Brain Injury
MedTech Co-operative

National Institute for
Health Research

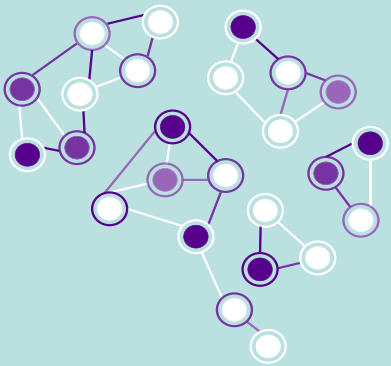
Newsletter, Issue 3, October 2018

Patient Inspired Innovation

Welcome to the issue 3 of the NIHR Brain Injury MedTech Co-operative newsletter. In this edition, find out more about the commencement and launch of the Brain Injury MedTech Co-operative (MIC) and other events that may be of interest.

About us

The MIC is one of eleven national MedTech and In Vitro Diagnostic Co-operatives (MICs) funded by the National Institute for Health Research (NIHR).



The MIC works with patients, carers, academics, clinicians and industry to develop new medical devices, healthcare technologies and technology-dependent interventions to improve treatment and quality of life for patients with brain injuries.

Get Involved!

The MIC has developed a volunteer register for patients and carers to assist in the advance of healthcare technologies. For more information, please visit our website:
http://www.brainmic.nihr.ac.uk/rhite

Important:

To unsubscribe from RHITE and this newsletter please send us an email to:
involve@brainmic.org

We are at Norwich Science Festival!

Get ready for hands-on science and engineering activities for all ages.

Norwich Science Festival has come back (19-27 October) also this year with with inspirational exhibitions, sensational shows and activities. You will have the chance to to explore the wonders of the universe, get hands-on and messy with science, meet scientists whose research has changed our world and debate some big questions with some big-thinkers.

FRIDAY 26: "Concussion in Sport. What's the fussy about?"

The Brain Injury MIC will be present with a stand on Friday 26th supporting a talk from Dr Michael Grey (School of Health Sciences at University of East Anglia) who is working on the development of a virtual-reality based concussion assessment prototype.

The talk will discuss the science of concussion, shining light on a condition that affect not only professional sport and busting
busting several common myths along the way.

Venue: The Forum, Auditorium
Cost: Free
Age: +12
Book: https://norwichsciencefestival.co.uk/

Norwich Science Festival is coordinated by The Forum, Norwich, and a partnership of organisations and institutions including Norwich Research Park and the University of East aAnglia.

Series: The Brain Injury MIC presents its Theme Leaders

Paediatrics and Neurodevelopment Theme: Professor David Rowitch & Professor Topun Austin

As you may be aware, the work of the NIHR Brain Injury MIC is divided into eleven themes led by internationally renowned experts in their respective field and this month we are delighted to introduce to you our Paediatrics and Neurodevelopment Theme Leaders: Professor David Rowitch and Professor Topun Austin.

David Rowitch is Professor and Head of Paediatrics at University of Cambridge and his laboratory investigates genetic factors that determine development and diversity of glial cells of the brain and the response to injury. He has applied these principles to better understand white matter injury in premature infants, brain cancer and leukodystrophy. David led the first human clinical trial of direct neural stem cell transplantation focused on the rare and fatal leukodystrophy, Pelizaeus-Merzbacher Disease.
His work in the field of neurobiology has earned him numerous awards. He became a Howard Hughes Medical Institute Investigator in 2008 and Professor of Paediatrics at Cambridge University and Wellcome Trust Senior Investigator in 2016.

MedTech for One Healthy Baby: How can Technology support the '*Halveit Campaign*" to reduce stillbirth and neonatal brain injury?

The Brain Injury MIC has organized a series of workshops designed to provide technology-based solutions to support the government campaign to reduce stillbirths in the UK.
The first workshop - led by Professor Topun Austin - took place in London last September and it was attended by experts from all the over country from Universities, National Institute of Health Research (NIHR), infrastrctures and by a parent representative.
The group identified four main areas amenable of technological interventions:

- Risk Assessment for the"Whole Reproductive Life'
- Service Delivery: how to identify abnormalities
- Smart Fetal Assessment
- Data Integration

We will keep you up to date!

