Realising the Potential of Digital Mental Healthcare

MindTech 2016 Mental Health Technology Symposium
The NIHR MindTech Healthcare Technology Co-operative for Mental Health at Nottinghamshire Healthcare NHS Foundation Trust
Thursday 8th December 2016
Royal College of Physicians, London
Welcome

Professor Chris Hollis
Director, NIHR MindTech Health Technology Co-operative (HTC)

I am delighted to welcome you to ‘Realising the Potential of Digital Mental Healthcare’ the fourth National Symposium on Technology in Mental Health organised by NIHR MindTech HTC.

MindTech 2016 is our largest and most ambitious national symposium to date. Our aim is to create a unique forum that brings together clinicians, service-users, researchers, technology developers and policy makers to discuss and debate the role of digital technology in mental healthcare.

This year we are widening participation further with a real time social media feed that will interact with the live symposium. Presentations will range from the challenges of real-world evaluation and implementation of digital technologies in the NHS through to the future of avatars and virtual human therapists in mental healthcare. Our keynote speakers, David Clark and David Mohr will discuss the role of digital in widening access and improving outcomes in Improving Access to Psychological Therapies (IAPT) services and the potential for smartphone technology in mental health. The MindTech debate addresses the question of whether self-guided cCBT still has a place in the evidence-based management of depression.

Finally, please take time to visit the poster exhibition and technology demonstrations. I hope you find today’s symposium a stimulating and enjoyable experience that generates new ideas and contacts for future collaboration.

I am delighted to support the fourth National Symposium on Mental Health and Technology organised by NIHR MindTech HTC.

Increasing access to evidence-based treatments and improving outcomes in mental healthcare is a key health priority for the nation. Today's symposium offers a wonderful opportunity to hear about digital technology innovations in mental healthcare, including the latest research findings and the challenges of implementation and how these are being overcome. The MindTech Symposium is a unique event that brings together clinicians, patients, researchers, technology developers and policy makers with a common aim of improving the effectiveness and accessibility of needs-led digital interventions and services for patients in the NHS.”

Professor Chris Whitty
Chief Scientific Adviser, Department of Health

#mindtech2016
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Programme
NIHR MindTech National Symposium 2016
‘Realising the Potential of Digital Mental Healthcare’

09.00  Registration and refreshments

10.00  Welcome and opening remarks

  Professor Chris Hollis – Director, NIHR MindTech HTC
  Professor Martin Orrell – Director, Institute of Mental Health, Nottingham

10.05  Keynote opening address – The Improving Access to Psychological Therapies (IAPT) programme: What it has achieved and how digital can help it go further

  Professor David M Clark – National Clinical and Informatics Advisor for IAPT, Professor of Experimental Psychology, University of Oxford

10.25  Session 1 – Research Showcase: Technology in real world settings

  Chair: Professor Martin Orrell – Director, Institute of Mental Health, Nottingham

  The AQUA trial: Clinical utility of a computerised assessment of activity and attention (QbTest) for ADHD

  Professor Chris Hollis – Director, NIHR MindTech HTC

  Randomised controlled trial to assess feasibility and acceptability of web-based enhanced relapse prevention for bipolar disorder (ERPonline)

  Professor Fiona Lobban – Professor of Clinical Psychology and Co-Director of Spectrum Centre for Mental Health Research, Lancaster University
  Rita Long – Service User Researcher, Spectrum Centre for Mental Health Research, Lancaster University

  ChatHealth – save and secure messaging

    Jimmy Endicott – Digital Development Lead, Leicestershire Partnership NHS Trust

  Mersey Care NHS Foundation Trust/The Risk Authority, Stanford: Developing a suicide prevention app

    Dr David Fearnley – Medical Director and Consultant Forensic Psychiatrist, Mersey Care NHS Foundation Trust

11.20  Refreshments and networking – Osler Room

11.55  Session 2 – MindTech Debate: ‘This house believes self-guided computerised CBT (cCBT) no longer has a place in the evidence-based management of depression’

  Chair: Professor Richard Morriss, Professor of Psychiatry and Community Mental Health, University of Nottingham and Mood Disorder Theme Lead, NIHR MindTech HTC

  Panellists include:

    André Tomlin – The Mental Elf
    Dr Kate Cavanagh – Senior Lecturer in Clinical Psychology, University of Sussex
    Dr Stefan Rennick-Egglestone – Digital Research Specialist, University of Nottingham
    Melissa Briscoe – Head of Psychological Therapies, Self Help Services, Manchester
12.50 - 14.00  Lunch, networking and exhibition – Osler Room

14.00  Digital Mental Healthcare: A 2020 Vision
Dr James Woollard – Consultant Child and Adolescent Psychiatrist, Oxleas NHS Foundation Trust and Senior Clinical Fellow, Mental Health Technology and Innovation, NHS England

Professor Matthew Hotopf – Director of the South London and Maudsley NHS Foundation Trust, National Institute of Health Research Biomedical Research Centre (BRC) and Professor of General Hospital Psychiatry at the Institute of Psychiatry, Psychology and Neuroscience, King’s College London

14.30  Session 3 – New Horizons: Rapid Fire Technology Showcase
Chair: Dr Jen Martin, Programme Manager, NIHR MindTech HTC

