UKRI AI CDTs in Healthcare Conference 2023

Conference Program
3rd and 4th May 2023

The Principal Hotel
York

Welcome

On behalf of the participating UKRI CDTs, we would like to welcome you all to the UKRI AI CDTs in Healthcare Conference 2023, 3rd – 4th May 2023 at the Principal Hotel, York.

This is our second joint meeting following the inaugural conference in Milton Keynes, which took place in May 2022.

To encourage scientific exchange and facilitate collaborative research in artificial intelligence (AI) in healthcare, we have again brought together the future generation of innovators from:

o   CDT in Biomedical AI at the University of Edinburgh
o   CDT in AI for Healthcare at Imperial College London
o   CDT in AI for Medical Diagnosis and Care at the University of Leeds
o   CDT in AI-enabled Healthcare Systems at University College London

The event offers an opportunity for learning and networking. We have an exciting programme with PhD researchers showcasing their research and ideas through oral talks and poster sessions.

Thank you all for your contribution and participation.

The Program Committee

Participating Centres

UKRI CDT in Biomedical Artificial Intelligence
University of Edinburgh

Director – Ian Simpson

The UKRI Centre for Doctoral Training in Biomedical Artificial Intelligence grows from the realisation that AI technologies will play a central role leveraging data to transform our understanding and practice of biomedicine. Delivering such a step change will require training a new cadre of scientists operating at the intersection of computer science and biomedicine, building AI systems which are effective, ethical and empowering to scientists and users alike. Building on the tradition of world-leading research and innovation at the University of Edinburgh, our Centre is training a new generation of interdisciplinary scientists who will shape the development of AI within biomedical research over the next decades. Our students will gain the skills, knowledge and acumen to realise biomedical breakthroughs using AI while anticipating and addressing the social issues connected with their research. The Centre has launched in 2019 and currently has 47 doctoral students whose research spans a wide variety of areas, such as image analysis, computational psychiatry, population health and drug discovery. CDT website: https://web.inf.ed.ac.uk/cdt/biomedical-ai

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UKRI CDT in Artificial Intelligence for Healthcare
Imperial College London

Director – Aldo Faisal

The UKRI Centre for Doctoral Training in Artificial Intelligence for Healthcare at Imperial College London focusses on healthcare applications of core AI to train AI PhDs and Clinical PhD Fellows. We deliver training that integrates the development of technical skills with an appreciation for approaches to human-in-the-Loop AI design that are socially and ethically acceptable. The term "AI" means for us the development of intelligent systems that embody a practical solution. Amongst contemporary AI approaches, Machine Learning methods have shown to yield powerful solutions which work in purely data-driven manners and link via data science to emerging biomedical research methodologies. However, practical solutions involving AI will require a broader approach and we will drive technical innovation by providing broad training for exploitation of multiple technological strategies within the broader realm of AI, including, Machine Learning, Logic-based, Computer Vision or Natural Language Processing methods.

UKRI CDT in Artificial Intelligence for Medical Diagnosis and Care
University of Leeds

Director – David Hogg

The UKRI Centre for Doctoral Training in Artificial Intelligence for Medical Diagnosis and Care aims to train the research leaders of tomorrow to transform clinical practice using artificial intelligence. The CDT is led and hosted by the University of Leeds and is founded on a strongly engaged ecosystem of industry, public and voluntary sector organisations, including a close partnership with the Leeds Teaching Hospitals NHS Trust (LTHT). The doctoral research focuses on world-renowned health areas of the University and LTHT, notably in cancer, cardiovascular and musculoskeletal disease. Our students come from a broad range of STEM and health backgrounds, enriching the disciplinary mix and maximising research potential. All students develop the foundational knowledge and practical skills necessary to undertake doctoral research in AI and Health at the highest level. The four-year CDT programme leads to an integrated PhD/MSc in AI for Medical Diagnosis and Care.

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UKRI CDT in AI-Enabled Healthcare
University College London

Director – Paul Taylor

The mission of UCL's UKRI CDT in AI-enabled Healthcare Systems is to train future leaders to solve the most pressing healthcare challenges with the most innovative artificial intelligence solutions. Our CDT has been set up to train the brightest and best healthcare artificial intelligence scientists of the future to solve the most pressing healthcare challenges with the most innovative artificial intelligence solutions. We aim to focus on work that is close to application, and we work closely with NHS clinicians to apply AI to operational problems as well as projects aimed at improving diagnostics and creating new treatments. UCL is a multi-faculty university with strengths across the board in computer science, biomedicine but also in philosophy and economics and we encourage applications from students with a wide range of backgrounds. We are strongly entrepreneurial and partner with industry. We support students taking internships with a range of companies and help students develop links with start-ups and venture capital.

