MONASH University

MONASH PSYCHOLOGICAL SCIENCES

Doctor of Philosophy

Research Projects

Researchers from the School of Psychological Sciences and the Turner Institute for Brain and Mental Health are offering a range of research projects in 2026 that may be suitable for PhD (research only) applicants for 2026. A sample of particular projects or areas of research are listed below.

Researcher	Project Area
Alex Fornito	**Project: The Monash Brain and Behaviour Project** The Monash Brain and Behaviour Project (MBBP) is a study of hundreds of people that aims to develop and validate a new dimensional model of the architecture of mental health problems. People with diverse psychiatric histories have undergone comprehensive psychological, cognitive, neuroimaging, and genetic assessments, paving the way for a diverse range of projects focused on refining the way in which we define psychopathological phenotypes, relating such phenotypes to measures of brain structure and function, and optimising methods for mapping the brain.
Alex Fornito	**Project: Mapping the human connectome** The human brain is an extraordinarily complex network of millions of neurons connected by trillions of axons. Non-invasive techniques such as Magnetic Resonance Imaging (MRI) have become an essential tool for mapping the macroscopic properties of this intricate network, called the connectome. Our team has amassed data in thousands of individuals, with diverse psychiatric diagnoses and scans across the lifespan, enabling us to tackle a diverse range of research questions related to optimal ways of mapping brain connectivity, understanding how brain network disruptions drive mental illness, and uncovering how brain networks develop and age.
Alex Fornito	**Project: Modelling brain dynamics, development, and disease** A major challenge for understanding the human brain is that many of the neuroimaging methods suitable for use in living humans have a limited spatial and temporal resolution. Analyses are largely correlational, making it difficult to pinpoint precise mechanisms. Mathematical models offer a rigorous way of linking the macroscopic measures acquired with brain imaging tools to underlying cellular and molecular causes. Our team has aggregated brain imaging data in

	thousands of individuals across diverse stages of development, aging, and disease, offering a rich opportunity for detailed experimental validation of these models. Specifically, we offer projects focused on developing models that explain large-scale brain dynamics, the development of brain networks, how they are disrupted in psychiatric illness, and how they have changed through the course of evolution. These models allow for the specification of precise, mechanistic hypotheses and the potential for in silico simulations of the effects of different diseases or treatments, akin to creating personally tailored virtual brains.
Alex Wolkow	**Project: Impact of sleep disturbances and other occupational demands on mental health in emergency service personnel and other high-risk occupations** Emergency services and other high-risk industries are exposed to a unique set of occupational demands, including poor sleep, trauma and shift work. These demands can adversely impact the mental health and wellbeing of personnel. Our team aims to better understand and counteract the impact of occupational demands on mental health in emergency personnel and other high-risk occupations. Within this area of research, we are interested in examining how sleep and other factors emerge in new personnel and could be related to the development of mental health outcomes (e.g., PTSD, depression, anxiety, burnout). We are also interested in understanding the effectiveness of interventions and programs designed to enhance health and wellbeing in high-risk occupations. There are opportunities for PhD (both Clinical psychology PhD and Research-only PhD) and Masters candidates to join this area of research. Note this project area can be modified to align with the specific interests of the candidate. See our lab website for more information: https://www.monash.edu/medicine/psych/alex-wolkow-lab
Alex Wolkow	**Project: Acute impacts of occupational demands on performance and stress in emergency personnel and other high-risk occupations** Shift work can lead to sleep loss and circadian misalignment, which in turn can impact an individual's performance, safety and physiology. Our team uses simulated work environments and field settings to examine how shift work, sleep loss and other occupational demands influence different aspects of work performance and physiology in high-risk occupations (e.g., emergency services). There are opportunities for PhD (Research-only PhD, Clinical psychology PhD) candidates to design and conduct projects within this area of research. Note this project area can be modified to align with the specific interests of the candidate.
Antonio Verdejo-Garcia	**Project: Clinical trials of neuroscience informed interventions for addictions and eating disorders**

	We offer a variety of projects embedded in our clinical trials which are testing novel neuroscience-informed tailored interventions for people with addictions and eating disorders. We combine different approaches, including fMRI, cognitive and neurostimulation tools, and novel pharmacological (e.g. psychedelics) and psychological interventions (e.g. precision-based psychotherapies and cognitive remediation).
Bei Bei	**Project: Perinatal insomnia and mental health** The Sleep Health in Perinatal Care (SHINE) study is a large National Health and Medical Research Council (NHMRC) funded clinical trial, looking at real-world effectiveness of Cognitive Behavioural Therapy for Insomnia during pregnancy and the postpartum periods, as well as the implementation potential of the intervention in the routine perinatal care (Royal Women's Hospital and Monash Health). Within this trial, there will be ample scope for the candidate to develop research topics in the area of perinatal maternal/infant sleep, mental health, and cognitive/daytime functioning; health and wellbeing of new fathers; as well as clinical expertise in treating insomnia during this challenging time for new parents. Topics for doctoral/PhD/Masters projects are worked out collaboratively with the candidate to incorporate their research interests and career goals. Projects broadly relate to sleep and mental health, and improving sleep and wellbeing through cognitive-behavioural interventions. Please see our website to find out more about the team https://www.monash.edu/turner-institute/bei-bei-lab
Bei Bei	**Project: Sleep and Mental health in Adolescents** Sleep and circadian rhythms (body clock) undergo tremendous changes during adolescence. It is also during this critical developmental period, early signs of mental health symptoms such as anxiety and depression emerge. The CLASS (Circadian Light in Adolescence, Sleep and School) Study is funded by the Australian Research Council (ARC), the NHMRC, and Wellcome (UK). It follows a large cohort of teenagers across adolescence and into young adulthood, and examines how changes in sleep and circadian rhythms are related to changes in mental health symptoms and academic and cognitive performance. A wide range of topics are available within this project across clinical psychology and clinical neuropsychology domains. Topics for doctoral/PhD/Masters projects are worked out collaboratively with the candidate to incorporate their research interests and career goals. Projects broadly relate to sleep and mental health, and improving sleep and wellbeing through

