
# Conference Programme

8-10 September | Cambridge UK

# International Conference on AI in Healthcare

Second Edition

**8-10 September 2025, Cambridge, UK**

# Welcome

On behalf of the organising committee, we welcome all delegates from 27 different countries to attend this second edition of the International Conference on Artificial Intelligence in Healthcare (AIiH 2025), which is hosted in September 2025 in the Jesus College, University of Cambridge, UK.

AIiH aims to provide a prominent platform for researchers and practitioners who are devoted to improving healthcare using modern artificial intelligence. We recognise that healthcare applications present complex and sometimes unique challenges across a wide spectrum, from ethics to technical developments, that generic AI methods are often inadequate. By creating this dedicated forum, we encourage discussions and disseminations of efficient and effective AI solutions and technologies for healthcare, and in turn we hope to influence the research, technology adoption, and decision making in healthcare.

This year, a total of 83 full-length papers (12 pages plus to 2 pages of references) and 102 short abstracts (up to 5 pages in length) were received by the April deadline. AIiH 2025 continued to adopt the double-blind peer review policy for full-length papers. Each paper received at least 3 reviews, with an average of 3.6 reviews. Abstracts received 2 or 3 expert reviews per submission. A total of 60 full-length papers are selected for publication in the proceedings and 46 abstracts (excluding late-breaking abstracts) are digitally archived online with DOIs. Contributing authors are from 27 countries, which reflects the international nature of the conference. The best paper prize will be selected and awarded at the conference.

We would like to thank all reviewers for their diligent work and prompt responses. In particular, we would like to highlight the following outstanding reviewers for their hard work in providing detailed, insightful and high quality reviews for all the

papers assigned to them: Edouard Chatzopoulos from UCLouvain, Jingjing Deng from Bristol University, Robert Fisher from Edinburgh University, María Garrosa from Universidad Carlos III de Madrid, Chen Hu from Swansea University, Batuhan Karaman from Cornell University, Vincent Zakka from Aston University, Lu Zhang from Loughborough University, and Yixin Zhang from Columbia University.

We are honored to have 5 distinguished scholars as invited speakers. Dr. Meng Fang from University of Liverpool delivers the conference tutorial on Large Language Models. The 4 keynotes are given by Prof. Kerstin Denecke from Bern University of Applied Sciences, Switzerland, Prof. Yulan He from Kings College London, Prof. Daniel Elson from Imperial College London, and Prof. Elvira Perez Vallejos from University of Nottingham & RAI UK. AIiH 2025 also features a Panel Session on Responsible AI for Healthcare chaired by Prof. Elvira Perez Vallejos. We are grateful to their inspiring contributions.

We are indebted to several people who have contributed generously to the organization of the conference: Yilun Zhang, Hanchi Ren, and many student volunteers. We are grateful to the Special Session organizers whose contributions have enriched the conference program and widened our participation. The conference has received generous support from industrial sponsors. We would like to thank Springer in extending their support to publish the proceedings in LNCS. Finally, we thank all the presenting authors and attendees who make the second iteration of this new conference series intellectually stimulating and enjoyable.

Daniele Cafolla
Timothy Rittman
Hao Ni
Xianghua Xie

# People

**General Chair:**

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| Daniele Cafolla | Swansea University |

**Programme Co-Chairs:**

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| Timothy Rittman | University of Cambridge |
| Hao Ni | University College London |

**Organisation Chair:**

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| Xianghua Xie | Swansea University |

**International Programme Committee:**

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| Yona Falinie Gaus | Durham University, UK |
| Zhijun Guo | UCL, UK |

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| Ali Guran | Swansea University, UK |
| Kenji Hashimoto | Waseda University, Japan |
| Chen Hu | Swansea University, UK |
| Yi Hu | Swansea University, UK |
| Ioannis Ivrissimtzis | Durham University, UK |
| Batuhan Karaman | Cornell, USA |
| Stamos Katsigiannis | Durham University, UK |
| Frederick W. B. Li | Durham University, UK |
| Yiming Li | Swansea University, UK |
| Haiping Liu | University of Manchester, UK |
| Erwin-Christian Lovasz | University Politehnica Timisoara, Romania |
| Xiaoke Ma | Xi'dian University, China |
| Joseph MacInnes | Swansea University, UK |
| Sam Nallaperuma-Herzberg | University of Cambridge, UK |
| Riti Paul | Arizona State University, USA |
| Matt Ploszajski | Swansea University, UK |
| Gibin Powathil | Swansea University, UK |
| Hanchi Ren | Swansea University, UK |
| Sarah Ren | University of Sheffield, UK |
| Matteo Russo | University of Rome Tor Vergata, Italy |
| Ramin Safa | Ayandegan Institute of High Education, Iran |
| Sriram Sagi | Duke University, USA |
| Sara Sharifzadeh | Swansea University, UK |
| Nupur Thakur | Arizona State University, USA |
| Lehu Wen | Brunel University London, UK |
| Kathleen Wilkie | Toronto Metropolitan University, Canada |
| Xianghua Xie | Swansea University, UK |
| Su Yang | Swansea University, UK |
| Yue Yang | Swansea University, UK |
| Shengzhou Yi | University of Tokyo, Japan |
| Vincent Zakka | Aston University, UK |
| Jiaxiang Zhang | Swansea University, UK |
| Lu Zhang | Loughborough University, UK |

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|---|---|
| Yilun Zhang | Swansea University, UK |
| Yixin Zhang | Columbia University, USA |
| Feng Zhao | University of Science and Technology of China, China |
| Huiyu Zhou | Leicester University, UK |
| Massoud Zolgharni | University of West London, UK |

