

School of Psychology and Neuroscience

PGR project titles for 2023-24 entry

Cellular and behavioural neuroscience

James Ainge Why do we get lost? Network analysis of entorhinal-hippocampal circuits for spatial and episodic memory using in vivo electrophysiology, genetic tools and behavioural analysis of rodent behaviour.

Gayle Doherty Investigating leptin-based peptides as potential therapeutics for neurodegeneration

Gareth Miles Investigating neural circuits of the brainstem and spinal cord that control rhythmic movements, such as breathing and walking, and deciphering the mechanisms that underlie motor circuit dysfunction in Motor Neuron Disease (MND)

Stefan Pulver Neuro-biomechanics of movement in larval Drosophila. We use neuroanatomy, physiology, optogenetics, behavioural analyses, and biomechanical measurements to gain an integrated understanding of how soft-bodied animals navigate over terrain. Projects involving DIY science and development of open source software and hardware also available.

Origins of mind

Gillian Brown Sex/gender differences in human behaviour and cognition (e.g., empathy, mate preferences); cross-cultural variability in human behaviour and national levels of gender equality; evolutionary perspectives on human behaviour.

Catharine Cross Understanding how people solve and enjoy logic-based puzzles (like sudoku). In collaboration with Computer Science

Sophie Edwards Cognition in the wild: investigating nest material selection in a variety of bird species (e.g. blue tits, zebra finches and gentoo penguins). I am interested in how their experience of nesting material influences future material selection, and what social information they use from conspecifics in their material selection and nest design. (MSc by Research only)

Manon Schweinfurth Investigating the evolutionary and psychological origins of cooperation - why (and how) do individuals help others instead of being selfish? Join us to study those questions in rats and primates.

Perception, cognition and action

- Daniela Balslev** My research focuses on sensorimotor processes that are at the foundation of higher-order cognition in humans. How do we pay attention? What happens in spatial neglect, a disorder in which the patients are strikingly unaware of stimuli that appear to their left? We use cognitive neuroscientific methods (transcranial magnetic stimulation, functional magnetic resonance imaging, neuropsychology) to answer such questions.
- David Donaldson** How do we remember? Investigate episodic memory using behavioural and neuroimaging, focused on examining the quantity and quality of remembering in humans, with the aim of identifying the dissociating the cognitive processes that support successful remembering.
- Julie Harris** The perception and cognition of natural patterns and camouflage: how shape, size and pattern affects how quickly and effectively we perceive, attend to, and remember objects.
- Ines Jentzsch** Cognitive mechanisms that underly our ability (or inability) to plan and control highly skilled performances under pressure. Any other topics in the area of Music Cognition are also welcome.
- Thomas Otto** Multisensory perception: A computational modelling approach to study the cognitive architectures that underlie combined decisions about vision, audition, and touch

Social and group processes

- Barbara Dritschel** The relationship between emotional flexibility, autobiographical memory flexibility and mindfulness in depression, post-traumatic stress disorder, eating disorders (see my website for other topics)
- Maggie Ellis** Facilitating human connection in the advanced dementia care triad: Exploring the impact of non-verbal communication education, training and practice on the psychological wellbeing of individuals living with advanced dementia, their family members and professional caregivers.
- Sam Pehrson** Understanding the role of Buddhism in politics: How do religious identities shape political convictions and actions in different cultures and contexts? Exact focus can be tailored to students' interests, language skills, etc.

This is not an exhaustive list of projects or staff. Please feel free to discuss your own ideas for a research project with potential supervisors.