



Radiation therapy with synchrotron radiation: achievements and challenges



Workshop

24-25 March 2014 Krakow, Poland

Preliminary Programme

Monday 24 March

09:00 – 09:20 Welcome and Introduction (P. Olko, E. Schültke)

I Session: Biological mechanisms in Microbeam Radiation Therapy. Chairperson: D. Słonina

09:20 – 09:50 Rat Spinal Cord Contusion Injury Subjected to Repeated X-Ray Microbeams Exposures.

A. Dilmanian

09:50 – 10:20 MRT, the effects on vascular compartment. **A. Bouchet**

10:20 – 10:40 Synchrotron microbeams versus Broad beams for brain tumor radiotherapy? **R. Serduc**

10:40 – 11:10 Coffee/Tea break

11:10 – 11:30 Application of the Concept of Biologically Effective Dose (BED) to Patients with Vestibular Schwannomas Treated by Radiosurgery. **J. Hopewell**

11:30 – 11:50 Reduced side effects in a human skin model after irradiations with micrometer sized X-ray and proton beams. **T. Schmid**

11:50 – 12:10 The challenges of clinical MRT against the clock. **D. Hausermann**

12:10 – 14:00 Lunch

II Session: TPS and dosimetry quality control in radiotherapy with SR: developments and challenges. Chairperson: E. Bräuer-Krisch

14:00 – 14:30 Title to be confirmed **U. Oelfke**

14:30 – 15:00 Radiochromic Film Dosimetry in Region with Steep Dose Gradients. **J. Kalef-Ezra**

15:00 – 15:20 A Therapy Planning System for Microbeam Radiation Therapy. **S. Bartzsch**

15:20 – 15:50 Coffee/Tea break

15:50 - 16:10 X-rays from Compton compact sources for medical applications. **M. Jacquet**

16:10 - 16:30 Biological assessment of non-uniform dose distributions and associated cellular effects in complex radiation exposure scenarios. **K. Rothkamm**

16:30 – 16:50 Synchrotron Solaris – New Light for Polish Science. **M. Stankiewicz**

16:50 - 17:10 Synchrotron SOLARIS as a tool for radiobiology and other medical applications.
W. Kwiatek

17:10 – 17:30 Proton Radiotherapy at Bronowice Cyclotron Centre IFJ PAN Kraków, **T. Kajdrowicz**

17:30 – 17:50 Rationale for proton microbeam radiotherapy – preliminary FLUKA results. **M. Klodowska**

17:50 - 18:15 **Wrap up and conclusions**

20:00 **Conference dinner**



Tuesday 25 March

III Session: Dose enhancement and image-guided therapy. Chairperson: B. Sas Korczyńska

- 09:00 – 09:30 Contrast-Enhanced Synchrotron Stereotactic Radiotherapy Clinical Trials: report on the dosimetry and imaging studies performed for the first three patients **J.F. Adam**
- 09:30 – 10:00 Nanoparticles designed for image-guided radiotherapy. **S. Roux**
- 10:00 – 10:20 Heavy metal-based complexes: activity, neurotoxicity and photon activation therapy's effect in human tumour cells. **C. Ceresa**

10:20 – 10:50 Coffee/Tea break

- 10:50 – 11:10 Detector Resolution Effects in Measuring Microstructured Beam Profiles. **B. Stugu**
- 11:10 – 11:30 Thin silicon micro-strip detectors as beam monitoring for micro-beam radiation therapy. **A. Kok**
- 11:30 – 11:50 High-resolution 3D dosimetry for Microbeam Radiation Therapy using Optical CT.
S. Doran
- 11:50 – 12:20 **Wrap up and conclusions (P. Suortti)**