# Programme: Monday 8th September

08:30 Registration (until 17.00)

09:00-09:15 Welcome

Tutorial (part 1)

09:15-10:00 Large Language Models
*Meng Fang, University of Liverpool*

10:00-10:15 Break (tea & coffee)
*Poster Session One presenters to set up posters*

Tutorial (part 2)

10:15-11:00 Large Language Models
*Meng Fang, University of Liverpool*

11:00-12:00 Poster Spotlight Presentations (Session 1)
*chair: Daniele Cafolla, Swansea University*

12:00-13:30 Lunch & Poster Session One

P01 Feature extraction from medical records to increase the accuracy of intracranial aneurysm rupture likelihood
*Julia Zakaszewska (Gdansk University of Technology); Patryk Jasik (Faculty of Applied Physics and Mathematics, GdańskTech, Poland); Justyna Fercho (Department of Emergency Medicine, MUG, UCC in Gdańsk, Poland); Piotr Fonferek (Faculty of Applied Physics and Mathematics, GdańskTech, Poland); Katarzyna Konieczna (Faculty of Applied Physics and Mathematics, GdańskTech, Poland); Hanna Lisowska (Faculty of*

*Applied Physics and Mathematics, GdańskTech, Poland); Jakub Sadowy (Faculty of Applied Physics and Mathematics, GdańskTech, Poland); Daria Binerowska (Faculty of Applied Physics and Mathematics, GdańskTech, Poland); Maciej Pestka (Faculty of Applied Physics and Mathematics, GdańskTech, Poland); Michalina Dudra (Students' Scientific Circle of Emergency Medicine, MUG, Poland); Weronika Jagieło (Students' Scientific Circle of Emergency Medicine, MUG, Poland); Klaudia Kokot (Students' Scientific Circle of Emergency Medicine, MUG, Poland); Dariusz Szplit (Department of Innovation, Analytics, and MedTech Implementation, MUG, Poland); Jacek Szypenbejl (Department of Emergency Medicine, MUG, UCC in Gdańsk, Poland); Tomasz Szmuda (Neurosurgery Department, Swissmed Luxmed Hospital in Gdańsk, Poland); Mariusz Siemiński (Department of Emergency Medicine, MUG, UCC in Gdańsk, Poland)*

P02 Automated Gross Tumor Volume Segmentation in Meningioma Using Squeeze and Excitation Residual U-Net for Enhanced Radiotherapy Planning
*Boiumelo Ronald Matlatla (University of Johannesburg); Dustin van der Haar (University of Johannesburg); Hima Vadapalli (University of Johannesburg)*

P03 Ensemble Models for Real-Time Fetal Monitoring Using Discrete Segmentation of Cardiotocography
*Muhammad Faheem (University of East Anglia); Rudy Lapeer (University of East Anglia); Beatriz De La Iglesia (University of East Anglia); Dr Rahul Gore (5GoreConn); Dr Rowan Connell (5GoreConn); Wenjia Wang (University of East Anglia)*

P04 Knowledge Distillation for Computationally Tractable Brain Tumour Segmentation in Sub-Saharan Africa
*Gage Nott (University of Johannesburg); Hima Vadapalli (University of Johannesburg); Dustin Van der Haar*

*Public Involvement and Engagement (PPIE) represent); Suzanne Bench (Guy's and St Thomas' NHS Trust)*

P11 Constrained optimisation algorithms for population pharmacokinetic model discovery
*Sam Richardson (AstraZeneca); Andrzej Nowojewski (AstraZeneca); Marija Kekic (AstraZeneca); Itziar Irurzun-Arana (GSK); Damilola Olabode (AstraZeneca); Diansong Zhou (AstraZeneca); Oleg Stepanov (AstraZeneca); Weifeng Tang (AstraZeneca); Richard Dearden (AstraZeneca); Megan Gibbs (AstraZeneca)*

P12 Adapting self-attention algorithms to chemogenomic spaces to predict antimicrobial resistance and accelerate antibiotic discovery
*Diana Martynova (Zacodi Labs)*

P13 Ethical and Privacy-Preserving AI for Predicting Cognitive Decline in the Elderly Through Long-Term Health Monitoring: A Survey
*Mariya Frolova (University of Ottawa); Kalonji Kalala (University of Ottawa)*

P14 Machine learning based prognosis prediction of intracerebral hemorrhage outcome and counterfactual analysis on treatment effectiveness of surgical intervention
*Eunhye Yang (The University of Hong Kong); Kay-Cheong Teo (The University of Hong Kong); Gary Kui Kai Lau (The University of Hong Kong); Joshua Wing Kei Ho (The University of Hong Kong)*

P15 Applying Machine Learning to Natural Product Chemical Space
*David Ntim (Duke University); James Carter (Duke University); Amy Chung (Duke University); Daniel Reker (Duke University)*

P16 The influence of dialogue flow on stress levels when booking healthcare appointments with AI
*Milos Kravcik (DFKI); Elisabeth Reiswich (Aaron.ai); Iwan*

*(University of Cambridge); Richard Bethlehem (University of Cambridge)*

P24 Multi-Disease Deep Learning Framework for GWAS: Beyond Feature Selection Constraints
*Iqra Farooq (University of Surrey); Sara Atito (University of Surrey); Ayse Demirkan (University of Surrey); Inga Prokopenko (University of Surrey); Muhammad Awais (University of Surrey)*

## Keynote

*chair: Timothy Rittman, Cambridge University*

13:30-14:30 **Artificial Intelligence for Surgical Imaging**
*Daniel Elson, Imperial College London*

