



King's College London  
Institute of Psychiatry  
Department of Neuroimaging  
Department of Forensic and Neurodevelopmental Science  
De Crespigny Park  
London SE5 8AF  
United Kingdom  
[Website](#)

## Project leader

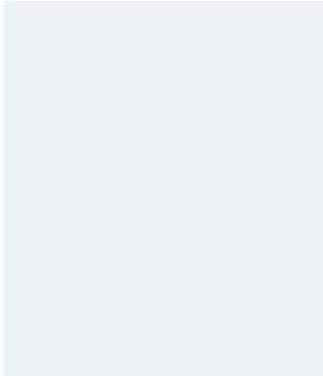


**Prof. Declan Murphy**  
Professor of Psychiatry and Brain Maturation  
Phone +44 (0)20 7848 0982  
Fax +44 (0)20 7848 0281  
[E-Mail](#)



**Prof. Steven Williams**  
Professor of Imaging Sciences  
Phone +44 (0)20 3228 3060  
Fax +44 (0)20 3228 2116  
[E-Mail](#)

## Project team



Dr. David Lythgoe  
Senior Research Scientist  
Phone +44 (0)20 3228 3069  
Fax +44(0)20 3228 2116  
E-Mail

## Institute presentation

The Institute of Psychiatry (IoP) is Europe's largest centre for research and post-graduate education in psychiatry, psychology, basic and clinical neuroscience. The IoP is a School of King's College London.

World renowned for the quality of our research, for psychiatry and psychology, we are the most cited research centre outside the US, and the second most cited in the world as ranked by Thomson ISI Essential Science Indicators. In the 2008 Research Assessment Exercise we were judged to have the highest research power of any UK institution within the areas of psychiatry, neuroscience and clinical psychology.

Our world-class research-led learning experience attracts the very best students from around the world. Our students enjoy unrivalled learning opportunities, supported by strong partnerships with NHS Trusts, industry and healthcare organisations.

## The Department of Forensic and Neurodevelopmental Science

Forensic Mental Health Science is the study of antisocial, violent, and criminal behaviours among persons with mental disorders.

Formed in 2010 by the merging of the Department of Forensic Mental Health Science with the Section of Brain Maturation, the Department is led by Professor Declan Murphy  
The department's programme of research has three priorities:

1. To develop comprehensive programmes of treatment that effectively reduce antisocial and violent behaviours among persons with different mental disorders;
2. To identify the biological, psychological and social determinants of antisocial and criminal behaviours among persons with mental disorders;
3. To contribute to the development of effective primary prevention programmes for persons at risk for mental disorders.

## Brain Maturation

Brain Maturation carries out research to better understand how the human brain develops, and how and why abnormalities in brain maturation lead to cognitive deficits and neuropsychiatric disorders; and investigates how genes and the environment influence brain development, and the effect of hormones and medication on brain maturation and brain function.

Most of the work involves brain imaging in both healthy individuals and people with psychiatric or neuro-developmental disorders.

The research focuses on:

- Psychosis;
- Autism Spectrum Disorders (ASD);
- Learning disabilities;
- Studies designed to better understand the ageing processes of the brain and psychopathy.

We are one of the few teams in the world which bring together experts in brain development and antisocial behaviour. Our Teaching Unit runs conferences, workshops and seminars throughout the year to cater for Consultants, SpR's, SHO's, Psychologists, Nurses, Medical Students and Solicitors.

## The Department of Neuroimaging

### Introduction

The Department of Neuroimaging led by Professor Steve Williams is an academic Department embedded within the Centre for Neuroimaging Sciences (CNS). The CNS is a joint venture of the King's College London Institute of Psychiatry (IoP) and the South London and Maudsley NHS Trust (SLaM).

The Centre promotes an interdisciplinary research environment with a world-leading combination of application-oriented brain imaging, analysis and clinical expertise for the definition, diagnosis and treatment of neurological and psychiatric disorders.

The Department of Neuroimaging also houses the Preclinical Imaging Unit (PIU), comprising state-of-the-art purpose built MR research facilities for preclinical experimental research and fully equipped to study a variety of disease models.

### Research in the Department

Current research projects span neurodegeneration, epilepsy, stroke, pain, psychosis, affective disorders, developmental disorders and normal brain function, using a battery of neuroimaging techniques which include perfusion, diffusion, functional and structural imaging. Complementary

research in imaging physics and analysis supports these applications.

Basic scientific research is also performed in models of neuropsychiatric disease, again using a diverse array of neuroimaging techniques, including pharmacological MRI and spectroscopy techniques. In conjunction with non-MR methods such as microscopy and autoradiography, this multifaceted approach enhances our understanding of the patho-physiological mechanisms underlying disease and informs the development of novel therapeutic interventions. In addition, improved understanding of the biological processes that underlie MR signal changes advances the crucial role of MR in non-invasive assessment of neuropsychiatric disease.

Our long-term objective is to translate our on-going pre-clinical developments in neuroimaging to the clinic, improving diagnosis and treatment of psychiatric and neurological diseases.