![NCITA - National Cancer Imaging Translational Accelerator logo]

NCITA NATIONAL CONFERENCE 2022

Practice-Changing Imaging for Cancer

4-5 October 2022

Contents

Funded by Cancer Research UK, NCITA brings together nine centres of excellence:

Welcome

We invite you to join us virtually for the NCITA 2022 National Conference: Practice-Changing Imaging for Cancer

Through engaging talks from leading experts, lightning presentations and Q&A, we will cover the following themes:

• Clinical Application

• AI and Big Data

• Early Detection

• Novel Cancer Imaging Techniques

The programme is designed to highlight the ways in which we can achieve practice-changing imaging for cancer, and we look forward to a mix of big picture, educational presentations from key speakers, dispersed with fast-moving 'lightning' talks focusing on NCITA exemplar projects and studies aligned with each theme.

The NCITA Conference is fully virtual and is open to all. It is suitable for researchers and healthcare professionals working in a cancer setting, who either work fully in imaging or work with imaging to some extent.

A full agenda is available on the following pages detailing the confirmed speakers, themes and objectives for each session. All timings are subject to change, and are in British Summer Time.

Registration is open, please follow this link to the Eventbrite page, or Contact us for further information.

We look forward to welcoming you all on the 4th and 5th October. #NCITA22

Agenda

TUESDAY 4 OCTOBER
CLINICAL APPLICATION and AI & BIG DATA

14.00-14.05	Introduction & Housekeeping	**Prof. Shonit Punwani,** University College London, UK
14.05-14.20	Challenges in Cancer Imaging	**Prof. Shonit Punwani,** University College London, UK
14.20-14.30	Introduction to the NCITA MR Core Lab	**Dr Penny Cristinacce,** University of Manchester, UK

SESSION 1: CLINICAL APPLICATION
Objectives: How can a clinical study lead to a change in practice? How does this impact cancer patients in a clinical setting? How can imaging be utilised to impact patient management? What does the future hold for cancer imaging and clinical application?

14.30-15.10	20 Years of Prostate MRI – from Novel Use to International Guidelines Q&A	**Prof. Caroline Moore,** University College London, UK
15.10-15.45	Lightning talks in Clinical Application Q&A	**Dr Karen DeSouza,** King's College London, UK **Dr Daniel McGowan,** University of Oxford, UK **Mr Eoin Dinneen,** University College London, UK **Dr Saurabh Singh,** University College London, UK
15.45-16.00	Break	

SESSION 2: AI AND BIG DATA
Objectives: How are big data and AI being used to create impact for patients with cancer? What can this allow us to achieve that was previously not possible? How does imaging fit within the wider context of AI and big data? What does the future look like for AI, big data and imaging?

16.00-16.40	The Promise, Potential and Current Limitations of Artificial Intelligence in Imaging Q&A	**Prof. Fergus Gleeson,** University of Oxford, UK
16.40-17.15	Lightning talks in AI & Big Data Q&A	**Dr Tom Syer** University College London, UK **Dr Benjamin Hunter** The Royal Marsden NHS Foundation Trust, UK **Dr Ian Selby** University of Cambridge, UK **Dr Cathal McCague** University of Cambridge
17.15-17.30	Wrap up	**Prof. Shonit Punwani,** University College London, UK

WEDNESDAY 5 OCTOBER
EARLY DETECTION and NOVEL CANCER IMAGING TECHNIQUES

14.00-14.10	Introduction & Housekeeping	**Prof. James O'Connor,** University of Manchester & The Institute of Cancer Research, UK

SESSION 3: EARLY DETECTION
Objectives: What does the cancer early detection landscape look like? What tools are currently being utilised across early detection? How does imaging fit into the early detection landscape, and what value can imaging bring as a standalone or complementary tool? What does the future hold for early detection in cancer?

14.10-14.50	Early Detection: Established and Emerging Multimodal Techniques Q&A	**Dr Catherine Hines,** GSK, US
14.50-15.25	Lightning talks in Early Detection Q&A	**Dr Paul Barber,** King's College London, UK **Dr Teresa Marsden,** University College London, UK **Dr Rami Mustapha,** King's College London, UK **Dr Giorgio Brembilla,** University College London, UK
15.25-15.45	Break	

SESSION 4: NOVEL CANCER IMAGING TECHNIQUES
Objectives: What value do novel cancer imaging techniques bring to cancer research and clinical practice? How are cancer imaging biomarkers translating into clinical practice to achieve impact? What does the future look like for novel cancer imaging techniques?

