Tess Smith
PhD student, MRC Cognition and Brain Sciences Unit
Over 4 million children are currently living in poverty in the UK. The deleterious effects of poverty on neurodevelopment are substantial and well-studied. However, while numerous children are adversely affected by poverty, there are also those who progress through typical development despite this adversity. Indeed, some children display remarkable resilience, and have been shown to flourish. My research investigates the ways in which adversity influences neurodevelopment and how the interaction between genetic, neural, environmental, and cognitive mechanisms promotes resilience in children facing adversity.

Martine Skumlien
PhD student, Department of Psychiatry
Despite cannabis being the most widely used illicit drug in the world, we know surprisingly little about if and how it affects brain, cognition, and mental health. In my PhD, I am looking at the impact of cannabis use on reward processing. I am especially interested in the effects on the adolescent brain, as adolescence is an important period of brain development and a time during which many people try drugs for the first time.

Questions I hope to be able to answer with my PhD are:

- Is it true that cannabis causes you to become demotivated and lazy?
- Does cannabis have harmful effects on brain and cognitive development?
- Are the brains of people who use cannabis different from people who don’t?
- Why is it that some people can use cannabis for years and not experience negative effects, whereas others struggle with abuse and dependence?

Although my area of expertise is the neuropsychopharmacology of cannabis, I am also interested in use and effects of other illicit substances and their potential application as novel treatments for mental health disorders, as well as addiction, drug policy, adolescent cognitive development, and reward, motivation, and learning processes in the brain.
Nina Lutz
PhD student, Department of Psychiatry, Child and Adolescence Resilience and Mental Health (ChARM) Group
Some people hurt themselves on purpose for reasons other than wanting to end their life, often as a way of controlling overwhelming emotions. My research explores the underlying psychological factors which contribute to non-suicidal self-injury (its aetiology), and the ways that self-injury changes over time (its developmental course). My first PhD project uses quantitative statistical methods to investigate the mechanisms through which childhood trauma interacts with psychological distress, impulsive personality traits, and difficulty regulating emotions to put someone at risk for using self-injury as a coping strategy. My second project uses qualitative interviews to learn from young adults with lived experience of self-injury how its frequency, severity, and functions have changed since they began hurting themselves. I am also interested in understanding how some people come to feel addicted to their self-injury, and why LGBTQ+ people report especially high rates of the behaviour.

Lydia Rutherford
MPhil Student, Department of Psychology
My work investigates the mechanisms of memory reconsolidation, the updating process that memories undertake to incorporate new information, in animal models of addiction. Although memories are thought to be stable upon consolidation, new information related to the engram 'reactivates' memories, causing them to be labile for a transient window of time before subsequent stabilisation. If one administers the appropriate pharmacological agent within this 'reconsolidation window', this updating mechanism can be disrupted and thus, the memory cannot return to a stable state. This reduces the strength of the memory and, thus, has the potential to be translated into a clinical environment as a therapeutic for aberrant memory disorders such as addiction or PTSD. My work specifically targets the memory reconsolidation of instrumental and pavlovian alcohol memories in rats to attempt to reduce these seeking behaviours.

Nazia Jassim
PhD Student, Department of Psychiatry
Atypical sensory perception is a core feature of Autism Spectrum Conditions (ASC). For my PhD, I use a variety of cognitive neuroscience techniques, from behavioural experiments to neuroimaging, to investigate sensory perception, behaviour, and brain function in ASC. This work taps into the fields of psychology, neuroscience, and data science (coding computer-based experiments and analysing brain and behavioural data).