Brain in Hand; improving independence in people with autism and mental health conditions and saving services’ money; stories from one thousand users –
David Fry, Chief Executive Officer, Brain in Hand

A novel facial expression and emotion sensing platform for virtual reality –
Dr Charles Nduka, Chief Scientific Officer, Emteq Ltd

i4i Funding 2017 –
Martin Hunt, i4i Programme Director, NIHR

15.00  Refreshments and networking – Osler Room

15.30  Session 4 – Virtual reality, avatars and virtual human therapists
Chair: Professor Chris Hollis – Director, NIHR MindTech HTC

Avatar therapy for voices in psychosis
Dr Mar Rus-Calafell – Clinical Research Coordinator, AVATAR Project
Dr Tom Ward – Research Clinical Psychologist/Senior Clinical Psychologist, Institute of Psychiatry, Psychology and Neuroscience, King’s College London

Virtual reality cognitive therapy for persecutory delusions
Professor Daniel Freeman – NIHR Research Professor, Department of Psychiatry, University of Oxford

Towards sensitive artificially intelligent narrative therapists
Dr Michel Valstar – Associate Professor, Computer Science, University of Nottingham

16.10  Keynote closing address - Leveraging the Phone for Mental Health
Professor David Mohr – Director, Center for Behavioral Intervention Technologies (CBITs), Professor in Preventive Medicine-Behavioral Medicine, Medical Social Sciences and Psychiatry and Behavioral Sciences, Northwestern University, Chicago, USA

16.30  Closing remarks and thanks
Professor Chris Hollis – Director, NIHR MindTech HTC
Professor Chris Hollis

Director, NIHR MindTech HTC

Chris Hollis is Professor of Child and Adolescent Psychiatry at the University of Nottingham and Director of NIHR MindTech Healthcare Technology Co-operative. From April 2017, Chris will lead the NIHR Nottingham BRC Mental Health and Technology Theme. Chris trained in psychiatry at the Maudsley Hospital and Institute of Psychiatry, where he was awarded an MRC Training Fellowship and completed his PhD on the long-term adult outcome adolescent-onset psychosis.

Chris moved to Nottingham in 1996 and was appointed to the Chair of Child and Adolescent Psychiatry in 1999. He was Head of the University Division of Psychiatry from 2000-2011. He works as a Consultant in Developmental Neuropsychiatry with Nottinghamshire Healthcare NHS Foundation Trust and leads a regional lifespan neurodevelopmental service. His clinical and research interests include ADHD, Tourette syndrome, early onset schizophrenia and the development, evaluation and implementation of digital technologies to support better mental health.

As Director of MindTech, Chris is passionate about harnessing digital technology and building its evidence-base in mental healthcare by bringing together patients, clinicians, academics and technology developers. He was lead author of ‘Technological Innovations in Mental Healthcare’ in the 2013 Annual Report of the Chief Medical Officer. Chris chaired the NICE Guideline for schizophrenia and psychosis in children and young people (2011-13) and is currently a member of the NICE ADHD (Update) Guideline Committee. He is a member of Innovate UK’s Digital Health Strategy Group. In 2015, Chris received a prestigious NIHR Senior Investigator Award.

Professor Martin Orrell

Director, Institute of Mental Health, Nottingham

Professor Martin Orrell, FRC Psych PhD is Director of the Institute of Mental Health, a partnership between the University of Nottingham and Nottinghamshire Healthcare NHS Foundation Trust. Until February 2015, he was Professor of Ageing and Mental Health at University College London and Director of Research and Development at North East London Foundation Trust. He is a Visiting Professor at City University and Honorary Professor at the University of Liverpool. He is Chair of the Memory Services National Accreditation Panel (MSNAP) and a member of the Prime Minister's Challenge on Dementia Research Group.

He has been awarded five major dementia grants totalling £11 million on psychosocial interventions for dementia care and is co-applicant on a further £9 million. He has published over 200 academic papers. He is a Board member of both INTERDEM and the International Psychogeriatric Association. In 2014 he was elected President of the European Association of Geriatric Psychiatry. He is Editor of the journal Aging and Mental Health.

Professor David M Clark

National Clinical and Informatics Advisor for IAPT, Professor of Experimental Psychology, University of Oxford

David M Clark is the Professor of Experimental Psychology at the University of Oxford and the National Clinical and Informatics Advisor for the Improving Access to Psychological Therapies (IAPT). He is well-known for his work on the understanding and treatment of anxiety disorders.

With colleagues, he has developed original and effective cognitive-behaviour therapy programmes for four different anxiety disorders: panic disorder, social anxiety disorder, post-traumatic stress disorder and health anxiety (hypochondriasis).

More recently, his team have developed internet based versions of the social anxiety and PTSD treatments. David has also played a key role in large scale initiative for making evidence-based psychological treatments more widely available. First, through his work in training local clinicians and helping establish a trauma treatment centre in Omagh, Northern Ireland following the 1998 Car Bomb. Second, as one of the architects of the Improving Access to Psychological Therapies (IAPT) programme.

Professor Fiona Lobban

Professor of Clinical Psychology and Co-Director of Spectrum Centre for Mental Health Research

Fiona Lobban is Professor of Clinical Psychology at the University of Lancaster and Honorary Consultant Clinical Psychologist at Lancashire Care NHS Trust. Her interest in mental health was first sparked during her teenage years by a TV series in which a very eminent scientist embedded a very personal story within a predominantly scientific account of mental health problems. The importance and power of the lived the experience was hugely apparent, and has remained so. Since then she has worked in a range of academic and clinical posts to better understand mental health problems and interventions to support people.

