Last year the SLaM/IoPPN application for renewal of the funding for the NIHR Biomedical Research Centre (BRC) was successful, with the award of £66m. This is the largest single research grant held at the IoPPN, and will support a 5 year programme across all departments, starting in April 2017. The programme, led by Professor Matthew Hotopf, comprises a range of different themes, corresponding to each of the major psychiatric disorders and research disciplines. Research on psychosis will be supported through the Psychosis & Neuropsychiatry theme, with Professor Philip McGuire leading the psychosis component and Professor Tony David leading work on neuropsychiatric disorders. One of the key aims for the theme is to develop tools that can use neuroimaging, genomic and peripheral biomarkers to predict meaningful clinical outcomes, such as the onset of illness, or the response to a treatment. The department already has a strong track record in this field, through research supported by the EU-GEI, OPTiMiSE, STRATA, TRIM and PSYSCAN studies. A second aim is to develop and evaluate novel treatments. Again, this builds on previous and ongoing research in the department, such as epidemiological, psychopharmacological, neuroimaging and early phase clinical trial work on cannabis and cannabinoids in psychosis. Indeed, the department’s research on Cannabidiol was highlighted in the BRC application as the best example of how basic science research at the IoPPN has been successfully translated into a novel psychiatric treatment (figure below).

These key research aims are also in line with the more generic objectives of new ‘Clusters’ within the BRC. The Precision Psychiatry Cluster, led by Professor Philip McGuire, brings together the BRC...
We are pleased to announce that Paola Dazzan, Professor of Neurobiology of Psychosis in the Department of Psychosis Studies has been appointed Vice Dean International for the Institute of Psychiatry, Psychology & Neuroscience, King’s College London.

In this new role, she will be responsible for developing and implementing the international strategy for the Faculty, consistent with the university’s international strategy. A key feature of her role will therefore be to ‘join up’ existing, and instigate new, research, education and commercial opportunities, with international partners. She will also work to address the issues, challenges and opportunities emerging from the EU and respond to the changing landscape of the UK’s relationship with Europe over the next few years.

Paola first came to the United Kingdom in 1994, prompted by her curiosity for International research and education, and throughout her career has forged new collaborations across the world that have generated joint research projects, publications, and PhD students. She has always believed that international exchanges can truly enrich the personal and professional development of all academics.

Paola’s main research interest is the application of brain imaging to the study of the early stages of psychosis. She leads a team of researchers investigating biomarkers for psychiatric disorders and factors that affect their outcome.

She is also Co-Chair of the IoPPN Diversity & Inclusion Self-Assessment Team, and Honorary Consultant Psychiatrist in the South London and Maudsley (SLaM) NHS Foundation Trust Perinatal Services.
Linking diabetes and schizophrenia

Rates of type 2 diabetes mellitus (T2DM) are higher in patients with schizophrenia than in the general population, an association that is typically attributed to antipsychotic medication and poor lifestyle habits. New research from Oliver Howes’ group published in JAMA Psychiatry reports that patients with first-episode schizophrenia exhibit impaired glucose homeostasis compared with healthy control individuals. This new data could suggest that patients with schizophrenia have an inherent risk of developing T2DM.

The meta-analysis conducted by Toby Pillinger and colleagues included studies that provided fasting glucose concentration, glucose concentration following the oral glucose tolerance test (OGTT), fasting insulin and insulin resistance derived from homeostatic model assessment. To limit the effects of exposure to antipsychotic drugs, the authors only included patients who had been prescribed antipsychotics for ≤2 weeks.

The team demonstrated that individuals with first-episode schizophrenia have increased levels of fasting glucose, raised levels of glucose post-OGTT, raised levels of fasting insulin and increased insulin resistance, compared with matched controls. The results remained significant in sensitivity analyses that focused on patients and controls that were matched for diet, levels of regular exercise, and ethnicity, and also in analyses that only considered entirely antipsychotic naive patients. “We recognize that our findings might still, at least in part, reflect poorer lifestyle habits in patients with schizophrenia,” says Pillinger. “There are, however, other mechanisms that could be contributing to the association between schizophrenia and T2DM, for example, common susceptibility genes and shared developmental risk factors”.

