T. Daukšas, V. Andrijaitienė, D. Burdulis.* Central nervous system irradiation: toxicity, limitations.
- 16.30-16.45** *Aleksej Grečuk, Romualdas Griškevičius, Jonas Venius.* The use of MRI for the modeling of breathing induced movement during radiotherapy.
- 16.45-17.00** *Laimonas Jarušėvičius, Arturas Inčiūra, Elona Juozaitytė.* Influence of postimplantant dosimetry time on evaluation of Iodine-125 implantation results for prostate cancer.
- 17.00-17.15** *Kinga Polaczek-Grelik.* Induced radioactivity in radiotherapeutic facilities.
- 17.15-17.30** **Poster overview: Dr. Claus E.Andersen and dr. Judita Puišo**
- 18.00-19.00** **Meeting of Medical physicists Society in Lithuania (Best Western hotel “Santaka”, Gruodžio str. 21, Kaunas**

19:00-22:00 Get-together party

Saturday, 10 November 2012

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

Session 6. Chair: dr.Marius Laurikaitis

- 9.30-10.00** *Lars Herrnsdorf.* Review of methods to control patient doses and image quality in various CT techniques.
- 10.00-10.15** *Kristina Kristinaitytė, Birutė Gricienė, Mindaugas Matačiūnas, Algirdas E. Tamošiūnas.* Methods of radiation dose reduction in computed tomography: effect of combined strategies.
- 10.15-10.30** *Svetlana Sarycheva.* Radiation protection of patients undergoing Interventional cardiological procedures.
- 10.30-10.45** *Karolis Jakštas, Igoris Prosyčevas, Diana Adlienė, Jurgita Laurikaitienė, Rita Plaipaitė-Nalivaiko.* Photon attenuation in polymer composites containing tungsten nanoparticles.
- 10.45-11.00** *Gediminas Adlys.* Radiotoxicity dynamics in fission products chains.

Coffee break 11:00 -11.30

Session 7. Chair: prof. D.Adlienė

- 11.30-12.00** *John Damilakis.* The Role of Medical Physicists in the Management of Pregnant Patients Needing Diagnostic X-ray Examinations.
- 12.00-12.15** *V. Grigonienė, A. Čepulienė, F. Sakalauskas, J. Marcinkevičius, J. Žiliukas.* Patient doses due to diagnostic nuclear medicine examinations in Lithuania.
- 12.15-12.30** *Martin Andersson, Lennart Johansson, David Minarik, Sören Mattsson, Sigrid Leide Svegborn.* An Upgrade of the Internal Dosimetry Computer Program IDAC.
- 12.30-12.45** *Andrius Tidikas, Diana Adlienė, Inga Cibulskaitė, Saulius Raila.* Evaluation of dose distribution around Ir-192 brachytherapy source using PENELOPE code.
- 12.45-13.00** *Ünal Ören, Mats Hansson, Sören Mattsson, Christopher L. Rääf.* Using computed tomography and digital radiography of the human body to visualize metal fragments from bomb explosions – A preliminary report.
- 13.00-13.15** **Final remarks (prof. Sören Mattsson)**