Future Blood Testing Network+

Future Blood Testing: Challenges & Opportunities

13-14 September 2022
University of Reading

Programme

Engineering and Physical Sciences Research Council
University of Reading
The University of Nottingham
University of Kent
University of Southampton
Warwick

Welcome

Dear Delegate

This is a two day workshop to discuss the challenges and opportunities in remote blood testing from a healthcare and technical perspective. We will also be launching our second funding call for both our technical landscape report, and for our pilot collaborative innovation projects.

At the Future Blood Testing Network Plus, we are aiming to build a multi-disciplinary community to develop digital health technologies for remote, rapid, affordable and inclusive monitoring and personalised analytics. This Network Plus is funded by EPSRC under Grant No: EP/W000652/1.

Blood testing is one of the most common types of medical test to assess various aspects of health status. Around 95% of clinical pathways rely on patients having access to efficient, timely and cost-effective pathology services. An important role in the future for remote blood monitoring that would enable patients and health professionals to carry out their own tests remotely, greatly benefiting patients and speeding up decision making.

We have identified three key technology challenges for our Network:
- Remote monitoring
- Information and communication technology
- Personalised analytics and artificial intelligence (AI).

We also identified clinical and healthcare application areas which include but not limited to cancer, autoimmune diseases, diabetes, heart disease, drug and treatment monitoring, as well as primary care, pathology and perioperative care services.

This workshop is an excellent opportunity to harness new ideas and conduct thought provoking conversations on how we can progress in these areas, and we are delighted that you could join us over the next two days.

Professor Weizi (Vicky) Li
Principal Investigator of the Future Blood Testing Network Plus

Venue Details

Venue & Refreshments

On both days, all activities will take place in the **Park House Building**. On the 13th September, the workshop will take place in the **Meadow Suite**. Refreshment breaks (coffee and lunch), and the conference dinner will be held in the **Meadow Suite**. The drinks reception will be held in the **Blandford Room**. On the 14th September, all activities will take place in the **Meadow Suite.** Virtual attendees can join via Zoom.

Parking

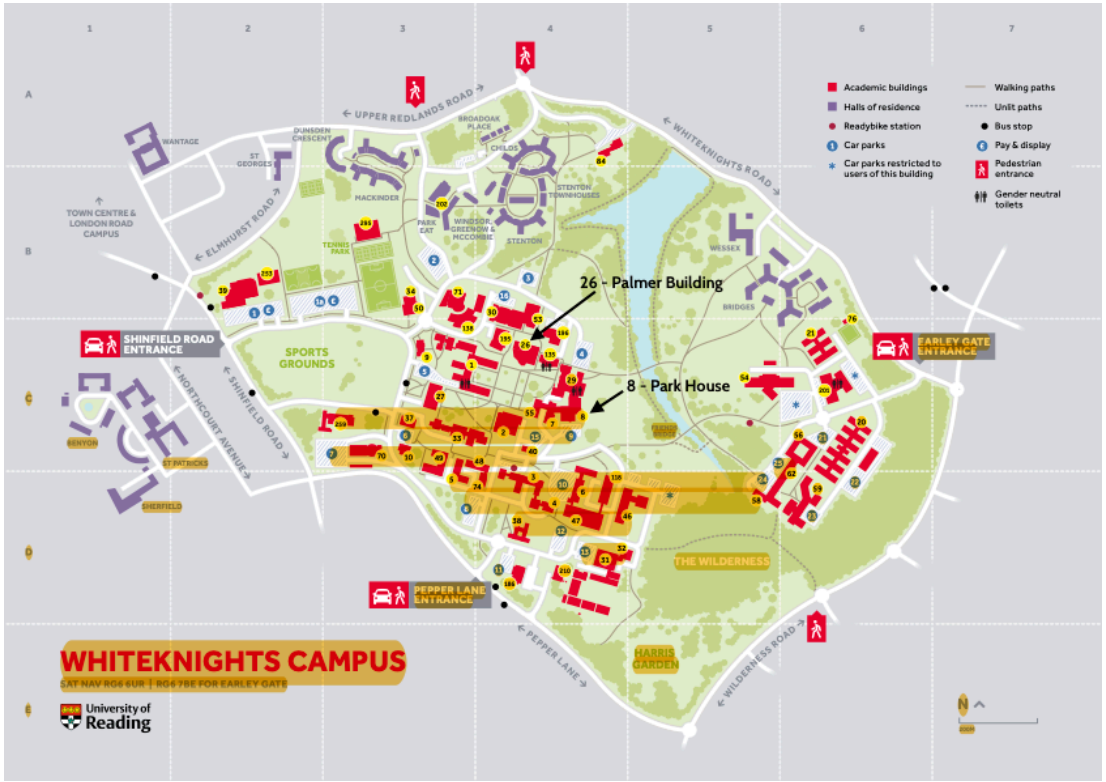
If you are travelling by car, please use Car Park 1a at the Shinfield Road entrance to the campus (Sports Park). As our event will be taking place between 9am and 5pm during the week, please print off the parking permit you will have been sent by email and display in the window of your vehicle.

