

# Laser-hybrid Accelerator for Radiobiological Applications (LhARA)

## The LhARA collaboration

*Patrick G Johnston Centre for Cancer Research, Queens University Belfast, 97 Lisburn Road, Belfast, BT9 7AE, UK*

K.M. Prise

5 *School of Mathematics and Physics, Queen's University Belfast, University Road, Belfast, BT7 1NN, Northern Ireland, UK*

M. Borghesi, C. Palmer

*Dept of Medical Physics and Biomedical Engineering, University College London, WC1E 6BT*

R. Amos, B. Cox

10 *Department of Medical Physics, University Hospital Birmingham Foundation NHS Trust, Edgbaston, Birmingham, B15 2TH, UK*

S. Green

*Department of Cancer and Genomic Sciences, College of Medicine and Health, University of Birmingham, Edgbaston, Birmingham, B15 2TT, UK*

15 J.L. Parsons

*School of Physics and Astronomy, University of Birmingham, Edgbaston, Birmingham, B15 2TT, UK*

P. Allport, C. Burne, T. Price, C. Wheldon

*CERN, CH-1211 Geneva 23, Switzerland*

J. Prado Pico, M. Turner

20 *Department of Physics, Lancaster University, Bailrigg, Lancaster, LA1 4YW, UK*

E. Boella, T.S. Dascalu, S. Jamison, S.R. O'Neill, P. Ratoff

*Department of Physics and Astronomy, The University of Manchester, Oxford Rd, Manchester, M13 9PL, UK*

W. Bertsche, S. Boogert

25 *Corerain Technologies, 14F, Changfu Jinmao Building (CFC), Trade-free Zone, Futian District, Shenzhen, Guangdong, China*

R. Xiao

*Lawrence Berkeley National Laboratory, 1 Cyclotron Road, Berkeley, CA 94720, USA*

A. McIlvenny, L. Obst-Huebl, A. Snijders

- The Institute of Cancer Research, 123 Old Brompton Road, London, SW7 3RP, UK*  
30 J. Bamber, E.J. Harris, U. Oelfke
- INFN Catania, Via Santa Sofia, 64 - 95123 Catania - Italy*  
F. Romano
- Department of Aeronautics, Imperial College London, Exhibition Road, London SW7 2AZ, UK*  
A. Knoll
- 35 *Department of Computing, Imperial College London, Exhibition Road, London SW7 2AZ*  
W.G. Luk
- CRUK PPI group, Charing Cross Hospital, London W6 8RF*  
H.C. Hall
- Dept. Radiation Physics and Radiobiology, Imperial College Healthcare NHS Trust, London, UK*  
40 C. Hardiman, R. McLauchlan
- Imperial College NHS Healthcare Trust, Department of Clinical Oncology, Charing Cross Hospital, London W6 8RF, UK*  
D. Gujral
- Department of Physics, Imperial College London, Exhibition Road, London SW7 2AZ, UK*  
45 N.P. Dover, O.C. Ettliger, A. Howard, W.G. Jones, T.J. Kuo, A. Kurup, H.T. Lau, K.R. Long, A.E. MacIntosh-LaRocque, M. Maxouti, J.M. McGarrigle, Z. Najmudin, J. Pasternak, J. Pozimski, R. Razak, R.A. Smith, R. Taylor
- Department of Surgery and Cancer, Imperial College, Hammersmith Hospital London W12 0NN*  
I. McNeish, P. Price
- 50 *Institut Curie-Orsay Research Center, Bat a Campus d'Orsay, 91400 Orsay, France*  
A. Fernandez-Rodriguez, T. Masilela, F. Pouzoulet, Y. Prezado
- Leo Cancer Care, Broadview, Windmill Hill, Hailsham, East Sussex, BN27 4RY, UK*  
S. Towe, P. Underwood
- Institute of Systems, Molecular and Integrative Biology, University of Liverpool, Biosciences Building, Crown Street, Liverpool L69 7BE*  
55 H. Poptani
- Department of Physics, University of Liverpool, Liverpool, L69 7ZE, UK*  
T. Greenshaw, N. Kumar, M. Patel, P. Weightman, C.P. Welsch
- Division of Cancer Sciences, Faculty of Biology, Medicine and Health, The University of Manchester, The Christie Proton Therapy Centre, The Christie NHS Foundation Trust, Wmslow Rd, Manchester M20 4BX*  
60 K.J. Kirkby, M. Merchant

*Maxeler Technologies Limited, 3 Hammersmith Grove, London W6 0ND, UK*

T. Becker

65 *Department of Oncology, University of Oxford, Old Road Campus Research Building, Roosevelt Drive, Oxford, OX3 7DQ, UK*

A. Giaccia, E.M. Hammond

*Particle Physics, Denys Wilkinson Building, Keble Rd, Oxford, OX1 3RH*

P.N. Burrows, M. Dosanjh

70 *Department of Physics, University of Surrey, 388 Stag Hill, Guilford, GU2 7XH, UK*

*School of Physical and Chemical Sciences, Queen Mary University of London, Mile End, London E1 4NS, UK*

P.R. Hobson

*Rosalind Franklin Institute, Harwell Campus, Didcot, OX11 0QX, UK*

L. Holland, A. Kirkland

75 *Department of Physics, Royal Holloway University of London, Egham, Surrey, TW20 0EX, UK*

S. Gibson, M. Pereira, W. Shields

*Accelerator Science and Technology Centre, STFC Daresbury Laboratory, Daresbury, Cheshire, WA4 4AD, UK*

J. Clarke, H. Owen

80 *Central Laser Facility, STFC Rutherford Appleton Laboratory, Harwell Oxford, Didcot OX11 0QX, UK*

H. Ahmed, R. Pattathil

*ISIS Neutron and Muon Source, STFC Rutherford Appleton Laboratory, Harwell Oxford, Didcot OX11 0QX, UK*

J.B. Lagrange, C.T. Rogers, J.W.G. Thomason

85 *Particle Physics Department, STFC Rutherford Appleton Laboratory, Harwell Oxford, Didcot OX11 0QX, UK*

B. Smart

*Technology Department, STFC Daresbury Laboratory, Daresbury, Cheshire, WA4 4AD, UK*

N. Bliss, A. Vikhoreva

*Department of Physics, SUPA, University of Strathclyde, Glasgow G4 0NG, UK*

90 R. Bingham, R. Gray, P. McKenna, D. Spiers, C. Whyte, R. Wilson

*Department of Biomedical Sciences, Faculty of Science and Engineering, Swansea University, Singleton Park, Swansea, SA2 8PP*

R.P. Hugtenburg

*Department of Physics, Faculty of Science and Engineering, Swansea University, Singleton Park, Swansea,*

