



Astron University
Birmingham



The Astron Brain Centre



The Aston Brain Centre

A world-leading Centre of
Excellence for the study of brain
development and imaging



The Aston Brain Centre is an integrated research environment for the study of the brain and neurodevelopment in health and disease.

Much of our work is characterised by a focus on the medical application of fundamental research to diagnosis, therapy and treatment.

We combine our multidisciplinary expertise with the latest technology to study brain function from individual human brain cells through to the whole brain and behaviour, and from the study of the developing child brain through to the ageing brain. We also provide a tertiary referral service for National Health Service (NHS) consultants, providing cutting edge diagnostic services not otherwise available within the NHS.

We are also leading the way in the development of humane research techniques to replace the use of animals, especially primates, in neuroscience research.

Professor Paul Furlong

Professor of Clinical Neuroimaging

▶ Wellcome Trust Laboratory for MEG Studies

We are building the first Magnetoencephalography (MEG) system in Europe designed for use with children.

The system measures the tiny magnetic fields which occur in the brain, allowing us to find out how it responds to different stimuli, and which areas are involved. Our particular focus is on understanding children's neural development, and how it differs in disorders such as epilepsy, dyslexia, autism and attention deficit hyperactivity disorder (ADHD).

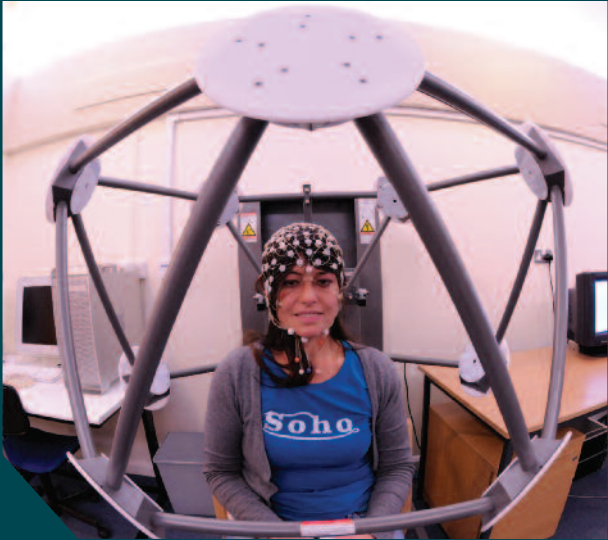




▶ Aston MRI Research Unit

The focus in our Centre is using magnetic resonance imaging to explore the structure and function of the brain. Our powerful 3-tesla MRI scanner is used to study brain function, including children with developmental disorders such as epilepsy and metabolic disorders.





▶ Clinical Neurophysiology Unit and Sleep Research Lab

Providing a clinical service for hospital consultants across the United Kingdom, we specialise in the clinical use of high resolution EEG, MEG and Transcranial Magnetic Stimulation to assess brain function. New sleep laboratories provide a facility for the study of neurological and psychiatric sleep disorders, with particular interest in diagnosis and drug therapies.

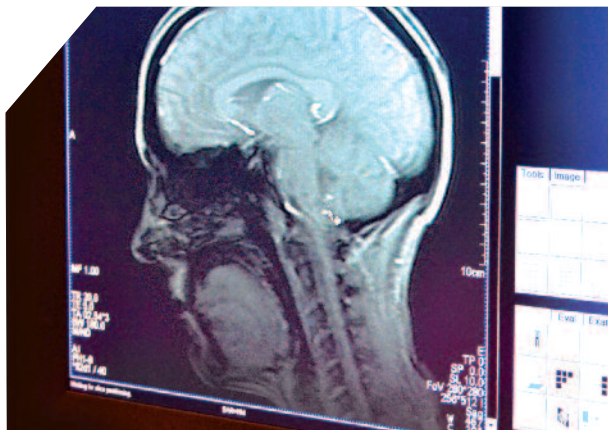


▶ Dyslexia and Developmental Assessment Unit

There has been a Dyslexia Unit at Aston University for over 40 years and today, as part of the Aston Brain Centre, it has access to a wider range of state-of-the-art clinical and research facilities than ever before. The dyslexia assessment service for both children and adults continues today, and we are also involved in many research projects looking at brain development to try and understand more about how to help people with educational problems and those with developmental disorders.

▶ Human Brain Tissue Laboratory

In collaboration with Birmingham Children's Hospital, this lab provides the pivotal link between our pre-surgical evaluation and patient's post-surgical outcome. Brain tissue extracted at surgery, often for treatment of epilepsy, can be studied under the microscope and tested with drugs, not otherwise possible in humans, and frequently tested on animals as an alternative. The lab provides a vital testing ground for novel drug development and testing as well as providing a vital insight into links between invasive and non-invasive brain function testing.



The Aston Brain Centre combines the best in neuroscience research with state-of-the-art clinical diagnostic facilities, alongside a multidisciplinary team of scientific researchers.



If you are interested in exciting new opportunities for research collaborations, promotions and sponsorship, or providing support for the work of the Aston Brain Centre, please contact:

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