	cognitive-behavioural interventions. Please see our website to find out more about the team https://www.monash.edu/turner-institute/bei-bei-lab
Bei Bei	**Project: A novel approach to improve sleep in adolescents** Over the past 10 years, our group has extensively studied the unique sleep challenges adolescents face. Based on this body of work, we are piloting a novel intervention to help adolescents sleep better using a combined bio-psycho-social approach. The candidate will play a critical role in the development and delivery of the intervention, and receive training on behavioural management of sleep problems in adolescents. Topics for doctoral/PhD/Masters projects are worked out collaboratively with the candidate to incorporate their research interests and career goals. Projects broadly relate to sleep and mental health, and improving sleep and wellbeing through cognitive-behavioural interventions. Please see our website to find out more about the team https://www.monash.edu/turner-institute/bei-bei-lab
Bei Bei	**Project: Monash University Healthy Sleep Clinic** This busy outpatient service provides evidence-based treatments for sleep disorders to the broader community, while also serving as a platform to foster research excellence, professional training, and education. Over the past 7 years, our research database has captured comprehensive sleep, mental health, and functioning profiles on 1500+ patients. Candidate working in this area will have the opportunity to have deep-dives into our research database, and receive specialist training in behavioural sleep medicine. Topics for doctoral/PhD/Masters projects are worked out collaboratively with the candidate to incorporate their research interests and career goals. Projects broadly relate to sleep and mental health, and improving sleep and wellbeing through cognitive-behavioural interventions. Please see our website to find out more about the team https://www.monash.edu/turner-institute/bei-bei-lab
Beth Johnson	**Project: Creating a transdiagnostic model of neurodevelopment and mental health** Neurodevelopmental conditions, like autism and ADHD, frequently co-occur with mental health conditions in children and young people. Families, young people, educators, clinicians, and allied health professionals have consistently reported that existing diagnostic systems do not capture the full range of children's strengths and support needs.

	This project will focus on co-designing new ways to assess co-occurring neurodevelopment and mental health that moves beyond current diagnostic categories. This project will work closely with consumers and professionals to create a holistic model of neurodevelopment and mental health by combining standardised quantitative (parent- and teacher-reported measures, clinical information) and qualitative insights from young people, families and professionals whose complex or nuanced presentations mean that traditional assessments are not appropriate. The goal is to develop a transdiagnostic framework that separates symptom presentation (e.g., attention differences, social communication, emotional regulation) from a young person's support needs across family, education, medical, allied health, and disability contexts to create flexible, holistic support for young people's needs.
Brad Edwards	**Project: A novel mechanism informed treatment for comorbid insomnia and obstructive sleep apnoea** Co-morbid insomnia and obstructive sleep apnoea (COMISA) is common and when these disorders co-occur, they result in additive impairments to patients' sleep, daytime functioning, mental health and a higher risk of all-cause mortality compared to those with either insomnia or OSA alone. Notably, COMISA is more difficult to treat than either condition alone, particularly as these patients demonstrate even worse acceptance and use of CPAP therapy (the primary OSA therapy), compared to patients with OSA-only. Our team seeks to identify the mechanisms underlying COMISA and its effects on daytime function. Depending on student interests, thesis topics could aim to identify the underlying cause(s) of OSA and insomnia in COMISA patients and assess how treatment of insomnia or OSA, alone or combined, influence these mechanism(s), symptom severity and clinical presentation. Students will gain experience with performing clinical interviews, cognitive testing, assessing mental health, working with large participant databases, and delivering interventions (including drug therapy) in randomised controlled trials.
Elise Facer-Childs	**Project: The impact of exercise, sleep and chronobiology on mental health, physical performance and cognitive function** There are a few areas of interest in the lab that a student could develop their own PhD project around. These include: 1. Exercise and sleep in females: impact of the menstrual cycle, difference in mental health and sleep, developing exercise interventions to improve sleep and mental health in females. 2. Sleep and body clocks in adolescent athletes: investigating the link with burnout and mental health in adolescents and whether sleep could be a modifiable factor to target.

	3. A sleep and circadian intervention to improve mental health and performance: joining a larger lab project looking at a sleep intervention to improve mental health and performance in athletes which can be translated to other high performance settings. This has been piloted and we are moving towards running a randomised control trial. 4. The neurophysiology of athlete sleep, recovery and performance: exploring how slow wave sleep enhancement could be a target for intervention to improve recovery and cognition in athlete populations. Note: for all of these projects there is scope to modify / adapt the project based on the candidate's interests. About the lab: These projects are most suitable to PhD candidates (research, clinical or clinical neuropsychology). All candidates joining this lab will have the opportunity to work in real-world studies and develop relationships with industry partners in elite sport. The candidate will receive specialist training in state-of-the-art techniques in sleep and chronobiology research, and develop their knowledge of commercial research environments. The candidates would be embedded within the research team and have the opportunity to collaborate on other research being conducted in the lab. We are a vibrant, active and welcoming team who are keen to find like minded individuals to join our mission of exercise, sleep, chronobiology, mental health and performance. Check out our lab website for more information: https://www.monash.edu/medicine/psych/elise-facer-childs-lab
Emma Morton	**Project 1: Online risky behaviours and risk mitigation strategies in bipolar disorder** Excessive involvement in risky activities with a high likelihood of negative consequences is a defining feature of manic episodes in bipolar disorder, and the internet facilitates 24/7 access to platforms and services that can trigger or enable risky behaviours. For example, disinhibition and hypersexuality can be expressed over social media, online dating, or online pornography use, while overspending and financial risk-taking can be facilitated by online shopping, gambling, usury loans, and scams. Research is required to understand the prevalence and impacts of risky behaviours online, as well as the strategies employed by people with bipolar disorder to safely and effectively use digital technologies. Students will have the opportunity to design studies to address this understudied topic, such as surveys and qualitative interviews with consumers, carers, and healthcare providers, development and evaluation of web-based resources, and explorations of predictors of risky behaviours.

