3rd ESTRO Physics workshop: Science in development

25-26 October 2019, Budapest, Hungary

Clinical applications and quality assurance of surface guided radiation therapy (in collaboration with AAPM)

Chairs: Vania Batista & Hania Al-Hallaq

Motivation:

Surface guided technologies are increasing in use in routine clinical radiotherapy for different purposes (patient positioning, breathing monitoring and/or beam gating). However, no clear guidelines or recommendations are available, especially regarding the commissioning and implementation process, staff training, quality assurance and clinical applications.

Currently, each facility uses the vendors' recommendations, literature research and networking with other facilities to define acceptance criteria, patient cohort, and quality assurance requirements.

Although this technology is not new, the bridge between research and how to implement it into the routine clinical work is missing, especially for RTT ground training and clinicians' concepts, where the workflow needs to be adapted and new clinical thresholds are demanded.

The aim of this workshop is to bring together medical physicists and researchers working with SGRT technologies in order to:

1. Define the main issues and tasks associated with the introduction of SGRT;
2. Share experiences of the commissioning and implementation of a quality assurance program;
3. Discuss methods to perform quality assurance and set thresholds;
4. Define the main clinical indications where SGRT might be beneficial. Set priority ranking and clinical parameters to be assessed;
5. Evaluate the inherent risk of the introduction of new technology into the clinic (e.g. RTT workflows, clinicians' prescriptions, clinical thresholds).

This being a workshop we want to encourage an active participation and interaction between the participants to foster collaboration and networking. For that reason, participants will be requested to prepare a short presentation (a pitch) to present their research in the field allowing identification of common points of interests and share experiences.

Outcome:

The potential outcome of the workshop would be to define recommendations for the commissioning and quality assurance of a SGRT system. Moreover, based on the clinical experience of the participants, the major concerns and uncertainties that need to be clarified before the clinical application of this technology would be assessed

Day 1	**Friday 25 October**
08:00	Registration opens
09:00-09:15	Introduction of the meeting: **Núria Jornet,** Overall Chair of workshop (All)
09:15-10:00	Opening lecture All participants • **Robert Jeraj** - *Medical physics got stuck in a box - how to get out*
10:00-10:30	Coffee
10:30-11:30	Introductions/Goals – Vania Batista & Hania Al-Hallaq
11:30-12:30	Commissioning and quality assurance – Vania Batista (15min)
12:30-13:30	**Lunch**
13:30-15:30	Workflows for clinical implementation - **Daniel Zucca Aparicio** (15min)
15:30-16:00	Coffee
16:00-17:00	Wrap up of the different topic workshops (12 min per topic) All

Day 2	**Saturday 26 October**
08:00-10:00	Potential research avenues – **Christoph Bert** (15min)
10:00-10:30	Coffee
10:30-12:30	Overcoming the learning curve - **Malin Kügele** (15min)
12:30-13:30	**Lunch/commercial symposia**
13:30-14:30	Workshops: Discussion on next steps; take home messages; identify open issues for further research
14:30-15:30	Wrap up: highlights of the different workshops (12 min per topic) All
15:30-15:45	Closure