The authors hope that their findings will encourage health practitioners to consider diabetes prevention from the onset of schizophrenia. “The mortality gap between patients with schizophrenia and the general population is growing, and, in that context, our findings have major clinical implications,” concludes Pillinger. “There is a need for clinicians to select an appropriate antipsychotic at an appropriate dose so as to limit the risk of developing diabetes, provide patient education regarding diet and exercise, ensure regular screening for diabetes, and offer prompt management to those who go on to develop diabetes.”


Theory update: A revised and updated neural diathesis-stress model of schizophrenia

It has been 20 years since Professor Elaine Walker (Emory University, US) proposed the neural diathesis-stress model of schizophrenia, in which stressful experiences were hypothesised to act via the hypothalamic-pituitary-adrenal (HPA) axis to give rise to psychosis. This model has since become one of the most influential theories of schizophrenia, stimulating a wealth of interest into the role of stress and HPA axis abnormalities in psychosis. Following a successful conference symposium in which I had the opportunity to meet Prof. Elaine Walker, Dr Marita Pruessner and Dr Monica Aas (ISPNE, Montreal, 2014), we decided to revisit the neural diathesis-stress model that was initially proposed in 1997 and updated in 2008 to bring together the new findings in this area. In this extensive review, we summarise the evidence to date, note the methodological difficulties that pose problems for interpreting these findings, and describe the interactions between the HPA axis and neurodevelopmental, epigenetic, neurotransmitter, and inflammatory processes, as well as brain structure and function. We hope that this review (published this month) will help researchers to interpret the current evidence base and stimulate further investigation in this exciting area.

Dr Alexis Cullen, Sir Henry Wellcome Postdoctoral Fellow and Honorary Lecturer

Multiple sclerosis (MS) affects about 150-200 people per 100,000 in the UK and is commonly associated with psychiatric problems especially depression. Psychosis in the context of multiple sclerosis has previously been reported as a rare occurrence. However, recent epidemiological studies have found prevalence rates of psychosis in MS that are two to three times higher than those in the general population. Untreated psychosis in patients with MS can adversely impact on adherence to MS medication, levels of disability, and quality of life.

We have recently published a retrospective case series in the journal of Neuropsychiatric Disease and Treatment, which describes the spectrum of psychotic disorders occurring in association with MS using demographic, clinical, and neuroimaging data.

This was a collaboration between clinicians and academics at King’s College Hospital, the South London Maudsley Hospital (SLaM) and the Institute of Psychiatry, Psychology & Neuroscience (IoPPN). There appear to be 3 groups of patients: those who have a psychosis and then develop MS; those that have established MS and then develop a psychosis (often with other cognitive difficulties).

Finally there is a rare but interesting group in whom the psychosis and evidence of MS seem to come to light at around the same time.

In the discussion, we highlight the particular diagnostic and treatment challenges that such disorders can pose for clinicians and through our case vignettes provide examples of potential interventions for this complex patient population. This case series gives a good illustration of what clinical neuropsychiatry is all about.

Professor Tony David, Vice Dean Academic Psychiatry

External prizes and awards

Congratulations to the members of our Department who have recently won prizes and awards

Dr Sami Musa was awarded the international Travel Award for the Society of Biological Psychiatry.

Dr Noriyuki Ohmuro won the IEPA Best Poster Award at the conference in Milan.

Dr Stefania Tognin & Dr Antonella Trotta received the 2017 ICOSR Young Investigator Travel Awards.

Why cinema fails dissociative identity disorder

The movie “Split” was released on the 20th of January. “Split” features a deranged individual with Dissociative Identity Disorder (DID) who abducts and terrorizes three young women. Steve Rose from the UK Guardian interviewed Dr Simone Reinders to discuss the movie. Although some of the ideas presented in the movie, such as the childhood trauma basis of DID or that DID is frequently mislabelled as schizophrenia, are correct, the idea that individuals with DID are prone to violence is not true. Simone emphasises this in the interview with the Guardian, which can be found via the UK and US Guardian websites and via Twitter @AATSReinders.