Emma Morton	**Project 2: The experience and impacts of self-compassion in bipolar disorder** Emerging evidence suggests that self-compassion is negatively impacted for people who live with bipolar disorder, a condition that is often associated with low self-esteem, harsh self-criticism, perfectionism, self-worth that is contingent on achieving lofty goals, internalised stigma and disrupted identity formation. Compassion-focused interventions may help address these challenges, but there is currently insufficient evidence to support the potential benefits, mechanisms, and challenges of self-compassion in this population. To inform future intervention-based research, this project offers a student scope to design a project to advance understanding of self-compassion in bipolar disorder, including systematic reviews, qualitative interviews, self-report surveys, psychometric studies, and experimental research.
Emma Morton	**Project 3: Understanding and challenging stigma in serious mental health conditions** People with a serious mental health condition (e.g., treatment resistant depression, bipolar disorder, psychosis-spectrum conditions) encounter multiple types of stigma, including public stigma, structural stigma, and self-stigma. Stigma is associated with negative impacts to treatment access and wellbeing, yet limited research has been conducted to explore predictors and impacts of different types of stigma across diverse populations, how stigmatising beliefs are developed and internalized, and interventions to address stigmatising beliefs and behaviours at different levels (i.e., individual/group interventions, public health campaigns, healthcare professional education). Students are invited to design a project to address understudied aspects of stigma in serious mental health, including via surveys, qualitative interviews, and experimental research.
Emma Morton	**Project 4: Closing the knowledge to practice gap in mental health care - Implementation focused research** Despite advances in our knowledge of clinical psychology phenomena and practice, it still takes an average of 17 years for new research findings to be translated into clinical practice. The tightly controlled environment of the randomised controlled trial can differ enormously from the complex reality of clinical services, and real world insights regarding barriers and facilitators to change are needed to streamline the implementation of research findings in practice. Various opportunities are available to partner with clinical services to help leverage research findings to inform the development of novel interventions, to evaluate current practice from the perspectives of consumers and clinicians, and to study the implementation of new initiatives. Other opportunities exist for students to design projects to

	explore how therapist variables, client characteristics, organizational variables, and training interventions influence therapist behaviour and intentions to implement evidence-based practices. This project would be ideally suited to a trainee that seeks to embody the scientist-practitioner model in their future work, and who is keen to develop collaborative relationships with healthcare providers in diverse settings. Co-supervision arrangements will depend on the student's project.
Emma Morton	**Project 5: Sexual health and wellbeing in serious mental health conditions** The symptoms of serious mental health conditions (i.e., treatment-resistent depression, bipolar disorder, and psychosis spectrum conditions), and the medications used to treat them, can have significant consequences for a person's sexual health and wellbeing. For example, depression can lower interest in sexual activities, while mania can lead to increased, and potentially risky, sexual behavior. However, healthcare professionals rarely inquire about sexual health due to feelings of discomfort, or the perception that issues of sexual health are not relevant to mental health care. Students will have the opportunity to design studies to address this understudied topic, such as surveys and qualitative interviews with consumers and healthcare providers, the development and evaluation of evidence-based resources or screening tools to guide clinical practice, and exploration of determinants of behavioural change.
Hannah Kirk	**Project: Examining how digital technology use influences executive functions such as working memory, cognitive flexibility, and inhibitory control during adolescence.** Self-regulation, the ability to manage behaviours, emotions, and thoughts to achieve goals develops from early childhood into adulthood and is critical for lifelong success. It involves executive functioning (e.g., inhibitory control, working memory, cognitive flexibility), attention control, and emotional regulation. Deficits in self-regulation are associated with long-term challenges, including academic underperformance, behavioural difficulties, and mental health issues. The rise of digital technologies introduces unique challenges for self-regulation, with features like infinite scrolling, and algorithm-driven recommendations potentially undermining this ability. The impact of digital technology use on self-regulation is currently poorly understood, and the mediating impact of individual differences is yet to be explored through methodologically robust studies. This study aims to examine if and how digital environments impact self-regulation and whether individual factors influence this potential relationship.
Hannah Kirk	**Project: Protecting Young Minds in a Changing World: Helping Australian Children Manage Eco- Anxiety to Support Mental Health.**

	Exposure to stressors in childhood increases the risk of long-term mental health disorders. Today one of the most profound and growing stressors is the escalating climate crisis. Children are growing up amidst rising temperatures and an uncertain environmental future. As children become aware of these threats, many experience fear and distress referred to as eco-anxiety. Eco-anxiety has been linked to long-term negative functional and clinical outcomes, including increased anxiety and depression. Despite a unique vulnerability to eco-anxiety, children have been largely overlooked in climate-related mental health research. Without evidence, well-meaning but misguided strategies like withholding information can heighten distress and exacerbate mental health challenges. There is an urgent need for evidence-based, age-appropriate strategies that acknowledge children's experiences and support their mental wellbeing. This project is the first globally to comprehensively investigate eco-anxiety in children aged 9-12, addressing critical research and policy gaps by: 1. Mapping eco-anxiety over time, measuring its impact on mental wellbeing and establishing a baseline for ongoing monitoring. 2. Identifying modifiable socio-ecological risk and protective factors to inform early intervention and prevention efforts. 3. Co-designing a school-based program (Climate Circles for Kids) to help children manage eco-anxiety, while equipping parents and educators with tools to support child mental health. By acting early before mental health issues escalate, this project lays the foundation for child-centred national mental health strategies to address on-going climate change risks. Empowering children with the skills to manage eco-anxiety is essential to lower future health service demand and equip a generation to drive positive environmental change.
Jai Carmichael	**Project: Addressing suicidality and self-harm after acquired brain injury: Co-developing support resources** People with acquired brain injury (ABI), such as from traumatic brain injury or stroke, are at 2 to 4 times higher risk of attempting and dying by suicide compared to the general population. While non-suicidal self-injury (NSSI) often co-occurs with suicidality in non-ABI populations, no research to date has explored NSSI in individuals with ABI, leaving a major gap in understanding and clinical practice. This innovative and fully funded project aims to co-develop practical resources (e.g., training, psychoeducational content) to support clinicians, families, and individuals with ABI in assessing and responding