Wifi Details

1. Turn on your Wi-Fi
2. Select 'WiFi Guest' (Not UoR guest) from the available network list
3. Your web browser should then open, and you will just need to accept the terms 4. Once you have clicked to confirm, you will be connected to the network.

Map

An annotated map can be found below, to view the original visit here: https://www.reading.ac.uk/essentials/-/media/files/whiteknights-campus-map.pdf



Agenda

Tuesday 13th September 2022 - Park House Building

Time	Session	Location
09:30	Coffee & Registration	Meadow Suite
10:00	**Future Blood Testing Network+ Overview** *Prof Weizi (Vicky) Li (University of Reading)*	Meadow Suite
Session 1: Chaired by Dr Robert Barker (University of Kent)		
10:15	**Transforming the UK's diagnostics agenda after COVID-19 and grand challenges Future Blood Testing Landscape report** *Prof Dimitris Grammatopoulos (University Hospitals Coventry & Warwickshire, University of Warwick)*	Meadow Suite
11:00	**Measuring platelet function: new strategies for precision medicine to prevent thrombosis** *Prof Jon Gibbins (University of Reading)*	Meadow Suite
11:45	Coffee Break, Networking - There will also be a Group Photo	Meadow Suite
12:15	**Lab services for a Web 3.0 world: how the next transformation will enable the democratisation of blood testing to have access and control of our own health** *Dr Hector Zenil (University of Cambridge & Oxford Immune Algorithmics)*	Meadow Suite
13:00	Lunch	Meadow Suite
Session 2: Chaired by Prof Jeremy Frey (University of Southampton)		
14:00	**Remote blood monitoring for cancer patients- a preliminary landscape analysis** *Beth Harvey (University of Reading)*	Meadow Suite
14:30	**Improving triaging from primary care into secondary care using heterogeneous data-driven hybrid machine learning: A real-world case study of decision support system using blood test & GP referral letters** *Bing Wang and Prof Weizi (Vicky) Li (University of Reading)*	Meadow Suite
15:00	**Unmet Clinical Needs and Case Studies in Blood Testing** *Prof Bryant Lin and Dr. Kevin Chang (Stanford University)*	Meadow Suite
15:45	Coffee Break & Networking	Meadow Suite
Session 3: Chaired by Dr Samantha Kanza (University of Reading)		
16:00	**Collaborative Innovation Project funding launch** *Dr Samantha Kanza (University of Reading)*	Meadow Suite
16:30	**One-minute pitch:** *Delegates introduce their expertise and collaborations they are looking for to develop a collaborative innovation project*	Meadow Suite
Evening Activities		
17:00	Drinks Reception & Networking	Blandford's
19:00	Dinner & Networking	Meadow Suite

