ESTRO School

SCIENTIFIC PROGRAMME

Teaching Course on

Quantitative Methods in Radiation Oncology: Models, Trials and Clinical Outcomes
Vienna, Austria

Time	Day 1 – Sunday 7. Dec.	Day 2 – Monday 8. Dec.	Day 3 – Tuesday 9. Dec.	Day 4 – Wednesday 10. Dec.
8:15-8:30		*Summary & intro*	*Summary & intro*	*Summary & intro*
8:30-9:15	*Intro – Quantitative radiation research (SMB)*	*Sample size & power (IRV)*	Guest Lecture I *(DG)*	*Models in Clinical Decision Support: from nomograms to Bayesian network (PL)*
9:15-10:00	*Hypothesis testing (IRV)*	*Cox PHM (SMB)*	*Comparing technologies (JAL)*	*Clinical utility of models (JAL)*
10:00-10:30	*Coffee/tea*	*Coffee/tea*	*Coffee/tea*	*Coffee/tea*
10:30-11:15	*Survival statistics (SMB)*	*Dose-response models (IRV)*	*Monte Carlo/bootstrapping (FMB)*	Guest Lecture II *(RP)*
11:15-11:45	*Interactive discussion*	*Interactive discussion*	*Interactive discussion: biological or dosimetric treatment planning objectives?*	*Interactive discussion – are models better than no models?*
11:45-12:30	*Endpoints for treatment effect (JAL)*	*NTCP (PvL)*	*Parameter estimation/model fits (PvL)*	*Analysis of dense data sets (FMB)*
12:30-13:30	*Lunch*	*Lunch*	*Lunch*	*Lunch*
13:30-14:15	*Imaging endpoints (PvL)*	*Clinical trials in Radiation Oncology (JAL)*	*A practical example: Fitting data, the bootstrap*	*Meta-analysis (IRV)*
14:15-15:00	*Quantitative image analysis (PL)*	*Rapid learning (PL)*	*Quantifying risks in clinical and epidemiological studies (FMB)*	*Pitfalls (SMB)*
15:00-15:30	*Interactive discussion: endpoints for treatment effect?*	*Interactive discussion: when do we need randomization?*	*Interactive discussion*	*Interactive discussion*
15:30-16:00	*Coffee/tea*	*Coffee/tea*	*Coffee/tea*	*Coffee/tea*
16:00-16:45	*Practical exercise:*	*Interactive data analysis*	*Meet-the-professor*	*Course evaluation – END*
16:45-17:30	*Break-out + plenary discussion*			

Faculty: Søren M Bentzen, Francesca M. Buffa, Philippe Lambin, Johannes A. Langendijk, Peter van Luijk, Ivan R. Vogelius
Guest lecturers 2014: Richard Pötter and Dietmar Georg