The next appointment will focus to engage with specific industries for developing the outcomes outlined in the first workshop and moving forward in tackling stillbirths and neonatal stillbirths.

Prof. Topun Austin is Consultant Neonatologist in Cambridge and Honorary Professor of Neurophotonics at University College London and has an interest in brain injury and imaging in the newborn. He leads the Evelyn Perinatal Imaging Centre (EPIC), based at the Rosie Hospital, Cambridge. He is also founder of neoLAB, a formal collaborative group between EPIC and Biomedical Optics Laboratory at UCL. The group has been involved in developing an integrated optical-EEG system to study neurovascular coupling as well as a unique fast optical tomography system for 3D imaging of regional blood flow and oxygenation. Prof. Austin is also involved in the development of the NeuroNICU at the Rosie Hospital, in collaboration with Prof. David Rowitch.
BBC One documentary 'Born Pre', describing the challenges faced by premature babies, 'The Golden Window, a film made in collaboration with BAFTA award-winning film producer Dr. Shreepali Patel, giving an infants perspective of the neonatal intensive care unit. He regularly speaks at the Cambridge Science Festival and in 2016 was invited to speak at the Hay Festival.

Other News...

Winners of Seedcorn Funding Competition 2018 Announced

The NIHR Brain Injury MedTech Co-operative (www.brainmic.nihr.ac.uk) is delighted to announce the winners of the Seedcorn Funding Competition 2018/2019 - Round 1. This competition has been established to support early development of novel technology-based solutions applicable to the brain injury pathway, from prevention of the initial acute event through to longer-term rehabilitation. The Seedcorn awards of up to £10,000 aim to support proposals that are led by Academic Institutions, NHT Trusts, Third Sector Organisations and Small and Medium Sized Enterprise (SMEs). In addition, it fosters collaborative projects that have a near term clinical impact or the potential to secure further substantial funding after proof of principle has been established. Here below the Winners of the competition.

Mobile app for the delivery of cognitive behavioural therapy following concussion*

Mr Aimun Jamjoom, University Edinburgh

Cognitive Behavioural Therapy (CBT) is a talking therapy that uses a range of techniques to help patients manage how they think and feel. CBT has been shown to improve patient outcomes after a concussion. The project is about developing a digital CBT intervention to support patient recovery following a concussion.

**The project was a winner of the Seedcorn Funding Competition 2017, funded through the forma Healthcare Technology Co-operative*

Wearable Neurotechnology for EEG based Awareness Detection, Communication and Technology Interaction in Prolonged Disorders of Consciousness

Prof Damien Coyle, Ulster University

In collaboration with NeuroCONCISE Ltd, this proposed project aims to build on ongoing trials involving patients who have a prolonged disorder of consciousness. The Seedcorn Funding will be used to provide complete NeuroCONCISE wearable products to a subset of 60 patients to evaluate extended use and assessment of product delivery, within a 3 layered programme.

TOPS-Y: Adapting and piloting an online problem-solving intervention for young children with brain injury

Dr Anna Adlam, University of Exeter

In the UK a child injures their brain every 30 minutes. Most survive, however, brain injury can affect thinking and behaviour, which can impair the child's ability to cope and gain future independence. Despite these long-term difficulties, there is limited research investigating interventions. One promising intervention is the Teen Online Problem-Solving (TOPS) web-based intervention; however, children under the age of 12-years have difficulty engaging with, and benefiting from TOPS. In collaboration with Cincinnati Children's Hospital (USA), the proposd research aims to work with children (aged 9 -12 years) with brain injury and their families to adapt TOPS-for Young children (TOPS-Y).

Investigating a portable patient-led virtual reality platform for assessment and rehabilitation of hemispatial neglect: a usability study

Dr Stephanie Rossit, University of East Anglia

Together with an industry collaborator (Evolv), a new virtual reality tool for the diagnosis and treatment of neglect using portable low-cost technology has been developed. The study aims to test how usable and acceptable this virtual reality tool is when administered in stroke survivor's homes.

