

## About POWIC

Mental illness is one of the most neglected areas of medicine and a consequence of this has been that medical research into mental illness has traditionally been overlooked. In order to address this, SANE has successfully raised over £6 million to establish The Prince of Wales International Centre for SANE Research in Oxford, to find the causes of and better treatments for schizophrenia and manic depression.

In February 2003 the Centre was officially opened by HRH The Prince of Wales at the Warneford Hospital within the grounds of Oxford University. This was made possible thanks to generous donations from our key funders, Nicholas and Matti Egon, His Majesty the Sultan of Brunei and King Fahd bin Abdulaziz Al-Saud, Custodian of the Two Holy Mosques of Saudi Arabia (through his nephew HRH Prince Turki Al-Faisal).

### Aims of the centre are:

- to establish the causes of and better treatments for schizophrenia and manic depression
- to become an international forum for discussion in this field
- to disseminate education, awareness and information on mental illnesses to scientists and the public

### ▪ Background

SANE research began in 1994 in temporary accommodation and laboratories donated by Oxford University under the guidance of Professor Tim Crow, SANE's Honorary Scientific Director. A 15-strong research team was established, collaborating with 20 laboratories worldwide and publishing over 40 scientific papers. A committee of distinguished scientists advises SANE on the scientific programme.

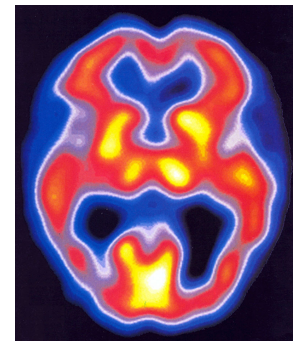
The Centre is the only research facility in the world investigating the relationship between psychosis and human-specific genes. To test this hypothesis and reinforce the quest for an organic basis for mental illness, Professor Crow and his team are exploring genetics, neuroimaging and neuro-pathology as well as wider clinical studies. The Centre also is one of the few research institutes that is investigating the genetic basis of cerebral asymmetry and its implication for the brain and mind.

### ▪ Programme of research

Psychosis, a severe episode of mental illness, is experienced by two to three percent of the population in the course of a lifetime and occurs in all populations with an onset throughout adult life. It is associated with high morbidity, in terms of loss of employment capacity, family breakdown and risk of suicide. The overall aim of the research programme is to determine the nature and causation of psychosis (in schizophrenia and manic-depression) with a view to devising new treatments.

**Genetics:** The major objective is to investigate genetic differences between humans and the Great Apes to explain the course of brain evolution in hominids, and to identify relevant genes. The focus is on the structure and mechanisms of control of a region of homology between the X and Y chromosomes, and specifically ProtocadherinXY. Samples from families with multiple cases of psychosis and from monozygotic twins (one ill and one well) are being used.

**Neuroimaging:** This involves investigating the relationship between brain structure on MRI (Magnetic Resonance Imaging) scans and behaviour, in particular between brain asymmetry and language function. Included in these studies are individuals with an onset of psychosis in adolescence as well as those with psychosis associated with learning disability and the syndromes of autism, which recent studies reveal have significant features in common.



**Neuropathology:** This work examines the physical differences between the brains of those with schizophrenia and those without, assessing the convolutions of the cerebral cortex and relating them to its cellular composition layer by layer in the two hemispheres. Of particular interest is the relationship that changes in these variables may have to the long fibre tracts that connect different areas of cortex including particularly those that interconnect the left and right sides of the brain.

## Meeting the challenge of mental illness

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