

Surname:.....
 Forename(s).....
 Organisation:.....
 Address:.....
 Postcode:.....
 Tele No:.....
 Email:.....
 Please invoice
 to:.....
 Purchase Order No:.....
 I enclose a cheque for the full amount of £..... Payable to:
'The Institute of Cancer Research: DRIPHYAAC'
Credit/Debit cards are acceptable.
Please contact the course secretary if you wish to pay by this method.

	MARCH 2023	NOVEMBER 2023	Both Weeks
Lectures & workshops	£750.00	£750.00	£1250.00
External PhD Students (Proof Required*)	£400.00*	£400.00*	£650.00*

We use personal information for the purposes of course administration – which includes management of your course registration, processing your payment, communication of course joining information, certificates, post course materials and feedback questionnaire. We also use your contact information to keep you informed of other courses we offer which may be of interest to you. For further information on how we use your personal information, please check our privacy policy at www.icr.ac.uk/legal/privacy or contact dataprotectionofficer@icr.ac.uk

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

Course administrator.

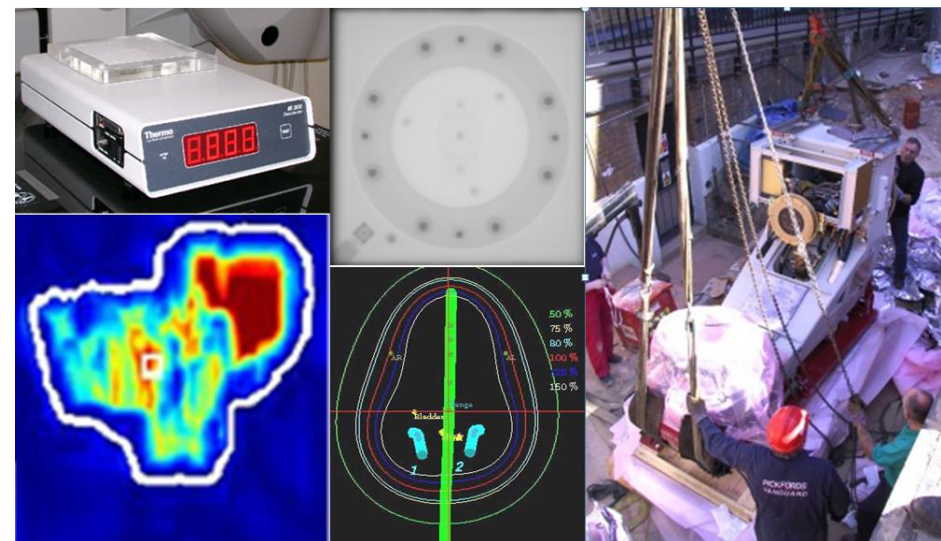
Cheryl Taylor
 Cheryl.Taylor@icr.ac.uk

Faculty

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

The ROYAL MARSDEN
 NHS Foundation Trust

ICR The Institute of
 Cancer Research



A Course in Radiotherapy Physics

7 – 11 March 2023

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

7 – 11 November 2023

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

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

Day One: Accelerators (Tuesday 7th March 2023)

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 8th March 2023)

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 9th March 2023)

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 11th March 2023)

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

Day One: Fundamentals (Tuesday 7th November 2023)

Photon Interaction Mechanisms
Electron Interaction Mechanisms
Fundamental Principles of Dosimetry I
Fundamental Principles of Dosimetry II
Ionisation Chamber Design and Measurements
Characteristics and Calculations for Photon Beams
Radiotherapy and Cancer specific Lung Cancer
Practical Implementing of New Techniques
Course Meal

Day Two: Imaging for Radiotherapy (Wednesday 8th November 2023)

Applications of Monte-Carlo Methods
Treatment Planning Margins; ICRU 50, 62 and 83
MR Imaging for Radiotherapy Planning
PET Imaging for Radiotherapy Planning.
Photon Beam Algorithms
CT & CBCT for Radiotherapy Planning
Quality Control in Treatment Planning

Day Three: Treatment Planning (Thursday 9th November 2023)

Evaluation Tools in Treatment Planning
Prostate Cancer: XBRT Techniques and Trials
Oesophageal and Liver Tumours
Intensity Modulated Radiotherapy Algorithms (IMRT)
Inverse Treatment Planning for IMRT & VMAT
Dosimetry for Molecular Radiotherapy
Electron Beam Therapy in Clinical Practice

Day Four: Patient Specific Dosimetry (Friday 11th November 2023)

Radiotherapy of the Head and Neck
Adaptive Radiotherapy for Bladder Cancer in Clinical Practice
Radiotherapy for Breast Cancer: Current and Future Practice
Radiotherapy with Protons
Radiochromic Film Dosimetry
Verification and Image based Dosimetry for IMRT
In Vivo Dosimetry for Point Measurements
Large Field Techniques in Radiotherapy
Stereotactic Body Radiotherapy (SBRT) for lung tumours
Cheese & Wine Evening