Agenda

Wednesday 14th September 2022 - Park House Building

Time	Session	Location
09:30	Coffee & Registration	Meadow Suite
10:00	**Welcome back** *Prof Weizi (Vicky) Li & Dr Samantha Kanza (University of Reading)*	Meadow Suite
Session 4: Chaired by Prof Serhiy Korposh (University of Nottingham)		
10:05	**Digital Solutions and Remote Monitoring in Real World Clinics** *Dr Antoni Chan (Royal Berkshire NHS Foundation Trust)*	Meadow Suite
10:35	**"Tiny Test Tubes" for affordable microfluidic blood measurements at the point of need** *Dr Alexander Edwards (University of Reading)*	Meadow Suite
11:05	Coffee Break & Networking	Meadow Suite
Session 5: Chaired by Claire Read (Healthcare Writer & Editor)		
11:20	**Panel discussion** **- Grand challenges of future blood testing** **- Can NHS make use of remote blood monitoring and lessons learned from COVID testing** **- Fake it till you make it? How do we achieve the future of blood testing without becoming the next Theranos?** *Panel: Prof Neil Anderson, Dr Keith Arundale, Dr Antoni Chan, Dr Alexander Edwards, Prof Dimitris Grammatopoulos, Julie Hart*	Meadow Suite
13:00	Lunch	Meadow Suite
Session 6: Chaired by Dr Mark Elliott (University of Warwick)		
14:00	**Artificial intelligence for identification of blood cells** *Prof Huiyu Zhou (University of Leicester)*	Meadow Suite
14:45	**Precision Health and AI: improving health for everyone** *Arjun Panesar (DDM Health*	Meadow Suite
15:15	Coffee Break & Networking	Meadow Suite
Session 7: Chaired by Dr Samantha Kanza (University of Reading)		
15:30	**One-minute individual or group pitch** *Delegates introduce their expertise and collaborations they are looking for to develop a collaborative innovation project on future blood testing. Groups developed from the event present their concept and proposal outline*	Meadow Suite
16:15	**Closing Remarks** *Prof Weizi (Vicky) Li & Dr Samantha Kanza (University of Reading)*	Meadow Suite

Speakers, Panelists & Chairs

Weizi (Vicky) Li is a Professor of Informatics and Digital Health, Deputy Director in Informatics Research Centre, Henley Business School, University of Reading. She is a Fellow of Charted Institute of IT. She is the Principal Investigator and Director of EPSRC Future Blood Testing for Inclusive Monitoring and Personalised Analytics NetworkPlus. She is the academic lead of a large collaborative project of Improving the Quality of Healthcare through an Integrated Clinical Pathway Management Approach and Cloud-based Digital Data Integration Platform, which was awarded ESRC O2RB Excellence in Impact Award and rated as 3* or 4* impact case study in REF2021. She has been PI on projects funded by ESRC, EPSRC, The Health Foundation, NHS and companies, working on data-driven decision support systems that use real-world data (under privacy-preserving framework) from multiple sources including Electronic Patient Record in acute, community hospital and primary care settings, and remote health monitoring to support clinical and operational decision makings in patient pathway.

Dr Robert Barker is an Associate Professor in Chemistry in the School of Physical Sciences, School Director of Public Engagement, project lead for the 'Future Human' Signature Research, University of Kent (UoK). He is a Royal Society Industrial Fellow and the PI of the trans-disciplinary EPSRC project Optimising Me Manufacturing Systems [EP/R022534/1], exploring continuous blood processing for healthcare and developing a healthcare micro-factory that provides on-the-body manufacturing of therapeutics, continuously and in response to the body's needs. His work focuses on the whole blood processing and the development of a manufacturing system for T-cell immunotherapies which present a cure for some of the most aggressive forms of cancer (acute lymphoblastic leukaemia and chronic lymphoblastic leukaemia). His research is at the interface of industry and the NHS to meet their needs for continuous blood monitoring and to help the shift away from the current one-size-fits-all approach to deliver patient-specific therapies.

Dimitris Grammatopoulos, PhD, FRCPath, is Professor of Molecular Medicine at Warwick Medical School and Consultant in Clinical Biochemistry and Molecular Diagnostics at the University Hospitals of Coventry and Warwickshire, NHS Trust, United Kingdom. He also leads the Novel Biomarkers theme of the Institute of Precision Diagnostics and Translational Medicine, Pathology-UHCW NHS Trust. where he combines clinical expertise in diagnostic laboratory medicine with a research track-record in application of cutting edge multidiscipline methodologies in routine clinical diagnostics. He received academic and clinical training in Newcastle, Bristol, Johns Hopkins-Baltimore and Warwick. He has expertise in biochemical/molecular diagnosis of many endocrine and metabolic disorders. His translational research interest is focused on stress hormones and homeostatic adaptations of fetal development to maternal disease as well as development of novel -omics based biomarker approaches suitable for precision medicine and better characterisation of patient phenotype. He has experience around use of AI and ML for development and refinement of clinical and diagnostic pathways for complex chronic conditions that are considered as national priorities. Dimitris is the Lead in Diagnostics, Global Health Priorities in Health, University of Warwick.

