

**Program for the KI-NIRS Joint Symposium on Ion-Radiation Sciences
Stockholm, 10-11 September 2010**

Friday, 10th of September 2010 (Radiumhemmet Lecture Hall, 1st floor)

Special lecture at the Regular Clinical Conference at Radiumhemmet		
Time	Speaker	Title
08:15-08:20	R. Henriksson/A.Brahme	Introduction
08:20-09:05	H. Tsujii	Recent Advances in Carbon Ion Therapy
<i>Coffee break</i>		
KI-NIRS Joint Symposium on Ion- Radiation Sciences		
Time	Speaker	Title
09:20-09:30	Greetings by Tina Dalianis	
09:30-09:40	A.Brahme and H. Tsujii	Welcome Address
Session 1 Treatment facilities and planning (Chairs: H. Tsujii, A.Brahme)		
09:40-10:00	K. Noda	New Treatment Facility Project at HIMAC
10:00-10:20	T. Kanai	New Treatment Facility at Gunma
10:20-10:40	T. Inaniwa	Treatment Planning for Carbon-ion Scanning at NIRS
10:40-10:45	B. Andeassen	Fast IMRT with Narrow Scanned High Energy Photon Beams*
10:45-11:50	<i>Coffee break</i>	
Session 2 Radiation physics and biology (Chairs: N. Matsufuji, B. Lind)		
10:50-11:10	N. Matsufuji	Modeling the Biological Dose Response for Carbon Beams
11:10-11:30	B. Lind	Repairable Conditionally Repairable Damage Model
11:30-11:35	M. Wedenberg	Analytical Description of the LET Dependence of Cell Survival Using the Repairable-Conditionally Repairable Damage Model*
11:35-11:40	L. Antonovic	Cell Survival Modelling for Oxidic and Hypoxic Cells for Light Ions in the Clinically Relevant LET Range Using the RCR Model*
11:40-11:45	P. Vreede	Uniform Tumour Cell Kill and Absorbed Dose with Mixed Modality Light Ion Beams*
11:45-11:50	K. Wiklund	Secondary Electron Productions from Ions - Simulations and Radiobiological Modeling*
11:50-11:55	M. Hultqvist	Characterisation of Radiation Quality and Secondary Dose Distributions in Patients in Light Ion Therapy*
11:55-12:00	T. Liamsuwan	A Model of Carbon Ion Interactions in the Energy Range 1 keV/u to 10 MeV/u in Water*
12:00-13:30	<i>Lunch</i>	
Session 3 Imaging (Chairs: T. Yamaya, I. Toma-Dasu)		
13:30-13:50	T. Yamaya	OpenPET(1): A New Geometry Enabling PET Imaging during Radiation Therapy
13:50-14:10	E. Yoshida	OpenPET(2): Development of a Small Prototype for a Proof-of-Concept
14:10-14:30	S. Mori	Tracking Target Motion
14:30-14:50	I. Toma-Dasu	Treatment Planning Considering Macroscopic Heterogeneity in Sensitivity and Dose Based on PET Hypoxia Imaging
14:50-15:00	A. Brahme	Design of an Open PET System with Therapeutic & Stereoscopic Phase-Contrast X-ray Capabilities
15:00-15:05	M. Lazzeroni	Production of Clinically Useful Positron Emitter Beams during Carbon Ion Deceleration*
15:05-15:20	<i>Coffee break</i>	
Session 4 Biology (Chairs: Y. Furusawa, AE. Meijer)		
15:20-15:40	Y. Furusawa	Biological Background of Carbon Ion Radiation Therapy

*PhD project presentation

15:40-16:00	R. Hirayama	Direct and Indirect Actions to High-LET Radiations
16:00-16:20	Y. Matsumoto	Tumor Metastasis Exposed to High-LET Radiations
16:20-16:40	H. Nikjoo	Track Structure Considerations of Heavy Ions in the Low Dose Effects of Ionizing Radiation
16:40-17:00	M. Edgren	Dose and Time Response of Different Types of Cell Death
17:00-17:10	B. Lind	On the Use of the Interaction Density as a Measure of the Biological Efficiency of Ionizing Radiation
17:10-17:15	R. Taleei	A Mathematical Model for the Non-Homologous End Joining (NHEJ) Repair Pathway*
17:15-17:20	C. Mohanty	Different Modes of Cell Inactivation in Prostate Carcinoma Exposed to High and Low LET Accelerated Ions*
17:20-17:25	K. Zielinska-Chomej	Differences in Cell Inactivation between Various Ions of Similar High LET in Two Different Human Cancer Cell Lines*
17:25-17:40	<i>Coffee break</i>	
	Session 5 Special lecture (Chair: K. Noda)	
17:40-18:00	T. Murakami	Clinical Use and Basic-Science Programs at HIMAC
	<i>Dinner at Kaknästornet</i>	

Saturday, 11th of September 2010 (CCK Conference room 5th floor)

Time	Title			
09:00-09:30	Parallel group discussions			
	Radiation Biology	Clinical Imaging	Physics and treatment planning	Radiation therapy
09:30-09:40	<i>Break</i>			
09:40-10:20	Research Collaboration Discussions in Radiation Biology Moderators: Y. Furusawa and AE. Meijer			
10:20-10:40	Research Collaboration Discussions in Clinical Imaging Moderators: T. Yamaya and C. Jonsson			
10:40-10:50	<i>Coffee break</i>			
10:50-11:20	Research Collaboration Discussions in Physics and Treatment Planning Moderators: N. Matsufuji and B. Lind			
11:20-11:50	Research Collaboration Discussions in Radiation Therapy Moderators: T. Kamada and R. Henriksson			
11:50-12:00	Summary and Conclusions (H. Tsujii and A. Brahme)			

*PhD project presentation