

Newsletter

Number 5, January 2013

- Maastricht Radiation Oncology (MAASTRO), GROW, University Hospital Maastricht, The Netherlands
- Gesellschaft für Schwerionenforschung (GSI), Germany.
- Heidelberger Ionenstrahl-Therapie (HIT), Germany.
- Netherlands Cancer Institute (NKI), the Netherlands.
- University Medical Center Groningen (UMCG), the Netherlands
- University Hospital Ghent (UHG), Belgium.
- University Hospital Aachen, Germany.
- University Hospital Marburg (UHGM), Germany
- University of Oxford (JAI), United Kingdom
- Medical University of Vienna (MUV), Austria
- Paul Scherrer Institute (PSI), Switzerland.
- Centre de Protontherapie d'Orsay (CPO), France.
- National Institute of Radiological Sciences (NIRS), Japan.
- Limburg Oncology Center (LOC), Belgium.
- Massachusetts General Hospital (MGH) Boston, USA
- Madison Memorial Hospital (UOW), Madison, USA
- University hospital Pennsylvania (Upenn), Pennsylvania, USA.
- Liège University Hospital (CHU), Liège, Belgium



We wish all ROCOCO participants a



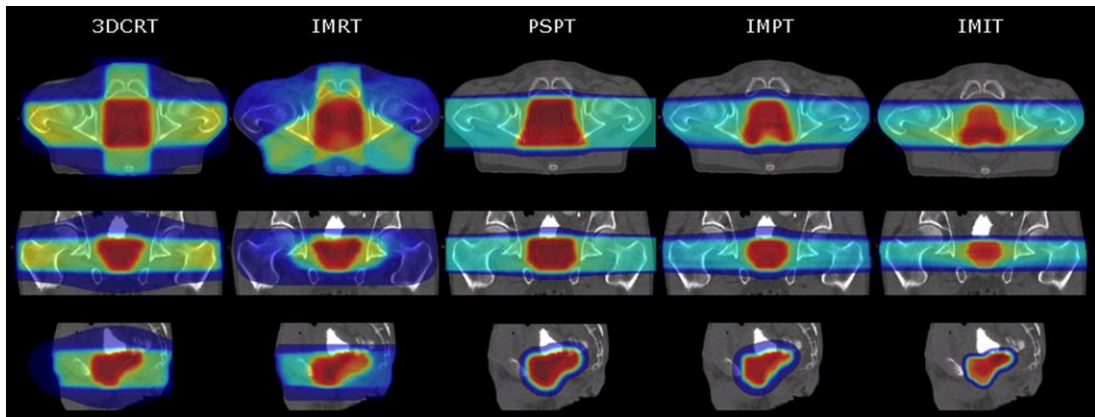
and a fruitful cooperation leading to progressive, innovative ROCOCO results!

News flash

- Resources have been limited the last months, but some progress has been made, nonetheless.
- The ENVISION project is using the MISTIR platform and ROCOCO datasets to study plan robustness to inter/intra-fraction organ motion and other uncertainties in particle therapy. An abstract is to be submitted to PTCOG52.
- The ROCOCO protocol is under reconstruction. Based on the Quantec papers among others, TCP and NTCP model parameters should be updated. Input and knowledge from all participants in order to optimize the new protocol version is welcome (current version; www.mistir.info).
- Prostate analysis is in its final stage. NTCP calculations coming from Oxford as well as those created using the ROCOCO tools are evaluated.
- The in silico planning study for prostate patients injected with a spacer gel between rectum and prostate is in the preparation phase. An image dataset of 6 patients is available. We need more imaging data to gain reliable results. Participants having imaging data available are asked to contact Esther Bloemen (esther.bloemen@maastro.nl).
- Some progress for the lung stage 1 part, comparing state-of-the-art treatment techniques as Rapid Arc, Cyberknife and SBRT has been booked; a successful dummy run was performed.
- Gent uploaded 25 re-irradiation head and neck patients for the re-irradiation head and neck study.

Website (www.mistir.info)

- Now hosting data transfer for the ENVISION project (<http://www.mistir.info/?q=ENVISION>)
- Added ROCOCO presentation given at PTCOG 51, Seoul (KR) 2012 (Oral). It concerned the dosimetric comparison of 25 prostate plans for 3DCRT (MAASTRO), IMRT (UHG), PSPT (MGH), IMPT (MUV) and IMIT-LEM1 (UMR). Overall conclusions were that the best overall performance comes with IMIT, regarding OAR sparing, integral dose and conformity. Dose to the femoral heads was lowest with IMRT, unless the LEM4 model was used for IMIT. This resulted in even lower rectum doses, however maximum dose to the small intestine and sigmoid increased.