Speakers, Panelists & Chairs

Jon Gibbins is Professor of Cell Biology within the School of Biological Sciences at the University and is Director of the Institute for Cardiovascular and Metabolic Research. He is a graduate of the University, obtaining a degree in Pathobiology with Chemistry in 1991 and a PhD in Molecular Endocrinology in 1995. Following a period of postdoctoral research at the Oxford University, he returned to Reading in 1998 as a lecturer. Jon has established an internationally leading research group that studies blood clotting, with a particular focus on the development of more effective clinical strategies for the prevention and treatment of heart attacks and strokes, and thrombosis associated with infection. Jon values greatly working in an active, engaging and successful school, in which all aspects of biology are represented, and he champions cross-disciplinary working to approach today's most challenging and pressing questions in new ways. He believes strongly in widening participation and improving levels of equity, diversity and inclusion across our institution.

Hector Zenil has a PhD in Comp Sci (Lille), PhD in Epistemology (Paris, Sorbonne) with 20+ years experience in 6 countries. An elected member of the London Mathematical Society and member of the Canadian College of Health Leaders (CCHL), as a Senior Researcher and faculty member in the Department of Computer Science, University of Oxford, he has published over 100 papers and a dozen of books, including A Computable Universe with a foreword by Sir Roger Penrose (Nobel Prize in Physics, 2020). In 2021, he was appointed Senior Researcher by the Alan Turing Institute at the British Library in London to advise the UK and allies on the future of Artificial Intelligence for scientific discovery, a position funded by the U.S. Department of Defense. In his capacity as policy advisor he has led discussions on the global stage, under the auspices of organisations such as the OECD. After joining the Unit of Computational Medicine as an Assistant Professor he became the leader of the Algorithmic Dynamics Lab at the Karolinska Institute (the institution that awards the Nobel Prize in Physiology or Medicine), also affiliated with SciLifeLab and the Karolinska Hospital in Stockholm, Sweden. He was a NASA Payload team member at MIT in Boston MA for the Mars Gravity Biosatellite to test the health effects of artificial microgravity on mammals. He helped develop the factual answering AI engine behind Siri and Alexa, reporting to Wolfram Research's CEO, Stephen Wolfram in Champaign, IL. He has been featured in Wired, the New York Times, Le Monde, Scientific American, New Scientist, The Independent, and the MIT Technology Review, among other media venues.

Prof Jeremy Frey Professor of Physical Chemistry, Head of Computational Systems Chemistry, University of Southampton (UoS). He is PI of AI for Scientific Discovery Network+, and co_I on the Internet of Food Things Digital Economy Network+ and has had considerable involvement in the UK e-Science and Digital Economy programmes for many years (e.g., PI of the Digital Economy IT as a Utility Network+. He is a strong proponent of interdisciplinary research and the use of digital technology and ideas to enhance methods of scientific research & development. His own research involves activities across the physical land life sciences, from the application of novel mathematical analysis (e.g., Topological Data Analysis), laser spectroscopy and imagining techniques to chemical and biological problems, with the development of sensors and imagining systems such as the novel soft x-ray microscope. In parallel he works on the integration of these techniques with full provenance environment into laboratory systems using semantic web technologies.

Speakers, Panelists & Chairs

Beth Harvey is currently a master's student in digital health and data analytics at the Henley Business School. Having completed her bachelor's in biomedical science, Beth has then gone on to work in the medical device and IVD regulatory sector with a consultancy firm in Vancouver. After moving back to the UK in 2019 Beth worked with multiple UK manufacturers in the digital health space which spurred her interest in the field she is now studying. Beth's research interests are in healthcare innovation remote patient monitoring, and data analysis. She is currently finishing her dissertation on the opportunities and challenges for remote blood monitoring in oncology in collaboration with the Future Blood Network.

Bing Wang is currently a PhD candidate in informatics and system science at the Informatics Research Center, Henley Business School, University of Reading. Bing's research interests are Natural Language Processing, Machine Learning and Graph Machine Learning. Bing been working as a data scientist at Royal Berkshire NHS Foundation Trust since December 2019 during his PhD.