15.45-16.25	New Approaches to Annotating Cancer with PET Q&A	**Prof. Jason Lewis,** Memorial Sloan Kettering Cancer Center, US
16.25-17.00	Lightning talks in Novel Cancer Imaging Techniques Q&A	**Dr Preetha Aravind,** Imperial College London, UK **Dr Jonathan Birchall,** University of Cambridge, UK **Dr Mina Kim,** University College London, UK **Dr Joy Roach,** University of Oxford, UK
17.00-17.20	The Future of Practice-Changing Imaging for Cancer	**Prof. James O'Connor,** University of Manchester & The Institute of Cancer Research, UK
17.20-17.30	Wrap up and Close	

Chair and Speaker Biographies

We are delighted to confirm the following chairs and speakers for the 2022 NCITA National Conference.

Read more in the following pages.

Prof. Shonit Punwani

Professor of Magnetic Resonance and Cancer Imaging and Consultant Radiologist, University College London

Chair: Day 1

Professor Shonit Punwani is Professor of Magnetic Resonance and Cancer Imaging and Consultant Radiologist at UCLH. His medical training, undertaken at UCL, was supplemented with a PhD in MRI Physics. He completed post-graduate training in Medicine at Northwick Park, before training as a radiologist at UCLH. He was awarded a Walport NIHR Clinical Lectureship, before being appointed as a Senior Lecturer at UCL and Consultant Radiologist at UCLH.

He leads the 3T MRI research facilities that provide the infrastructure for imaging trials at UCLH. He is the research and development lead for radiology at UCLH, responsible for the provision of imaging services for clinical trials at UCLH. He is chair of the National Cancer Imaging Translational Accelerator (a multi-institutional collaboration dedicated to the support of clinical trials involving new/novel imaging methods).

He has a specialist clinical and research interest in the application and development of local and whole-body quantitative and functional MRI methods for imaging prostate cancer.

Professor James O'Connor is a Consultant Radiologist, Professor of Radiology at the University of Manchester and Professor of Quantitative Biomedical Imaging at the ICR.

His research focuses on developing and validating novel imaging biomarkers, and applying them to clinical studies to aid clinical decision-making. This covers studies from mouse imaging to understand novel drug mechanism of action to first-in-human studies. His groups also are developing biomarkers of response in both small data and large data.

He is the co-lead of the RSNA QIBA group overseeing translation of DCE-MRI validation, and serves on various ESR and CRUK committees. He oversees the NCITA training and education programme in cancer imaging in the UK. His research group members help promote imaging science in various public engagement activities, principally focused at secondary schools.

Prof. James O'Connor

Consultant Radiologist and Professor of Radiology, University of Manchester & The Institute of Cancer Research

Chair: Day 2

Professor Caroline Moore is a Professor of Urology at University College London.

She was a Royal College of Surgeons research fellow in 2002, working on photodynamic therapy for prostate cancer. She has pursued a clinical academic career since then, developing a portfolio of trials in a number of aspects of prostate cancer diagnosis and management. She holds current funding awards from Prostate Cancer UK, Movember, the Cancer Vaccine Institute, the National Institute for Health Research, the European Association of Urology Research Foundation, the Wellcome Trust and the Department of Health.

Prof. Moore is committed to individualised prostate cancer assessment and treatment, combining imaging with shared decision making for men with localised prostate cancer. She has particular interests in using patient reported outcomes to identify and disseminate best surgical practice; the use of MRI and different approaches to psychological support for men on active surveillance; decision making in localised prostate cancer; and the development of non-traditional follow up methods after prostate cancer diagnosis.

Prof. Caroline Moore

Professor of Urology, University College London

Key Speaker: Clinical Application

Professor Fergus Gleeson is a Consultant Radiologist and Professor of Radiology in Oxford.

He trained in Cambridge, Papworth and London, and was a Fellow in Radiology at UCLA in America. He was appointed to Oxford in 1992, is Head of Academic Radiology in Oxford, and is the Director of the Oxford Radiology Research Unit at Oxford University Hospitals NHS Foundation Trust.

He is a past President of the European Society of Thoracic Imaging, and has published over 200 peer review papers and book chapters, has a h-index of 62, and currently has more than £30 million in grant income.

He is the PI for IDEAL and DART, two multicentre studies investigating the use of Artificial Intelligence in pulmonary nodules and lung cancer, and the PI for EXPLAIN, a multicentre study investigating Long COVID using hyperpolarised Xenon MRI. His specialist interests are in Artificial Intelligence, Thoracic Imaging, PET-CT and Hyperpolarized xenon MRI.

