

Mental Health Research Vision

Tradition meets transformation



UNIVERSITY OF
CAMBRIDGE

School of
the Biological
Sciences

2025

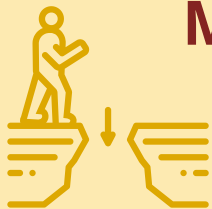
Mental Health

The Facts

970 million people
are living with a
diagnosed mental health
disorder worldwide

Around 10%

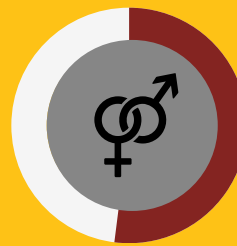
of the world's children and adolescents
currently live with a diagnosed mental
health disorder.



Mortality Gap

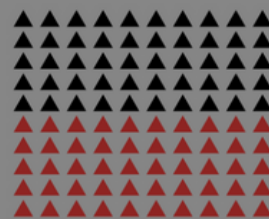
People with severe mental
health conditions die 10-20
years earlier than expected.

Suicide is now the leading cause of death in
young adult men globally.



Across all

disorders, men and
women are equally
affected - with 52% of
women and 48% of men
diagnosed.



Almost 50% people

in England will receive a
mental health diagnosis at
some point in their life -
that's every other person
that you meet.

■ Diagnosed (50%)
■ Not diagnosed (50%)



By 2030

major depressive disorder is estimated to be the
leading cause of disease burden globally.



\$6 Trillion

is the estimated economic burden of mental health
disorders in the next five years. This is more than
cancer, diabetes and respiratory conditions
combined.



Only 5%

of the UK research budget is spent on mental health.
Ten years ago that amounted to £9.75 per person.

Our commitment to the challenge of the century

Mental health conditions are inherently complex. The notion that a single intervention, such as antidepressants, can universally resolve depression is outdated and oversimplifies the diverse biological, psychological, and social factors at play.

Society urgently needs new breakthroughs in **basic biomedical science** to deepen our understanding of the intricate biological and environmental mechanisms that contribute to mental health challenges.



Across the School of Biological Sciences, we are committed to delivering interdisciplinary insights across genetics, immunology, pharmacology, metabolic science, neuroscience and psychology.

Through our **Mental Health Research Network** we will drive the next generation of discovery in mental health science.



Just as breakthroughs in our understanding of cancer required interdisciplinary insights into **basic biological mechanisms**, a leap forward in our approach to tackle mental health must traverse disciplinary boundaries - linking across scales, species, systems and society.

Our vision is to harness **discovery science insights** to create a personalised medicine framework for mental health, where an individual's unique biotype might inform a treatment unique for them - rather than the 'one size fits all' approach that is common in clinical practice.

Doing things differently

mechanistic insights
for mental health science

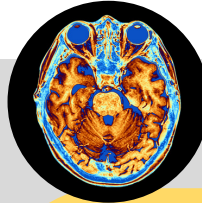


Mental health science



Genetics

We are exploring the genetic underpinnings of mental health disorders to tailor treatments that are specific to individual genetic profiles.



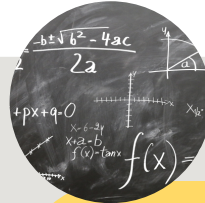
Neuroimaging

We use advanced neuroimaging tools to visualize the brain's structure and function, uncovering patterns in the drivers of mental health conditions.



Development

We focus on developmental approaches by studying how different life stages influence mental health, to identify critical periods for intervention.



Computation

We leverage computational modelling to simulate brain activity, describe symptoms and predict the progression of mental health disorders.



Translation

We are global leaders in the use of animal models to bridge the gap between laboratory discoveries and clinical applications in mental health.



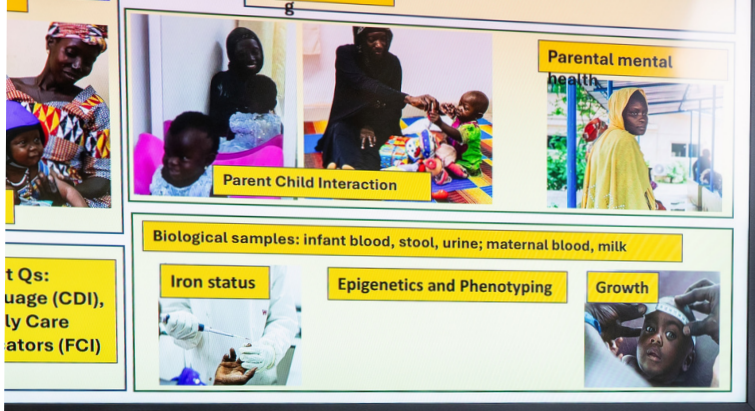
Pharmacology

We specialize in studying how various medications affect brain chemistry in order to refine drug therapies, making them more effective.