Bryant Lin, MD, MEng is a primary care physician, educator and researcher. The cornerstone of Dr. Lin's work is keeping medicine focused on humans - patients, providers, families and trainees - and not lost in technology and algorithms. His research and educational interests span (1) Developing and testing novel medical technologies, (2) Improving the health of Asian populations with Precision and Population Health, and (3) Increasing expression and interconnections in the Health Community with the Humanities and Arts. After receiving his undergraduate and master's degrees in Electrical Engineering and Computer Science from MIT, he completed his MD and internal Medicine training at Tufts University School of Medicine and Tufts Medical Center. He came to Stanford to serve as a Research Fellow in Cardiac Electrophysiology and Biodesign Fellow where he learned to identify unmet human-centered needs. Since completing his post-graduate training, he stayed at Stanford as clinical faculty in Primary Care and Population Health in the Department of Medicine where he has invented and researched new medical technologies addressing unmet human-centered needs and started the Consultative Medicine Clinic evaluating patients with medical mysteries. He serves as the Training Director for the Joe and Linda Chlapaty DECIDE Center which has created a novel shared decision making tool for atrial fibrillation anti-coagulation and is an investigator in several active clinical trials. Three years ago, he co-founded and currently co-directs, with Dr. Latha Palaniappan, the Center for Asian Health Research and Education (CARE) which aims to improve the health of Asians everywhere. Most recently, he has worked closely with the Medicine and the Muse leadership to help start the Stuck@Home concert series, the Stanford SoundWalk and the COVID Remembrance project. Dr. Lin has an active interest in storytelling and film-making. He co-directs an undergraduate seminar, MED 53Q "Storytelling in Medicine", with Dr. Lauren Edwards and is working with a group of students on a documentary on end-of-life care at a Japanese-American Senior Home in the Bay Area.

Kevin Chang MD, MS, is a primary care physician. His focus in on patient care, population health and quality improvement, and medical education. He received his undergraduate degree and master's degree in biomedical engineering from Duke University and Stanford University respectively, and completed his MD at New York University, followed by his medical training at Stanford University. He has since stayed on at Stanford as clinical faculty in Primary Care and Population Health in the Department of Medicine, where he also serves as the co-director of the resident physician Internal Medicine clinic.

Speakers, Panelists & Chairs

Dr Samantha Kanza is a Senior Enterprise Fellow at the University of Southampton. She completed her MEng in Computer Science at the University of Southampton and then worked for BAE Systems Applied Intelligence for a year before returning to do an iPhD in Web Science (in Computer Science and Chemistry), which focused on Semantic Tagging of Scientific Documents and Electronic Lab Notebooks. She was awarded her PhD in April 2018. Samantha works in the interdisciplinary research area of applying computer science techniques to the scientific domain, specifically through the use of semantic web technologies and artificial intelligence. Her research includes looking at electronic lab notebooks and smart laboratories, to improve the digitization and knowledge management of the scientific record using semantic web technologies; and using IoT devices in the laboratory. She has also worked on a number of interdisciplinary Semantic Web projects in different domains, including agriculture, chemistry and the social sciences.

Dr Serhiy Korposh is an Associate Professor in Electronics, Nanoscale Bioelectronics and Biophotonics at University of Nottingham. His current research focuses on the development of fibre optic sensors and instrumentation for biomedical application from discovery at the interface with physics and chemistry through to application addressing major healthcare challenges. He has published over 100 (h-index 21) peer-reviewed journal and conference papers, book contributions, holds 11 patents (4 licensed to UK and Japanese companies) and given invited presentations at international meetings in the field of optical fibre chemical sensors. He has managed as a PI and Co-I a total funding portfolio of £3.5 million in the area of biomedical point of care sensors. He was a Director of the EPSRC funded Network Cyclops (EP/N026985/1, Closed Loop Control Systems for Optimising Treatment, http://www.healthcaretechnologies.ac.uk/cyclops/); with the aim to facilitate the formation of a community of academics, clinicians and industrialists, across multiple disciplines (photonic sensing, advanced materials, treatment, and mathematical modelling), including international collaborators to address grand challenges in automation of treatment in healthcare.