	to suicidality and NSSI. It will use a multi-method approach—scoping surveys, qualitative interviews, and co-design sessions—involving ABI clinical scientists, suicide prevention experts, and people with lived experience. Funded by a School of Psychological Sciences Strategic Grant and the American Foundation for Suicide Prevention, this project offers the chance to contribute to world-first research with strong academic, clinical, and lived experience partnerships.
James Coxon	**Project: Investigating the role of subcortical regions in learning and memory processes with transcranial ultrasound stimulation** Transcranial ultrasound stimulation (TUS) is a novel non-invasive brain stimulation technique capable of targeting the basal ganglia and hippocampus with excellent spatial precision. The project will involve using TUS to investigate the online and offline learning processes contributing to (procedural, and/or declarative) memory formation. Suited to a student with an interest in cognitive neuroscience, MRI neuroimaging, and laboratory based experimental research.
James Pang	**Project: Mapping and modelling dysfunctional brain activity in clinical disorders** Magnetic resonance imaging (MRI) is a powerful tool to non-invasively map the structure and function of the brain in living humans. However, its ability to yield novel clinical insights for psychiatric and neurological brain disorders has not yet reached its full potential because of a limited understanding of the cellular and molecular mechanisms driving the disorders. Multiple projects are available in developing new mathematically and biophysically grounded techniques for mapping and modelling dysfunction in brain disorders, aiming to bridge anatomical abnormalities to functional deficits and symptom variation. Students will develop skills in whole-brain imaging and computational neuroscience.
James Pang	**Project: Finding universal principles of brain evolution and development** The human brain is distinct from those of other species in terms of size, organisation, and connectivity, which are important properties that are believed to give rise to our unique cognitive abilities. However, despite the diversity in the anatomical and functional features of various mammalian brains, conserved features also exist that reflect common evolutionary origins. Multiple projects are available in charting conserved and diverging features across evolution and development, with the goal of uncovering fundamental principles shaping brain structure and function, which will help us better understand the uniqueness of the human brain. Students will develop skills in whole-brain imaging and computational neuroscience.

Joshua Wiley	**Project: SleepSteps** Stepped care trial of cognitive behavioral sleep interventions for people with cancer. Opportunities: direct patient work, intervention design & delivery, qualitative interviews, work with lived experience experts, collaborate with clinical health partners (hospitals & community). Measures: variety of measures incl sleep symptoms and behaviors, quality of life, mental health, cognitive function, qualitative feedback. $8,000/yr topup scholarship available.
Joshua Wiley	**Project: Cancer's Financial Toxicity** The psychosocial impacts of financial toxicity after cancer are not clearly documented. This project is focused on understanding financial toxicity's impacts on psychological and social factors and potential solutions and supports (e.g., what options to healthcare professionals see, what options would people with cancer like to see health services provide). Opportunities: direct contact with patients, direct contact with health professionals, work with the Peter MacCallum Cancer Centre. Measures: distress & mental health, social & relationship factors, neurocognitive functioning, qualitative measures, sleep
Joshua Wiley	**Project: Cancer Daily Experiences** This project would use daily diary / ecological momentary assessment to understand the real time experiences of people after cancer. There is broad scope to plan the exact measures included and questions asked. Opportunities: patient recruitment, real time understanding, training in statistical analysis, remote delivery offers research flexibility. Measures: sleep, physical activity, fatigue, pain, emotions, emotion regulation, mental health, brief daily cognitive function measures.
Kate Gould	**Project 1: Enhancing self-advocacy and managing risks in complex interpersonal relationships after acquired brain injury** People with acquired brain injury (ABI) often experience cognitive and psychosocial challenges that make navigating intimate and professional relationships difficult. Despite intimate relationships being a core contributor to quality of life, people with ABI often struggle with positive and safe dating. They can also find it difficult to navigate professional boundaries with support staff. As a result, vulnerability to exploitation, unsafe practices, and relational breakdowns may be prevalent. This project aims to strengthen relational wellbeing and safety by co-designing practical resources with people with lived experience of ABI and their support workers. The project will involve qualitative interviews with individuals with ABI and support staff to explore needs, risks, and strategies relating to dating and professional support relationships. Insights will then inform

	a co-design process involving focus groups to develop accessible, evidence-based resources, and co-design evaluation methodology. Students will collaborate with co-design contributors with ABI and partnering disability organisations. The project is suitable for a PhD student in either Clinical Neuropsychology or Clinical Psychology.
Kate Gould	**Project 2: Positive Behaviour Support for people with brain injury and challenging behaviours** PBS+PLUS BS+PLUS is a research-based approach that combines Positive Behaviour Support (PBS) with cognitive and communication strategies to help people build a meaningful life after acquired brain injury. We have previously conducted a clinical trial of PBS+PLUS and over the last 5 years have been translating this approach into clinical practice across disciplines in neurorehabilitation. This project will conduct further evaluation and translation of PBS+PLUS. The specific project will be collaboratively designed with the candidate to incorporate their research interests and may include: examining translation through exploring the key clinical ingredients and methods of therapeutic impact of PBS+PLUS, guided by the Rehabilitation Treatment Specification System (RTSS) framework; international scoping of behaviour support guidelines; and/or developing international behaviour support guidelines.
Kate Gould	**Project 3: Co-designing a disability friendly cybersafety online education program to help people avoid scams** We have previously developed "CyberAbility" cyberability.org.au. This co-designed program helps people with brain injury learn how to avoid scams. With major funding from industry, we will update this training using co-design with additional disability groups to enhance utility and also consider more recent scams including the impact of Artificial Intelligence (AI). Research will include mixed methods quantitative and qualitative approaches.
Laura Jobson	**Project: Service Evaluation of Approaches to Mental Health at Many Coloured Sky** This project will be a service evaluation in partnership with Many Coloured Sky. It will involve evaluating mental health approaches and programs provided by Many Coloured Sky, an organisation that supports LGBTIQ+ organisations with capacity building, planning and project development, and empowers those at the margins and intersections of LGBTIQ+ communities to participate fully and equally.
Marie Yap	**Project 1: Co-design and evaluation of a coach-supported digital parenting intervention to support parents to respond to school avoidance in primary-school-aged children** School avoidance (also known as school can't or school refusal) has become a global concern especially since the COVID-19 pandemic. A