Environment

We examine how environmental and social factors influence mental health, recognising that our surroundings play a pivotal role in well-being.



Spotlight on some of our talent...



Prof. Pasco Fearon
Centre for Family
Research



Prof. Sarah-Jayne
Blakemore
Psychology



Dr Varun Warriar
Psychology/Psychiatry

Emotional and sensory biases are central to conditions such as depression and psychosis. By triangulating evidence across brain, body and environment, we aim to better understand these symptoms and how they can be alleviated.

Depression, Emotion and Psychosis



Prof. David Belin
Physiology, Development
and Neuroscience



Prof. Amy Milton
Psychology

Development and Disorder

Focusing on critical periods of vulnerability such as early life and adolescence, we are poised to uncover the antecedents of poor mental health and the interventions that might aid in prevention.



Dr. Jasper Poort
Physiology, Development
and Neuroscience



Prof. Hannah Clarke
Physiology, Development and
Neuroscience



Prof. Ed Turner
Zoology



Prof. Simone Schnall
Psychology

Learning, Memory and Addiction

Circuit-level understanding of how learning and memory interact, and become hijacked by drugs or trauma, might inform new treatments for addiction, PTSD and OCD.



The School of Biological Sciences **Mental Health Research Network** prioritises mechanistic insights that will impact our understanding of mental health conditions. Our network comprises 20+ Principal Investigators and their respective labs, spanning several departments and institutes within the School.

For details of all members of our network please see:
www.bio.cam.ac.uk/research/mental-health



Dr Riccardo Beltramo
Physiology, Development and
Neuroscience



Prof. Rebecca Lawson
Psychology



Prof. Angela Roberts
Physiology, Development
and Neuroscience



Prof. Jeff Dalley
Psychology/Psychiatry

Novel Therapeutics and the Brain-Body Axis

From receptor-level insights into disease mechanisms to gut influences on drug efficacy and new tools for measuring the experience of pain, we are shedding light on the intricate connections between physical and mental health.

Stress Disorders and Anxiety

Working across mice, rats, marmosets and humans, our researchers are breaking new ground in understanding the mechanisms that drive stress and anxiety disorders, and their treatment.



Dr David Bulmer
Pharmacology



Prof. Paul Miller
Pharmacology



Dr Kiran Patil
MRC Toxicology Unit



Dr Deborah Talmi
Psychology

Participatory Research Practice

Nothing about us without us



A key goal of the School's Mental Health Research Network is to include the voices of people with lived experience to shape and co-produce our research for maximum impact. We believe that lived experience experts have valuable contributions to make to every stage of the research lifecycle.

We are supporting our researchers towards better inclusion practice with dedicated resources, training workshops and the launch of the "Participatory Research Support Fund" to appropriately compensate our lived experience partners for their time and expertise.

"It was important to hear from people with lived experience of depression, to ensure our science stays grounded in real lives and real needs. With the support of the Participatory Research Support Fund, we were able to properly recognise and value participants' contributions, helping us shape more meaningful research that can truly make a difference."