## 14:30-15:30 Best paper candidate session one

*chair: Timothy Rittman, Cambridge University*

14:30-14:45 Hybrid Depression Detection from Spontaneous Speech via RFE-Majority Voting and WavLM-Based Attention
*Attas, Dalia (Umm Alqura University)*

14:45-15:00 Beyond Accuracy: Enhancing Parkinson's Diagnosis with Uncertainty Quantification of Machine Learning Models
*Asif Azad (BUET); Md. Saiful Islam (University of Rochester); Ehsan Hoque (University of Rochester); M Saifur Rahman (BUET)*

15:00-15:15 CLAIM: Clinically-Guided LGE Augmentation for Realistic and Diverse Myocardial Scar Synthesis and Segmentation
*Farheen Ramzan (University of Sheffield); Yusuf Kiberu (Nottingham University Hospitals NHS Trust); Nikesh Jathanna (Nottingham University Hospitals NHS Trust);*

*Shahnaz Jamil-Copley (University of Nottingham); Richard Clayton (University of Sheffield); Chen Chen (University of Sheffield)*

15:15-15:30 High-Confidence Labelling of Pathology Reports using LLM-Based Unanimous Ensembles with Limited Data
*Thomas Greatrix (Cardiff University); Frank Langbein (Cardiff University); Roger Whitaker (Cardiff University); Liam Turner (Cardiff University); Gualtiero Colombo (Cardiff University)*

15:30-16:00 Break (tea & coffee)

16:00-17:00 Best paper candidate session two

*chair: Hao Ni, University College London*

16:00-16:15 Safeguarding Privacy for Medical Data with a Novel Key-Lock Module in Federated Learning
*Hanchi Ren (Swansea University); Jingjing Deng (Durham University); Xianghua Xie (Swansea University); Xiaoke Ma (Xidian University); Jianfeng Ma (Xidian University)*

16:15-16:30 Evaluating Personalised Beneficial Interventions in the Daily Lives of Older Adults Using a Camera
*Longfei Chen (University of Edinburgh); Christopher Lochhead (University of Edinburgh); Robert B. Fisher (University of Edinburgh); Nusa Faric (University of Edinburgh); Jacques Fleuriot (University of Edinburgh); Subramanian Ramamoorthy (University of Edinburgh)*

16:30-16:45 Spatiotemporal Contrastive Learning for Echocardiography View Classification
*Preshen Naidoo (University of West London); Patricia Fernandes (University of West London); Isreal Ufumaka (University of West London); Nasim Dadashi Serej (University of West London); James Howard (Imperial*

*College London); Darrel Francis (Imperial College London); Charlotte Manisty (University College London); Massoud Zolgharni (University of West London)*

16:45-17:00 Detection of multiple cardiac disorders based on heartbeat morphology and time segment analysis of ECG signals
*Subrata Sarkar (Jadavpur University); Debjit Dhar (Jadavpur University); Rajib Sarkar (Derozio Memorial College); Sanjoy Kumar Saha (Jadavpur University); Tapabrata Chakraborti (The Alan Turing Institute, University College London)*

# Programme: Tuesday 9th September

08:30 Registration (until 17.00)

## Keynote

*chair: Daniele Cafolla, Swansea University*

09:00-10:00 **All that glitters is not gold - The unintended harm of artificial intelligence in healthcare**
*Kerstin Denecke, Bern University of Applied Sciences, Switzerland*

## 10:00-10:20 Ethics of AI in healthcare

*chair: Hazrat Ali, University of Stirling*

10:00-10:10 Empirical Study of Social Bias in Medical Question Answering via Large Language Models
*Xiao Xiao (University of liverpool); Jiaxu Zhao (Eindhoven University of Technology); Terry Payne (University of Liverpool); Meng Fang (University of Liverpool)*

10:10-10:20 Prompt Injection is All You Need: A Framework for Evaluating Healthcare Misinformation in LLMs
*Zad Chin (Harvard University)*

## Multimodal generative AI

*chair: Hazrat Ali, University of Stirling*

10:20-10:30 DiabEye-Q: AI-driven Longitudinal Analysis of Ophthalmoscopic Images for Early Diabetes Prediction in Qatari Adults
*Sulaiman Khan (Hamad Bin Khalifa University); Md. Rafiul Biswas (Hamad Bin Khalifa University); Zubair Shah (Hamad Bin Khalifa University)*

10:30-11:00 Break (tea & coffee)
*Poster Session Two presenters to set up posters*

11:00-12:00 Poster Spotlight Presentations (Session 2)

*chair: Daniele Cafolla, Swansea University*

12:00-13:30 Lunch & Poster Session Two

P01 Exploring applicability of Text-to-Image models for generating aphasia rehabilitation material
*Mihir Mulye (Heinrich Heine University); Stefan Conrad (Institute for Computer Science, Heinrich Heine University, Düsseldorf, Germany); Stefan Knecht (Institute for Clinical Neuroscience and Medical Psychology, Heinrich Heine University, Düsseldorf, Germany)*

P02 Physicochemical-Based Deep Learning for Allergenicity Prediction
*Charalambos Chrysostomou (The Cyprus Institute)*

P03 GNN's Uncertainty Quantification using Self-Distillation
*Hirad Daneshvar (Toronto Metropolitan University); Reza Samavi (Toronto Metropolitan University)*

P04 A Bayesian Framework for Multi-Layered Gene Regulation: Integrating Expression Data with Curated Knowledge
*Aitor Oviedo-Madrid (Universidad de Navarra); José González-Gomariz (Universidad de Navarra); Rubén Armañanzas (Universidad de Navarra)*

P05 Leveraging Pretrained Language Models for Maternal Health Monitoring in Online Communities
*Zhen Zhu (University of Kent)*