	child with school avoidance experiences high levels of distress about attending and staying at school, and ends up missing school despite their parents' efforts to send them to school. Despite parents' central role in supporting children with these challenges, there is currently no evidence-based guidance for parents of primary-school-aged children. This project will co-design such a program with parents and education-sector professionals, and evaluate its short-term effects on parental self-efficacy and child school attendance.
Marie Yap	**Project 2: Optimising the engagement and effects of digital parenting interventions for child and youth mental health** Our team conducts research to optimise the engagement and effects of digital parenting interventions for child and youth mental health. We have developed a range of such interventions and established their benefits for parents and young people. However, such interventions still fail to reach under-served subgroups of the population locally (e.g. lower socioeconomic backgrounds, migrant/refugee status, families living with family adversities, fathers, families of children with specific needs such as neurodiversity, learning disabilities etc) and globally (e.g. lower and middle income countries). Candidates who are keen to undertake research within this topic are welcome to contact me to discuss their specific interests and scope a potential research project.
Marie Yap	**Project 3: Evaluating the effectiveness and cost-effectiveness of a coach-supported digital parenting intervention for parents of adolescents with emotionally-based school avoidance** Our team has received funding to conduct a randomised controlled trial of the Partners in Parenting Plus - Education (PiP-Ed+) intervention for parents of adolescents with emotionally-based school avoidance (also known as 'school refusal' or 'school can't'). This trial will evaluate the effectiveness and cost-effectiveness of PiP-Ed+ compared to a waitlist-control group. As part of this broader project, there are opportunities for PhD and Master's student research projects to explore the mechanisms underlying the intervention effectiveness, the active ingredients underlying an effective clinician-coached digital intervention, cost-effectiveness evaluation of such an intervention, etc. Students who are interested in this area or type of research are encouraged to contact me to discuss specific aspects of interest.
Martin Sellbom	**Project 1: Hierarchical Taxonomy of Psychopathology (HiTOP): Assessment, Mechanisms and Clinical Utility** The Hierarchical Taxonomy of Psychopathology (HiTOP) is a new framework that considers mental disorders from a dimensional and hierarchical perspective. It is designed to address many of the limitations of the traditional categorical mental disorder system and allow for more accurate and useful formulations of individual's presenting symptoms and problems. The HiTOP framework is quite new

	and many important questions remain unanswered. My lab is interested in addressing important questions about the optimal assessment of the HiTOP framework, improving our understanding of underlying neuropsychological and environmental mechanisms that underlie HiTOP spectra, and understanding the feasibility and predictive utility of this framework in clinical implementation. Research projects within this context can be discussed and shaped based on prospective students' specific interests.
Martin Sellbom	**Project 2: Clinical Utility of Dimensional Models of Personality Disorder** Current diagnostic manuals (DSM-5, ICD-11) have begun to move away from traditional personality disorders (e.g. Borderline, Antisocial, Narcissistic) and instead understand them from the perspective of functional impairment in relation to self and others coupled with description using dimensional personality trait profiles. Although research has established that dimensional operationalizations have good psychometric properties, we need to know more about clinical utility. Specifically, we need to better understand how using dimensional models improve the care of patients, how they can be better implemented into mainstream practice, reduce stigma regarding the term "personality disorder", and be generally more acceptable by affected communities. Research projects within this context can be discussed and shaped based on prospective students' specific interests.
Martin Sellbom	**Project 3: Integration of Personality and Psychopathology** There is considerable evidence that the structure of common mental disorders is hierarchical in nature. Research in behaviour genetics, for instance, has indicated that a lot of the shared commonalities among groups of mental disorders (e.g. internalising, externalising) can be largely attributed to genetic vulnerabilities that translate into brain (dys)functions. Interestingly, similar brain functions can also be linked to individual differences in personality traits (e.g. neuroticism, disinhibition). My lab seeks to further understand what mechanisms are shared between personality traits and mental disorders. Do they represent manifestations of the same thing (e.g. is mental disorder a reflection of dysfunctional personality under stressful circumstances?) Are personality traits risk factors for developing mental health problems? Research projects within this context can be discussed and shaped based on prospective students' specific interests.
Melinda Jackson	**Project 1: Care2Sleep: Co-designing a digital sleep intervention for community-dwelling people with cognitive impairment and their care partner** Sleep disturbances are common in individuals with cognitive decline and their care partners. Despite this, effective and accessible treatments of sleep disturbances remain an unsolved challenge. The

	Care2Sleep project intends to design and implement a digital sleep program to improve access to a preventive sleep health intervention that will delay and reduce the severity of dementia. The aim is to transform an existing sleep health intervention, the Better Sleep for Wellbeing program, into a digital offering, thus providing a scalable, accessible, evidence-based sleep intervention that provides cost-effective ongoing support to not only people with cognitive impairment, but their carers. To achieve this, the Care2Sleep project will involve: 1) qualitative co-design workshops drawing on the lived-experiences of key community groups and stakeholders to design the program and sleep coaching model, and 2) a hybrid effectiveness-implementation RCT to demonstrate community implementation and effectiveness of the Care2Sleep program. The project will involve both qualitative and quantitative research methods and working with clinical populations.
Matthew Pase	**Project: Finger prick blood tests for Alzheimer's disease diagnosis** Alzheimer's disease (AD) is characterized by the accumulation of brain amyloid plaques and tau neurofibrillary tangles. Plasma-based blood tests have transformed AD assessment but remain limited by their reliance on phlebotomy, time-sensitive processing, and specialized infrastructure (e.g., -80°C freezers). These barriers restrict accessibility, particularly in low-resource settings and large-scale, decentralized trials. Our team is working towards validating novel finger-prick blood tests for the detection of AD. These tests can be self-administered remotely, eliminating the need for cold-chain storage and phlebotomy. By enabling finger-prick, dried blood spot (DBS) collection, this project has the potential to democratize AD biomarker testing, expanding access to underserved and underrepresented populations. If validated, this method could revolutionize dementia risk reduction and therapeutic trials by supporting scalable, frequent, and remote-friendly outcome assessments, ultimately accelerating therapeutic discovery and prevention efforts worldwide.
Matthew Pase	**Project: Novel imaging approaches to charectorize brain vascular health** Cerebrovascular disease is a major contributor to dementia and is often comorbid with Alzheimer's disease. Our team has piloted novel brain imaging methods to quantify domains of cerebrovascular health, such as blood brain barrier integrity. We are looking for a motivated student to explore how these novel brain imaging markers change over time, and how their changes relate to the progression of cognitive impairment
Megan Spencer-Smith	**Project: Brain development and neurobehavioural outcomes in individuals born very preterm**