In 2008 she moved to Lancaster University where she is now the Co-Director of the Spectrum Centre for Mental Health Research which focuses on the development and evaluation of psychological interventions for people with mental health problems and their relatives/friends. Her main aim is to increase availability and access to effective psychological support. She lives in the Lake District with her family and spends a lot of time wet and muddy, usually on a bike.
Speakers

**Jimmy Endicott**

*Digital Development Lead, Leicestershire Partnership NHS Trust*

Jimmy joined the NHS in 2009 as a communications lead in community health, providing support to services which care for families, children, young people and older people. He's passionate about NHS service access and how we can use apps, mobile and social media to improve outcomes for service users and staff. He led on developing the ChatHealth messaging service which enables safe, secure and convenient communications between frontline clinicians and service users.

His pre-NHS career is as a communications and marketing specialist in private sector media and broadcasting, where he built and promoted different national media brands for teenagers, families and people in their twenties and thirties. He launched a number of new products in the UK music radio entertainment market, marketing them across TV, radio and online advertising, social media, relationship and experiential marketing. He is a graduate of Broadcast Journalism and member of the Chartered Institute of Marketing.

**Dr David Fearnley**

*Medial Director and Consultant Forensic Psychiatrist, Mersey Care NHS Foundation Trust*

David was appointed as a Consultant Forensic Psychiatrist in 2001, at Ashworth Hospital, which is one of three high security hospitals in England. He was appointed as the Medical Director for Mersey Care NHS Trust in 2005, and was also seconded as the Medical Director for Calderstones Partnership NHS Foundation Trust in (May 2015-July2016) prior to the acquisition by Mersey Care NHS Foundation Trust. He was named the Inaugural Royal College of Psychiatrists ‘Psychiatrist of the Year’ in 2009, and received the Healthcare Financial Management Association (in association with the Academy of Royal Colleges) ‘Working with Finance - Clinician of the Year’ award (2013). He was also named in the Health Service Journal 100 Clinical Leaders List (2015) as the trust’s driving force behind an international partnership with The Risk Authority, Stanford, and Lockton insurance brokers to manage and predict risk in mental health. In 2016 David was appointed as the Associate National Clinical Director for Secure Mental Health and also Chair of the Adult Secure Clinical Reference Group, NHS England.

**Professor Richard Morriss**

*Professor of Psychiatry and Community Mental Health, University of Nottingham and Mood Disorder Theme Lead, NIHR MindTech HTC*

Richard Morriss is Professor of Psychiatry and Community Mental Health at the University of Nottingham and Honorary Consultant Psychiatrist at Nottinghamshire Healthcare NHS Foundation Trust. His interests include bipolar affective disorder, mood disorders, suicide risk, somatisation, implementation of service innovation (including new digital technology) and evaluation of complex interventions.

He was Chair of the 2014 NICE Guideline Development Group on Bipolar Disorder and expert member of the NICE Quality Standards committee on bipolar disorder. He is the mood disorders lead for NIHR MindTech HTC, a national centre for digital mental health, Director of Research for NIHR CLAHRC East Midlands, a centre for applied research as well as part of the NIHR National Primary Care School and the Mental Health and Technology theme in the Nottingham NIHR Biomedical Research Centre.

**Rita Long**

*Service User Researcher*

Rita has worked as a Service User Researcher at the Spectrum Centre for Mental Health Research at Lancaster University since 2011. Her role there is to utilise her lived experience of bipolar disorder to facilitate relevant public involvement in all aspects of the centre’s work; she has co-authored academic papers and regularly works on strategic funding bids for nationally significant projects.

Rita facilitates a Bipolar Support Group in Stockport which she opened in January 2012. This year she was voted Volunteer of the Year for Bipolar UK. While working at the spectrum centre Rita has worked on two online studies; Integrated Bipolar Parenting Intervention (IBPI) and Early Relapse Prevention (ERP). You will hear more about ERP today from Rita and ERPs principle investigator.
Dr Stefan Rennick-Egglestone

Digital Research Specialist, University of Nottingham

Dr Stefan Rennick-Egglestone is a healthcare technology researcher, currently attached to the Faculty of Medicine and Health Sciences and the Institute of Mental Health. His primary focus is on understanding the appropriation of healthcare technologies by users with chronic health conditions, and on methods for tailoring digital technologies to the needs and motivations of people living with these conditions. He has a specific interest in mental health and recovery, which is informed by his own prior lived experience of mental ill health. His research background encompasses work in the fields of Human-Computer Interaction and Design Research.

Melissa Briscoe

Head of Psychological Therapies, Self Help Services, Manchester

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Melissa is Head of Psychological Therapies at Self Help, a user led mental health charity working in the North West. Self Help deliver a number of IAPT programmes with multi-disciplinary teams including psychological wellbeing practitioners, e-therapists, counsellors and peer connect workers. They also deliver non clinical mental health services including Self Help groups, peer mentoring programmes and a 24 hour crisis service.