Dr Antoni T.Y. Chan is Consultant Rheumatologist and Physician at the Royal Berkshire NHS Foundation Trust in Reading, United Kingdom. He did his postgraduate training at the University of Oxford where he obtained his PhD in immunology. He is also Associate Medical Director in his hospital. He has led the Outpatient Transformation in the Berkshire West Integrated Care Partnership with a strong digital focus. He successfully implemented the use of remote monitoring of blood tests across multi-specialties, collection of electronic patient reported outcome measures (e-PROM), patient management systems and bed view through data analytics from the electronic patient record, virtual clinics, telemedicine and virtual ward in his hospital and the wider healthcare system. The digital foundations started in 2017 and proved to be extremely valuable for digital readiness during the COVID-19 pandemic in 2020. His work was acknowledged by NHS England in the recently published Rheumatology Digital Playbook. He is a Visiting Fellow at the Henley Business School, University of Reading and a member of the Advisory Board for Blood+ Network.

Speakers, Panelists & Chairs

Al Edwards has a background in fundamental immunology combined with expertise in biochemical engineering, he is an interdisciplinary researcher focussed on solving current and future healthcare challenges using an engineering science approach that combines a range of fields from biology, biochemistry, chemistry and physics. He works at the interface between academic technology discovery and industrial development and have experience of both fundamental research and the commercialisation of new technology. The two main challenges he currently works on are the development of affordable microfluidics for clinical diagnostics and microbiology, and the engineering science of complex biologic therapeutics such as vaccines. Alexander's research is funded from a wide range of sources, including NIHR , EPSRC, SBRI Healthcare, the Wellcome Trust, Innovate UK and industry.

Claire Read is a writer and editor who has specialised in healthcare throughout her career. Her work regularly appears in publications widely read in the NHS, including Health Service Journal (HSJ), Nursing Times and DigitalHealth.net, for which she is contributing editor. Claire started her career at Dr Foster Ltd, where she was a writer and researcher on the first Sunday Times Good Hospital Guide. A role creating e-learning modules for healthcare professionals followed, as did that of communications manager at Royal Brompton & Harefield NHS Trust, and then editorial manager at a company creating software to help clinicians spot patient deterioration. Claire went freelance in 2012, her byline quickly becoming a fixture in a range of publications. A full member of the Medical Journalists Association, she is also an associate member of The Royal Society of Medicine. Claire graduated from the University of Reading in 2000 with a BA in Politics and International Relations; quite the feat considering she had spent most of her time working on the student newspaper. She is delighted to return to the university – a place of many happy memories – to be part of the Future Blood Testing Network Plus conference.

Professor Neil R Anderson. Chief Scientist at University Hospitals Coventry and Warwickshire and Pathology Clinical Lead for NHS Midlands. President of the Association for Clinical Biochemistry and Laboratory Medicine. Neil leads the South Midlands Pathology (SMP) Network, providing services to 2.5 million across 5 acute thrusts and two Integrated care boards. For SMP innovation is at the heart of the transformation of Pathology, not just new technology but new ways in which that technology is applied. The service is a clinically led service, with strong links to industry and both Warwick and Coventry Universities. His academic interests are in the field of preanalytical variation and barriers to the adoption of new technologies. He is a co-founder of an NHS led Institute of Precision Diagnostics and Translational Medicine specifically to work with industry and HEI partners on Digital Pathology, development of novel biomarkers, Digital Radiology and laboratory management. He is a past President of the Association for Clinical Biochemistry and Laboratory Medicine and is currently Chair of the Royal College of Pathologists Specialist advisory committee in Clinical Biochemistry.

Speakers, Panelists & Chairs

Keith Arundale Dr Keith Arundale is a Senior Visiting Fellow at the ICMA Centre, Henley Business School, University of Reading where he has developed and teaches the undergraduate and postgraduate modules on Private Equity & Venture Capital. Keith was with PwC for many years where latterly he led the venture capital programme and marketing & business development for PwC's Global Technology Industry Group in Europe. Since leaving PwC Keith has been pursuing a portfolio career of teaching, training and consulting in private equity and venture capital. Keith holds a BSc, ARCS degree in Physics and an MSc, DIC degree in Applied Optics from Imperial College London. His PhD in Management is from the Adam Smith Business School, University of Glasgow. His thesis explores the reasons for the historical difference in performance between European VC funds and US VC funds, focusing on the differences in the structural, operational (investment practices) and wider environmental characteristics of European and US VC firms. He is currently researching the investment practices of Chinese venture capital firms with Chinese colleagues from the University of Chester Business School where he is a Visiting Professor. He is the author of "Raising Venture Capital Finance in Europe" published by Kogan Page and "Venture Capital Performance: A Comparative Study of Investment Practices in Europe and the USA" published by Routledge (Taylor & Francis Group). He also initiated and authored the BVCA's "Guide to Private Equity". He is a non-executive director of Henley Business Angels.