	There are PhD project opportunities as part of the VIBeS longitudinal cohort study, the world's largest prospective longitudinal neuroimaging and neurodevelopmental study of very preterm and term born children continuing into young adulthood. Brain MRI and neurobehavioural assessments were conducted at birth, 2, 5, 7, 13 and 20 years of age. A control group of individuals born at term provides an important reference group for determining alterations in brain and neurobehavioural trajectories in survivors born very preterm. Projects might include documenting trajectories and/or identifying predictors of long-term outcomes in individuals born very preterm. Supervisors: Dr Megan Spencer-Smith, Dr Claire Kelly, Prof Peter Anderson
Megan Spencer-Smith	**Project: Corpus callosum development in individuals born very preterm and the association with cognitive and behavioural functioning** The corpus callosum is the largest white matter tract in the brain and is the major pathway connecting the right and left hemispheres. The corpus callosum is vulnerable to adverse exposures during early development, including being born preterm. However, no study has examined the development of the corpus callosum from birth to adulthood in those born very preterm, or related the dysmaturation of this structure to neurobehavioural impairments that are common in this population. This project will address these gaps utilising data from the unique VIBeS longitudinal cohort which has neuroimaging and neurobehavioural data at birth, 2, 5, 7, 13 and 20 years of age. Supervisors: Dr Megan Spencer-Smith, Dr Claire Kelly, Prof Peter Anderson
Megan Spencer-Smith	**Project: Developmental absence (agenesis) of the corpus callosum in children** The corpus callosum is the largest white matter pathway in the brain, connecting left and right hemispheres important for communication of sensory, motor, cognitive and behavioural information. Early disruption to its development can lead to developmental absence (agenesis) of the corpus callosum (AgCC), impacting on children's cognitive and behavioural functioning. AgCC is diagnosed based on brain imaging, and is now commonly diagnosed with routine prenatal ultrasound. There are PhD project opportunities as part of the Paediatric Agenesis of the Corpus Callosum Project, the largest cohort study with neuroimaging and neurobehavioural data of children with AgCC. One opportunity is to take a transdiagnostic approach to study the corpus callosum by exploring neuroimaging biomarkers of cognitive and behavioural outcomes in children with AgCC and children born very preterm, who share difficulties in cognitive and behavioural outcomes and are vulnerable to alterations in corpus callosum structure. Another

	opportunity is to work with families and clinicians to understand the research priorities in AgCC. Supervisors: Dr Megan Spencer-Smith, Dr Claire Kelly, Prof Peter Anderson
Melinda Jackson	**Project 2: MindMInC: Investigating the efficacy and feasibility of an online mindfulness-based intervention for insomnia in older adults** Sleep difficulties are highly prevalent in older adults but often go untreated as they are considered a sign of normal ageing. Sleep difficulties are also linked to increased feelings of stress, anxiety, depression and issues with memory and concentration. For many individuals, improving sleep can enhance their wellbeing. However, not many seek these alternative treatments due to barriers like time constraints, geographical access, long waitlists and limited availability. The MindMInC study aims to investigate the feasibility of an online mindfulness-based intervention for insomnia for older adults with sleep difficulties compared to a sleep hygiene program. This will help to understand whether such interventions are a helpful way to enhance wellbeing and overcome barriers to accessing sleep treatments for older adults.
Melinda Jackson	**Project: Sound Asleep: A Novel Approach to Treat Obstructive Sleep Apnoea and Associated Cognitive Impairment** Sleep is critical for effective cognition, particularly the presence of slow wave sleep; a deep, stable phase of non-REM sleep. Research shows individuals with Obstructive Sleep Apnoea (OSA) have less slow wave sleep, poorer cognition and brain atrophy compared to healthy individuals. Thus, it is critical to treat OSA to prevent further cognitive decline. One potential approach, acoustic stimulation therapy, has been used in healthy adults across the lifespan to improve slow wave sleep, with positive benefits for cognition. This first-of-its-kind NHMRC-funded project will explore the use of acoustic stimulation therapy in individuals with OSA to improve slow wave sleep. OSA patients will undergo two weeks using a novel acoustic stimulation device. Polysomnography, daytime sleepiness and cognition will be assessed to determine if acoustic stimulation therapy can bolster slow wave sleep, improve cognition and sleepiness, and alter OSA pathophysiology. We will also assess the feasibility of acoustic stimulation therapy for use in individuals with OSA. This study will take the first steps in determining whether acoustic stimulation therapy enhances slow wave activity, and improves daytime functioning and OSA severity; thus offering a unique, cost-effective, and non-invasive alternative treatment for the millions of individuals with OSA who remain untreated.
Nicole Rinehart	**Project: AllPlay Dance** Children with neurodevelopmental conditions such as autism and attention deficit hyperactivity disorder (ADHD) often experience clinical

	and social barriers to inclusion in their daily lives. The Child and Family Program revolves around a suite of clinical and community programs that aim to improve developmental outcomes. The program is a partnership model funded by industry, government and philanthropy. For example: AllPlay Learn, Footy, Dance, Joy of Moving, Sleeping Sound, and the Developmental Kit. Research Methodology: Implentation research, randomised control trials, and clinical neuroscience and developmental neuropsychology. https://www.monash.edu/medicine/psych/research/neurodevelopment/allplay-child-and-family-program
Nicole Rinehart	**Project: AllPlay Footy** Children with neurodevelopmental conditions such as autism and attention deficit hyperactivity disorder (ADHD) often experience clinical and social barriers to inclusion in their daily lives. The Child and Family Program revolves around a suite of clinical and community programs that aim to improve developmental outcomes. The program is a partnership model funded by industry, government and philanthropy. For example: AllPlay Learn, Footy, Dance, Joy of Moving, Sleeping Sound, and the Developmental Kit. Research Methodology: Implentation research, randomised control trials, and clinical neuroscience and developmental neuropsychology. https://www.monash.edu/medicine/psych/research/neurodevelopment/allplay-child-and-family-program
Nicole Rinehart	**Project: AllPlay Learn** Children with neurodevelopmental conditions such as autism and attention deficit hyperactivity disorder (ADHD) often experience clinical and social barriers to inclusion in their daily lives. The Child and Family Program revolves around a suite of clinical and community programs that aim to improve developmental outcomes. The program is a partnership model funded by industry, government and philanthropy. For example: AllPlay Learn, Footy, Dance, Joy of Moving, Sleeping Sound, and the Developmental Kit. Research Methodology: Implentation research, randomised control trials, and clinical neuroscience and developmental neuropsychology. https://www.monash.edu/medicine/psych/research/neurodevelopment/allplay-child-and-family-program
Nicole Rinehart	**Project: Joy of Moving - Mental and Physical Activity Project** Children with neurodevelopmental conditions such as autism and attention deficit hyperactivity disorder (ADHD) often experience clinical and social barriers to inclusion in their daily lives. The Child and Family Program revolves around a suite of clinical and community programs that aim to improve developmental outcomes. The program is a partnership model funded by industry, government and philanthropy. For example: AllPlay Learn, Footy, Dance, Joy of Moving, Sleeping

