Time to Adapt course and subsequent hospital visit in Olbia, Sardinia

I attended the course Time to Adapt – Adaptive School for Medical physicists, which was a comprehensive course on adaptive radiotherapy (ART). The 2-day lecture series covered many topics including clinical needs and perspective for ART, synthetic CT (sCT) reconstruction, autoplanning and biologically guided ART. The last day was a day of hands-on sessions, where we had the opportunity to try available software from different vendors, which have been created for adaptation, whether it is sCT creation, autoplanning or workflow automation. The course was immensely informative and gave me a wonderful opportunity to network with major researchers in adaptive RT.

Following the course, I spent a couple of days at the hospital Mater Olbia (where the course was organized) watching their adaptive MR-guided workflow on the MR-Linac machine as well as consulting with my external supervisor Dr. Cusumano. The observation of MR-guided workflow was very interesting, as my PhD project focuses on the validation of MR-generated synthetic CTs, which are the next step in this particular process. Currently, the MR-Linac uses the simulation CT to create an electron density map, but a prominent research direction is looking to employ the generation of synthetic CTs for this process and skipping simulation entirely, saving time and dose to the patient. However, the possibility to spend a couple days with Dr. Cusumano was the greatest benefit of all. I was able to get started on generating synthetic CTs from the MESCAL dataset using software created by MVISION (one of the vendors I was able to connect with during the course). MESCAL is a keystone project in the validation of MR-generated synthetic CTs and Dr. Cusumano is its primary author and research lead.

To summarize, in just a few days in Olbia, I have learned from leading researchers on all aspects of ART, connected with an important vendor about using their license for sCT generation, and connected with my external supervisor and shared data as well as devised a solid plan on the direction of my PhD project. I am deeply grateful to PIANOFORTE for the financial support which allowed me to attend this course and visit Olbia.

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