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'The Institute of Cancer Research: PHRJOD'

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	NOVEMBER 2019	MARCH 2020	Both Weeks
Lectures & workshops	£750.00	£750.00	£1250.00
External PhD Students (Proof Required*)	£400.00*	£400.00*	£700.00*
Individual weekdays:	£180.00 per day	£180.00 per day	-----

Hands on session on Saturday morning end around 1pm.

<https://www.icr.ac.uk/studying-and-training/opportunities-for-clinicians/radiotherapy-and-imaging-training-courses/practical-and-theoretical-radiotherapy-physics-course>

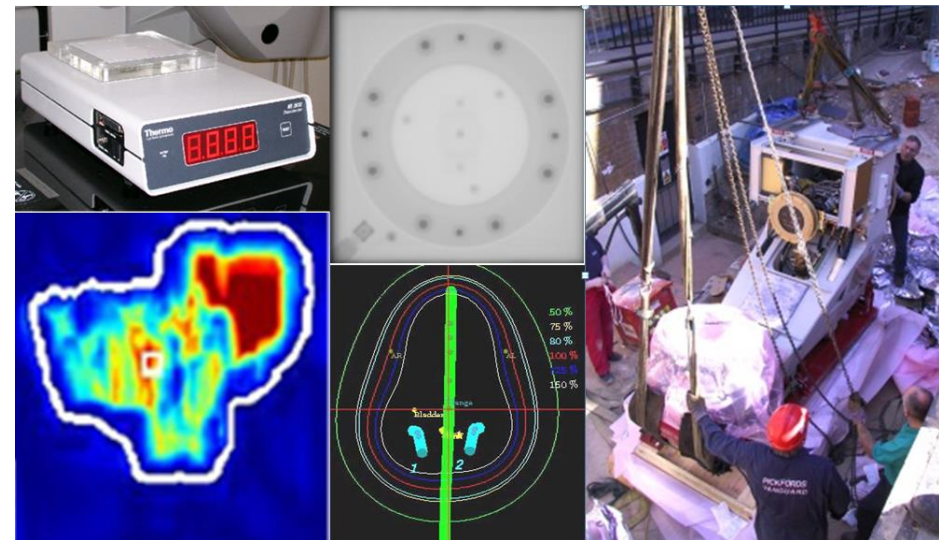
Course administrator.

Cheryl Taylor

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Faculty

Dr. M Ahmed, Dr. K Aiken, Dr. A Backshall, Dr. J Bedford, Dr. S Bhide, Ms M Bidmead, Mrs I Blasaik-Wal, Mr P Bownes, Dr. E Castellano, Mrs H Chejecka-Szczgielska, Mr M Clark, Dr. V Cosgrove, Professor R Dale, Dr.G Flux, Mr T Greener, Dr. V Hansen, Dr. I Hanson, Dr. E Harris, Dr. M Hawkins, Professor R Huddart, Mr M James, Ms C Jones, Mr D King, Professor C Kirisits, Dr. S Lalondrelle, Professor P Mayles, Dr. H McNair, Mrs C Meehan, Mr A Mitchell, Mr R Moore, Dr. I Murray, Mrs. O Naismith, Dr. K Newbold, Dr. S Nill, Dr. H Palmans, Dr. A Ranger, Dr. H Porter, Professor C Rowbottom, Dr. M Schmidt, Dr. G. Smyth, Dr. N Somaiah, Mr J Talbot, Dr. A Taylor, Dr. M Thomas, Dr. R Thomas, Mr J Thurston, Mr R Trouncer, Professor M van Herk, & Professor F Verhaegen.



A Course in Radiotherapy Physics

5 – 9 November 2019

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

3 – 7 March 2020

Accelerator Design, Radiobiology and Quality Assurance, 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 7CPD 39 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 a workshop session on Saturday,

Included in the full cost of the course are a set of lecture notes, a link to the presentations, lunches, refreshments, cheese & wine and a course meal in a local restaurant.

Day One: Imaging for Radiotherapy (Tuesday 5th November 2019)

MR Imaging for Radiotherapy Planning
PET Imaging for Radiotherapy Planning
CT & CBCT for Radiotherapy Planning
Radiochromic Film Dosimetry
Photon Interaction Mechanisms
Treatment Planning Margins; ICRU 50, 62 and 83
Electron Interaction Mechanisms

Day Two: Fundamentals (Wednesday 6th November 2019)

Applications of Monte Carlo Methods
Fundamental Principles of Dosimetry I
Fundamental Principles of Dosimetry II
Ionisation Chamber Design and Measurements
Characteristics and Calculations for Photon Beams
Photon Beam Algorithms
Evaluation Tools in Treatment Planning
Course Meal

Day Three: Treatment Planning (Thursday 7th November 2019)

Radiotherapy for Breast Cancer: Current and Future Practice
Intensity Modulated Radiotherapy Algorithms (IMRT)
Radiotherapy and Cancer specific Lung Cancer
Inverse Treatment Planning for IMRT & VMAT
Stereotactic Body Radiotherapy (SBRT) for Lung Tumours
Radiotherapy with Protons
Radiotherapy of the Head and Neck
Radiotherapy for Oesophageal and Liver Tumours

Day Four: Patient Specific Dosimetry (Friday 8th November 2019)

Prostate Cancer: XBRT Techniques and Trials
Practical Implementing of New Techniques
Electron Beam Therapy in Clinical Practice
Large Field Techniques in Radiotherapy
In Vivo Dosimetry for Point Measurements
Verification and Image based Dosimetry for IMRT
Adaptive Radiotherapy for Bladder Cancer in Clinical Practice
Quality Control in Treatment Planning
Dosimetry for Molecular Radiotherapy
Cheese & Wine Evening

Day One: Accelerators (Tuesday 3rd March 2020)

Medical Electron Linear Accelerators
Production of a Clinical Beam
Multileaf Collimators: Characteristics and Commissioning
Accuracy and Quality in Radiotherapy: An Overview
Extremes I: kV X-ray Units
Extremes II: Cyberknife
Extremes III: Tomotherapy
Quality Control of Linacs
Course Meal

Day Two: Radiobiology (Wednesday 4th March 2020)

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

Day Three: Brachytherapy (Thursday 5th March 2020)

Calibration & QA of Brachytherapy
Intracavitary Dosimetry
The Radiobiology of Brachytherapy
Gynaecology Cancers
3D Image based Brachytherapy Planning
Transperineal Prostate Brachytherapy
Radiation Protection Issues in Brachytherapy
Clinical Indication for Brachytherapy

Day Four: Verification Imaging (Friday 6th March 2020)

Quality Assurance in Clinical Trials
Image Guidance in Radiotherapy: Accuracy, Frequency Dose
Image Handling in Radiotherapy
IGRT Techniques
Errors & Margins in Image Guided Radiation Therapy
EPID Imaging in Routine Practice, Dosimetry & Quality Control
Radiation Protection in Radiotherapy
MR Guided Radiation Therapy
Cheese & Wine Evening