Venue:

The Principal Hotel
Station Rd, York
YO24 1AA

https://theprincipalyork.com/

Parking:
Car parking is charged at £15 per day. Please note that the car park is managed by an external company and is operated using a camera system. You have to register your car registration details and settle your own parking charges on departure at the reception.

UK Research and Innovation

Conference Program

3rd May 2023

15:30 – 17:00	York National Railway museum (optional)
17:15 – 18:30	Registration (Oak Foyer) and drinks reception (Oak Room)
18:30 – 20:30	Buffet Dinner (Events Centre)

4th May 2023

9:00 – 09:15	**Welcome/Introduction**	
9:15 – 10:00	**Keynote talk: Why is innovating in digital health challenging?** **Dorothy Monekosso** Professor of Computer Science University of Durham	
10:00 – 11:00	**PhD Researchers - Oral Presentations**	
	10:00 – 10:15	**Designing multi-scale biological circuits with machine learning** **Charlotte Merzbacher** UKRI CDT in Biomedical Artificial Intelligence, University of Edinburgh
	10:15 – 10:30	**A Bayesian machine learning approach to predict eczema severity from daily symptom scores** **Ariane Duverdier** UKRI CDT in AI for Healthcare, Imperial College London
	10:30 – 10:45	**Immune subtyping of melanoma whole slide images using multiple instance learning** **Lucy Godson** UKRI CDT in AI for Medical Diagnosis and Care, University of Leeds
	10:45 – 11:00	**Unlocking Pharmacokinetic Literature with Natural Language Processing** **Victoria Smith** UKRI CDT in AI-Enabled Healthcare, University College London
11:00 – 12:30	**Poster session A** (+ tea and coffee) (Oak Room)	

UK Research and Innovation

12:30 – 13:30	Lunch	
13:30 – 14:30	**PhD Researchers - Oral Presentations**	
	13:30 – 13:45	**TarGene: A comprehensive and robust approach to population genetics** **Olivier Labayle** UKRI CDT in Biomedical Artificial Intelligence, University of Edinburgh
	13:45 – 14:00	**Teach me what to ignore** **Dekai (Kai) Zhang** UKRI CDT in AI for Healthcare, Imperial College London
	14:00 – 14:15	**Hierarchical Graph Networks Applied to Cells in Histopathology** **Joe Sims** UKRI CDT in AI for Medical Diagnosis and Care, University of Leeds
	14:15 – 14:30	**End-to-end Deep Learning Segmentation Pipeline for a Registry of Single Ventricle Patients** **Tina Yao** UKRI CDT in AI-Enabled Healthcare, University College London
14:30 – 16:00	**Poster session B** (+ tea and coffee) (Oak Room)	
16:00 – 16:45	**Fleshing Out The Data – Involving Patients In Your Research** **Richard Stephens** NCRI Consumer Forum	
16:45 – 17:00	Closing remarks	

On the 4th May the conference will be at the Events Center and the poster sessions will be in the Oak Room.

Keynote Speaker:

Dorothy Monekosso

Professor of Computer Science
University of Durham

Title:
Why is innovating in digital health challenging?

Abstract:

Digital health is a broad term that encompasses technologies for health and social care. In this I include medical devices and robotics. Advances in sensing technologies and machine learning has led to a proliferation of health and wellbeing products.

Despite these advances, the expected impact on the provision of health and social care that is improved patient outcomes, increased efficiency at reduced costs has yet to be fully realised. Innovating in digital health presents lots of challenges. The difficulties are wide ranging and include multiple stakeholders that must be satisfied, complex regulatory requirements including data protection, integrating into existing complex models of service and reimbursement model.

As researchers and innovators from scientific and engineering disciplines we are passionate about exploring new avenues, designing, developing and evaluating novel systems. Some of us are interested in achieving impact outside of academia and commercialising our research. But we encounter obstacles at every step.

I will discuss some of the issues, those I encountered in my work and consider how to address some of these.