Melissa began her career with the NHS Graduate Management Scheme and worked in Acute and Mental Health Trusts before moving into the voluntary sector. Since then she has worked across a range of settings including managing care and nursing homes, advocacy services and sexual health services. Melissa has worked primarily in Greater Manchester and some other parts of the North West and has a particular interest in the impact of economic and class status on mental health.

André Tomlin

Founder and Director of Minervation Ltd & the National Elf Service

André is an Information Scientist and a lifelong advocate of evidence-based healthcare. He is Managing Director of Minervation Ltd (www.minervation.com), which he spun out from Oxford University in 2002 with business partner Douglas Badenoch. Minervation is an evidence-based healthcare consultancy that works with charities, the NHS, companies and universities to improve patient care with better use of the best available evidence.

In 2011 André started the Mental Elf website (http://www.nationalelfservice.net/mental-health/), which helps people who work in mental health keep up to date with the latest reliable research. The Mental Elf blog and social media presence has become popular in the UK and across many English speaking countries, where clear summaries of the latest evidence supported by clinical commentaries are much needed by busy frontline practitioners. The Mental Elf is one of many elves in the National Elf Service website, which aims to improve clinical practice by making it easier for professionals to engage with research and link it to their professional development.

André’s specialist areas of interest include evidence-based health care, mental health, coproduction, digital health, critical appraisal of research, knowledge management, information science, education and training, user involvement, usability testing, social media and blogging.

Dr Kate Cavanagh

Senior Lecturer in Clinical Psychology, University of Sussex

Dr Kate Cavanagh is a Senior Lecturer in Clinical Psychology and Director of the Interactive Wellbeing Lab at the University of Sussex, UK. Her research interests include the development, evaluation and implementation of self-help and e-mental health technologies for common mental health problems. Dr Cavanagh has published widely on the topics of Computerised Cognitive Behavioural Therapy (CCBT), internet interventions, e-mental health, increasing access to psychological therapies and self-help.

Dr Cavanagh is a Director of both the International Society for Research on Internet Interventions (ISRII), and the European Society for Research on Internet Interventions (ESRII). She is also a member of the British Psychological Society and British Association for Behavioural and Cognitive Psychotherapy. She is a consultant to a number of international research projects exploring the implementation of CCBT.
Dr Jen Martin
Programme Manager, NIHR MindTech HTC

Dr Jen Martin has worked in the healthcare technology field for over 15 years and is MindTech’s programme manager. Before joining MindTech, Jen was Senior Research Fellow in Human Factors at the University of Nottingham where her research focused on the application of user-centred design techniques for the development of medical devices and digital healthcare technology and she has published widely in this area. She also previously worked at the NHS National Patient Safety Agency where she led the Human Factors team.

Jen is a member of NHS England’s Expert Reference Group for Digital Innovation and Adoption for Psychological Therapy and is an advisor to NICE as part of their work on accreditation of mobile health apps. She also serves on the Human Factors Committees for the Association of the Advancement of Medical Instrumentation (AAMI), which develop the international standards that underpin medical device regulation in Europe and the USA.

Dr James Woollard
Consultant Child and Adolescent Psychiatrist, Oxleas NHS Foundation Trust and Senior Clinical Fellow, Mental Health Technology and Innovation, NHS England

Dr James Woollard is a Consultant Child and Adolescent Psychiatrist at Oxleas NHS Foundation Trust and Senior Clinical Fellow in Mental Health Technology and Innovation at NHS England. He was a Clinical Leadership Fellow to Dr Geraldine Strathdee, National Clinical Director for Mental Health between 2014 and 2015.

His current Senior Clinical Fellow role in NHS England involves working across the system to bring together and co-ordinate the national policy programs for Mental Health and Technology to ensure the realisation of technology’s potential for improving mental healthcare. He is chair of the national Expert Reference Group for Digital Innovation and Adoption In Psychological Therapies as part of the Improved Access to Psychological Therapies programme. He has previously spoken on social media for psychiatrists, using Minecraft in clinical work and the use of technology in child and adolescent mental healthcare.

Professor Matthew Hotopf
Director of the South London and Maudsley NHS Foundation Trust, National Institute of Health Research Biomedical Research Centre (BRC) and Professor of General Hospital Psychiatry at the Institute of Psychiatry, Psychology and Neuroscience, King’s College London

Matthew Hotopf is Director of the South London and Maudsley NHS Foundation Trust National Institute of Health Research Biomedical Research Centre (BRC) and Professor of General Hospital Psychiatry at the Institute of Psychiatry, Psychology and Neuroscience, King’s College London. The BRC’s mission is to find improved treatments for people with mental disorders including medicines, psychological therapies, digital technologies and preventive strategies.

Matthew was trained in epidemiology at the London School of Hygiene and Tropical Medicine and in Psychiatry at the Maudsley. Matthew’s main area of research is in the grey area between medicine and psychiatry, exploring the interaction between mental and physical health. He has worked extensively in areas where mental health relates to other walks of life – including occupational and military health, mental health law, and the wider community.

David Fry
Chief Executive, Brain in Hand

David Fry is CEO of Brain in Hand, a digital health company, whose vision is to provide the best technology to help people with autism and other mental health conditions to live more independent and fulfilled lives.

He started his career at PwC, and was at PA Consulting Group for 10 years, where he was a partner in its Government Business. David has been a director of several healthcare companies, advised on social enterprise and innovation, and is an associate of the Dartington Social Research Unit, an independent charity dedicated to improving the health and wellbeing of children.

