



# PHYSICS

## 2022 ESTRO Physics Workshop: Science in Development

7 - 8 October 2022, Lisbon, Portugal

### Introduction

The physics workshops are designed to create forums for discussion of topics of interest, the sharing of ideas, the development of joint projects and interaction with industrial partners. The workshops were set up in 2017 to enable small numbers of people to come together to focus on specific 'hot' topics and how to move them forward.

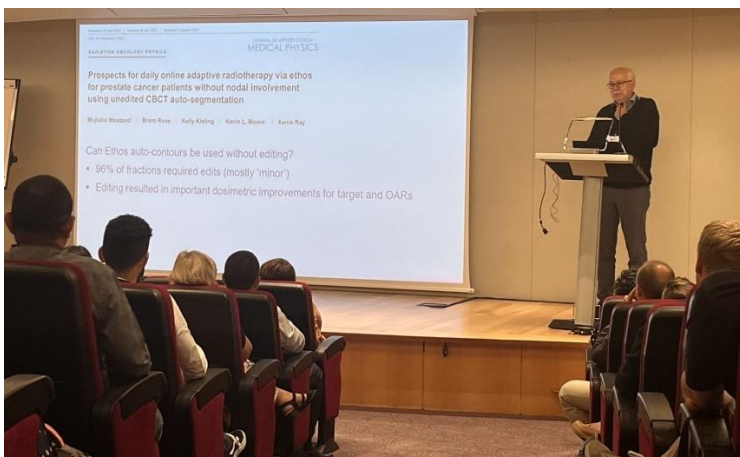
We have now reached our fifth edition and, as previously, we have had five exciting topics:

- ❖ Re-irradiation: improving dose summation for plan optimisation, evaluation, and outcome analysis [>>>](#)
- ❖ Joint DREAM (dose-response, experiment, analysis, modelling): a physics and radiobiology workshop [>>>](#)
- ❖ Justification and optimisation of kV imaging in image-guided radiation therapy [>>>](#)
- ❖ Particle arc therapy: from concept to clinical reality [>>>](#)
- ❖ Next-generation MR-guided radiotherapy: artificial intelligence (AI) applications for planning and image guidance [>>>](#)

This year we were able to return to the usual format of meeting for two days in a hotel; however, building on our online experience from last year, we integrated some online activity into the system beforehand to set the balls rolling. A total of 150 delegates attended the workshop; this figure included speakers, chairs and participants from industry.

The workshop began with our keynote speaker, Professor Ben Heijmen, who gave a scintillating and very entertaining talk entitled "Computers - lifesavers for medical physics and medical physicists?!"

He spoke about the role that computing has played in radiotherapy and the key aspects that it has facilitated. He then considered how automation and AI would change how we do things, not just in radiotherapy, but in our integrated lives. Along the way, we learned more about how Ben likes to relax by listening to music and the various options that the algorithm in YouTube offers him, not all of which impressed him!



### Prof Ben Heijmen giving the keynote address

After this inspiring start, the participants spent time within their individual topic groups, but they met up again for meals and breaks to enhance their networking opportunities.

During the workshop, 97 participants heard from 32 invited speakers. All the participants gave introductory pitches and engaged in discussions. The proposed outcomes range from the production of guidelines, vision papers, surveys, cohorts of clinical cases, recommendations for vendors, and ideas for future workshops. So, watch this space for more activity!



*The participants at the fifth workshop*

This successful series will be continued with the 6th workshop, which is planned to be held in October 2023. The call for ideas is now open here (<https://www.surveymonkey.com/r/9NZDB85>), so get your thinking caps on, and if yours is selected, you can become the chair of the topic in this next workshop. The deadline is 31st December 2022. Looking forward to seeing you at the 6th workshop!



**Catharine Clark**

Chair, ESTRO Physics Committee and Fifth Physics Workshop