Next steps

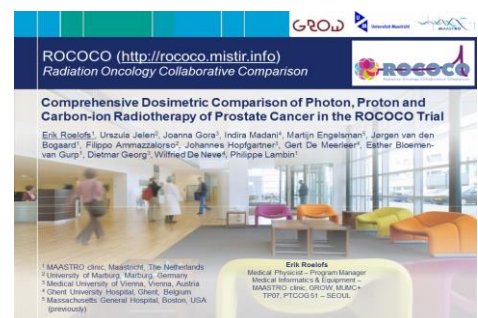
- Prostate: NTCP calculations for 3D-CRT, IMRT, PSPT
- Protons: GSI/UHMG: discuss RBE lung; MUV: IMPT prostate; MUV: delineate ITV prostate (pencil beam).
- Carbon-ions: UHMG/HIT/GSI: Carbon-ion treatment planning for prostate and lung
- Cost efficiency study prostate and lung; Oxford in collaboration with University Maastricht

Scientific publications

- Ramaekers BL, Grutters JP, Pijls-Johannesma M, Lambin P, Joore MA, Langendijk JA. Protons in Head-and-Neck Cancer: Bridging the Gap of Evidence. *Int J Radiat Oncol Biol Phys.* 2012 Dec 27
- Hans Paul van der Laan, Tara A. van de Water, Heleen E. van Herpt, Miranda E.M.C. Christianen, Henk P. Bijl, Erik. W. Korevaar, Coen R. Rasch, Aart A. van 't Veld, Cornelis Schilstra, Johannes A. Langendijk, on behalf of the ROCOCO cooperative group. The potential of intensity-modulated proton radiotherapy to reduce swallowing dysfunction in head and neck cancer. *Acta Oncol.* Jun 19, 2012.
- Hans Paul van der Laan, Miranda E.M.C. Christianen, Hendrik P. Bijl, Cornelis Schilstra, Johannes A. Langendijk. The potential benefit of swallowing sparing intensity modulated radiotherapy to reduce swallowing dysfunction: an in silico planning comparative study. *Radiother Oncol.* Apr; 103(1):76-81 2012.
- Erik Roelofs, MSc, Martijn Engelsman, Coen Rasch, Lucas Persoon, Sima Qamhiyeh, Dirk de Ruyscher, Frank Verhaegen, Madelon Pijls-Johannesma, and Philippe Lambin; on behalf of the ROCOCO Consortium. Results of a Multicentric In Silico Clinical Trial (ROCOCO). Comparing Radiotherapy with Photons and Protons for Non-small Cell Lung Cancer. *Journal of Thoracic Oncology, Vol. 7, Number 1, January 2012.*
- Roelofs E, Persoon L, Qamhiyeh S, Verhaegen F, De Ruyscher D, Scholz M, Iancu G, Engelsman M, Rasch C, Zijp L, Meerleer GD, Coghe M, Langendijk J, Schilstra C, Pijls-Johannesma M, Lambin P. Design of and technical challenges involved in a framework for multicentric radiotherapy treatment planning studies. *Radiother Oncol.* Dec;97(3):567-71, 2010.

Presentations

- Enlight meeting, Valencia (ES) 2009 (Posters)
- ESTRO Physics, Maastricht (NL) 2009 (Oral)
- PTCOG 48, Heidelberg (D) 2009 (Poster)
- ESTRO 29, Barcelona (ES) 2010 (Oral)
- PTCOG 49, Gunma (JP) 2010 (Poster)
- ESTRO 30, London (UK) 2011 (Oral)
- EuroCAT meeting, Aachen (DE) 2011 (Oral)
- PTCOG 51, Seoul (KR) 2012 (Oral)



Conferences (2013/2014)

	conference	when	were	Abstract deadline
1	NPC National proton conference	February 11-14, 2013	Washington DC	
2	PTCOG 52 52nd Annual Conference of the Particle Therapy Co-Operative Group	June 2-8, 2013	Essen, Germany	15 January 2013
3	17th ECCO-38th ESMO-32nd ESTRO European Cancer Congress	September 27th to October 1st, 2013	Amsterdam, Netherlands	17 April 2013
4	ASTRO 2013 annual meeting	September 22-25, 2013	Georgia World Congress Center, Atlanta	February 15, 2013
5	ICTR-PHE	February 10-14, 2014	Geneva, Switzerland	