

SCIENTIFIC PROGRAMME

Course Directors

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Guest Lecturer

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DAY 1 – SUNDAY 19 MAY

Time	Lecture	Speaker
	Introduction	
09:00 – 09:30	Introduction to course and Faculty	TK/BMcC
09:30 - 10:30	Basic concepts, definitions, cavity theory, convolution, superposition ray trace, fluence and the Boltzmann transport equation etc	CC
10 :30 –11:00	<i>Coffee break</i>	
	Input Data	
11:00 – 12:00	Linac head design	TK
12:00 - 13:00	Multisource models part I	AA
13:00 – 14:00	<i>Lunch break</i>	
14:00 – 15:00	Multisource models part II	AA
15:00 – 15:45	Patient modelling	BMcC
15:45 – 16:15	Practical exercises – Basic physics concepts	AA/CC

DAY 2 – MONDAY 20 MAY

Time	Lecture	Speaker
09:00 – 09:30	Recap and MCQ for Sunday lectures	
09:30 – 10:20	Dose measurements; Part 1 The best detector for different jobs – detectors for <i>input data collection</i>	NJ
10:20 – 10:50	<i>Coffee break</i>	
10:50 – 11:35	Small fields: Measurement challenges	MMA
	Modelling	
11:35 – 12:20	Point Kernels for dose calculations	AA
12:20 - 13:20	<i>Lunch break</i>	

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13:20 - 14:20	Pencil Kernels for dose calculations	AA
14:20 - 15:05	Electron modelling I	TK
15:05 - 15:35	<i>Coffee break</i>	
15:35 - 16:05	Electron modelling II	TK
16:05 - 16:50	Small field Modelling problems/issues	MMA
16:50 - 17:05	Practical exercises - Small fields	MMA/TK

DAY 3 - TUESDAY 21 MAY

Time	Lecture	Speaker
09:00 - 09:30	Recap and MCQ for Monday lectures	
09:30 - 10:15	Dose to medium and/or water - review of management in common TPS	TK
10:15 - 10:45	<i>Coffee break</i>	
10:45 - 11:15	Deterministic solution of the Boltzmann Linear Transport equation - A Numerical Grid Based Approach	CC
11:15 - 12:15	MU calculations - factor-based models	MMA
12:15 - 13:15	<i>Lunch break</i>	
13:15 - 13:45	MU calculations in some TPSs	MMA
13:45 - 15:15	Practical Exercises - Head scatter	MMA/AA
15:15 - 15:45	<i>Coffee break</i>	
15:45 - 16:30	Practical Exercises - Point kernels	MMA/AA

DAY 4 - WEDNESDAY 22 MAY

Time	Lecture	Speaker
	Verification	
09:00 - 09:30	Recap and MCQ for Tuesday lectures	
09:30 - 10:15	Uncertainties and action levels	BMcC
10:15 - 10:45	<i>Coffee break</i>	
10:45 - 11:45	Dose measurements; Part 2 The best detector for different jobs - detectors for <i>verification measurements</i>	NJ
11:45 - 12:30	Methods for Data Comparison - TG 218	TK
12:30 - 13:30	<i>Lunch break</i>	
13:30 - 14:15	Phantoms for verification and PSQA	CC

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14:15 – 15:30	PSQA including in-vivo dosimetry, EPID...	NJ
15:30 - 16:00	<i>Coffee break</i>	
16:00 – 16:45	Out of field dose verification	BMcC
16:45 – 17:15	Practical exercises – Measurements and PSQA	NJ/BMcC

DAY 5 – THURSDAY 23 MAY

Time	Lecture	Speaker
	<i>Summing up</i>	
09:00 – 09:30	Recap and MCQ for Wednesday lectures	
09:30 – 10:15	TPS Commissioning and periodic QA	NJ
10:15 - 10:45	<i>Coffee break</i>	
10:45 – 11:30	Guest lecture – Assessment of dose plan quality in radiotherapy	Tiago Ventura
11:30 – 12:00	Dose and volume metrics	BMcC
12:00 – 12:30	Probabilistic planning and margins	CC
12:30 – 13:00	Final Course Recap	All