P06 Investigating the Applicability of Gait-based Health Assessment in a Domestic Environment
*Chris Lochhead (University of Edinburgh); Robert Fisher (University of Edinburgh); Longfei Chen (University of Edinburgh); Rhona Lochhead*

P07 Unmasking the Algorithm: Bridging Innovation and Ethics in AI-Enabled Psychological Care
*Chen Hascalovitz (University of Ottawa); Raywat Deonandan (University of Ottawa)*

P08 Development of an Adaptive Foot Prosthesis with an Elastic Element and Shock-Absorbing Sole Without the Use of Electric Actuators
*Nursultan Zhetenbayev (Almaty University of Power Engineering and Telecommunications named Gumarbek Daukeyev); Sayat Akhmejanov (Satbayev University); Aidos Sultan (Almaty University of Power Engineering and Telecommunications); Yerkebulan Nurgizat (Almaty University of Power Engineering and Telecommunications); Gani Sergazin (University of Illinois at Urbana-Champaign); Kassymbek Ozhikenov (Satbayev University); Arman Uzbekbayev (Satbayev University); Abu-Alim Ayazbay (Almaty University of Power Engineering and Telecommunications)*

P09 A Systematic Review of Machine Learning for Public Health Therapeutic Interventions Among Diabetic Patients in Europe
*Christopher Ufene (York St John University); Osamwonyi Osaro (York St John University); Shaiyini Ravindran (University of Greenwich)*

P10 Coding Care: Care Ethics and Technical Practices in AI Mental Health Applications
*Meiting Wang (University of Auckland)*

P11 SARHAchat: An LLM-Based Chatbot for Sexual and Reproductive Health Counseling
*Jiaye Yang (University of North Carolina at Chapel Hill); Xinyu Zhao (University of North Carolina at Chapel Hill); Tianlong Chen (University of North Carolina at Chapel Hill); Kandyce Brennan (University of North Carolina at Chapel Hill)*

P12 Conferences as a Tool for Increasing Medical AI Literacy: A Before and After Study
*Abdel Rahman Osman (NHS); Nafisa Islam (NHS); Laveinia Godfrey (NHS)*

*Tung Ngo (Technological University Dublin); Emma Murphy (Technological University Dublin); Conor McGinn (Trinity College Dublin); Robert Ross (Technological University Dublin)*

13:30-14:15 Plenary Panel Keynote

*chair: Timothy Rittman, University of Cambridge*

Mindful Mortality: Responsible AI for the Dying Process

*Elvira Perez Vallejos, University of Nottingham & RAI UK*

14:15-15:00 Panel Discussion

*Chair: Elvira Perez Vallejos, University of Nottingham & RAI UK*

15:00-15:30 Break (tea & coffee)

15:30-15:50 AI driven early diagnosis and prevention

*chair: Stephen Smith, University of York*

15:30-15:40 Transfer Learning-Based Classification of Diabetic Retinopathy Using a Pre-trained InceptionResNet Model

*Ahmad Hasasneh (AAUP); Suhad Malayshi (AAUP)*

15:40-15:50 Early objective ASD screening system based on eye tracking and machine learning

*Sara Vecino (University of Oviedo); Gloria Acevedo-Diaz (ADANSI); Daniel Fernandez-Lanvin (University of Oviedo); Javier De Andres (University of Oviedo); Martin Gonzalez-Rodriguez (University of Oviedo)*

15:50-16:30 AI driven proactive care and predictive intervention

*chair: Stephen Smith, University of York*

15:50-16:00 Performance comparison of machine learning models for the prediction of dialysis treatment variables

*Alessia Nicosia (Università degli Studi di Palermo); Nunzio Cancilla (Università degli Studi di Palermo); Eleonora Di Liberti (Università degli Studi di Palermo); José David Martín Guerrero (Universitat de València); Yolanda Vives Gilabert (Universitat de València); Angelo Ferrantelli (A.R.N.A.S. "Civico Di Cristina e Benfratelli"); Francesco Iacono (A.R.N.A.S. "Civico Di Cristina e Benfratelli"); Valerio Maria Bartolo Brucato (Università degli Studi di Palermo); Vincenzo La Carrubba (Università degli Studi di Palermo); Ilenia Tinnirello (Università degli Studi di Palermo); Andrea Cipollina (Università degli Studi di Palermo)*

16:00-16:10 Dynamic and explainable mortality risk prediction for TBI patients in the ICU
*Hasitha Kuruwita A. (Griffith University); Shu Kay Ng (Griffith University); Alan Wee-Chung Liew (Griffith University); Kelvin Ross (Datarwe); Brent Richards (IntelliHQ); Kuldeep Kumar (Bond University); Luke Haseler (Curtin University); Ping Zhang (Griffith University)*

16:10-16:20 Opportunistic Screening of Osteoporosis from Dental Panoramic Radiographs using Deep Learning
*Divya Biligere Shivanna (MS Ramaiah University of Applied Sciences); Roopa S Rao (M.S.Ramaiah University of Applied Sciences); Tushar Patil (M.S.Ramaiah University of Applied Sciences); Lichingngamba Tensubam (M.S.Ramaiah University of Applied Sciences); Sowmya Gujjar Vishnu Rao (Institute Of Dental Sciences); Ashok Lingappa (Bapuji Dental College and Hospital)*

16:20-16:30 Adaptive Biofeedback for Digital Physiotherapy Using Sakoe-Chiba Constrained Pose Matching
*Jonas Mueller (Friedrich Alexander University); Alexander Weiss (Friedrich Alexander University); Bjoern Eskofier (Friedrich Alexander University)*