Evaluation of stroke patients' user acceptance and functional responsiveness to vibratory stimulation by active insoles in standing and walking

Dr Leif Johanseen, University of East Anglia

The projetc proposes to conduct an evaluation of the usability, acceptance, user attitude and functional responsiveness to augmentation of plantar somatosensory feedback by the prototype of a smart vibratory stimulation insole in stroke patients. The project plans to assess the specific needs of individuals recovering from stroke as well as their family members and caregivers when the prototype insoles are used over a short period at home.

Selective brain temperature management after Traumatic Brain Injury - a preliminary study to support the application to i4i funding

Dr Andrea Lavinio, University of Cambridge

The purpose of this project is to fund a preliminary, proof of concept study of a new, localised approach to brain cooling for patients with or at risk of suffering neurological injuries. The investigation is going to be carried out in the Addenbroke's Hospital Neuro Intensive Care Unit, whose medical staff has provided the expert input during developing the approach and settin up the study. The project is 80% funded by the NIHR Brain Injury MedTech Co-operative and 20% by Neuron Guard, a company that has developed a cooling collar specifically designed to demonstrate the feasibility of this new approach. This study stems from the feedback of Research Design Service and NIHR to provide early stage demonstration of the feasibility of target brain cooling in patients with neural damage in preparation of a potential future application for funding a larger clinical investigation.

Coming Next...

Brainworks: An open evening for the public hosted by NIHR BRC

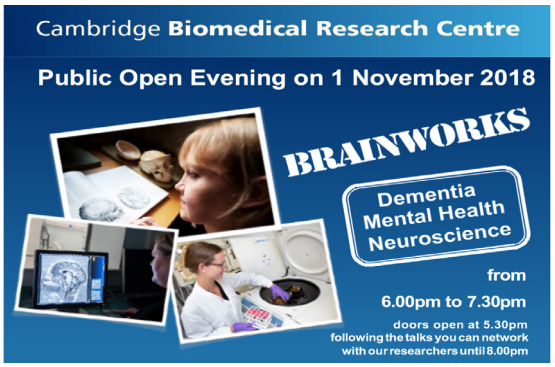
Sharing cutting-edge local research in dementia, mental health and neuroscience on 1st November

The NIHR Cambridge Biomedical Research Centre is hosting a public open evening of three short talks by leading Cambridge scientists, who will discuss how their research is changing the future for people with brain-associated conditions. Talks are between 6.00pm and 7.30pm.
During the evening yu will be able to:

- Discover how research partnerships are making a difference to patients' lives and enjoy the opportunity to ask these 'Brainworkers' your research questions in a live Q&A session:
- Find out why Cambridge is at the forefront of tackling major health challenges such as dementia, mental health and neurological conditions and what we are doing to turn research discoveries into life-changing treatments to benefit our patients. We also want to share with you ways for you to get involved in our research.

Doors open at 5.30pm, following the talks you'll be able to network with our researchers and talk to them about their work until 8.00pm.

Venue: CRUK Cambridge Cancer Research Institute
Cost: Free
Book: https://www.eventbrite.co.uk/e/brainworks-an-open-evening-for-the-public-hosted-by-nihr-cambridge-brc-registration-49211136835



Coming Next...

Reaching Out North Essex: Building a local children and young persons health and wellbeing research partnership

The Brain Injury MIC is involved in a new project aimed at engaging diverse communities in research. This project is based in North Essex and is a collaboration between members of the regional NIHR Public Involvement Collaborative, University of Essex and a number of local agencies including: Refugee Action Colchester, Jaywick Neighbourhood Team, Tendring District Council, Healthwatch Essex, Firstsite Gallery, Friends not Foes (a young people led group at Colchester Sixth Form College) and Essex Council for Voluntary Youth Services. The funding for one year is awarded by INVOLVE and RDS with additional funding from CLAHRC East of England and CRN Eastern . The focus is to explore the potential for building a local children and young peoples' health and wellbeing research partnership. A core group of 6 young people (aged 16 – 24) will be helping to design a creative programme of fun activities to engage and equip local children and young people with appropriate information, skills and confidence to influence decisions about health research. Please contact Tracey Johns (tracey.johns@essex.ac.uk), Project Lead further information.

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