	Sound, and the Developmental Kit. Research Methodology: Implentation research, randomised control trials, and clinical neuroscience and developmental neuropsychology. https://www.monash.edu/medicine/psych/research/neurodevelopment/allplay-child-and-family-program
Paul Kremer	**Project 1: Validating the Expanded MSE (eMSE): A Clinical Study Incorporating Social & Environmental Determinants** The Expanded Mental State Examination (eMSE; Kremer, 2025) is a novel clinical tool that extends the traditional Mental State Examination by incorporating environmental and social determinants of mental health, such as housing stability, social supports, and exposure to stressors. While conceptually robust, the eMSE has not yet been validated in real-world clinical settings. This project aims to evaluate the feasibility, reliability, and validity of the eMSE across diverse psychiatric services. Using a mixed-methods design, clinicians will administer both the standard MSE and the eMSE to adult patients across diagnostic groups, with assessments randomised in order of administration. Quantitative analysis will examine test–retest reliability, convergent validity with established measures of social and environmental stressors, and the incremental value of eMSE domains in clinical decision-making. Qualitative feedback from clinicians and patients will be gathered to assess usability, acceptability, and perceived relevance. The findings will establish whether integrating social and environmental context into routine assessment enhances clinical understanding, improves treatment planning, and strengthens person-centred care. If successful, this study will provide the empirical foundation for broader adoption of the eMSE, positioning it as a next-generation standard for comprehensive psychiatric assessment.
Paul Kramer	**Project 2: Clinician Acceptability and Training in the Expanded Mental State Examination (eMSE): A Feasibility Study** The Expanded Mental State Examination (eMSE; Kremer, 2025) is an innovative extension of the traditional Mental State Examination, designed to incorporate environmental and social determinants of mental health into routine clinical practice. Before widespread adoption can occur, it is essential to understand how clinicians perceive the eMSE, how easily they can learn to use it, and what barriers or facilitators influence its uptake. This project will examine clinician acceptability and training needs related to the eMSE. A brief training module will be delivered to mental health clinicians across selected services. Participants will complete

	pre- and post-training surveys to assess confidence, perceived relevance, and ease of use. In addition, short semi-structured interviews will be conducted with a subset of participants to gather deeper insights into barriers, facilitators, and perceived clinical utility. The student will take a lead role in developing and delivering training, administering surveys, and conducting qualitative interviews. Data analysis will involve both quantitative methods (descriptive and inferential statistics) and qualitative thematic analysis. Findings from this study will inform strategies for clinician training and support, contributing to the broader validation and implementation of the eMSE as a next-generation clinical assessment tool.
Sally Richmond	**Project: Responsible Generative AI for Mental Health** The mental health of young Australians has been declining for over two decades and is now in crisis. Of the 2 in 5 young people currently experiencing mental ill-health most are not accessing professional support. Substantial reform of under-resourced mental health systems is urgently required. Artificial intelligence (AI) has the potential to provide 24/7 accessible mental health support; however recent unintended consequences have underscored the risks and the need for safe use and responsible development. This project is broad and can be developed with the trainee to explore research questions related to safety, clinical governance, culture and current mental health knowledge of large language models. Establishing consumer-driven research priorities they are shaped by young people and families will be a critical component of the project. This project will be co-supervised by Dr Lizhen Qu from the Faculty of IT.
Rebecca Kerestes	**Project: Rethinking Emotion Dysregulation in autism and ADHD: Building a transdiagnostic, cross-cultural model.** Autism and ADHD are the two most prevalent neurodevelopmental conditions, with one in ten Australian children and youth diagnosed with autism, ADHD or both. Emotion dysregulation, defined as difficulties in adaptively managing or modifying emotions, is a prevalent feature of autism and ADHD. Emotion dysregulation negatively impacts personal, academic, and social relationships, is associated with reduced quality of life and confers additional risk for mental health conditions including anxiety and depression. Furthermore, while culture has a fundamental influence on how mental health is understood, current treatments that target emotion dysregulation are based on theoretical models of emotion regulation derived from predominantly Western perspectives. This project which

	will be co-designed with the lived and living experience community, will investigate cross-cultural perspectives of emotion dysregulation in children and youth with autism and ADHD. Nested within a larger MRFF-funded project, this project will involve collaborations with private and public health care clinics and the lived and living experience community. This project will produce translational research to guide service providers on how to culturally tailor interventions for emotion dysregulation, in children from culturally and linguistically diverse backgrounds and will represent the next step towards a new cross-cultural model of emotion dysregulation
Sarah Liddle	**Project: Professional psychology education, mental health and suicide prevention** Various projects are available related to professional psychology education, including the development and assessment of competencies and skills, as well as broader initiatives on suicide prevention and mental health. Specific projects will be developed in collaboration with the trainee.
Sean Drummond	**Project: The mechanistic role of sleep linking ambient heat to mental health** High ambient heat has deleterious effects on mental health, particularly mood and anxiety symptoms. The underlying mechanisms are not well known, though. We are developing a line of work to test an innovative model whereby nocturnal heat disrupts sleep, which in turn has both direct and indirect (via daytime cognitive function and mood) negative effects on mental health symptoms. Depending on student interest, a PhD could involve one of more of these broad areas: 1) Codesign with lived-experience partners; 2) Qualitative studies in Australia and possibly international locations (e.g., Malaysia) vulnerable to climate change, identifying perceived consequences of high nocturnal heat and mitigation strategies employed to cope with hot nights; and 3) Ecological Momentary Assessment studies in the same countries testing our model and incorporating findings from the qualitative studies. Our ultimate goal is to produce translatable data informing mitigation recommendations, healthcare recommendations, and new preventative interventions to ameliorate negative heat stress impacts on mental health. This is a new line of work, and PhD students will have the opportunity to significantly influence the design and execution of the program of research.
Sue Cotton	**Project: Understanding risk behaviours in bipolar disorder** During a manic episode there can be increased goal-directed activities (either socially, vocationally, and sexually) and involvement in pleasurable activities (excessive spending, sexual indiscretions, substance use) that can lead to poor outcomes for both the individual