The interview includes a brief description of Simone’s neurobiological research. But the most important part of the interview is the emphasis on the concern of the effects that the movie will have for patients with DID, and how the general public will now see these patients.

There’s already a lot of stigma and scepticism concerning this specific disorder, affecting 1 to 3% of the general population worldwide. The International Society for the Study of Trauma and other news platforms, such as CNN, have also addressed this concern. In Split, DID is misrepresented for entertainment only.

Dr Simone Reinders
Senior Research Associate
Sir Robin Murray FRS FMedSci has been awarded the 2016 Rhoda and Bernard Sarnat International Prize in Mental Health by the US National Academy of Medicine.

Sir Robin was awarded the prize for integrating the biological, environmental, and social aspects of schizophrenia and thereby improving the lives of patients and their families.

"Through their pioneering, innovative work, Dr. Hyman and Sir Robin have each greatly advanced our understanding of mental health disorders and helped develop effective treatments that have changed patients’ lives for the better,” said NAM President Victor J. Dzau.

The Rhoda and Bernard Sarnat International Prize in Mental Health has been presented since 1992 to individuals, groups, or organizations that have demonstrated outstanding achievement in improving mental health.

Awards & Achievements

Legislative Merit Medal – Brazilian Congress for Professor Rodrigo Bressan

Rodrigo has always been keen that his research should be of value to society. He has been a leading light in communicating psychiatry to medical students and to families and carers of people with schizophrenia. One of his key collaborators in this work is Jorge Assis who has lived experience of schizophrenia, and lectures with Rodrigo on these courses. Rodrigo feels that the students learn much more from somebody with schizophrenia than from a professor. He has also written a series of psychoeducation books with people with schizophrenia, contributed to anti-stigma campaigns, and created a school mental health program called “Cuca Legal” (Cool Mind). Finally, he has worked with Mara Gabrilli, a politician who developed tetraplegia after an accident, but recovered to become one of the most important members of the Brazilian Congress. Rodrigo has worked with her to implement policies to improve the rights of people with mental disorders. Most recently, Rodrigo, together with Prof Jair Mari, another IoPPN alumnus, has founded ‘Y-Mind’, a Brazilian foundation that integrates neuroscience, psychiatry, and social science to improve mental health in young people.

The ‘Legislative Merit Medal’ is one of the highest honours that can be bestowed on a Brazilian citizen, and is of similar status to a Knighthood in the UK. We are delighted that his work has been recognised and congratulate Rodrigo on this prestigious award.
Awards & Achievements

Katie Beck has been awarded the RCPsych Rosetrees Clinical Research Training Fellowship.

The fellowship is jointly funded by the Rosetrees Trust and the Royal College of Psychiatrists.

This is a three year fellowship, which will allow her to undertake a PhD at the Department of Psychosis Studies.

During this fellowship, Katie will use PET and MR imaging to investigate the role of the glutamate system in the neurobiology of psychosis.

Her supervisors will be Professor Oliver Howes, Dr Matthew Taylor, Professor Alexander Hammers and Professor Philip McGuire. She will start the fellowship in June 2017.

Yuya Mizuno received the Postdoctoral Fellowship for Research Abroad from the Japanese Society for the Promotion of Science (JSPS). This 2-year fellowship is intended to give young Japanese researchers the opportunity to carry out long-term research at outstanding institutions across the globe.

Yuya’s research focuses on assessing the role of neuroinflammation in patients with psychotic disorders using Positron Emission Tomography (PET).

In parallel to his research, Yuya has been pushing hard to become qualified as a UK psychiatrist. Outside of work, Yuya has become attached to grass tennis courts, English Ale, and scones with clotted cream.

The awards ceremony was held at the Education Hub in December 2016 to celebrate outstanding academic achievements from our MSc students.

Olivia Bridge and Anna Cartwright were full-time students of the MSc Mental Health Studies in 2015-16. Olivia was awarded the Jim Watson prize and Anna the Nick Bouras prize. The prizes are in recognition of their outstanding academic achievements.

Louisa Bowen was a part-time student on the MSc in Organisational Psychiatry & Psychology. She was awarded the Bill Mitchell prize in recognition of her outstanding achievements on the course, having attained the top mark over-all and also for her distinction.