Whilst at Brain in Hand, David has taken the company from early product concept, through rigorous market testing, to commercial launch. The company works closely with leading autism organisations, social services, universities, schools and the NHS and continues to develop the product into new areas.
Martin Hunt

i4i Programme Director, NIHR

Martin has over 30 years’ experience in the medtech industry in large multi-nationals, start-ups and public companies. He also served as a Board member in a variety of life science companies encompassing medical devices, diagnostics and biotech. He currently has a portfolio of Chairman and non-executive director roles in both the private and public sector.

His previous roles include being CEO of biomaterials company Tissue Science Laboratories which he took from start-up, through angel capital and a listing on London’s AIM market to trade sale to Covidien in May 2008.

Since the acquisition, Martin has acted as Chairman of Orthox (early stage Oxford University spin-out in cartilage repair) Deputy Chairman of Trophos SA (French biotech in the CNS field) and Chairman of DySIS medical (cervical cancer diagnostics). His current roles include being Chairman of Videregen Limited (regenerative medicine focusing on organ transplant) and Deputy Chairman of MDY Limited (life sciences investment firm).

In the public sector, Martin is Programme Director of NIHR Invention for Innovation, a translational funding programme. i4i aims to support and advance the research and development of innovative healthcare technologies and their translation into the clinical environment for the benefit of patients.

Martin also acts as a mentor for inventors working in the medical technology space and is an active business angel.

Dr Mar Rus-Calafell

Clinical Research Coordinator, AVATAR Project

Dr Mar Rus-Calafell is a clinical researcher working at the Institute of Psychiatry of London, King’s College London. She is currently the clinical research coordinator of the AVATAR clinical trial (funded by the Wellcome Trust), a single randomised clinical trial which aims to test the efficacy of a computer-based therapy for auditory hallucinations. She is also a member of the Psychosis Group in the Virtual Reality Lab in the King’s College Hospital. Her research focuses on the study and treatment of psychosis spectrum disorders and new technology platforms for improving clinical interventions in this field.

She was previously a member of the VR-Psy Lab of the Department of Personality, Assessment and Psychological Treatments (University of Barcelona). She also completed her PhD in clinical psychology in the University of Barcelona and worked for four years as a clinical psychologist in the Adult Mental Health Services of Igualada (Catalonia). She was awarded with a visiting scholarship to work in the Department of Psychiatry of the University of Oxford and joined the Oxford Cognitive Approaches to Psychosis group (O-CAP), led by Professor Daniel Freeman and has recently been awarded by the European Union with a scholarship to attend the prestigious and selective training of the League of European Research Universities (LERU).

Dr Charles Nduka

Chief Scientific Officer, Emteq Ltd

Charles Nduka is co-founder and Chief Scientific Officer of Emteq Ltd a company focussed on measuring facial expressions and emotions. His background is as a surgeon and expert in facial rehabilitation. This work led him to develop a patent pending technology for non-invasive facial expression monitoring using wearable technology. He has won numerous research and development awards including from the Wellcome Trust, the National Institute for Health Research (NIHR), and Innovate UK. Emteq Ltd was founded in 2015 to improve lives through the development of facial sensing healthcare solutions and is applying its technology to VR.

Dr Tom Ward

Research Clinical Psychologist/Senior Clinical Psychologist, Institute of Psychiatry, Psychology and Neuroscience, King’s College London

Thomas Ward is a Research Clinical Psychologist working at the Institute of Psychiatry, Psychology and Neuroscience, King’s College London. He is the Therapy co-ordinator on a randomised trial of AVATAR therapy for distressing voices and the Trial coordinator for the forthcoming SlowMo trial; evaluating a novel intervention for paranoia, which includes an interactive digital platform and mobile App. He has also coordinated a large-scale study comparing individuals with persistent psychotic experiences with and without a ‘need for care’ (the UNIQUE study; led by Dr Emmanuelle Peters).

His research interests include a) elucidating the social and cognitive pathways involved in the development of psychosis (as part of the UNIQUE research group) b) understanding thinking and reasoning c) developing therapeutic approaches for psychosis (including the application of novel technology).
Speakers

Professor Daniel Freeman

NIHR Research Professor, Department of Psychiatry, University of Oxford

Daniel Freeman is Professor of Clinical Psychology and NIHR Research Professor in the Department of Psychiatry, University of Oxford. He is also a consultant clinical psychologist in Oxford Health NHS Foundation Trust, a Fellow of the British Psychological Society, and a Fellow of University College, Oxford.

Dr Michel Valstar

Associate Professor, Computer Science, University of Nottingham

Michel Valstar is an associate professor in Computer Science at the University of Nottingham, and member of both the Computer Vision and Mixed Reality Labs. He is an expert the fields of computer vision and pattern recognition, where his main interest and world-leading work is in automatic recognition of human behaviour, specialising in the analysis of facial expressions. Michel pioneered the concept of Behaviomedics, which aims to diagnose, monitor, and treat medical conditions that alter expressive behaviour by employing objective assessment of that behaviour. Previously he was a Visiting Researcher at MIT’s Media Lab, and a Research Associate in the intelligent Behaviour Understanding Group (iBUG) at Imperial College London. He received his masters’ degree in Electrical Engineering at Delft University of Technology in 2005 and his PhD at Imperial College London in 2008. He is the founder of the facial expression recognition challenges, FERA 2011/2015, and the Audio-Visual Emotion recognition Challenge series, AVEC 2011-2015.

