



# PHYSICS

## Mining the radiotherapy dose: exploring dose-response patterns in radiation therapy

*Chairs: Alan McWilliam, Laura Cella and Giuseppe Palma*

### *What is the topic of this workshop?*

The topic of our workshop is the discovery of all key aspects regarding the new voxel-based analysis (VBA) approach to the exploration of dose-response patterns in radiation therapy. This approach enables us to exploit fully the complete information that is included in the three-dimensional dose distributions.

### *Why should I sign up to this workshop?*

The momentum of technological change in radiation therapy during the last decade poses challenges in outcome modelling and emphasises the limit of traditional toxicity analysis that is based on dose-volume histograms and of the normal tissue complication probability modelling philosophy. The time is now ripe to foster the use of a VBA philosophy in the radiation oncology community in order to take another step towards the identification of optimum treatment strategies for each patient.

### *What do you expect the outcome of the workshop will be?*

This is intended to be a think-tank and a driving force for the creation of a VBA community within ESTRO. We expect to establish a network that will open new routes to a common, standardised methodology and that will ensure clinical validation and adoption. We plan to produce a joint consensus paper as a first result of the workshop.

*Twitter handles: @al\_mcwilliam and @RT\_physics*



**Alan McWilliam**

The University of Manchester &  
The Christie NHS Foundation Trust  
Manchester, UK



**Laura Cella**  
Institute of Biostructures & Bioimaging  
National Research Council (CNR)  
Naples, Italy



**Giuseppe Palma**  
Institute of Biostructures & Bioimaging  
National Research Council (CNR)  
Naples, Italy

