

What will your Impact be?

Your support for **MRI and the Developing Brain** will make a genuine difference to the lives of children and young people with neurodevelopmental disorders.

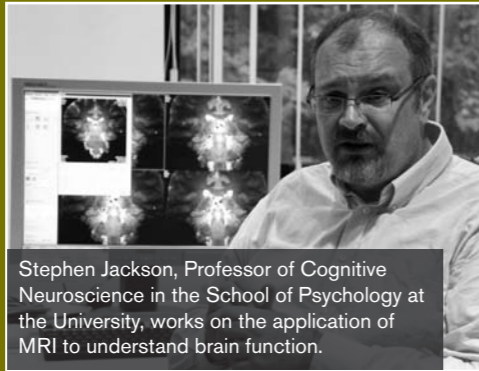
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To find out more or to contact us directly, please use the information on the back of this leaflet.

Thank you – your support is greatly appreciated.



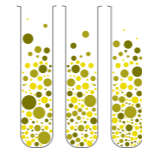
Stephen Jackson, Professor of Cognitive Neuroscience in the School of Psychology at the University, works on the application of MRI to understand brain function.

“For over 150 years the diagnosis of Tourette Syndrome (TS) has left families feeling isolated and fearful for the future of their child. Parents, carers and people living daily with the reality of TS want to understand more about this complex condition which rules their lives. The University's brain imaging project is a vital component to providing the answers. To be able to follow the progression of the condition and, in perhaps as few as five years, to be able to offer a likely prognosis is beyond measure. Imaging may also point towards new treatments or medications to make the management of TS a real likelihood.

Families all over the UK and indeed the world are waiting for the answers; surely we should do everything in our power to provide them.”

Suzanne Dobson,
Chief Executive of Tourettes Action

Improved MRI scanning will increase understanding of the developing brain. Our work will directly benefit the growing number of children who experience mental health disorders.



Supporting The University of Nottingham

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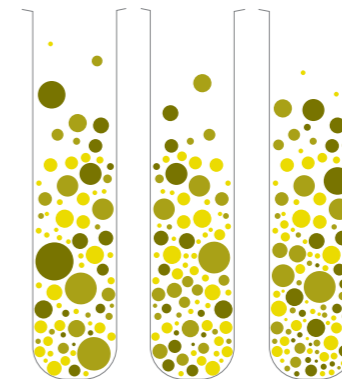
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MRI and the Developing Brain is part of The University of Nottingham's new appeal which is delivering the University's vision to change lives, tackle global issues and shape the future. Do something inspirational today. Make a gift and have a lasting impact on tomorrow.

MRI and the Developing Brain

One in five children will suffer from a mental health disorder

Will you help improve quality of life for children with mental health problems?



Ingenuity

The issue

Developmental brain disorders are extremely common in children and adolescents. To investigate potential links between changes in the developing brain and neurological disorders, researchers require accurate knowledge of brain development in children without brain disorders. Such knowledge has yet to be obtained.

In addition to mental illness, other forms of neurological, psychiatric, or neurodevelopmental disorders include Autistic Spectrum Disorder, Attention Deficit Hyperactivity Disorder, Obsessive Compulsive Disorder, Tourette Syndrome, stroke and tumour. Such disorders can have a devastating outcome on a child's cognitive, emotional, social and educational development and long-term life chances. Early diagnosis and intervention with the appropriate treatment or therapy can lead to early control of clinical symptoms, increased life chances and well-being for the child and their family. Early intervention also saves the economy £18 for every pound spent.

Our solution

Magnetic Resonance Imaging (MRI) was invented at The University of Nottingham by Sir Peter Mansfield, who was jointly awarded the Nobel Prize for Medicine for this work in 2003. The Sir Peter Mansfield Magnetic Resonance Centre (SPMMRC) is now a world-leading centre for the continuing development of MRI, and is currently the UK centre for ultrahigh-field MRI.

The University also has an international reputation for basic and clinical studies of neurodevelopmental disorders in children and adolescents and is one of the few centres in the UK to host specialist clinics for neurodevelopmental disorders such as Tourette Syndrome.

MRI has revolutionised diagnostic medicine, with more than 26 million investigative procedures carried out each year. It promises a second revolution by providing an entirely non-invasive tool with which to explore the human brain. At the University, we are applying radical innovations in brain-imaging techniques and image analysis to establish the first brain image database of the typically developing brain in childhood. Such a database is crucial to understanding how atypical patterns of brain development lead to the psychiatric and neurodegenerative illnesses to which children and adults are increasingly susceptible.

Our impact

Building up a picture of how children's brains develop will lead to earlier diagnosis, reliable prediction of clinical outcomes and more successful treatment for children with developmental brain disorders; this will have a significant impact on their quality of life and wellbeing.

“MRI has come a long way in the last 35 years but there is still a lot to do to improve the sensitivity, particularly when studying the function of the brain. Further innovations will help achieve this.”

Professor Sir Peter Mansfield,
Nobel Laureate 2003

John is a young adult who suffers from Tourette Syndrome. He suffers from chronic facial and vocal tics, and painful tics in his shoulders and arms. John has recently been referred to a neurologist because the drugs prescribed to help control his tics cause persistent vomiting. At the same time, John is suffering from depression after losing his job as a painter and decorator. His tics caused him to flick paint when holding a brush and consequently he was bullied by his workmates.



Scan the code to visit the MRI and the Developing Brain web page where you can find out more and view our MRI and the Developing Brain film on your smart phone

A young patient preparing for an MRI scan.