16:30-16:50 Predictive Analytics in Healthcare

*chair: Stephen Smith, University of York*

16:30-16:40 Translating Genes into Insight: Causal Genomics for Diabetes Risk Prediction

*Sheresh Zahoor (Munster Technological University); Pietro Liò (University of Cambridge); Gaël Dias (Normandie Univ, Université Caen Normandie, ENSICAEN, CNRS, GREYC); Mohammed Hasanuzzaman (Queen's University Belfast)*

16:40-16:50 A machine learning-based surrogate model of a hemodialyzer for the prediction of the urea dialyzer clearance

*Angelo Giordano (Università degli Studi di Palermo); Nunzio Cancilla (Università degli Studi di Palermo); José Martín-Guerrero (Universitat de València); Yolanda Gilabert (Universitat de València); Michele Ciofalo (Università degli Studi di Palermo); Giorgio Micale (Università degli Studi di Palermo); Alessandro Tamburini (Università degli Studi di Palermo)*

16:50-17:00 Machine and deep learning approaches for health data

*chair: Stephen Smith, University of York*

A Comparison of Potentials and Limitations of Transformer Models for Aspect-based Medical Sentiment Analysis

*Yihan Deng (Bern University of Applied Sciences); Kerstin Denecke (Bern University of Applied Sciences)*

19:00-21:30 Conference Dinner (Gonville & Caius Hall)

# Programme: Wednesday 10th September

08:30 Registration (until 12.00)

## Keynote

*chair: Hao Ni, University College London*

09:00-10:00 **Advancements in Pharmacovigilance with Large Language Models**
*Yulan He, Kings College London*

## Healthcare workflow optimisation and automation

*chair: Hao Ni, University College London*

10:00-10:10 Evaluating the feasibility of using smaller Large Language Models for generating impressions from findings in radiology reports
*Margarita Deli-Slavova (Swansea University); Julian Hough (Swansea University)*

## 10:10-10:30 Maternity and women's health and wellbeing

*chair: Hao Ni, University College London*

10:10-10:20 Patient-Centred Explainability in IVF Outcome prediction
*Adarsa Sivaprasad (University of Aberdeen); Ehud Reiter (University of Aberdeen); David McLernon (University of Aberdeen); Nava Tintarev (Maastricht University); Siladitya Bhattacharya (University of Aberdeen); Nir Oren (University of Aberdeen)*

10:20-10:30 From Clinic to Code: Using Clinician Insights to Develop a Framework for Fair and Representative Datasets in Women's Health AI
*Andrea Heaney (TU Dublin); Emma Murphy (TU Dublin); Eugene Hickey (TU Dublin)*

10:30-11:00 Break (tea & coffee)
*Poster Session Three presenters to set up posters*

11:00-12:00 Poster Spotlight Presentations (Session 3)
*chair: Daniele Cafolla, Swansea University*

12:00-13:30 Lunch & Poster Session Three

P01 Robustness of Human vs. AI Measurements Under Progressive Image Degradation
*Jevgeni Jevsikov (Imperial College London); Catherine C Stowell (Imperial College London); Tiffany Ng (Imperial College London); Beth Unsworth (Royal Devon and Exeter NHS Foundation Trust); Massoud Zolgharni (Imperial College London); Darrel P Francis (Imperial College London); Charlotte H Manisty (University College London); Matthew J Shun-Shin (Imperial College London)*

P02 A Clinician-Centred Interface for AI-Powered Echocardiographic Image Quality Feedback
*Sara Adibzadeh (University of West London); Patricia Fernandes (University of West London); Mayur Agrawal (University of West London); Ali Gheitasy (University of West London); Nasim Dadashiserej (University of West London); Massoud Zolgharni (University of West London)*

P03 Domain-Aligned OCT Pre-training: Enhancing Retinal Disease Diagnosis Through Cross-Anatomy Vision Transformers
*Zihao Han (University of Kent); Philippe De Wilde (University of kent); Marco Santopietro (University of Kent)*

P04 Skin Lesion Hybrid Classification and Segmentation based on Extracted Deep Features
*Aakaou Aboubakr (University of Malaga); Karl Thurnhofer-Hemsi (University of Malaga); Enrique*

*Dominguez (University of Malaga)*

P05 Enhancing Cardiac Cell Networks Segmentation via Hybrid Supervised and Zero-Shot Strategies
*Sarah Costa (Swansea University); Hassan Eshkiki (Swansea University); Fabio Caraffini (Swansea University); Christopher H. George (Swansea University)*

P06 Robust Windowing Harmonisation for Improved Cross-Scanner Generalisation of White Matter Hypoattenuation Segmentation in Brain CT Clinical Scans
*Nada Alamoudi (University of Edinburgh); Maria Valdes Hernandez (University of Edinburgh); Sohan Seth (University of Edinburgh); Joanna Wardlaw (University of Edinburgh); Miguel Bernabeu Llinares (University of Edinburgh)*

P07 Vision Transformers for Interpreting ECG Diagrams
*Jarod Hartley (Swansea University); Jennifer Edwards (Swansea University); Ehinafa Akinola (Swansea University); W. Joseph MacInnes (Swansea University)*

P08 Categorizing acquisition intervals from whole-brain MEG functional connectivity
*Vasiles Balabanis (Swansea University); Jiaxiang Zhang (Swansea University); Xianghua Xie (Swansea University); Su Yang (Swansea University)*

P09 GPT-Based Pipeline for Structuring 193k Stroke Discharge Reports
*Temirgali Aimyshev (Nazarbayev University); Iliyar Arupzhanov (Nazarbayev University); Abduzhappar Gaipov (Nazarbayev University)*

