DAY 1

09:20 Opening remarks

09:30 Keynote 1: Prof Richard Bowtell, Nottingham University
“The future of MRI in Healthcare”
Introduced and chaired by Chris Rodgers

10:00 Preclinical MRI – chaired by Steve Sawiak

10:00 “New Horizons for Preclinical MRI in Cambridge”
Dr Steve Sawiak

10:15 “Predictive endophenotypes of compulsive cocaine reinforcement assessed by neuroimaging across the lifespan”
Dr Jolyon Jones

10:25 Discussion – led by Chair

10:35 The new pre-clinical imaging facility in the Anne McLaren Building
Prof Ferdia Gallagher

10:40 Data Blitz (3 min pre-recorded poster talks by junior scientists)

1. “A Synergistic Core for Human Brain Evolution and Cognition”
   Andrea Luppi, PhD student, Clinical Neurosciences

2. “Prefrontal cortical connectivity mediates locus coerules noradrenergic regulation of inhibitory control in older adults”
   Alessandro Tomassini, Research Associate, MRC CBU

10:46 Coffee Break

11:00 Ultrasound – chaired by TC See

11:00 “Future Development of Ultrasound”
   Dr Ed Godfrey

11:15 “Fusion ultrasound biopsy- experience in ovarian malignancy”
   Dr Helen Addley
11:25  Discussion – led by Chair

11:45  **Cardio imaging** – chaired by Chris Rodgers

11:45  "What's new and what's next?"
      Dr Bobby Agrawal, Royal Papworth

12:00  “Ex situ MRI of perfused hearts to assess metabolism and perfusion”
      Dr Jonathan Weir-McCall, Royal Papworth

12:10  Discussion – led by Chair

12:15  Data Blitz (3 min pre-recorded poster talks by junior scientists)

      Christopher Osuafor, PhD Student, Clinical Neurosciences

12:30  Lunch Break

13:30  **Vascular/stroke imaging** – chaired by Hugh Markus

13:30  “Stroke Imaging to guide clinical management- what’s new?”
      Prof Hugh Markus

13:45  “Imaging Neuroinflammation and blood brain barrier leakage as a cause of small vessel disease”
      Dr Robin Brown

13:55  Discussion – led by Chair

14:05  Data Blitz (3 min pre-recorded poster talks by junior scientists)

   1. “Neuroinflammation and cerebral small vessel disease”
      Audrey Low, PhD Student, Psychiatry

   2. “Hybrid bias correction of thoracic zero echo time (ZTE) images”
      Chang Sun, PhD Student, Radiology

   3. “Delineating signature patterns of $^{18}F\text{-AV1451}$ R1 across neurodegenerative conditions”
      Elijah Mak, Research Associate, Psychiatry

14:15  **Dementia** – chaired by John O’Brien

14:15  “New directions in dementia imaging”
Prof James Rowe

14:30  “Synaptic imaging in dementia and neurodegenerative disease”
      Dr Negin Holland

14:40  Discussion – led by Chair

14:50  Data Blitz (3 min pre-recorded poster talks by junior scientists)

1. “Network stability predicts symptomatic conversion in familial frontotemporal dementia”
   David Whiteside, PhD student, Dept Clinical Neurosciences

2. “The predictive code for language revealed with 7T fMRI”
   Thomas Cope, Clinical Lecturer, Dept Clinical Neurosciences/CBU

   Juliette Lanskey, PhD Student, Dept Clinical Neurosciences/CBU

15:00  End of Day 1, but zoom will remain open for talk replays/chat/breakouts
DAY 2

09:20 Opening remarks

09:30 Keynote 2: Prof Patricia Price, Imperial College London
“Whole Body PET - is this the future?”
Introduced and chaired by Franklin Aigbirhio

10:00 Integrated Cancer Imaging – chaired by Lorena Escudero

10.00 “Integrated Cancer Imaging with a focus on Ovarian and Renal Cancer”
Prof Evis Sala

10.15 “Computerised image analysis for radiogenomics and precision oncology”
Dr Leonardo Rundo

10:25 Discussion – led by Chair

10:35 Data Blitz (3 min pre-recorded poster talks by junior scientists)

1. “Towards automation of oncological image analysis”
Lorena Escudero, Research Associate, Radiology

Maura Malpetti, Research Associate, Clinical Neurosciences

3. “Lesion-Specific 3D-Printed Moulds of High-Grade Serous Ovarian Cancer Tumours for Image-Guided Tissue Sampling”
Maria Delgado Ortet, PhD student, Radiology

10:45 Coffee Break

11:00 Oncological Imaging – chaired by Leonardo Rundo

11.00 “Advanced Prostate Cancer Imaging - (is there a) Clinical Need?”
Dr Tristan Barrett

11.15 “Predicting complete pathological response to neoadjuvant chemotherapy in breast cancer: features from DCE-MRI”
Mrs Gabrielle Baxter

11:25 Discussion – led by Chair

11:35 Data Blitz (3 min pre-recorded poster talks by junior scientists)
1. “Detection limit of 89Zr-labelleled cells for cellular tracking using clinical PET/CT and PET/MRI”
   Laura Lechermann, PhD Student, Radiology

**11:45 COVID imaging** – chaired by Evis Sala

11:45 “A global AI tool for COVID-19 diagnosis and prognosis”
   Prof Carola Schoenlieb

12:00 “Neuroimaging of COVID”
   Prof David Menon

12:10 Discussion – led by Chair

**12:20 Data Blitz** (3 min pre-recorded poster talks by junior scientists)

1. “Metabolic changes in patients recovering from COVID-19”
   Carina Graf, PhD Student

**12:30 Lunch Break**

**13:30 Cognitive Neuroscience** – chaired by Ed Bullmore

13:30 “Future of Magnetoencephalography”
   Prof Rik Henson

13:45 “Combining TMS and MRI”
   Dr Jade Jackson

13:55 Discussion – led by Chair

**14:05 Data Blitz** (3 min pre-recorded poster talks by junior scientists)

1. “M1 GABA relates to functional connectivity changes and retention in visuomotor adaptation”
   Caroline Nettekoven, Post-doc, Dept Psychiatry

2. “Bilingual Brains are Bigger”
   Brendan Weekes, Professor, HKU

3. “Does Hemispheric Asymmetry Reduction in Older Adults (HAROLD) in motor cortex reflect compensation?”
   Ethan Knights, Post-doc, MRC CBU

**14:15 Mental Health** – chaired by Rik Henson

14:15 “Getting under the surface of MRI in mental health disorders”
   Prof Ed Bullmore
14:30  “What can brain MRI tell us about schizophrenia?”
       Dr Sarah Morgan

14:40  Discussion – led by Chair

14:50  Data Blitz (3 min pre-recorded poster talks by junior scientists)

   1. “Non-social sensory perception in autism: a meta-analysis of task fMRI studies”
      Nazia Jassim, PhD student, Dept Psychiatry

   2. “Restoring glutamatergic function in Frontotemporal Dementia is conditional on
      patients GABA physiology”
      Alistair Perry, Research Associate, Clinical Neurosciences

15:00  Poster Prizes, Goodbyes

   End of Day 2, but zoom will remain open for talk replays/chat/breakouts

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Prizes Sponsored by: Cambridge Centre for Mathematical Imaging in Healthcare (CMIH)