

Fourth Symposium on Precision Image-Guided Small Animal RadioTherapy, Lisbon, March 12-14 2018

Program

Invited speakers:

Keynote speaker: Brian Marples, Miami University, USA

Rebecca Bütof (University Clinic Carl Gustav Carus, Technical University Dresden, Germany)

Chris Vanhove (Ghent University, Belgium)

Jürgen Meyer (University Washington, Seattle, USA)

Susana Constantino (Cardiovascular Center, University Lisbon, Portugal)

Peter van Luijk (University Medical Center Groningen, the Netherlands)

Monday March 12

8.00-9.00	Registration
9.00-9.10	Opening address: P Vaz, A Belchior, F Verhaegen (Lisbon, Maastricht)
9.10-9.55	KEYNOTE ADDRESS (Chair: F Verhaegen) B Marples - The molecular regulation of radiation nephropathy
Setting up radiation studies. Chair: F Verhaegen	
9.55-10.25	INVITED: P van Luijk - Rationale and study design for in vivo studies on normal tissue damage using high-precision irradiation techniques
10.25-10.40	R Endersby - Replicating clinical radiation therapy protocols in preclinical brain tumour models
10.40-11.10	Coffee break
Tumor targeting. Chair: P van Luijk	
11.10-11.40	INVITED: R Bütof - Establishment of orthotopic lung and brain tumors for image-guided radiation therapy with photons and protons
11.40-11.55	K Butterworth - Inhibition of ataxia telangiectasia related-3 (ATR) improves therapeutic index in preclinical models of non-small cell lung cancer (NSCLC) radiotherapy
11.55-12.10	I Grgic - Tumor reoxygenation and image-guided SBRT for the treatment of murine colorectal liver metastases
12.10-12.25	T Hellevik - Optimizing Radiotherapy-Immunotherapy combinations in preclinical models
12.25-12.45	Discussion Session I- Moderators: A Sawant, P van Luijk
12.45-14.00	Lunch
Normal tissue targeting. Chair: R Bütof	
14.00-14.15	R Hill - Preclinical Assessment of Late Gastrointestinal Toxicity with the Addition of Plerixafor to Radiochemotherapy for Cervical Cancer
14.15-14.30	N Melin - Radiation induced liver disease mouse model; a promising step toward understanding of normal liver tissue toxicity
14.30-14.45	L Schyns - Murine versus human tissue compositions: implications of using human tissue compositions for dose calculations in mice
14.45-15.00	M Ghita - Preclinical Characterisation of Radiation Dose-Volume Effects on Early and Late Lung Toxicity
15.00-15.15	J Hannan - Temporally impaired regenerative capacity and increased inflammation and apoptosis in pelvic neurons post-radiation therapy
15.15-15.45	Coffee break
News from the manufacturers. Chair: C Vanhove	
15.45-16.00	P Dejean (PXi)
16.00-16.15	A Treverton (XStrahl)
16.15-16.30	E d'Agostino (DoseVue)
16.30-16.45	R Nilsson (RaySearch)
16.45-17.00	E Trojanova (Advacam)
17.00-17.15	O Kelada (Perkin Elmer)
17.15-17.30	P Granton (SmART Scientific Solutions)
17.30-17.50	Discussion Session II - Moderators: R Bütof, C Vanhove
	Free evening