Personal website: https://naziajassim.github.io/
Harriet Smith
PhD Student, MRC Cognition and Brain Sciences Unit
My research focuses on individuals with neurodevelopmental language disorders – specific problems with using and/or understanding language, which arise over the course of development (rather than after a brain injury). This includes people with dyslexia and spoken language processing difficulties. I use a combination of behavioural and MRI methods to investigate differences in both task performance and brain organisation in these groups. In my PhD, I’m specifically interested in whether people who have problems understanding language also have issues with auditory processing, which may make it harder for them to discriminate and identify speech sounds. I’m currently running large-scale online studies to compare speech processing abilities in adults with and without dyslexia, as well as designing functional MRI paradigms to measure brain activity when people with a range of language skills listen to speech. I am also working on projects using structural MRI to study white matter differences in children with language problems. Our hope is that by better characterising language dysfunction at both the cognitive and neural levels, we may be able to design more effective interventions in the future.

Rasanat Fatima Nawaz
PhD student, Department of Psychiatry, Child and Adolescence Resilience and Mental Health (ChARM) Group
My research focuses on the management of self-harm and suicide in schools and universities. I use quantitative and qualitative methods to explore questions in this area. The majority of self-harm incidents take place outside of hospital, which makes schools a good place to provide support for young people. I am currently working on two projects, a literature review, and analysis of school data. The literature review involves identifying what programmes already exist in schools and universities to help young people who self-harm. I am also looking at a large dataset of more than 200 schools in the UK to identify any patterns of self-harm within year groups, and across schools. I welcome applications from students interested in young people’s mental health.

Audrey Low
PhD student, Department of Psychiatry, Old Age Psychiatry Group
There remains much to be understood about the causes and mechanisms behind dementia, limiting the ability of clinicians to develop interventions to prevent or delay dementia onset. My research focuses on how changes to the small vessels in the brain (cerebral small vessel disease) relate to other brain changes commonly seen in dementia, as a way of uncovering the role of these vessel-related changes in dementia. As part of this project, I am also looking at risk factors of cerebral small vessel disease, e.g. sex, hypertension, exercise, diabetes, diet etc. One possible extension of this would be to investigate how risk factor profiles can differ between males/females or ethnicities.
**Camice Revier**  
*PhD Student, Department of Psychiatry*

Currently my research is aimed at expanding the evidence and understanding of the relationship between sleep and social recovery in psychosis. Social recovery is essentially one’s ability to live life like their peers; work, study, participate in sport, care for loved ones and maintain a household. A secondary aim is to test the mediating effects of changes in specific areas of cognition as part of the causal pathway between improving sleep and improving an individual’s ability to function (i.e., social recovery). The initiation of this research is based on the findings from my analysis of the National EDEN study, which provided evidence that duration of sleep contributes significantly to social recovery outcomes. The abundance of research reflecting the impact of sleep abnormalities on symptoms, cognition and daily function in individuals with psychosis, the absence of studies focused on the impact of changes in sleep on the recovery pathway, and compiled evidence of this as a bidirectional relationship, support the need for this to be further considered. To this end I am currently conducting a randomised clinical trial (RCT); ‘Randomised Study of Web-based CBT Intervention (Sleepio) to Reduce Insomnia and Improve Social Recovery in Early Psychosis (CRISP)’ which you can explore further through the following [link](#).

**Eva-Maria Stauffer**  
*PhD student, Department of Psychiatry, Brain Mapping Unit*

I am generally interested in the field of brain imaging genomics applied to psychiatric disorders, particularly schizophrenia. Imaging genomics is a very exciting and relatively young research field which integrates genetic and brain imaging data to uncover genetic mechanisms underlying brain structural variation and psychiatric disorders. The main goal is to understand biological pathways that impact normative and disturbed brain function. It is hypothesised that genetic factors affect brain structure, which in turn might predispose someone to develop psychiatric symptoms. In my first-year PhD project, I investigated whether the genetic risk for schizophrenia is linked to brain structural abnormalities in a large population sample. We found that subjects with a higher genetic risk for schizophrenia show widespread structural abnormalities in the brain (link to article [here](#)). Currently, I am investigating how and when genetic factors impact regional brain structure measured using multiple imaging techniques. I have experience in analysing human genetic and imaging data and can provide support in both research fields.
Louise Colville
MPhil student, Department of Psychiatry, Child and Adolescence Resilience and Mental Health (ChARM) Group
I am working on a mixed-methods research project which hopes to understand the difficulties that young people and professionals face when managing self-harm in secondary schools. More specifically, the first aim of my project is to explore young people’s expectations of how school staff can best address self-harm. The second aim is to establish the breadth of knowledge and understanding that staff currently have regarding self-harm, and to identifying the gaps in their knowledge and their unmet needs. I have been conducting semi-structured interviews with secondary school pupils and staff to address these aims. Finally, I hope to establish the preferred content of an online web app that could be used as an intervention to address the needs of staff. To do so, this third study objective will involve an online survey. Overall, my project hopes to use both qualitative and quantitative research methods to ultimately help schools improve their response to self-harm.