He leads the Objective Assessment research area as the only non-professorial Research Area lead of a £23.6M Biomedical Research Centre, and is the coordinator of the EU Horizon 2020 project ARIA-VALUSPA, which will build the next generation virtual humans. Valstar is recipient of Melinda & Bill Gates Foundation funding to help premature babies survive in the developing world. In 2007 he won the BCS British Machine Intelligence Prize for part of his PhD work. His work has received popular press coverage in The Guardian, Science Magazine, New Scientist, CBC, and on BBC Radio, among others. Valstar is a senior member of the IEEE. He has published over 60 peer-reviewed articles, attracting > 4,200 citations and attaining an H-index of 30.

Professor David Mohr

Director, Center for Behavioral Intervention Technologies (CBITs), Professor in Preventive Medicine-Behavioral Medicine, Medical Social Sciences and Psychiatry and Behavioral Sciences, Northwestern University, Chicago, USA

David C. Mohr, Ph.D. is a professor in the Northwestern University Feinberg School of Medicine’s Departments of Preventive Medicine, Psychiatry, and Medical Social Sciences, and the Director of Northwestern University’s Center for Behavioural Intervention Technologies (CBITs; www.cbits.northwestern.edu). His work lies at the intersection of behavioural science, technology, and clinical intervention research, and has focused on developing, optimising, and evaluating interventions that harness wireless and web-based technologies to promote mental health and wellness.

His current work is exploring novel methods of using mobile phones to integrate behavioural interventions into the fabric of people’s lives. One set of studies is working on a platform called IntelliCare that houses a suite of mobile apps, each of which supports a single, targeted behavioural strategy using very brief, but frequent interactions. This work is developing recommender systems that harness app use data to suggest new apps that the individual is more likely to use and find useful, as well as the integration of efficient coaching strategies. A complementary line of research is exploring the use of passively collected phone sensor data to detect behaviours and states related to depression and anxiety. Dr. Mohr is also interested in developing new methodologies for the evaluation that address the unique needs and rapidly changing technological environment of behavioural intervention technologies.
Success Stories

MindTech awarded prestigious European Grant for Remote Monitoring Technologies for Central Nervous System Disorders (RADAR-CNS)

MindTech are partners on this ambitious 5-year project funded by the European Commission-funded Innovative Medicines Initiative to develop and evaluate a remote monitoring technology (RMT) platform aimed at patients and healthcare professionals across three Central Nervous System disorders: Depression, Multiple Sclerosis and Epilepsy.

The partnership, led by King’s College London and Janssen (part of Johnson and Johnson), involves international academic and health service organisations in collaboration with technology and pharmaceutical industry partners and patient organisations. The technology will involve wearable devices and smartphones which will gather a range of data including monitoring of a person’s sleep, physical activity, mood, social interaction, speech, cognition and stress.

MindTech’s responsibility in RADAR-CNS is to lead the Clinical Pathways work package. This will focus on ensuring that the new technology is appropriately designed for clinical working practice and addresses the needs of both clinical and health service personnel. This is no trivial matter as experience from telecare pilots in the past has demonstrated the challenges involved in making new technology work in complex organisational settings. Cost-effectiveness is also a huge issue.

There are a number of MindTech staff involved in RADAR: Profs Chris Hollis and Richard Morriss, Dr Michael Craven and our newest team member Dr Alexandra Lang, who brings expertise of medical device human factors research with patients and clinicians.

By working in partnership with other RADAR work packages on patient and regulatory perspectives as well as the technical and clinical effort, we hope to fulfil RADAR-CNS’s promise to significantly improve the way neurological conditions are treated.

Predicting treatment response to antidepressant medication (the PReDicT test)

MindTech are working with P1vital Ltd to trial a computer-based technology that helps to predict whether someone is responding to antidepressant medication after only 7-10 days of treatment (questionnaire-based methods used by GPs usually take 4-6 weeks to detect treatment response).

The technology is a computer-based test (called the ‘PReDicT test’) that involves patients looking at a series of facial expressions and categorising the emotion being displayed; an algorithm is able to detect whether a patient’s responses are changing over time, which would point to treatment response. Early tests conducted by P1Vital indicate the test is between 72% and 78% effective in predicting whether a patient will respond to a particular antidepressant, and P1Vital secured Horizon 2020 funding to trial the technology within Primary Care in five countries across Europe (France, Germany, Netherlands, Spain and the UK).

Within the trial, Prof Richard Morriss and Dr Sue Brown from MindTech are exploring the acceptability of the technology to patients and clinicians, and its implementation within Primary Care. This is alongside the main clinical trial to determine clinical effectiveness (conducted by P1Vital), and its health economic benefits (led by researchers at University of Oxford). The trial aims to recruit 1,200 patients who have recently been prescribed an antidepressant by their GP (or other prescribing clinician, depending on the country of care). Recruitment into the trial began in July 2016 in the UK, and will soon be underway in the other countries. Watch this space!
Prioritising research on digital technology for mental healthcare:  
A new James Lind Alliance Priority Setting Partnership

MindTech are leading a new national initiative to establish  
a James Lind Alliance Priority Setting Partnership (JLA PSP)  
focused on digital technology in mental healthcare.

