
PRESS RELEASE

STOCKHOLM, APRIL 12, 2013

RAYSEARCH LICENSES TECHNOLOGY FROM GSI

RaySearch Laboratories AB (publ.) has entered into a license agreement with GSI Helmholtzzentrum für Schwerionenforschung in Darmstadt, Germany (GSI) regarding techniques for calculating radiobiological effective dose in ion beam treatments.

Ion beam therapy is the most advanced form of external radiotherapy where the tumor is irradiated with protons or carbon ions. Compared to conventional radiotherapy, where the tumor is irradiated with photons, the energy deposition of the ion beams can be controlled much more effectively. This means that the radiation dose can be delivered even more precisely and as a result, the unwanted dose to healthy tissues can be reduced, leading to a reduction of treatment-related side effects. However, the biological effect of ions on tissue is different compared to traditional photon beams and this difference must be accounted for during treatment planning for ion beams.

The Biological Modeling research team at GSI, led by Dr. Michael Scholz, has for a long time developed and refined the so called Local Effect Model (LEM) for calculating the relative biological effectiveness during irradiation with therapeutic carbon ion beams. In the LEM model the survival of cells irradiated with ion beams is predicted based on their response to photons. In the nineties the group at GSI pioneered the optimization of radiobiological dose within the framework of the LEM model. The technique is now well established in the field of carbon beam therapy and was in clinical use at GSI for a decade (1997 to 2008) and is currently used at the carbon therapy centers HIT in Heidelberg, Germany, and at CNAO in Pavia, Italy, and soon also at the Shanghai Proton & Heavy Ion Hospital in Shanghai, China.

The new agreement, licensed through the Patent and Technology Transfer department at GSI, gives RaySearch the right to integrate algorithms and know-how from GSI related to the LEM in RaySearch's RayStation® treatment planning system. The LEM and RaySearch's algorithms for dose calculation will be built into the system's module for carbon treatment plan optimization.

"We are happy to have RaySearch as a strong partner in the field of therapy planning systems, and we are confident that this assures continuous support of ion beam therapy centers with state-of-the-art biophysical modelling for treatment plan optimization. We also hope that this represents the starting point for a long-term cooperation that will help to facilitate the translation from cutting edge research to clinical applications", says Michael Scholz, Head of the Biological Modelling research group at GSI.

"GSI is a world leader in development of technologies for ion beam therapy and we are the leading supplier of advanced treatment planning software. We are therefore very excited to collaborate with them and integrate the LEM technology in RayStation®. The first customer that will use RayStation® for planning of carbon ion treatment is the MedAustron center in Austria that is scheduled to start treating patients in 2015", says Johan Löf, CEO of RaySearch.

About RayStation®

RayStation® integrates all RaySearch's advanced treatment planning solutions into a flexible treatment planning system. It combines unique features such as multi-criteria optimization tools with full support for 4D adaptive radiation therapy. It also includes functionality such as RaySearch's market-leading algorithms for IMRT and VMAT optimization and highly accurate dose engines for photon, electron and proton therapy. The system is built on the latest software architecture and has a graphical user interface offering state-of-the-art usability.

About RaySearch

RaySearch Laboratories is a medical technology company that develops advanced software solutions for improved radiation therapy of cancer. RaySearch's products are mainly sold through license agreements with leading partners such as Philips, Nucletron, IBA Dosimetry, Varian and Accuray. To date, 15 products have been launched through partners and RaySearch's software is used at over 2,000 clinics in more than 30 countries. In addition, RaySearch offers the proprietary treatment planning system RayStation® directly to clinics. RaySearch was founded in 2000 as a spin-off from Karolinska Institutet in Stockholm and the company is listed in the Small Cap segment on NASDAQ OMX Stockholm.

For more information about RaySearch, visit www.raysearchlabs.com

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