Julie Hart is a Senior Research Fellow at the University of Reading. Julie initially trained as a research microbiologist at Unilever. Since then, Julie has led commercial teams in diagnostics and life sciences businesses, academia, and the NHS for nearly 35 years. Julie's work involves helping create and support the growth of companies developing innovative technologies and supporting adoption of these new innovative technologies by National Health Service (NHS) and social care organisations. After leading commercial teams at the Oxford Academic Health Science Network (AHSN) for the last 9 years, Julie now works as a Consultant on Diagnostics Pathway Transformation for Oxford AHSN. Julie has worked with many innovators developing new diagnostic, artificial intelligence and precision medicine solutions that meet the unmet needs of the NHS and has helped develop the evidence-base for these technologies and accelerate their adoption into the NHS. Julie is currently developing new evaluation methodologies to support wider adoption of these transformative technologies by health and social care organisations.

Dr Mark Elliott is an Associate Professor at the Institute of Digital Healthcare, WMG, University of Warwick (UoW). Mark's core research focuses on human movement and physiology analytics. His research uses signal processing and data science approaches to monitor, measure and model human movement and physiology to infer health status. He is the PI of the WMG Motion Capture Laboratory. His work further extends into the broader area of using wearable and on-the- body sensing devices to make objective measures of human behaviour and behaviour change. Much of Dr Elliott's research is highly applied and involves collaborating with commercial and NHS partners. He has received funding from EPSRC, Innovate UK and SBRI Healthcare, as well as direct industrial funding. He is currently Data Analytics Theme Lead for the EPSRC funded OATech+ Network and on the steering committee for the EPSRC funded VSimulators facilities at Bath and Exeter.

Speakers & Panelists

Prof. Huiyu Zhou received a Bachelor of Engineering degree in Radio Technology from Huazhong University of Science and Technology of China, and a Master of Science degree in Biomedical Engineering from University of Dundee of United Kingdom, respectively. He was awarded a Doctor of Philosophy degree in Computer Vision from Heriot-Watt University, Edinburgh, United Kingdom. Dr. Zhou currently is a full Professor at School of Computing and Mathematical Sciences, University of Leicester, United Kingdom. He has published over 400 peer-reviewed papers in the field. He was the recipient of "CVIU 2012 Most Cited Paper Award", "MIUA 2020 Best Paper Award", "ICPRAM 2016 Best Paper Award" and was nominated for "ICPRAM 2017 Best Student Paper Award" and "MBEC 2006 Nightingale Prize". His research work has been or is being supported by UK EPSRC, ESRC, AHRC, MRC, EU, Royal Society, Leverhulme Trust, Puffin Trust, Alzheimer's Research UK, Invest NI and industry. Homepage: https://le.ac.uk/people/huiyu-zhou.

Arjun Panesar is the founder of DDM Health, providers of clinically-validated digital health solutions to over 1.8 million people. Benefiting from almost two decades of experience in big data, AI and AI ethics, Arjun leads the development of evidence-based digital innovations that harness the power of machine learning to provide precision medicine to patients, health services, and governments. Arjun's work has received international recognition featuring in the Forbes, New Scientist, BBC and The Times. Arjun is a best-selling author on the topics of healthcare and AI, authoring two editions of Machine Learning and AI in Healthcare, and contributing to Handbook of Global Health, a major reference work. Arjun is an advisor to the Information School, University of Sheffield, Fellow to the NHS Innovation Accelerator, visiting lecturer at University of Warwick Medical School, and was recognised by Imperial College as an Alumni Leader for his contribution and impact to society.

Patient leaders: David Ruddy and Tim Benson

Future Blood Testing Network+

Future Blood Testing Network

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