21st Century Radiotherapy:
State-of-the-art and predicting the future
Programme

Venue: Doctorow Hall, St Edmund Hall

Chair: Colin Baker

9.15 Welcome & School Overview (Colin Baker)

9.30 Historical perspective on IMRT (Steve Webb)

10.30 Coffee

11.00 3&4D x-ray CT: Physics & application (Dan Low)

11.45 MRI Physics for radiotherapy applications (Uulke van der Heide)

12.30 Lunch

Chair: John Ridgeway

13.30 Clinical Applications of MRI (Alan Jackson)

14.15 PET Physics (Dimitra Darambara)

15.00 Coffee

15.30 Clinical applications of PET (Pat Price)

16.15 Image delineation, registration & fusion (Marcel van Herk)

17.00 Discussion / Tutorial session

MARS CT - Spectroscopic X-ray Imaging (Nanette Schleich)

The Effects of Target Motion in kV-CBCT Imaging (Sriram Padmanaban)

18.30 Drinks reception

19.30 Dinner, Wolfson Dining Hall
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter(s)</th>
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<tr>
<td>9.00</td>
<td>Classical radiobiology: An overview</td>
<td>John Fenwick</td>
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<td>9.45</td>
<td>Neutron, proton and light ion radiobiology</td>
<td>Bleddyn Jones</td>
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<td>10.30</td>
<td>Coffee</td>
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<td>11.00</td>
<td>Inter-patient variability: Predictive assays &amp; gene expression profiles</td>
<td>Catharine West</td>
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<td>11.45</td>
<td>Cost-benefit, QALYs and VOSL</td>
<td>Alan McKenzie</td>
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<td>12.30</td>
<td>Lunch</td>
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<td>13.30</td>
<td>TCP: Individual &amp; population, RIBE</td>
<td>Marco Carlone</td>
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<td>14.15</td>
<td>Spatial conformality and volume-effect modelling: Emerging knowledge</td>
<td>John Fenwick</td>
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<td>15.00</td>
<td>Coffee</td>
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<td>15.30</td>
<td>Developments in radiobiology and clinical application</td>
<td>Catharine West</td>
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<td>16.15</td>
<td>Discussion / Tutorial session</td>
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<td>X-ray diffraction/optical imaging for tumour hypoxia (Kate Ricketts)</td>
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<td>Impact of tumour motion on VMAT (Raghavendiran Boopathy)</td>
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<td>FSU-based radiobiological modelling (Eva Rutkowska)</td>
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<td>19.30</td>
<td>Dinner, Wolfson Dining Hall</td>
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Chair: Dan Low

9.00 **Status review: Linac, in-room imaging** (Marcel van Herk)

9.45 **Applications of modern photon radiotherapy systems** (Rock Mackie)

10.30 Coffee

11.00 **Proton and light ion beam generation** (Tony Lomax)

11.45 **Boron neutron capture therapy** (Stuart Green)

12.30 Lunch

13.30 Depart for Diamond Synchrotron visit, return 17.30

19.00 Depart for the Beetle & Wedge Boathouse, return 23.00
Thursday 9th July

Venue: Doctorow Hall, St Edmund Hall

Chair: Stuart Green

9.00 Accelerator developments (Rock Mackie)

9.45 Non-scaling FFAG synchrotron (Rob Edgecock)

10.30 Coffee

11.00 Laser-plasma based ion accelerators (David Neely)

11.45 Radiation dosimetry review: 1D & 2D (Alun Beddoe)

12.30 Lunch

Chair: Alun Beddoe

13.30 3D dosimetry (Simon Doran)

14.15 External beam dose algorithms (Rock Mackie)

15.00 Coffee

15.30 Target volumes, margins & verification (Marcel van Herk)

16.15 Discussion / Tutorial session

Radiochromic film spectroscopy of a laser-proton source (Dan Kirby)

Secondary radiation around clinical accelerators (Kinga Polaczek-Grelik)

19.30 Dinner, Wolfson Dining Hall
Venue: Doctorow Hall, St Edmund Hall

Chair: Colin Baker

9.00 **Radionuclide therapy** (Glenn Flux)

9.45 **Physical dose & biological optimisation** (Markus Alber)

10.30 Coffee

11.00 **Temporal conformity, sequential imaging and tumour dynamics** (John Fenwick)

11.45 **Crystal ball gazing to the future** (Steve Webb)

12.45 School review and close (Colin Baker)

13.00 Lunch