He is also the Chief Medical Officer of the National Consortium of Intelligent Medical Imaging (NCIMI): which aims to bring together the NHS, and University and industry partners to promote the development and implementation of artificial intelligence in medicine.
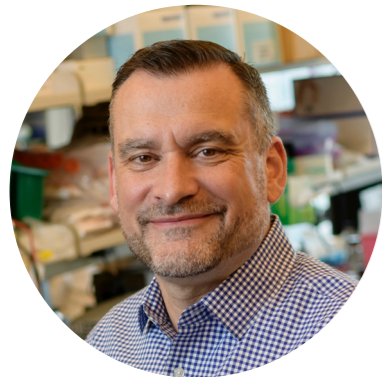
Prof. Fergus Gleeson

Consultant Radiologist and Professor of Radiology in Oxford

Key Speaker: AI and Big Data

Dr Catherine Hines is the Senior Director and Head of Clinical Imaging at GSK.

The mission of GSK's clinical imaging group is to apply, seek, and develop impactful imaging biomarkers for informed clinical decision making. Cathy's organization is responsible for enabling single-site exploratory or enabling imaging studies as well as registrational and multicenter imaging studies for all disease indications. In order to deliver future endpoints and biomarkers, Cathy and her team actively anticipate and develops imaging solutions through collaborations with external consultants, academic institutions, and CROs to meet the varied needs of GSK. Current active areas of engagement reside in imaging of neurodegeneration, ImmunoPET, analytics and data re-use, and inflammatory cell tracking; and enhancing relationships within and external to GSK.

Cathy obtained her Ph.D. in Biomedical Engineering and was a Post-Doctoral Fellow in Radiology at the University of Wisconsin-Madison. She has co-led or initiated multiple consortia, including those for DART, IMI, and Parkinson's Disease, led internship and co-op programs to foster diversity and inclusion efforts, is an active member of the International Society of Magnetic Resonance in Medicine (ISMRM), and is a reviewer for multiple NIH grant programs.

Dr Catherine Hines

Senior Director and Head of Clinical Imaging, GSK

Key Speaker: Early Detection

Professor Jason S. Lewis is the Emily Tow Jackson Chair at Memorial Sloan Kettering Cancer Center in New York. He is the Chief Attending of the Radiochemistry & Imaging Sciences Service and serves as the Vice Chair of Research in the Department of Radiology. He holds a joint appointment in the Molecular Pharmacology Program, and he is the Director of the Radiochemistry & Molecular Imaging Probe Core in the Sloan-Kettering Institute. He also holds appointments at the Gerstner Sloan-Kettering Graduate School, New York, NY and the Weill Cornell Medical College, New York, NY. He is an Adjunct Professor in the Department of Biomedical Imaging and Image Guided Therapy, The Medical University of Vienna, Austria.

Lewis' research program is a molecular imaging-based program focused on radiopharmaceutical development as well as the study of multimodality (PET, CT & MRI) small- and biomolecule-based agents and their clinical translation. He has published >300 papers and reviews in the field of radiochemistry and molecular imaging.

Prof. Jason Lewis

Emily Tow Jackson Chair at Memorial Sloan Kettering Cancer Center in New York

Key Speaker: Novel Cancer Imaging Techniques

Lightning Talks

SESSION 1: CLINICAL APPLICATION

'EXODIMER-PET: Exosome analysis of HER2 expression and heterodimerisation in patients from the HERPET study' **Dr Karen DeSouza, King's College London**	'ARCADIAN: Atovaquone with Radical Chemoradiotherapy in locally advanced NSCLC' **Dr Daniel McGowan, University of Oxford**
'Applying mpMRI Prostate before Radical Prostatectomy - Guide to get the best for your patient' **Mr Eoin Dinneen, University College London and Homerton University Hospital**	'An opportunity for men with positive positive mpMRI studies to avoid unnecessary biopsy with VERDICT MRI' **Dr Saurabh Singh, University College London,**

SESSION 2: AI AND BIG DATA

'Prostate MRI Classification – The ReIMAGINE AI-challenge' **Dr Tom Syer, University College London**	'LIBRA: Lung Nodule Imaging Biobank for Radiomics and AI Research' **Dr Benjamin Hunter, The Royal Marsden NHS Foundation Trust**
'Machine Learning and Chest Radiographs in COVID-19' **Dr Ian Selby, University of Cambridge**	'Integrated image analysis in High Grade Serious Ovarian Cancer - an NCITA study' **Dr Cathal McCague, University of Cambridge**