Bio:

Dorothy Monekosso (PhD) is Professor of Computer Science at the University of Durham and Chief Technical Officer at More Life UK Ltd. Dorothy holds a PhD (2000) in Spacecraft Engineering, a Master's in Satellite Engineering from the Surrey Space Centre (University of Surrey) and Bachelor in Electronic Engineering. She began her career in space sector, developing on-board computers and control systems for spacecraft and satellites. Dorothy became interested in Artificial Intelligence during her PhD applying machine learning methods and techniques to spacecraft autonomy. On the basis of this work, she was awarded a Royal Academy of Engineering, Engineering Foresight Award.

Since joining academia, her current research interests are intelligent environments and smart homes to support independent living, digital health, rehabilitation and assistive technologies. She has led as PI several projects funding by MRC, Innovate UK, EU FP7 and Horizon, Royal Academy of Engineering, US DHS and commercial projects funded by NHS and UK local authorities. In 2020, she was awarded an honorary fellowship of the British Computer Society for work in assistive and rehabilitation technologies.
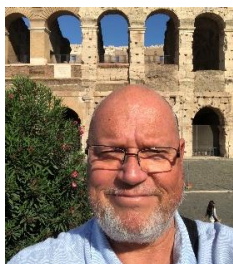
Richard Stephens

Chair
NCRI Consumer Forum

Title:
Fleshing Out The Data – Involving Patients In Your Research

Abstract:

Research in Artificial Intelligence for Diagnostics and Health Care depends on patient data. Yet the researchers rarely meet the patients, let alone meet to discuss their research and/or the patients' data. And the patients rarely know who is looking at their data or what for. Missed opportunities lead to misunderstanding, misunderstanding to mistrust.

Patient Involvement and Patient Engagement offer ways to bridge some of the gaps. Engagement is when researchers talk about their work and help patients (and the public) to understand it, and Involvement goes a step further, when patents work with researchers, contributing to the design or delivery or dissemination of the work, or even to the implementation of the findings.

The presentation looks at Attitudes, Opportunities, Engagement and Involvement, and describes the innovative Patient Involvement being pioneered by the Leeds CDT.

Bio:

Richard has been a patient advocate for over two decades and has sat on and chaired strategic groups in the UK and in Europe, as well as working on individual research studies as a patient partner. He is currently the Consumer Involvement Lead at NCRI. He also works with industry and with patient groups in Europe, Canada and the USA. He helped found the AllTrials campaign and useMYdata movement, and he is the founding co-Editor-in-Chief of the Journal of Research Involvement and Engagement.

Richard has so far survived two cancers, a heart emergency, and continued co-morbidities and late effects, and has participated in four interventional studies and nine others, all spread over the past 25 years. He is a rich source of healthcare data.

Poster Sessions

Session A - 11:00 - 12:30 on 4th May 2022

1. **Domas Linkevicius, Melanie Stefan, Angus Chadwick and David C. Sterratt**
   Linking models of biochemical dynamics via mass-constrained neural ordinary differential equations

2. **Matus Falis, Hang Dong, Alexandra Birch and Beatrice Alex**
   Horses to Zebras: Ontology-Guided Data Augmentation and Synthesis for ICD-9 Coding

3. **Dekai Zhang**
   Teach me what to ignore

4. **Jack Breen, Katie Allen, Kieran Zucker, Pratik Adusumilli, Andy Scarsbrook, Geoff Hall, Nicolas Orsi and Nishant Ravikumar**
   Artificial Intelligence in Ovarian Cancer Histopathology: A Systematic Review

5. **Olivier Labayle, Ava Khamseh, Sjoerd Beentjes and Chris Ponting**
   TarGene

6. **Mary Paterson, Jim Moor and Luisa Cutillo**
   A Pipeline to Evaluate the Effects of Noise on Machine Learning Detection of Laryngeal Cancer

7. **Dominic Giles**
   Representation of the Focally Injured Human Brain

8. **Eleanor Davyson**
   Metabolomic investigation of major depressive disorder identifies a potentially causal association with polyunsaturated fatty acids

9. **Simon Hanassab**
   Follicle sizes that are most likely to yield oocytes during in vitro fertilisation (IVF) treatment

10. **Leonardo Vincenzo Castorina, Rokas Petrenas, Kartic Subr and Christopher Wells Wood**
    TIMED & PDBench: Developing and Evaluating Computational Methods for Protein Sequence Design

11. **Joshua Southern**
    Curvature Filtrations for Graph Generative Model Evaluation