P10 Interoperability of standardised electronic healthcare records facilitates transfer learning
*Elizabeth Remfry (Queen Mary University of London); Rafael Henkin (Queen Mary University of London)*

P11 Adversarial Registration Method for Non-Rigid Brain MRI and DVF Estimation

*Rana Judeh (University of Sydney); Teng-Hui Huang (University of Sydney); Hesham El Gamal (University of Sydney); Zufu Lu (University of Sydney); Hala Zreiqat (University of Sydney)*

P23 An Evaluation of Time Series Foundation Models' on Short Horizon Forecasting With Limited Data
*Matt Ploszajski (Swansea University); Gary Tam (Swansea University); Xianghua Xie (Swansea University)*

## 13:30-14:20 Machine and deep learning approaches for health data (cont.)

*chair: Chen Chen, University of Sheffield*

13:30-13:40 Intelligent Blood Product Management in Hospital: A Data-Driven Model for Optimizing Platelet Inventory
*Yuan Zhu (Institute of Medical Statistics, Computer and Data Sciences (IMSID)); Cord Spreckelsen (Institute of Medical Statistics, Computer and Data Sciences (IMSID)); Maximilian Schilling (Department of Neurosurgery, University Medicine Greifswald, Greifswald); Sasanka Potluri (Institute of Medical Statistics, Computer and Data Sciences (IMSID))*

13:40-13:50 Multi-Modal Deep Learning with Spatial Transformers for Biparametric MRI Prostate Cancer Classification
*Charalambos Chrysostomou (The Cyprus Institute); Constantine Dovrolis (The Cyprus Institute)*

13:50-14:00 BCONDS: Borderline Counterfactual Oversampling with Noise elimination and Density Scoring
*Asifa Qureshi (Dundalk institute of technology); Abhishek Kaushik (Dundalk Institute of Technology); Roisin Loughran (Dundalk Institute of Technology); Fergal Mc Caffery (Dundalk Institute of Technology)*

14:00-14:10 Decoding the Stressed Brain with Geometric Machine Learning
*Sonia Koszut (University of Cambridge); Sam*

*Nallaperuma-Herzberg (University of Cambridge); Pietro Lio (University of Cambridge)*

14:10-14:20 Integrating Rule-Based eGFR Labels with Expert GP Annotations: A Multi-Method Framework for CKD Classification
*Ali Guran (Swansea University); Avishek Siris (Swansea University); Gary K.L. Tam (Swansea University); James Chess (Wales Kidney Research Unit and Morriston Hospital); Xianghua Xie (Swansea University)*

## Assistive living technology

*chair: Massoud Zolgharni, University of West London*

14:20-14:30 Enhanced Sparse Point Cloud Data Processing for Privacy-aware Human Action Recognition
*Maimunatu Ahmad Tunau (Aston University); Vincent Zakka (Aston University); Zhuangzhuang Dai (Aston University)*

14:30-14:50 Intelligent systems and robotics

*chair: Massoud Zolgharni, University of West London*

14:30-14:40 Human-centred Design of AI-Driven Robots for Healthcare in a Global Context: a Case Study of AIREC (AI-driven Robot for Embrace and Care)
*Toshie Takahashi (Waseda University)*

14:40-14:50 A protocol for analysing ankle motion data: a standardized approach to kinematic assessment
*Giovanni Mastrangelo (University of Rome Tor Vergata)*

## AI in echocardiography

*chair: Massoud Zolgharni, University of West London*

14:50-15:00 Deep Learning for Assessing Rotational Misalignment in Echocardiographic Imaging
*Patricia Fernandes (University of West London); Preshen Naidoo (University of West London); Isreal Ufumaka (University of West London); Sara Adibzadeh (University*

*of West London); Eman Alajrami (University of West London); Jevgeni Jevsikov (Imperial College London); Nasim Dadashiserej (University of West London); James Howard (Imperial College London); Matthew Shun-Shin (Imperial College London); Darrel Francis (Imperial College London); Massoud Zolgharni (University of West London)*

15:00-15:30 Break (tea & coffee)

## AI in mental health

*chair: Daniele Cafolla, Swansea University*

15:30-15:40 Breathalyzer as a Remote Monitoring and Support System for AUD: Early Findings on Dropout and Relapse Prediction Using Machine Learning
*Valentina Navarro-Ovando (Amsterdam UMC); Jop Rijksbaron (Amsterdam UMC); Glenn Dumont (Amsterdam UMC); Cristian Rodriguez Rivero (Polytechnic University of Catalonia)*

## 15:40-16:00 Medical image analysis and processing

*chair: Daniele Cafolla, Swansea University*

15:40-15:50 Graph Convolutional Neural Networks to Model the Brain for Insomnia
*Kevin Monteiro (University of Cambridge); Sam Nallaperuma-Herzberg (University of Cambridge); Martina Mason (Royal Papworth Hospital); Steven Niederer (Alan Turing Institute)*

15:50-16:00 Classification-to-Segmentation: Class Activation Mapping for Zero-Shot Skin Lesion Segmentation
*Matthew Cockayne (Keele University); Marco Ortolani (Keele University); Baidaa Al-Bander (Keele University)*

16:00-16:20 **Best Poster Prize & Closing remarks**

# Tutorial:
# Large Language Models

Dr. Meng Fang is an Assistant Professor in AI at University of Liverpool. He is also a visiting (assistant) professor at Eindhoven University of Technology (TU/e). Meng co-leads the UTS NLP Group. He had been a research scientist / intern at Tencent Robotics X / AI, CSIRO and Microsoft Research Asia before.