SESSION 3: EARLY DETECTION

'Lung Exo DETECT: Improving the Early Detection of Lung Cancer by Combining Exosomal Analysis of Hypoxia with Standard of Care Imaging' **Dr Paul Barber, King's College London**	'Re-IMAGINE Prostate Cancer Screening – Inviting Men for Prostate Cancer Screening Using MRI' **Dr Teresa Marsden, University College London**
'HERD: Head and Neck Early Relapse Detection Study' **Dr Rami Mustapha, King's College London**	'LIMIT: Luminal Index MRI Identification of Treatment critical Prostate Cancer' **Dr Giorgio Brembilla, University College London**

SESSION 4: NOVEL CANCER IMAGING TECHNIQUES

|	
'Exemplar 1: [18F]FPIA PET/CT imaging in patients with solid tumours' **Dr Preetha Aravind, Imperial College London**	'Exemplar 2: MISSION-Fumarate Trial: Validation of hyperpolarised [1,4-13C2] fumarate as a potential prognostic and treatment response marker for RENAL CANCER' **Dr Jonathan Birchall, University of Cambridge**
'Exemplar 5: OE-MRI for PAtients with Lung cancer (OPAL study): Oxygen enhanced magnetic resonance imaging for patients with lung cancer receiving chemoradiation' **Dr Mina Kim, University College London**	'Exemplar 7: The FIG Trial: 18F-FDOPA PET imaging in GLIOMA: feasibility study for PET guided brain biopsy' **Dr Joy Roach, University of Oxford**

About NCITA

The National Cancer Imaging Translational Accelerator (NCITA) is a UK-wide clinical imaging infrastructure network, supported by a 5-year Cancer Research UK Accelerator Award to improve healthcare and outcomes for cancer patients through the delivery of highest quality medical imaging biomarkers.

Find out about our NCITA infrastructure support for multi-centre clinical imaging research & our study adoption process in our interactive brochure

Click here to access
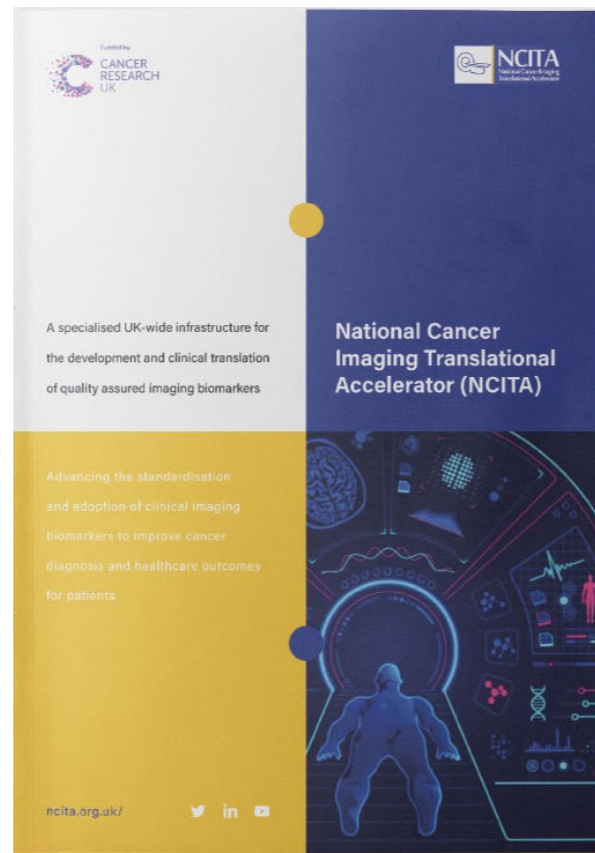
NCITA MR Core Lab

The NCITA MR Core Lab is a unique UK-wide MR imaging infrastructure which can support site evaluation, site qualification and performance monitoring for MRI single and multi-centre translational clinical research studies.

Our NCITA MR Core Lab services include:

Scanner Evaluation:
We review study plans to ensure that sites have appropriate capabilities to deliver the proposed study and verify that it is within scope for NCITA's MR core lab support.

Scanner Qualification:
We conduct Imaging Protocol Review meetings and Technical Imaging Visits to ensure the imaging protocols are harmonised across sites, that staff demonstrate competency and understanding of imaging protocol and that the technical performance of the clinical scanners is acceptable. We then create a locked-down imaging protocol before the study commences.

Data Quality Control
We check imaging protocol compliance and data image quality reactively throughout studies, using our repository integrated system.