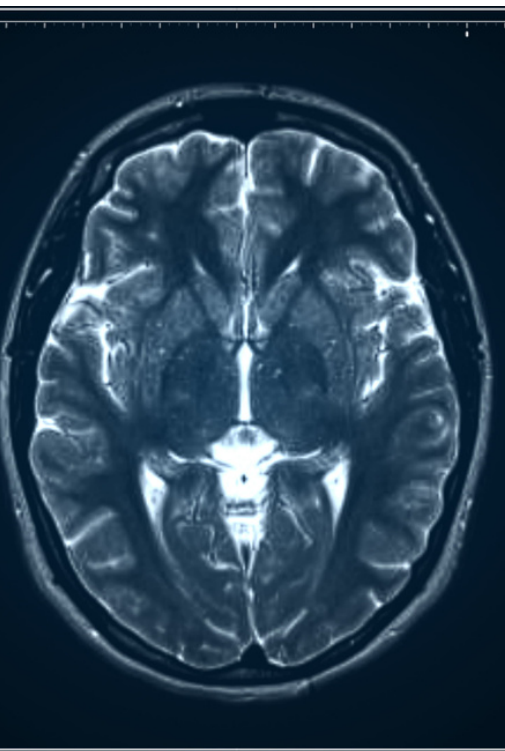
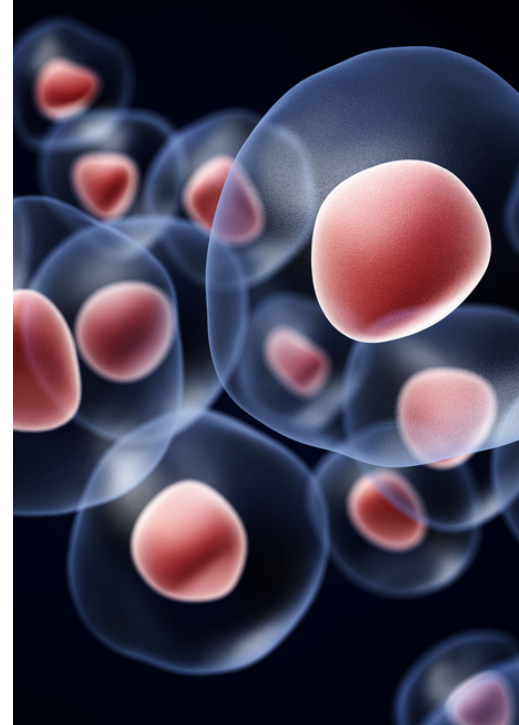
Professor Angela Roberts,
Department of Physiology, Development and Neuroscience





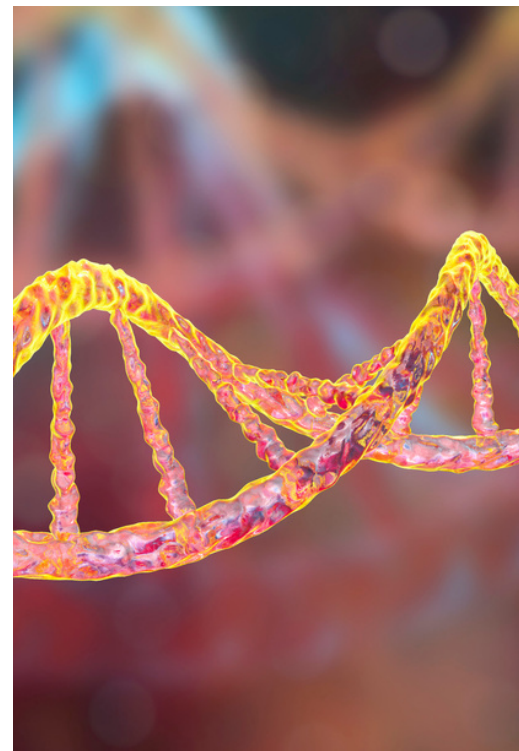
Our Key Partnerships

The School of Biological Sciences cannot solve this global challenge alone.



Our strength is built on strategic partnerships and collaborations that amplify our research impact, driving us toward a future where mental health challenges no longer hold anyone back.

“No man is an island, Entire of itself, Every man is a piece of the continent, A part of the main”
-John Donne



Our expertise in basic biological science is complemented by the wider Cambridge research landscape, especially key stakeholders in **Engineering** and the **Clinical School**, such as the **MRC Cognition and Brain Sciences Unit**, the **Department of Psychiatry** and **Cambridge University Health Partners**. We collaborate closely with the **Cambridgeshire and Peterborough NHS Foundation Trust**, towards both our lived experience and translational “bench to bedside” aims.

Our researchers are also engaged with **research policy and ethics**, including shaping national guidelines on the use of animal models in research and evidence-based consensus guidelines for pharmacological treatments. Locally we engage with **Student Services**, to strengthen the support we offer to students and staff and we have burgeoning relationships with local charity partners, such as the **Foundation for Young People’s Mental Health**.

Work with us

Collaboration is at the heart of the success of the University of Cambridge, enabling us to make discoveries that change the world.

The need for improved understanding of mental health, and the development of better treatments, could not be more urgent.

We welcome opportunities to collaborate with colleagues from academia and industry, policy makers, lived experience partners and philanthropists.

To explore opportunities to work together, please contact:

Dr Abi Herrmann, Research Strategy Manager
Abi.Herrmann@admin.cam.ac.uk

To learn more about supporting this vital research, please contact:

Holly Singlehurst, Associate Director, Biological Sciences
Cambridge University Development and Alumni Relations Office
Holly.Singlehurst@admin.cam.ac.uk



Produced by: Professor Rebecca Lawson on
behalf of the Neuroscience, Psychology and
Behaviour Theme



**UNIVERSITY OF
CAMBRIDGE**

School of
the Biological
Sciences