



# SCHOOL

## Course Report

### Advanced Physics for Brachytherapy

9-12 October 2022, Athens, Greece

#### Course directors:

- Dimos Baltas, physicist, University of Freiburg, Freiburg, Germany
- Panagiotis Papagiannis, physicist, National and Kapodistrian University of Athens, Athens, Greece

#### Could you please briefly introduce yourself?

My name is Apostolos Raptis and I am a medical physicist from Karolinska University Hospital, which is in Stockholm, Sweden. I work in the brachytherapy department and I am in the second year of my specialist training.

#### Why did you choose to attend this course?

Attendance at courses that are included in the curriculum of the European Society for Radiotherapy and Oncology (ESTRO) School is a prerequisite to completing the specialist training successfully. At the same time, I constantly strive to improve our clinical methods, which requires deep knowledge of the basics and up-to-date information about the state-of-the-art equipment that the industry has to offer. Luckily, this course combined both aspects.

#### What aspects of the course were most interesting to you and why?

The practical sessions were principally demonstrations of the functions that exist in the market's two most popular treatment planning systems (TPSs). We use both in our department, for different diagnoses. Therefore I was acquainted with almost all the basic tools. My main interest was to ask specific questions that arose from the scenarios that we worked with during the practical sessions. The instructors constantly impressed me with their on-point answers.

#### Did the course activities improve your knowledge and skills in the relevant subject?

The specific areas in which our clinical operation is falling behind were covered in detail. The course motivated us to start to develop and implement certain procedures that we have not used before.

#### Did the course meet your expectations? If so, how?

As a brachytherapy physicist with some experience in a wide variety of treatment techniques, I found that the level of knowledge and expertise among the teachers was higher than I had expected. I received satisfying answers for every question asked. Therefore I can say with certainty that the course met my expectations.

#### List three important takeaways following the course.

- In-vivo dosimetry and verification of source position are the future of brachytherapy treatments.
- Advanced algorithms that take into account modern hardware during calculation of doses are more realistic for everyday clinical use than algorithms used previously.
- Today's TPSs employ sophisticated tools that help to ease the entire workflow.

## How will what you have learned be implemented in your daily clinical practice?

The lecture on the evaluation of dose plans highlighted the importance of having metrics and equations that could determine the relative homogeneity of a prostate brachytherapy plan. Having dealt with many prostate treatments, I was very pleased to be able to translate to a mathematical formula what could be seen with the naked eye and could be evaluated with a lot of experience. I will brief my colleagues regarding this method and we will develop a process to implement it.

## How would you encourage someone who has never been to an ESTRO course to join this one?

Each course that I have attended thus far has been intended both for newcomers to the brachytherapy field and for more experienced physicists. The former have the opportunity to get acquainted with the most important theoretical and practical aspects of each treatment, and the latter are able to expand their knowledge and ask direct questions of the experts who give the presentations or demonstrate the equipment.

Overall, the conversations that take place between the teachers and the participants provide invaluable insight into the details of each subject, which otherwise would go undiscussed for want of opportunity.



### **Apostolos Raptis**

Medical Physicist  
Karolinska University Hospital  
Stockholm, Sweden  
[apostolos.raptis@regionstockholm.se](mailto:apostolos.raptis@regionstockholm.se)