This project aims to identify and prioritise the key unanswered research questions deemed important by people who access services, their supporters and clinicians. Project partners include Nottinghamshire Healthcare NHS Foundation Trust, MQ Transforming Mental Health, the McPin Foundation, mHabitat, Sheffield University, Nesta and Dr Geraldine Strathdee, previous Clinical Director for Mental Health, NHS England. It will run from October 2016 to December 2017.

The JLA approach is to bring together people who access services and their supporters on an equal footing with clinicians. A steering group of service user, carers and clinical representatives will guide the project with the support of a JLA adviser. The opportunity to contribute uncertainties or questions about digital technology will be opened up to a wide range of potential contributors – look out for news about this in spring 2017. The Steering Group will then facilitate processes to produce a jointly agreed ‘Top 10’ list research questions to be presented to funders.

For more information contact Dr Lucy Simons or visit mindtech.org.uk/james-lind-alliance-psp-on-digital-tech-for-mental-health.html

Mental Health First Aid for Students

In the autumn of 2015, MindTech conducted a pilot evaluation of the Mental Health First Aid (MHFA) eLearning course for medical students.

Depression and anxiety are common mental health difficulties experienced by students. In this study we focused on medical students as these young people face additional obstacles in seeking out professional help, including stigma and potential implications for their future career. As a result, they often prefer to manage their own issues and to seek help informally from friends and peers; however, we know that young people can be uncertain about how to best support a friend with a mental health need.

The course, developed by MHFA Australia (www.mhfa.com.au), is an online adaptation of their well-established face-to-face course and teaches trainees how to assist a fellow student experiencing a mental health problem or crisis. This was the first evaluation of the course in the UK, and we worked with MHFA Australia to make some adaptations to the online course so that it was culturally relevant.

55 medical students at the University of Nottingham took part in the study. We found

that the course improved students’ intentions to help a friend and their confidence to do so, and it also decreased their personal stigma towards mental illness. The students found the course easy to navigate and liked being able to complete it in their own time. They reported that it was informative and led to new understanding of mental health issues, and after completing it they felt better informed about how to help someone. They also mentioned they could apply this new knowledge to their personal life (helping themselves and their friends) but also to their studies and future careers. We are now starting exploring whether the course could be included in the medical curriculum, and have begun some qualitative work exploring students’ experiences of supporting friends with a mental health issue, to examine the challenges associated with this and how online resources could help. For more information about this project and our other student mental health work, contact Dr Bethan Davies.
MindTech are collaborating with a number of NHS and academic partners on two new studies to investigate the potential for virtual reality software ProReal (www.proreal.co.uk) to adjunct and be integrated into psychological therapy.

**Embedding virtual reality therapy into mental health services**

MindTech are collaborating with a number of NHS and academic partners on two new studies to investigate the potential for virtual reality software ProReal (www.proreal.co.uk) to adjunct and be integrated into psychological therapy.

The first study, which is being carried out in the CAMHS service at Oxford Health NHS Foundation Trust, is focused on integrating ProReal into Cognitive Behavioural Therapy for children and young people. Our second study is being carried out at a personality disorder service in South London & Maudsley NHS Foundation Trust and is examining how ProReal can be used to facilitate group sessions of Mentalisation Based Therapy for borderline personality disorder.

The aim of our studies is to assess whether ProReal’s features for narrative, metaphor, labelling, perspective taking and expression are therapeutically useful to both clinicians and patients. Furthermore, we are aiming to assess the feasibility and acceptability of using this type of digital technology to support therapy. We are gathering information on data governance within the NHS, staff training and work-flow impact. In addition to more substantial trials, the data from these studies will contribute to the development of staff training and user manuals to assist with the integration of virtual reality into mental health services at scale.

This work is a collaboration between MindTech’s Dr Caroline Falconer, Prof Paul Stallard (University of Bath), Dr Paul Moran (University of Bristol), Ms Penny Cutting (SLaM) and ProReal. This project began in summer 2016 and is due to be completed in spring 2017.

During 2016 MindTech staff and Involvement Team members have been co-producing a course on the use of digital technology to run at the Nottingham Recovery College.

**Digital Technology for Mental Health Recovery**

Recovery Colleges deliver education and training programmes within mental health services, providing education as a route to Recovery. Our course aims to increase students’ knowledge and confidence around digital technology for mental health and provide them with information and skills so that they can develop ideas for creating their own digital toolbox that meets their own needs while staying safe online.

Topics for the course were decided by gathering ideas from people who access services and current College students. Through a series of detailed co-production meetings, these topic ideas have been developed into 6 teaching sessions filled with interactive exercises, personal insights from Lived Experience and hands on experiences with technologies. Topics across the course include: getting online; online mental health information; apps; social media; and games.

A key theme throughout the course is how digital technologies are tools for helping humans – so we compare smartphones to other in-the-hands tools through human development, such as flint axe heads!