12. **William Bolton, Richard Wilson, Mark Gilchrist, Pantelis Georgiou, Alison Holmes and Timothy Rawson**
    Machine learning for individualised antibiotic intravenous to oral decision-making

13. **Berke Doga Basaran, Mengyun Qiao, Paul Matthews and Wenjia Bai**
    Subject-Specific Lesion Generation and Pseudo-Healthy Synthesis for Multiple Sclerosis Brain Images

14. **Neophytos Polydorou**
    A Virtual Reality Platform with Emotion Recognition Capabilities for Self-Attachment Technique

15. **Ariane Duverdier, Guillem Hurault, Adnan Custovic and Reiko Tanaka**
A Bayesian machine learning approach to predict eczema severity from daily symptom scores

16. **Siân Carey, Ciarán McInerney, Alwyn Kotzé, Tom Lawton, Owen Johnson, Ibrahim Habli and Marc De Kamps**
Interactive Fairness Auditing Tool

17. **Annika Guez, C. Sebastian Mancero Castillo, Balint Hodossy, Dario Farina and Ravi Vaidyanathan**
Optimal muscle selection for gait prediction models

18. **Alexander Coles**
Transferable Cancer Recurrence Detection on Simulated National Dataset

19. **Adam Marcus, Paul Bentley and Daniel Rueckert**
Stroke outcome prediction from CT brain using a spatiotemporal diffusion autoencoder

20. **Tina Yao**
End-to-end Deep Learning Segmentation Pipeline for a Registry of Single Ventricle Patients

21. **Lewis Howell, James McLaughlan, James Chandler and Tze Wah**
Deep Learning for Ultrasound-guided HIFU Therapy of thyroid nodules

22. **Joseph Farrington, Kezhi Li, Wai Keong Wong and Martin Utley**
Going faster to see further: GPU-accelerated value iteration and simultation for blood inventory management using JAX

23. **Ruoyu Hu**
An AI Platform for Learning To Laugh Using Self- Initiated Humour Protocols

24. **Benjamin Keel and Samuel Relton**
Variational Autoencoders for Feature Extraction and Malignancy Prediction of Lung Lesions

25. **Weitong Zhang**
Beyond the Pixel Limit: Automatic Super-resolution Reconstruction

26. **Xavier Cadet, Manyue Hu, Sara Ahmadi-Abhari and Hamed Haddadi**
Multimodal Machine Learning to identify novel biomarkers leading to dementia

27. **Adrito Das**
PAINet: A Multi-Task Network for Anatomy Identification in Endoscopic Pituitary Surgery

28. **Yuxuan Liu, Padmanabhan Ramnarayan and Aldo Faisal**
Reinforcement Learning Based Management and Control of Paediatric Intensive Care Ventilation

29. **Michael Thornton, Danilo Mandic and Tobias Reichenbach**
Deep neural networks for decoding EEG responses to the speech envelope

30. **Zuzanna Wojcik, Vania Dimitrova, Kate Absolom, Lorraine Warrington and Galina Velikova**
Predicting Hospital Utilisation and Chemotherapy Management from Patient-Reported Outcome Measures Collected in a Clinical Trial

31. **Christopher Winder, Andrew Bulpitt, Gordon Cook, Russell Frood and Andrew Scarsbrook**
Extraction of Body Composition Metrics for Multiple Myeloma Prognosis

32. **Jason Keighley, Marc De Kamps, Alexander Wright and Darren Treanor**
Unsupervised pathology slide segmentation using Vector Quantised Variational Autoencoders

33. **Joao Pereira**
EMG Robustness Through Big Data

34. **Paul Festor, Myura Nagendran, Matthieu Komorowski and Aldo Faisal**
Safety assessment of reinforcement learning in healthcare: fron training to realistic deployment.

35. **Charlotte Merzbacher, Oisin Mac Aodha and Diego Oyarzún**
Designing Multiscale Biological Circuits with Machine Learning

36. **Myura Nagendran, Paul Festor, Matthieu Komorowski, Anthony Gordon and Aldo Faisal**
Eye-tracking of clinician behaviour with explainable AI decision support: a high-fidelity simulation study

37. **Andrew Broad, Alexander Wright, Marc De Kamps De Kamps and Darren Treanor**
Can Attention-Inspired Artificial Intelligence Provide a Diagnostic Understanding of Colorectal Cancer Imaging Data?