Tuesday March 13

Tumor targeting. Chair: B Marples	
9.00-9.30	INVITED – S Constantino - Low doses of ionizing radiation induce angiogenesis: benefits, concerns and challenges to health and science
9.30-9.45	A Sawant - Mild hyperthermia as a localized radiosensitizer for deep-seated tumors – Investigation in an orthotopic prostate cancer model in mice
9.45-10.00	M Dolera - Definitive high-dose hypo-fractionated stereotactic brain-sparing irradiation of stage IV canine nasal tumors: a feasibility study and first clinical experiences
10.00-10.15	S Kampfer - What safety margin for PTV creation should be used in preclinical radiotherapy of mice? A first approximation with a well-known margin recipe.
10.15-10.30	A Vaniqui - On the determination of planning target margins due to motion for mice lung tumours using a 4D MOBY phantom
10.30-10.45	S van Hoof - Evofosfamide sensitizes esophageal carcinomas to radiation without increasing normal tissue toxicity
10.45-11.15	Coffee break
Imaging & Novel methods. Chair: P Almeida	
11.15-11.45	INVITED: C Vanhove - Magnetic resonance based small animal radiotherapy in neuro-oncology
11.45-12.00	B Markelc - Combining intravital multiphoton microscopy and image guided radiotherapy to determine the response of tumour vasculature to irradiation
12.00-12.15	M Costa - The potential of photoacoustic imaging as a predictive and monitoring tool in radiotherapy of head and neck tumours
12.15-12.30	F Lallemand - Evaluation of tumor perfusion with IVIM analysis after radiotherapy
12.30-12.50	Discussion Session III – Moderators: B Marples, P Almeida
12.50-14.00	Lunch
Dosimetry&Technology. Chair: A Belchior	
14.00-14.15	A Subiel - Accurate and traceable dosimetry for pre-clinical radiobiological studies
14.15-14.30	B Yalvac - Response of alanine dosimeters to low energy X-rays and small fields
14.30-14.45	A Anvari - Investigating the use of the portal imager as a quality assurance tool for the small animal radiation research platform (SARRP)
14.45-15.00	Y Poirier - Dosimetric consequences of the use of thin filters in modern image-guided small animal irradiators
15.00-15.15	A Hunger - New approaches for studying radiobiological effects of kilovoltage X-rays in vivo and in vitro
15.15 – 15.30	K Sheng - Small Animal IMRT using Double-Focused Sparse Orthogonal Collimators
15.30-16.00	Coffee break
Proton beam studies. Chair: P Vaz	
16.00-16.30	INVITED: J Meyer - Spatially-modulated proton minibeam on the UW radiation platform for preclinical in vivo research
16.30-16.45	E Beyreuther - Establishment of small animal irradiation at University Proton Therapy Dresden
16.45–17.00	I Almeida - Exploring the capabilities of a clinical proton beam with a dynamic collimator for pre-clinical research
17.00–17.15	E Diffenderfer - Design and commissioning of an image-guided small animal radiation platform for proton radiobiology research
17.15-17.35	Discussion Session IV - Moderators: A Belchior, P Vaz
19.00	Symposium Dinner (Restaurant Museu da Cerveja)

Wednesday March 14

Imaging & Novel methods. Chair: A Paulo	
9.00-9.15	L Gano - Multifunctional agent for breast cancer radiotheranostics
9.15-9.30	S van Hoof - A novel preclinical data management platform to improve translational research
9.30-9.45	S Dobiash - Use of the liquid fiducial marker BioXmark for high-precision radiotherapy of an orthotopic pancreatic tumor mouse model
9.45-10.00	R Burkhardt - Optimization of X-Ray Dark-field microCT for Murine Imaging Studies of Radiation-Induced Lung Fibrosis
10.00-10.15	F Silva - Multifunctional Bioconjugated Gold Nanoparticles for Cancer Theranostics
10.15-10.45	Coffee break
Dosimetry&Technology. Chair: J Meyer	
10.45-11.00	F Tillner - μ -RayStation 5: Expanding functionality of a clinical treatment planning system towards application for image-guided small animal radiotherapy
11.00-11.15	M Walb - Quantifying the setup uncertainty of a stereotactic murine system using the image guidance of the X-RAD SmART irradiator
11.15-11.30	M Reinhart - μ IMRT on the SARRP using the motorized variable collimator
11.30-11.45	F Verhaegen - ESTRO ACROP: Technology for precision small animal radiotherapy research: Optimal use and challenges
11.45-12.05	Discussion session V – Moderator: A Paulo, J Meyer
12.05-12.20	P Vaz, A Belchior, F Verhaegen – Best Young Speaker Awards & closing the Symposium

Posters

1. Lallemand	Brain stereotactic radiotherapy damages recorded by Functional MRI
2. Stevenson	Initial Treatment Plan and Delivery Accuracy Assessment of the Small Animal Radiotherapy Research Platform
3. Ye	Complete Response and slight side effect after IMRT for a feline unknown nasal tumor case
4. Khmelinskii	Longitudinal and regional assessment of radiation-induced lung density changes using automated image registration in μ CBCT mouse data
5. van Hoof	Dose painting by combined couch motion and irradiation on an image guided small animal radiotherapy platform