Performance Monitoring and Re-Qualification
We use a quality management system to allow ongoing monitoring of sites, equipment, personnel, and process, during set-up and throughout a study. We perform periodic re-qualification of study sites to ensure the required standards are maintained.
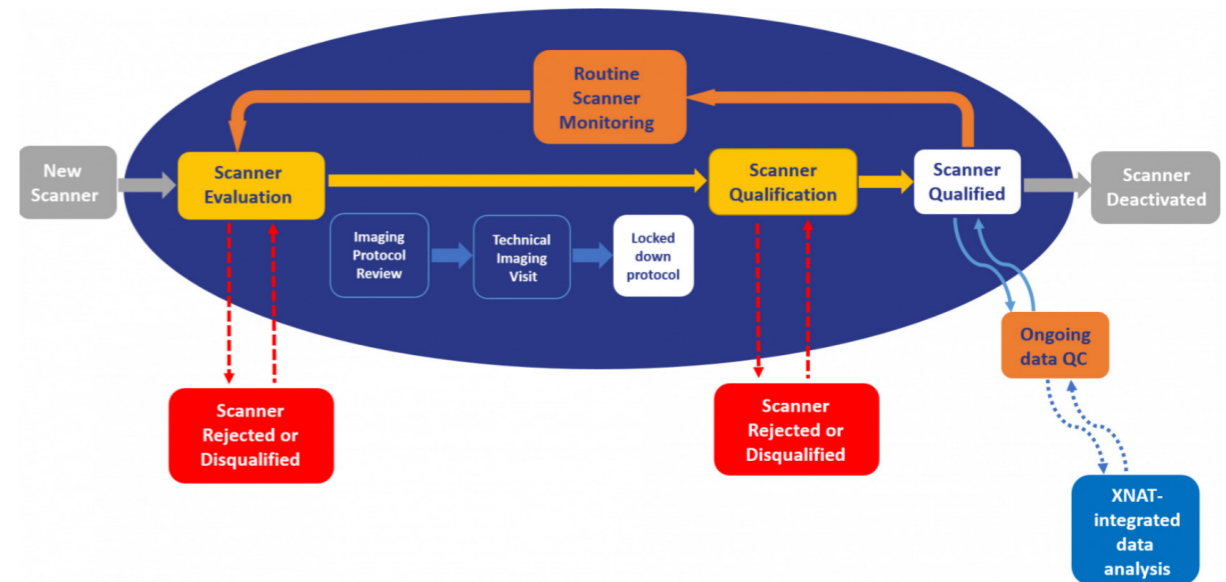
Our NCITA MR Core Lab supports clinical research MR studies to ensure that all study scanners are acquiring maximum quality data, leaving the study team to focus on the important clinical and scientific questions.

Work with Us
For more information on the MR Core Lab services, please email ncita.qaqc@ucl.ac.uk.

On the Shoulders of Giants -
NCITA Educational Lecture Series

'On the Shoulders of Giants' is a series of monthly educational online talks hosted by NCITA where experts bring their perspectives to encourage and challenge wider thinking within the cancer research community.

April 2022: 'Screening for Cancer: The Good, The Bad and The Ugly' with Prof. Michael Baum. Link to blog & recording

May 2022: 'Is Pursuing "a Passion for Science" a Position of Privilege?' with Dr Heather Williams MBE. Link to blog & recording

June 2022: 'Academia & Industry: What are the Ingredients for Successful Collaborations?' with Kieran Murphy and Prof. Evis Sala. Link to blog & recording

July 2022: 'Striving for Evidence – With and Without a Randomised Controlled Trial' with Prof. Tom Treasure. Link to blog & recording

September 2022: 'Talking with patients about sad, bad and just plain difficult things' with Prof. Dame Lesley Fallowfield. Link to recording

October 2022: 'The Importance of Diversity in Trials and Other Health Research' with Prof. Shaun Treweek. Register here

NCITA Organising Committee

With thanks to the 2022 Organising Committee:

Prof. Shonit Punwani
Professor of Magnetic Resonance and Cancer Imaging and Consultant Radiologist, University College London, University College London

Chris Brew-Graves
Programme Manager & CTU lead, University College London

Elizabeth Openshaw
Communication and Education Manager, University of Manchester

Dr Martina McAteer
Project Manager and Engagement Coordinator, University of Oxford

Edith Gallagher
Research PET-CT Technologist, University of Oxford

Follow us

@imaging_cancer

NCITA - National Cancer Imaging Translational Accelerator

NCITA Imaging

ncita.org.uk