Benjamin Perry
PhD Student, Department of Psychiatry
Psychiatrist, Cambridgeshire and Peterborough NHS Foundation Trust
I am interested in furthering our understanding of why people with mental disorders like schizophrenia and depression have higher rates of physical illnesses like diabetes and cardiovascular disease than the general population. I use data from large cohort and genetic studies to explore whether underlying biological processes, for example inflammation, may be responsible for the comorbidity. I am also interested in risk prediction research, and during my PhD I have developed a cardiometabolic risk prediction algorithm for young people who have psychosis.

Silvana Mareva
PhD Student, MRC Cognition and Brain Sciences Unit
I am in the final year of my PhD working at the Centre for Attention, Learning, and Memory (CALM). My research aims to understand the complex challenges experienced by children who struggle at school. In my work, I take a child-centred, rather than diagnosis-centred approach, looking at the processes and causes of difficulties that occur across struggling learners irrespective of diagnosis. In my PhD, I focused on using behavioural and neuroimaging methods to explore why some neurodevelopmental problems tend to co-occur. I am also very curious about how psychology and cognitive neuroscience can be applied in educational settings and have some background in this area as well. More info about my lab and the ethos of our work is available in the following links:
https://www.joniholmeslab.com/
Sofia Carozza  
PhD Student, MRC Cognition and Brain Sciences Unit  
In my research, I am investigating how early-life adversity shapes cognitive and neural development. In other words, how do experiences like abuse, neglect, and poverty get under the skin and change a person? To answer this question, I use data from population-based cohort studies, which are large sets of information collected from thousands of individuals as they grow up. Given that a wide variety of factors can influence development, I implement methods that can account for multiple variables and untangle complex relationships between them, like network analysis and structural equation modelling. My hope is that, through my research, I can help leaders and policymakers make decisions that promote justice and the flourishing of every child.

Farah Hina  
PhD Student, Department of Psychiatry, Health Neuroscience Lab  
Most work on psychosis focuses on hallucinations and delusions but there is good evidence that understanding psychosis requires a deeper consideration of body and self. Our sense of self arises from the integration of multiple brain inputs, including signals from the environment (exteroceptive) and the body (interoceptive). Influential models of selfhood suggest that signals from our heart and other visceral organs provide an important ‘glue’ that binds together the coherent sense of self. While clinical descriptions and theoretical models of psychosis strongly suggest that interoception is significantly disrupted in this condition, there has been little investigation of this thus far. To understand these mechanisms, my PhD project intends to use state of the art measures of interoceptive processing in individuals with psychosis and examine the integration of interoceptive and exteroceptive signals in shaping the experience of the self.

Varun Warrier  
Junior Research Fellow, Department of Psychiatry  
Varun Warrier is a Bowring Research Fellow at St Catharine’s. He works on the genetics of autism, with a specific focus on understanding heterogeneity and co-morbidities within the spectrum. His current work investigates the genetics of autistic traits which are nonclinical manifestations of the autism spectrum in the typical population. He completed his PhD from the Department of Psychiatry in Cambridge in 2018 as a student at St John’s College. Prior to that, he completed an MSc in Neuroscience from UCL, and a BSc in Zoology from the University of Madras.