Prizes were presented by their Programme Leaders Dr Jenny Kravati and Dr James Rubin.

Knitting Circle Update

After a long earned rest the knitting circle is back up and running again. It started in 2008 and still has a good turnover of members today, where students come and join us during their stay at the IoPPN and permanent staff have remained with the group throughout their employment here.

We now meet on Mondays from 13:00-14:00 in the café-diner lounge area and anyone is welcome to join us from complete novice to professional knitter. We are also planning to venture into cross stitch this summer to widen our interests. The group is led by Averil Baxter and she can teach any stitch in either knitting or crochet so if you fancy learning something new or just want a well earned lunch break once a week do come and join the knitting group.

For further information please do contact Jas (jasbir.rana@kcl.ac.uk)
Diversity & Inclusion

The Athena SWAN banner under which much of the work is done is misleading; the remit of the original self-assessment committee has expanded into far-reaching areas such as: Workload and teaching, Pay, recruitment and promotion, Education and outreach, Professional services, Parent, carer and flexible working, Race and sexual orientation. The name of the group has been changed in order to reflect this and is now known as the Diversity & Inclusion Self-Assessment Team (D&I-SAT) and has three core aims to champion, implement and monitor (i) IoPPN Athena SWAN silver action plan; (ii) King’s Race Equality Charter Mark and Stonewall and (iii) To extend the Athena SWAN work under the auspices of the gender equality charter mark to include professional/support services, trans staff/students.

In response to feedback from the last IoPPN staff survey (in 2014) the D&I SAT put together a list of the areas that departments should improve. A checklist was formulated for all departments to assess themselves against – this was followed-up by D&I visits. As part of the assessment HoDs were interviewed about how they are implementing the checklist themes. Departments have received feedback based on their performance. So, how did the Psychosis Studies fare? It was praised for its current good progress with respect to many of the goals. Many of the procedures being implemented are being held up as examples of good practice. This is not to suggest that long-standing issues simply disappeared overnight, but that things are moving in the right direction.

Our department has 27 academics, a third of whom are female. The management committee consists of staff of senior lecturer level and above. Females also account for a third of membership. Junior academics have a good representative voice at the departmental committee level, and the department has good mechanisms in place for disseminating information and receiving feedback through a range of communication options, including departmental meetings, newsletters, coffee & cake events, notice boards and the JAC meetings.

New appointments can expect a walk-through induction, where they will be introduced to key members of both academic and administrative staff. Induction booklets are written specifically for the needs of either PhD students, Professional Services or Academic staff and also contain information relevant to D&I. Those whose employment begins with a period of probation are now assigned a named mentor. Finally, gender & ethnic diversity are actively considered when shortlists are being drawn up for seminar series, awards and prizes.

As your departmental representative on the D&I self-assessment committee I am keen to hear about any issues, experiences or concerns you might wish to raise. I am also happy to tell you more about how the SAT is working towards its core goals. If you wish to contact me you can send an email to conrad.1.iyegbe@kcl.ac.uk.

Conrad Iyegbe
Postdoctoral researcher, Psychosis Studies

Parenting Leave and Carers’ Fund

The fund which is open to all academic/research staff at King’s who are returning/ have returned to work after a period of maternity, adoption or additional paternity leave in the last 12 months. This is part of the university’s Gender Ambitions programme and aims to improve the retention of these staff, many of whom end up leaving work at this challenging time in their careers.

Our department had a few successful applicants in the last few years like Dr Alice Egerton and Dr Simone Reinders who will now be able to employ a part-time research assistant for 6 months. More info at http://www.kcl.ac.uk/hr/diversity/parenting/fund/index.aspx.

Students’ Corner

Diversity & Inclusion

The last five years have seen a number of free or very cheap learning platforms for coding languages becoming available. For PhD students working with neuroimaging data (like myself) this is particularly useful as the nuts and bolts of what we do generally involves setting up pipelines that borrow tools from various libraries, meaning that you can get away with doing very little of what would be considered as computer science, i.e. turning algorithms into code yourself. Entry level skills in loading and saving different data formats, looping and iterating through lists, and knowing what to Google can give you a huge amount of flexibility. A bit of coding can also make accessible software not packed up with a graphical user interface.