Meng's research focuses on technologies for autonomous agents capable of human-like language understanding, reasoning, and decision-making. Currently, my interests are in trustworthy agents and agent applications. His main areas include NLP and RL.

# Keynote:
# All that glitters is not gold – The unintended harm of artificial intelligence in healthcare

Kerstin Denecke (Bern University of Applied Sciences, Bern, Switzerland) received the Doctoral degree in computer sciences from the Technical University of Braunschweig, Germany. Since 2015 is full professor of medical informatics at the Bern University of Applied Sciences. Her research interests include medical language processing, artificial intelligence, conversational agents and participatory health informatics and sentiment analysis. Currently, she is leading projects related to sentiment analysis from clinical documents, information extraction from radiology reports and automatic validation of LLM-generated text.

# Keynote: Advancements in Pharmacovigilance with Large Language Models

Yulan He is a Professor in Natural Language Processing at the Department of Informatics in King's College London, UK. She directs the NLP group there (https://kclnlp.github.io). Yulan obtained her PhD degree from the University of Cambridge. She is currently holding a prestigious 5-year UKRI Turing AI Fellowship. Yulan's research interests lie in the integration of machine learning and natural language processing for text understanding. Recently, she has focused on addressing the limitations of Large Language Models (LLMs), aiming to enhance their reasoning capabilities, robustness, and explainability. She has published over 250 papers on topics such as machine reading comprehension, model interpretability and trustworthy AI, NLP for health, finance and education. She has received several prizes and awards for her research, including a SWSA Ten-Year Award, a CIKM Test-of-Time Award, and AI 2020 Most Influential Scholar Honourable Mention. She served as the General Chair for AACL-IJCNLP 2022 and a Program Co-Chair for various conferences such as ECIR 2024, CCL 2024, and EMNLP 2020. Her research has received support from the EPSRC, Royal Academy of Engineering, EU-H2020, Innovate UK, British Council, and industrial funding.

# Keynote:
# AI for Surgical Imaging

Daniel Elson is a Professor of Surgical Imaging and Biophotonics in the Hamlyn Centre for Robotic Surgery, Institute of Global Health Innovation and Department of Surgery and Cancer at St. Mary's Hospital. Research interests are based around the development and application of photonics technology to medical imaging, including multispectral imaging, near infrared fluorescence, structured lighting, light sources in endoscopy and diffuse and fluorescence spectroscopy.

# Keynote:
# Mindful Mortality: Responsible AI for the Dying Process

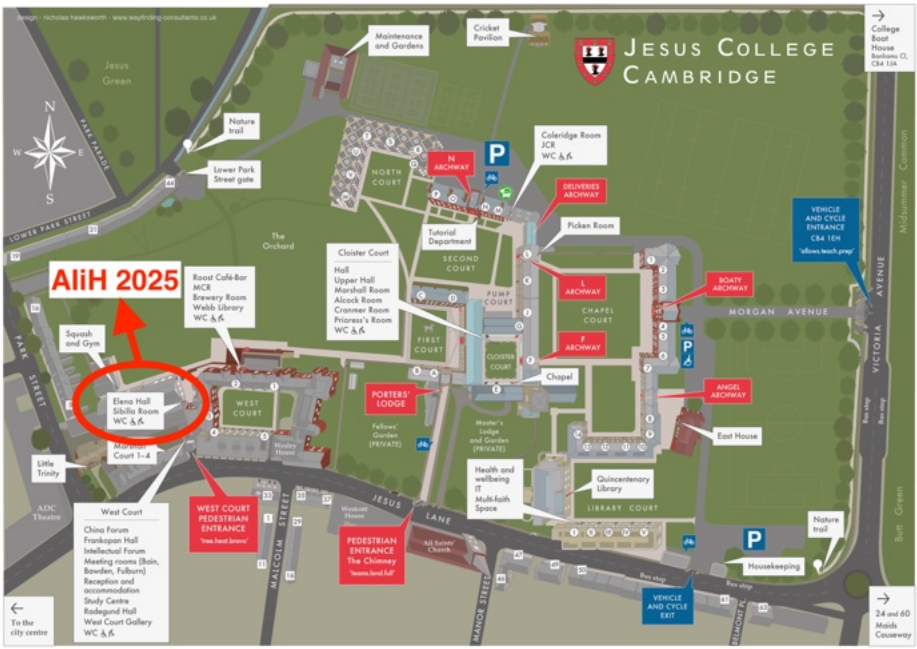
Professor Elvira Perez Vallejos is Professor of Digital Technology for Mental Health and Digital Technologies at Nottingham Biomedical Research Centre Mental Health and Technology theme (Division of Psychiatry and Applied Psychology, Faculty of Medicine). She is interested on the ethical challenges embedded in digital solutions for mental health including the widespread of machine learning/AI methods on the development of new mental health interventions. She has experience on RRI (Responsible Research and Innovation) and Data Ethics as well as on Data Privacy, Online Consent, User-centric design, Creative Practices for Mutual Recovery, Experimental Psychology, Participatory research, Children and Young People, and Older Adults.

# Venue Information

AIiH 2025 will be hosted in the Jesus College, University of Cambridge. Jesus College is situated on Jesus Lane, a quiet side street in the centre of Cambridge. Jesus College was first founded in 1496 by John Alcock, and the College's full name is "The College of the Blessed Virgin Mary, Saint John the Evangelist and the glorious Virgin Saint Radegund, near Cambridge". The common name, Jesus College, comes from the College's chapel, Jesus Chapel. Founded in the early 11th century, the chapel is the oldest Cambridge University building still in use.

