HYPERBOOST
Boosting the effect of Radiotherapy

What happened since the last Newsletter?

In the previous newsletter we indicated we recruited a new fellow: Artemis Kontogoula. She will introduce herself in this newsletter.

Then, after we had our first face-to-face training week in June/July in the Netherlands (Second training week (June 2022) – Hyperboost), we now also had our third training week, in September in Sweden, you can find a report below.

Third training week

This time the fellows started with the theoretical part of the ESHO school, in the beautiful Kajkanten located on the island Vrångö in the Gothenburg archipelago, September 12-13 2022. After that they attended the ESHO conference and then travelled to Stockholm over the weekend for the RaySearch: advanced radiotherapy planning course organized by our Hyperboost partner; RaySearch Laboratories AB,

(Third training week (Sep 2022) – Hyperboost).

As our fellow, Faezeh Rahimi, again posted a very nice comment on LinkedIn, I will use this to describe their experience;

The refresher part of the #ESHO School 2022, 12-13 Sep, was Organizer in Vrångö island, Sweden by Dr. Hana Dobsicek Trefna. We all enjoyed many scientific and clinical discussions on therapeutic hyperthermia from the past to the future. Presentations and discussions about the critical role of MR thermometry in hyperthermia and paying attention to some mild invasive methods like magnetic hyperthermia sounded very interesting to me.

The fresh and delicious sea foods, nice walks in the delightful weather, and kayaking activity made it an unforgettable school next to the

wonderful Hyperboost fellows and all other groups of the Chalmers University of Technology, Erasmus MC, Eindhoven University of Technology, Amsterdam UMC, etc.

Then we understood that was a very nice warm-up for preparing us for the wonderful #ESHO2022 conference in Gothenburg, Sweden.

ESHO conference

During the ESHO conference, Spiros Karkavitsas gave his first oral presentation regarding MR Thermometry in hyperthermia.

Congratulations for Folefac Charlemagne Asonganyi (Aarhus University, (shown below with his supervisor Michael Horsman). During the ESHO conference in Sept 14-17, 2022 Gothenburg, he presented some of the preliminary results from his project titled 'Rationale for combining stereoactic radiation with hyperthermia' with the main focus on how they can use hyperthermia temperature as defined by hyperboost to enhance radiation which is delivered in a higher dose per fractions (Stereotactic). Folefac won one of the Young Investigator awards that were sponsored by Pierfrancesco Pavoni of MedLogix, Andreas Jordan of MagForce and Paul van den Biggelaar of Sensius.

Artemis Kontogoula

I am Artemis (always appreciate it when people call me Ártemis instead of Artémis) and I am coming from the beautiful city of Athens, Greece. I have a strong background in physics, since I obtained my bachelor's in Greece and master's degree in Germany in the field. I always found fascinating how the science of physics can be used for improvement of the quality of life. That is the reason I focused my studies on medical physics.

Currently I am in Rome, working at Medlogix, as a fellow of the Hyperboost project. Hyperthermia in synergy with radiotherapy, can achieve great results in shrinkage or even killing the malignant cells. For that reason, it is necessary to calculate the biological effects and equivalent dose, resulting from both treatments. My task is to develop a clinical user interface, that offers the possibility to integrate these two separate user interfaces into a single one, including all necessary features for a correct estimation of the effective dose distributions.

Not only the project is exciting to me, but also the opportunity to move back to the south of Europe. Let's be honest, dealing with the moodiness of North is not easy. The transition was very fast and not smooth, but I believe the city, the people and the food will be a big reward. Mamma mia! How wrong can life go in a country full of pizza, pasta and gelato!

Through Hyperboost, I have the privilege to be surrounded by people that love their job and work hard for the evolution and expansion of Hyperthermia. At the same time, getting in touch with the 13 ESRs and experts having multidisciplinary backgrounds with a common goal, is making the project very exciting. I believe, being part of Hyperboost is going to help us all evolve as scientists but also as humans. Overall, I am here, ready for the challenges, the lessons, the friendships, the collaborations and the travels.

New Hyperboost publications

- Kok HP, van Rhoon GC, Herrera TD, Overgaard J, Crezee J. Biological modeling in thermoradiotherapy: present status and ongoing developments toward routine clinical use. Int J Hyperthermia. 2022;39(1):1126-1140. doi: 10.1080/02656736.2022.2113826.
- Riesterer O, Ademaj A, Puric E, Eberle B, Beck M, Gomez S, Marder D, Oberacker E, Rogers S, Hälg RA, Kern T, Schwenne S, Stein J, Stutz E, Timm O, Zschaeck S, Weyland MS, Veltsista PD, Wyler S, Wust P, Scheidegger S, Bodis S, Ghadjar P. Tetramodal therapy with transurethral resection followed by chemoradiation in combination with hyperthermia for muscle-invasive bladder cancer: early results of a multicenter phase IIB study. Int J Hyperthermia. 2022;39(1):1078-1087. doi: 10.1080/02656736.2022.2109763

For more information on the network and topics/input for the next newsletter please contact the project manager (Laurian Jongejan);

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Consortium Member	Short Name	Dept./Division/Laboratory
Beneficiaries		
Academic Medical Center Amsterdam, The Netherlands	AMC	Dept Radiotherapy and Center for Experimental Molecular Medicine
Aarhus University, Denmark	AU	Dept Experimental Clinical Oncology
University of Zurich, Switzerland, grantholder for Cantonal Hospital Aarau	UZH	Radio-oncology Department
Universitäts-klinikum Erlangen, Germany	UKER	Department of Radiation Oncology
Zurich University of Applied Sciences, Switzerland	ZHAW	Institute of Applied Mathematics and Physics
Dr. Sennewald Medizintechnik GmbH, Munich, Germany	SMT	Expertise: devices for hyperthermia
Medlogix Rome, Italy	ALBA	Expertise: devices for hyperthermia
Charité – Universitäts-medizin Berlin, Germany	CUB	Department of Radiation Oncology
Chalmers University of technology Göteborg, Sweden	CUT	Signals and systems
Erasmus Medical Center Rotterdam, The Netherlands	EMC	Department of Radiation Oncology
Max-Delbrück Center for Molecular Medicine in the Helmholtz Association, Berlin, Germany	MDC	Berlin Ultrahigh Field Facility
Partner Organisations		
Duke University Medical Center, USA	DUMC	Dept of Radiation Oncology
European Society for Radiotherapy & Oncology	ESTRO	Education and Science
European Society for Hyperthermic Oncology	ESHO	n/a
RaySearch Laboratories AB (publ), Stockholm, Sweden	RAY	Chief Science Officer
University of Amsterdam	UvA	Doctorate Board, Rector's Office
MRI.Tools GmbH	MRIT	Chief Science Officer