38. **Benjamin Post, Roman Klapaukh, Stephen Brett and A. Aldo Faisal**
Temporal Patterns of Primary Care Utilization as Predictors for Hospital Admission

39. **Natalia Szlachetka, Christopher Wood and Jelena Baranovic**
Computational analysis of interactions between AMPA receptor and con-ikot-ikot conotoxin

40. **Morgan Thomas, Andrew Bulpitt and Lucy Stead**
Predicting Glioblastoma Gene Expression Therapy Response with Machine Learning

41. **Florence Townend, Andrea Malaspina and James Cole**
Data Fusion with a Multi-Channel Variational Autoencoder Improves Motor Neuron Disease Prognosis

42. **Emma Briggs**
AI for Primary Care Risk Assessment of Oesophago-gastric Cancer

43. **Bryan Li, Filippo Corponi, Gerard Anmella, Diego Hiadalgo-Mazzei and Antonio Vergari**
Inferring mood disorder symptoms from multivariate time-series sensory data

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Session B - 14:30 - 16:00 on 4ᵗʰ May 2023

1. **Nikitas Angeletos Chrysaitis and Peggy Seriès**
   Systematic review: Mixed evidence for general theories of reduced prior influences in autism

2. **Dimitar Georgiev, Simon Vilms Pedersen, Ruoxiao Xie, Álvaro Fernández Galiana, Molly M. Stevens and Mauricio Barahona**
   Cell phenotyping via hyperspectral unmixing autoencoders

3. **Lucille Cazenave, Martin Einenkel, Aaron Yurkewich, Satoshi Endo and Etienne Burdet**
   Hybrid Robotic and Electrical Stimulation Training Enhances Performance and Reduces Mental Load

4. **Hugo Dugdale**
   Security and Privacy of Medical IoT Devices

5. **Thomas Allcock, Andy Bulpitt, Andrew Hanby and Rebecca Millican-Slater**
   Co-Attention Multiple Instance Learning for Interpretable Whole Slide Image Classification

6. **Lucy Godson**
   Immune subtyping of melanoma whole slide images using multiple instance learning

7. **Craig Nicolson**
   Optimising organ donation through the use of machine learning to predict time to asystole in intensive care: project overview

8. **Michael Tänzer, Pedro Ferreira, Andrew Scott, Zohya Khalique, Maria Dwornik, Dudley Pennell, Guang Yang, Daniel Rueckert and Sonia Nielles-Vallespin**
   Faster Diffusion Cardiac MRI with Deep Learning-based breath hold reduction

9. **Federico Nardi, Shlomi Haar and A.Aldo Faisal**
   Isolating motor learning mechanisms through a billiard task in Embodied Virtual Reality

10. **Nina Moutonnet**
    Automatic seizure detection and monitoring in hospitalised patients using artificial intelligence

11. **Thomas Andrews**
    Multimodal neuroimaging analysis to investigate structural and functional brain connections

12. **Avish Vijayaraghavan**
    Stable feature selection to aid prediction of idiopathic pulmonary fibrosis progression

13. **Chengzhe Piao, Taiyu Zhu, Jun Wang, Paul Taylor, Stephanie Baldeweg, Sarita Naik and Ken Li**
    A Model-based Interpretable Approach in Blood Glucose Level Prediction for People with Type 1 Diabetes

14. **Cosima Graef, Ravi Vaidyanathan, Yen Tai and Shlomi Haar**
    A Multimodal AI System for Closed-loop Neuromodulation

15. **Victoria Smith, Ferran Gonzalez-Hernandez, Palang Chotsiri, Thanaporn Wattanakul, Jose Antonio Cordero Rigo, Maria Rosa Balleste, Mario Duran Hortola, Mireia Poch Mascaró, Watjana Lilaonitku, Frank Kloprogge and Joseph F. Standing**
Unlocking Pharmacokinetic Literature with Natural Language Processing

16. **Giulia Sanguedolce, Fatemeh Geranmayeh and Patrick Naylor**
The ACOUSTICS study: an automated community assessment of aphasic stroke

17. **Bailey Andrew, David Westhead and Luisa Cutillo**
Efficient Network Inference for Multi-Omics Data

18. **Christopher Tomlinson**
PheKnowGraphEHR: data & knowledge-driven subtyping of long COVID

