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	November 2018	March 2019	Both weeks
Lectures & practicals	**£750.00**	**£750.00**	**£1250.00**
External PhD Students	**£400.00***	**£400.00***	**£700.00***
Individual weekdays:	**£180.00 per day**	**£180.00 per day**	----------

Hands on session on Saturday morning finish around 1pm.

http://www.icr.ac.uk/studying-at-the-icr/opportunities-for-clinicians/radiotherapy-and-imaging-training-courses/practical-and-theoretical-radiotherapy-physics-course

Course Organisers: Ms. M Bidmead & Dr. V Hansen

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Course Lecturers

Dr. H Bainbridge, Dr. J Bedford, Dr. S Bhide, Ms. M Bidmead, Mrs. I Blasiak-Wal, Mrs. N Bleackley, Mr. P Bownes, Mrs. C Brooks, Dr. E Castellano, Mrs. H Chejecka-Szczgielska, Dr. R Colgan, Mr. W Connolly, Dr. V Cosgrove, Professor R Dale, Dr. G Flux, Dr. A Garton, Dr. A Gasnier, Dr. S Guildford, Dr. S Hafeez, Dr. V Hansen, Dr. I Hanson, Dr. E Harris, Ms. M Hawkins, Mr. M James, Dr. T Jordan, Mr. D King, Dr. A Kirby, Professor C Kirisits, Dr. S Lalondrelle, Professor P Mayles, Dr. H McNair, Mr. D McQuaid, Mrs. C Meehan, Mr. R Moore, Dr. I Murray, Professor A Nahum, Mr. M Najem, Mrs. O Naismith, Dr. S Nill, Mr. H Palmans, Dr. H Porter, Professor C Rowbottom, Dr. M Schmidt, Mr. M Seithel, Dr. M Schwarz, Mr. G Smyth, Dr. C South, Dr. A Taylor, Dr. M Thomas, Dr. R Thomas, Mr. J Thurston, Mr. R Trouncer, Mrs. K Warren-Oseni, Professor M van Herk & Professor F Verhaegen.

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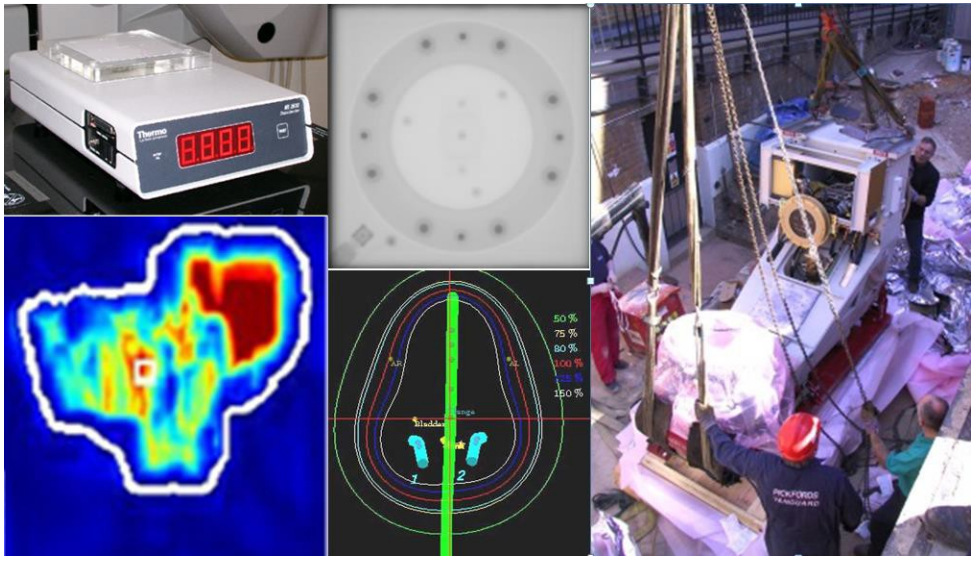

A Course in Radiotherapy Physics

6 – 10 November 2018

Radiation Dosimetry, Imaging for Radiotherapy, Treatment Planning and Patient Specific Dosimetry (Sutton Site)

5 – 9 March 2019

Accelerator design and Quality Assurance, Radiobiology, Brachytherapy and Radiotherapy Verification Imaging (Chelsea Site)

This course has been accredited per week by:
The Royal College of Radiologists CPD 26 Credits
EBAMP level 7 ……..CPD 36 Credits

This course provides a practical and theoretical background to Radiotherapy with its main focus on Radiotherapy Physics aspects.

