

Dose Calculation and Verification for External Beam Therapy

Dublin, Ireland
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Course Director:... **Associate Professor Dietmar Georg**

Dublin, the vibrant capital of Ireland hosted the 10th course on Dose Calculation and External Beam Therapy.

With 86 participants from more than 30 countries throughout Europe and from as far away as Australia, New Zealand and Ghana, this means that almost one thousand participants from more than thirty countries have now benefited from the programme over the years.

When you say that you have been in Ireland, you will probably be asked what the weather was like. I think we would all agree that it was ... “quite Irish”, with each of the four seasons putting in an appearance during our five day stay. But it did not prevent us standing under a sunny blue sky for the group picture! The course took place away from the city centre which was an effective way of preventing our over-indulgence in the local beverages! The audience was attentive and participative from early in the morning and there were no dancing « *leprechauns* » during the teaching sessions!

J. Izewska reviewed the basic concepts of IAEA dosimetry protocols from air to water and following this, A. Ahnesjö, J. Olofsson and M.M. Aspradakis covered the difficult subject of dose calculation. This was taught in a didactic and comprehensive manner and none of the necessary rigour was sacrificed. The algorithms (kernel based and the mythic Monte Carlo) were clearly explained and, of even greater importance, their application and validity were clearly stated.

D. Georg covered the factor-based model for MU calculation referring to ESTRO booklets 3 and 6. We learned to apply this model during friendly practical sessions and the advantages and limitations of the methodology were clearly explained.

The social event, held in downtown Dublin next to the Liffey river, offered us the opportunity to taste the local specialities, listen to country style music and enjoy the remarkable performance of Irish step dancers. I expect many of us imagined what it would be like to be able to dance like that!

For me, the fourth day was the most valuable for my day-to-day work. In the context of IMRT, the classical approach to dose verification had been well covered by J. Olofsson and D. Georg, but following this B. Mijnheer presented an innovative method, developed at NKI, based on the patient exit dose recorded by the a-Si EPID signal. We hope that the entire community will soon benefit from this very impressive development.

We also much enjoyed the guest presentation from the local organiser, B. McClean, who talked about a multi-centre research project involving Dublin, Vienna and Lund that is looking at the effects of altering the treatment head of the Linac. In the preceding days

we had learnt about the difficulties that some models can have in dealing with the off-axis beam softening generated by the flattening filter and the advantage of removing this piece of equipment became quite clear in the context of intensity modulation techniques where the need for an homogeneous field becomes less crucial.

The last day was highly charged with emotion. The participants expressed their sincere thanks to the Course Director, B. Mijnheer who announced that he has decided to retire from this course. Fortunately, he will continue to be involved in the production of the ESTRO booklets. He has been a teacher from the very first session on the first course and his clarity and precision have been greatly appreciated not only by us but also by generations of physicists and radiation oncologists who have attended. After so many years of active participation simply: "*merci Ben*"!

On behalf of all the participants, we say thank-you to all the teaching staff for the quality of your presentations, your clear explanations and your permanent availability, all of which were very much appreciated. And to the Course Director, D. Georg, our special thanks for the efficient way in which you ran the course which made this event a real success.

And finally, to Viviane and Dominique, the ESTRO course co-ordinators, we are most grateful for your discretion, elegance and efficiency and for making everything run so smoothly.

Pierre Pilette
Gilly, Belgium