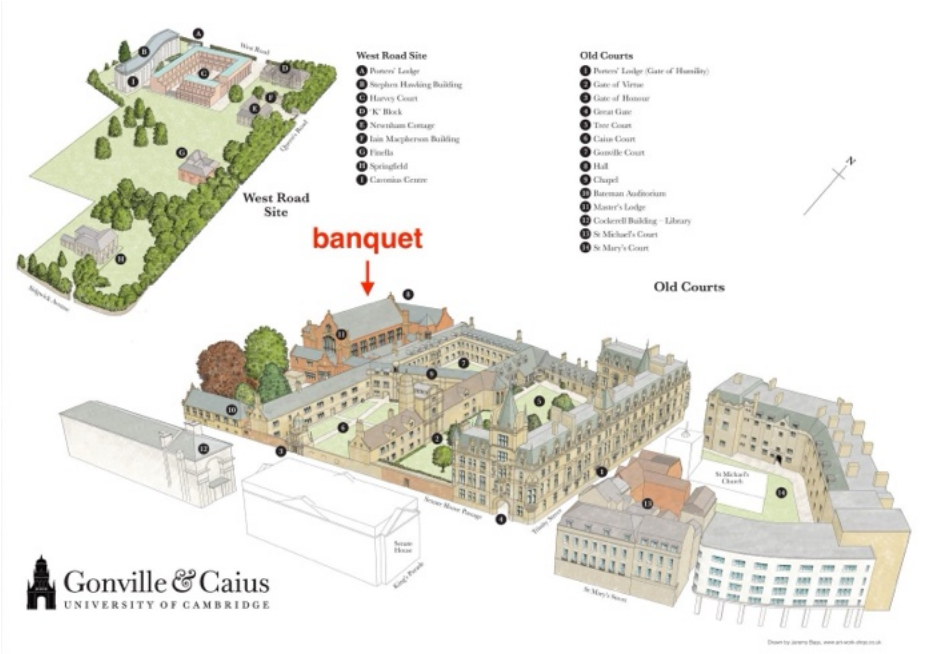
Jesus College is well known for its beautiful grounds. The College also has an impressive permanent collection, including works by John Bellany, Stephen Chambers, Barry Flanagan, John Gibbons, Antony Gormley, Albert Irvin, Richard Long, David Mach, Sarah Morris, Humphrey Ocean, Eduardo Paolozzi, Cornelia Parker, and Alison Wilding. First Court contains the famous Jesus Horse.

The oral sessions of the conference will take place in the Elena Hall, which is part of a contemporary warehouse conversion, with natural light, high ceilings and white walls hung with artwork. Th poster session will be hosted in the adjacent Sibilla Room. The Elena Hall is a spacious and versatile ground floor hall connected to West Court, with huge picture windows offering views of the orchard. The location of the Elena Hall can be found in the College Map below.


JESUS COLLEGE CAMBRIDGE
AliH 2025
Jesus Green
Maintenance and Gardens
Cricket Pavilion
Nature trail
Lower Park Street gate
LOWER PARK STREET
PARK PARADE
NORTH COURT
N ARCHWAY
Coleridge Room JCR WC
DELIVERIES ARCHWAY
Picken Room
Tutorial Department
SECOND COURT
The Orchard
Cloister Court
Hall
Upper Hall
Marshall Room
Alcock Room
Cranmer Room
Prioress's Room
WC
Roast Café-Bar
MCR
Brewery Room
Webb Library
WC
PUMP COURT
L ARCHWAY
BOATY ARCHWAY
CHAPEL COURT
MORGAN AVENUE
VEHICLE AND CYCLE ENTRANCE
CB4 1EH
'allows.teach.prep'
FIRST COURT
F ARCHWAY
CLOISTER COURT
Chapel
Squash and Gym
PARK STREET
Elena Hall
Sibilla Room
WC
WEST COURT
PORTERS' LODGE
Fellows' Garden (PRIVATE)
Master's Lodge and Garden (PRIVATE)
ANGEL ARCHWAY
East House
Marshall Court 1–4
Wesley House
Little Trinity
ADC Theatre
West Court
China Forum
Frankopan Hall
Intellectual Forum
Meeting rooms (Bain, Bawden, Fulburn)
Reception and accommodation
Study Centre
Radegund Hall
West Court Gallery
WC
WEST COURT PEDESTRIAN ENTRANCE
'tree.heat.brave'
MALCOLM STREET
JESUS LANE
Westcott House
PEDESTRIAN ENTRANCE
The Chimney
'tensions.bend.fluff'
All Saints' Church
Health and wellbeing
IT
Multi-faith Space
Quincentenary Library
LIBRARY COURT
Nature trail
Housekeeping
MANOR STREET
VEHICLE AND CYCLE EXIT
PEMBROKE PL
Bus stop
VICTORIA AVENUE
Midsummer Common
Butt Green
College Boat House
Banhams Ct, CB4 1JA
24 and 60 Maids Causeway
To the city centre

# Banquet

The conference banquet is on Thursday the 9th of September and it will taken place in the Old Courts Hall of the Gonville & Caius College. Caius is the fourth oldest College in the University of Cambridge. The College was first founded as Gonville Hall by Edmund Gonville, Rector of Terrington St Clement in Norfolk, in 1348, and refounded in 1557 by John Caius as Gonville and Caius College. The heart of Caius is right in the very centre of the city. The College is one of the largest Colleges in Cambridge. It has produced fifteen Nobel Prize winners (more than any Oxbridge College bar Trinity College, Cambridge).



## GOLD

Infordata
PART OF DIGITAL VALUE GROUP

Technis Blu
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## SILVER

DeepData

## BEST PAPER AWARD

Springer