19. **Alex Ranne, Yordanka Velikova, Nassir Navab and Ferdinando Rodriguez Y Baena**
CathNet: Catheter Simulation and Tracking in Interventional Ultrasound using Transformers

20. **Gerardo Loza, Pietro Valdastri and Sharib Ali**
Characterisation of tissue and surgical tools using machine learning to inform autonomy in robotic minimally invasive surgery

21. **Aron Syversen, Zhiqiang Zhang and David Jayne**
Using Heart Rate Variability from long-term ECG recordings for the Automatic Prediction of Vascular Events

22. **Christoforos Galazis, Samuel Shepperd, Emma Brouwer, Sandro Queirós, Nicholas S. Peters, Anil A. Bharath and Marta Varela**
High-resolution 3D Maps of Left Atrial Displacements using an Unsupervised Image Registration Neural Network

23. **Victoria Moglia, Lesley Smith, Owen Johnson and Gordon Cook**
Use of AI to improve the early detection of upper GI cancers from routine blood tests

24. **Maria Miscouridou, Bradley Treeby, Charlotte Stagg and Jose Pineda**
Classical and learned MR to pseudo-CT mappings for accurate transcranial ultrasound simulation

25. **Anna-Grace Linton, Vania Dimitrova, Amy Downing, Richard Wagland and Adam Glaser**
Weakly Supervised Classification for Patient Reported Free Text Comments

26. **Rachael Harkness, Kieran Zucker and Nishant Ravikumar**
Learning disentangled representations for explainable chest X-ray classification using Dirichlet VAEs

27. **Oliver Umney, Alistair Curd, Michelle Peckham, Philip Quirke and Joanna Leng**
Cell segmentation in SMLM images of EGFR and its ligands

28. **Georgios Papadopoulos**
Deep Learning for Hyperplexed Biosensor Diagnostics

29. **Kevin Horeau**
Data-driven Digital Twins for the discovery of the link between shopping behaviour and the onset of cancer

30. **Shazeea Masud**
Can we use Artificial Intelligence to Predict Cancer Outcomes using Patient Reported Outcome Measure surveys and Routine Healthcare Data?

31. **William Plumb**
Worth the Wait?: AI-Enabled Clustering of Clinical Pathways for More Efficient Patient Management

32. **Sarah Cechnicka**
Realistic Data Enrichment for Robust Image Segmentation in Histopathology

33. **Michael Stam**
Illuminating the Protein Structural Universe

34. **Samuel Channon-Wells, Myrsini Kaforou, Aubrey Cunnington, Mauricio Barahona and Jethro Herberg**
Transcriptomic clustering of paediatric infectious and inflammatory diseases: plans, motivations, and proposed methodologies for a data-driven disease taxonomy

35. **Simon Ellershaw, Richard Dobson and Anoop Shah**
Grounding Large Language Models with Clinical Knowledge using Information Retrieval

36. **Amr Nimer, J Alexander Harston and A. Aldo Faisal**
Real-World Behaviour Analytics

37. **Margherita Rosnati, Mélanie Bernhardt and Ben Glocker**
Timestep ensembling diffusion models for semi-supervised image segmentation

38. **Aasiyah Rashan, Michalis Katsoulis and Alvina Lai**
Using Targeted Maximum Likelihood Estimation to Estimate the Effect of Bariatric Surgery on the Incidence of Adverse Cardiovascular Events in Patients with Obesity

39. **Luke Conroy**
Deep learning approaches for phenotype discovery using image data in geographic atrophy – project plan

40. **Jamie Norris, Stuart Smith, Gerald Cooray, Karl Friston, Aswin Chari, Martin Tisdall and Richard Rosch**
Predicting upcoming interictal epileptiform discharges with deep learning

41. **Mohammad Amin Lessan, Jamie Dean and Chrisopher Clark**
Tracking Glioma Cell Populations Non-Invasively Using MRI and Machine Learning

42. **Dominic Williamson, Robbert Struyven, Siegfried Wagner, David Romero-Bascones, Yukun Zhou, Timing Liu, Mateo Gende Lozano, Mario Cortina Borja, Jugnoo Rahi, Axel Petzold, Yue Wu, Aaron Lee, Cecilia Lee, Alastair Denniston, Daniel Alexander and Pearse Keane**
Deep-learning enabled multi-modal fusion models for dementia screening using colour fundus photographs

43. **Quang Nguyen**
EyeBERT: evaluating large language models for facilitating care and research in ophthalmology