If you’re interested, interactive sites such as Codecademy (Python, Git, SQL) and datacamp (Python, R) are great places to start. There are also a number of free courses on Udacity and Coursera, some of which include interactive tasks. All cater for absolute beginners and can be done at your own pace.

George Gifford,
PhD student, Psychosis Studies

Quiet space for PhD Students

The graduate school are piloting ‘writing up spaces’ (e.g. in the Maughan Library) for PhD students to give them a guaranteed desk in a quiet space for a fixed period of 3 months.

We are pleased to let you know that we also have identified free desk spaces in a quiet area on the 7th floor that will be offered to our Psychosis Studies PhD students at the write-up stage.

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Inaugural lectures are a distinguished and important part of the university and scholastic tradition, Oliver has given his inaugural lecture entitled "Kanye West and the cause of psychosis" on the 23rd February, chaired by Professor Sir Robin Murray and with the vote of thanks from Professor Philip McGuire. The lecture attracted over 200 people and was held the Wolfson Lecture Theatre, here at the IoPPN.

These are incredibly popular lectures and are always very well attended (and not just for the food!). They are an excellent way in which we can hear from our new professors as they share their current work with us.

Oliver Howes is Professor of Molecular Psychiatry at the Institute of Psychiatry, Psychology & Neuroscience, King’s College London and the London Institute of Medical Sciences, Imperial College, and consultant for Eillo Ltd.

His clinical work is a Consultant Psychiatrist at The Maudsley Hospital where, amongst other things, he runs a service for people with refractory psychoses.

Professor Howes has been at the IoPPN since 2001 and is part of the Department of Psychosis Studies.

His research interests centre on the causes and treatment of psychosis. His recent work has focussed on understanding the role of dopamine and neuroinflammation in the development of psychosis, the effects of antipsychotic drugs on the nervous and endocrine systems, & the causes of cognitive impairment in schizophrenia. This work has been recognised through a number of awards including the Schizophrenia International Research Society Rising Star Award 2013, European Psychiatric Association Biological Psychiatry Prize (2012), the Royal Society of Medicine Psychiatry Prize (2010), Royal College of Psychiatrists research prize (2005), and the British Association of Psychopharmacology Clinical Psychopharmacology Prize (2007).

He was made an honorary associate of the European College of Neuropsychopharmacology in 2006.

Other career highlights include working as a junior potato scrubber on a farm. He spends his spare time selflessly trying to find the world’s best ice cream.
Stress and GABA in the pathogenesis of psychosis. Modinos, G., Hammers, A., McGuire, P. & Williams, S. Funder: Wellcome Trust: £1,089,387.00


Modulating ADHD behaviour with transcranial direct current stimulation of the right frontal cortex combined with cognitive training in adolescents with ADHD. Rubia, K., Asherson, P. & David, A. Funder: Action Medical Research: £199,999.00


Targeting neuro-inflammation in Schizophrenia. Howes, O., Politis, M., Turkheimer, F. & Veronese, M. Funder: MRC: £841,703.00


Does cannabis use modulate brain glutamate levels in early psychotic illness?. Bhattacharyya, S., Sami, M. & Williams, S. Funder: MRC: £246,419.00

Symptom dimensions in first episode psychosis: predicting clinical outcomes using natural language processing. Patel, R. Funder: Academy of Medical Sciences: £30,000.00


Using smartphone technologies to investigate the effects of the physical and interpersonal environment on coping strategies in early psychosis. Tognin, S., McGuire, P. & Mechelli, A. Funder: Brain and Behavior Research Foundation: £20,162.00


Symptom dimensions in first episode psychosis: predicting clinical outcomes using natural language processing. Patel, R. Funder: Academy of Medical Sciences: £30,000.00

Quantitative MRI and cognitive measures in patients with Alzheimer’s Disease before and after Table Tennis. Kempton, M. & Williams, S. Funder: Bounce Alzheimer’s Therapy (BAT) Foundation: £73,494.00


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