The curriculum covers many aspects and each course includes hands-on practical session on Saturday,

Included in the full cost of the course are a set of lecture notes, a CD of the presentations, lunches, refreshments, cheese & wine and a course dinner.

Radiation Dosimetry, Imaging for Radiotherapy, Treatment Planning and Patient Specific Dosimetry (Sutton site)

Provisional Programmes

Day One: Fundamentals Radiation Dosimetry (Tuesday 6th November 2018)

- *Photon Interaction Mechanisms*
- *Electron Interaction Mechanisms*
- *Fundamental Principles I & 2 of Dosimetry*
- *Characteristics & Calculations of Photon Beams*
- *Radiotherapy & Cancer specifically Lung Cancer*
- *Ionisation Chamber Design and Measurements*
- *Practical Implementing of New Techniques in the Clinic*
- ***Course Meal***

Day Two: Imaging for Radiotherapy (Wednesday 7th November 2018)

- *Applications of Monte-Carlo Methods*
- *MR Imaging for Radiotherapy Planning*
- *PET Imaging for Radiotherapy Planning*
- *Treatment Planning Margins; ICRU 50, 62 & 83*
- *Stereotactic Body Radiotherapy (SBRT) for Lung Tumours*
- *Photon Beam Algorithms in Treatment Planning*
- *Quality Control in Treatment Planning/Checking*

Day Three: Treatment Planning (Thursday 8th November 2018)

- *Evaluation Tools in Treatment Planning*
- *Prostate Cancer: XBRT Techniques & Trials*
- *Intensity Modulated Radiotherapy Optimization Algorithms*
- *Electron Beam Therapy in Clinical Practice*
- *Inverse Treatment Planning IMRT & VMAT*
- *Large Field Techniques in Radiotherapy*
- *Dosimetry for Molecular Radiotherapy*

Day Four: Patient Specific Dosimetry (Friday 9th November 2018)

- *Radiotherapy Head & Neck Cancer*
- *Radiotherapy for Breast Cancer: Current and Future Practice*
- *Adaptive Radiotherapy for Bladder Cancer in Clinical Practice*
- *Radiotherapy for Liver Tumours & Oesophageal*
- *Radiochromic Film Dosimetry*
- *In Vivo Dosimetry for Point Dose Measurements*
- *Verification and Image Based Dosimetry for IMRT*
- *Radiotherapy with Protons and Heavy Ions*
- ***Cheese & Wine***

Accelerator design and Quality Control, Radiobiology, Brachytherapy and Radiotherapy Verification Imaging (Chelsea site)

Day One: Accelerator Design & QA (Tuesday 5th March 2019)

- *Medical Electron Linear Accelerators*
- *Production of a Clinical Beam*
- *Multileaf Collimators: Characteristics & Commissioning*
- *Accuracy & Quality in Radiotherapy: An overview*
- *kV X-ray Units*
- *Cyberknife*
- *Tomotherapy*
- *Quality Control in Linacs*
- ***Course Meal***

Day Two: Radiobiology (Wednesday 6th March 2019)

- *Introduction to Cell Biology*
- *Tumour Cell Radiobiology*
- *Radiobiology of Normal Tissues*
- *Fractionation & Iso-effect in Radiotherapy*
- *Modelling the probability of Tumour Control (TCP)*
- *Practical use of Radiobiology in Treatment Planning*
- *Modelling Normal Tissue Complication Probability*
- *Compensation for Treatment Gaps in Radiotherapy*

Day Three: Brachytherapy (Thursday 7th March 2019)

- *Calibration and QA of Brachytherapy Sources*
- *Intracavitary Dosimetry*
- *The Radiobiology of Brachytherapy*
- *Gynaecology Cancers*
- *3D Image based Brachytherapy Planning*
- *Transperineal Prostate Brachytherapy*
- *Radiation Protection issues in Brachytherapy*
- *Radiation Protection in External Beam Radiotherapy*

Day Four: Verification Imaging (Friday 8th March 2019)

- *Quality Assurance in Clinical Trials*
- *IGRT: Accuracy, Frequency & Dose*
- *Image Handling in Radiotherapy*
- *IGRT Techniques*
- *Errors & Margins in IGRT*
- *EPID Imaging in Routine Practice, Dosimetry & Quality Control*
- *Clinical Indications for Brachytherapy*
- *MR Linacs*
- ***Cheese & Wine***