The course will run for the first time during November and December, co-taught by Involvement Volunteers, MindTech staff and College Peer Tutors. The MindTech contacts for this project are Paul Radin, Debbie Butler, Lucy Simons and Mike Craven.
Exhibitors

ProReal

ProReal is an immersive, virtual-world software platform which helps accelerate insight and change. Launched by British technology business ProReal Ltd in 2013, it is used by a wide range of clients in corporate and healthcare settings and enables people to populate a secure, online virtual environment with avatars and props to describe what's going in their inner and outer worlds. ProReal has developed the technology for use with touch-screen devices as part of its continued goal to bring secure, immersive technology to low cost and accessible devices.

In 2016, the company completed a major study funded by NHS England’s SBRI Healthcare initiative involving 54 young people in 8 secondary schools. This research, led by Professor Mick Cooper, found that ProReal’s use in counselling was associated with a significant reduction in psychological distress; it was particularly useful in supporting therapeutic work with young men and clients who found verbal expression difficult. Clinical pilots are now underway in South London and Maudsley, Oxford Health and Central Manchester University Hospital Trusts, with the support of Dr Caroline Falconer (NIHR MindTech HTC), Dr Paul Moran and Professor Paul Stallard.

PCMIS

Ranked 1st for research environment (REF 2015), PCMIS is the first web based cases management system, designed for the management of mental health caseloads and psychological wellbeing using Evidence Based Research for a wide range of care pathways. Developed in partnership with clinicians and world class leading researchers from the University of York and Department of Health Sciences Mental Health and Addiction Research Group, PCMIS is built on the latest innovative and ground breaking modelling to provide patient focused care, clinical supervision, client profiling and recovery predictability, proven to enhance outcomes. With powerful tools to identify and alert for clients at risk and not on track in their treatment regime, this integrated technology allows services to save time and money and improve quality and care.

Working closely with our technology partners, our key focus is in providing approach to the use of the latest technology for services helping to improve efficiency and eliminating the need for paper records. We work in partnership with a wide range of system providers, offering a range of integration options designed to eliminate manual duplication and improve service delivery.

Ieso Digital Health

Ieso Digital Health, provides evidence-based cognitive behavioural therapy online, on behalf of the NHS. Discreet one-to-one therapy is delivered in real time, with patients meeting a BABCP accredited therapist in a secure online environment, at a time and location that is convenient to them. The use of technology and written communication improves patient choice and offers more widespread access to effective, evidence-based mental health therapy, with excellent clinical outcomes. We adhere strictly to clinical and information governance, following the NICE approved patient pathway and recovery metrics.

Ieso Digital Health can work in partnership with existing treatment services to increase accessibility and choice. We are currently commissioned by over 30 NHS CCGs across the UK and in the American state of Colorado.

NIHR Invention for Innovation (i4i) Programme

Invention for Innovation (i4i) is an NIHR translational funding scheme to advance healthcare technologies and interventions for increased patient benefit in areas of existing or emerging clinical need. The ultimate aim is to get products or services to a position where they can enter and be used within the NHS.

We support collaborative R&D projects that have demonstrated proof-of-principle and have a clear pathway towards adoption and commercialisation. The expected output is an advanced or clinically validated prototype medical device, technology or intervention.

An i4i award helps to de-risk projects and make them attractive to follow-on funders and investors. Both types of i4i award (Product Development and Challenge awards) comprise early to late stage product development, including first-in-man and clinical feasibility studies, and pivotal clinical studies to evaluate the safety and effectiveness for the intended use.

Email: i4i@nihr.ac.uk  Web: www.nihr.ac.uk/i4i
P1vital Products was founded in 2010 to focus on the development of software products for the pharmaceutical and healthcare sectors within the mental health field. Our vision is to transform the lives of patients suffering from mental health disorders throughout the world and become a market leader of evidence-based, digital healthcare solutions. Our mission is to provide high quality, cost-effective, reliable and easy to use solutions for use in clinical research and healthcare. We build on scientific research and collaborate with experts in academia and industry to develop evidence-based digital health innovations to bring benefit to patients’ lives. Our lead products include the P1vital® ePRO system which collects patient reported outcome data remotely from patients at home, and the digital clinical decision tool, the P1vital® PReDiC T Test.

The latter is a novel software medical device utilising a proprietary machine learning algorithm designed to improve the treatment of depression within primary care.

Specifically, the P1vital® PReDiC T Test provides a rapid and objective measure of a patient’s response to antidepressant medication to supplement a GP’s management of depressed patients and accelerate their recovery. Initial results from a clinical investigation in primary care showed that the Test can reliably predict after 7-9 days whether a patient will respond to an antidepressant treatment rather than waiting 4-6 weeks which is currently required.

Use of the P1vital® PReDiC T Test will enable GPs to identify the right treatment for the patient much more quickly, which will significantly reduce both the time to remission for patients and healthcare costs for the NHS and other healthcare providers.

Monsenso is an innovative technology company offering an mHealth solution to help optimise the treatment of mental disorders. Our mission is to help healthcare providers, researchers, and individuals overcome the burden of mental illness. Our solution provides a detailed overview of a patient’s mental health through the collection of behavioural data and self-monitoring. Based on continued research and development, our team is committed to developing comprehensive solutions that fit seamlessly into the lives of individuals, increasing the quality and efficacy of their treatment. To learn more visit www.monsenso.com
Working in partnership with MindTech:

If you would like to become a collaborator, share an idea, need advice or are interested in a joint application for research funding or a commissioned research project, please contact us.

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