	with bipolar disorder but also close others. There can also be heightened risk of self-harm and suicide, particularly during mixed episodes. However, we do not have a good understanding of those with a lived experience, their caregivers and supporters, and clinicians' perspectives on risks associated with bipolar disorder. Also, examination of risk is often specific to self-harm and suicide rather than more broadly about other kinds of risk. We also do not have an adequate measure of the diverse risks associated with the disorder. This research program is part of the NHMRC Centre of Research Excellence in Bipolar Disorder (CORE-BD) led by Prof Sue Cotton. Other supervisors will include Dr Mel Hasty (Senior Research Fellow, Clinical Psychologist and Executive Officer of CORE-BD), A/Prof Kate Filia (Principal Research Fellow, Orygen, expertise in social inclusion), and Dr Emma Morton (Senior Lecturer, Psychologist, expertise in bipolar disorder). There are a range of potential projects that students could undertake in this area.
Sue Cotton	**Project: Social determinants associated with bipolar disorder (BD)** There are a range of social determinants that have been associated with poor health and mental health outcomes such as economic stability, education, social and community context, health and healthcare, neighbourhood and built environment. These have often been examined in the context of mental health more broadly, and there has been little done on specific disorders such as bipolar disorder. We do not have a good understanding of the causes of bipolar disorder and often there is a 10-year delay between of symptom onset, diagnosis, and receipt of adequate treatment. In this research program, the student will examine the social determinants of bipolar disorder and look at their relationships with diagnostic delays and poor outcomes. This research program is part of the NHMRC Centre of Research Excellence in Bipolar Disorder (CORE-BD) led by Prof Sue Cotton. Other supervisors will include Dr Mel Hasty (Senior Research Fellow, Clinical Psychologist and Executive Officer of CORE-BD), A/Prof Kate Filia (Principal Research Fellow, Orygen, expertise in social inclusion), and Dr Emma Morton (Senior Lecturer, Clinical Psychologist, expertise in bipolar disorder).
Sue Cotton	**Project: Mapping contacts with police after a first episode of psychosis** This project offers the opportunity for students to examine contacts with police in a large cohort of individuals who were treated for a first episode psychosis (FEP) at the Early Psychosis Prevention and Intervention Centre (EPPIC) at Orygen, Parkville between 1998-2000. As part of the long-term follow-up study (FEPOS15 – the First Episode Psychosis Outcome Study – 15 year+ follow up), we have recently linked cohort data to the Victorian Police's Law Enforcement Assistance Program (LEAP). We have data on offending behaviours, victimisation, family violence and police call outs for medical episodes. One DPsych

	student has been looking at several aspects of violent offending behaviours but there is a range of opportunities available for several students to explore other aspects of the data. Students will be supervised by Prof Sue Cotton, Dr Amity Watson (Orygen).
Sue Cotton	**Project: Understanding complexity in youth mental health using integrated population-level data** This PhD project is part of a National Health and Medical Research Council (NHMRC) Partnership grant in collaboration with Orygen (Centre for Youth Mental Health, The University of Melbourne), the Victorian Department of Health, Ambulance Victoria and headspace National. The collaboration brings together key researchers in the areas of youth mental health, health economics, and biostatistics to generate new knowledge that will lead to a better understanding of health service use and outcomes in youth mental health. The PhD project supervisors are from the health services and outcomes research team at Orygen. The team is conducting a range of research programs covering topics such as outcome measurement, novel treatments and service models, measuring quality of life and health utility, examining service trajectories using data linkage, and economic modelling. The team has statistical expertise across a range of areas including secondary and linked data analysis, longitudinal surveys, disease modelling, and application of novel statistical and machine learning methods in health science. The supervisory team include Prof Sue Cotton, Dr Caroline Gao (Orygen), and Dr Jana Menssink (Orygen). The project aims to use machine learning and data linkage of administrative and health datasets to: (i) Better understand youth help-seeking, resource use and productivity implications; (ii) identify risk factors for poor outcome; and (iii) identify spatial and temporal risk factors that are associated with heavy acute mental health service use in geospatial areas. The PhD project will be focusing on using state-of-art machine learning techniques to explore the complexity and heterogeneity in youth mental health using large scale health service utilisation data.
Sue Cotton	**Project: The CARE research program** The CARE program encompasses a suite of projects designed to better understand the experiences, wellbeing, and support needs of people who care for a loved one with severe or serious mental illness. The flagship CARE project focuses on carers of individuals with psychosis

	and/or bipolar disorder, using an online survey to capture information on carer wellbeing, functioning, and lived experience, with recruitment already underway. CARE-Mood extends this focus to carers of young people with mood and/or anxiety disorders, with plans to include carers of adults in future stages. CARE-Sib builds on earlier work to explore the unique perspectives and support needs of siblings who support a family member with mental illness. Finally, CARE-Parent is a new stream that will examine the experiences of young people caring for a parent with severe mental illness. Together, these projects aim to generate comprehensive insights to inform policy, service development, and targeted supports for carers across different contexts. There are opportunities to look at social determinants, impacts of suicide attempts, family violence on carers' experiences. The supervisory team include Prof Sue Cotton, Dr Mel Hasty, A/Prof Kate Filla (Orygen), Dr Dan Gan (Orygen) and Dr Amity Watson (Orygen).
Sue Cotton	**Project: Understanding and supporting memory and cognitive difficulties in youth with depression** Depression is the leading cause of disability in young people aged 10-24 worldwide, afflicting one in five by early adulthood with prevalence rapidly increasing. Memory and cognitive difficulties are a central and often persistent feature of depression, with effects on functioning and quality of life. Memory and cognitive difficulties are not addressed by standard depression treatments (medication, CBT) and are predictive of depression persistence and relapse. Young people with depression report that memory and cognitive impairments impact key life domains, including academic functioning, self-esteem, and therapy effectiveness, and they want targeted support. While cognitive difficulties are known to emerge early in depression, it is not known whether they emerge before depression onset, which would establish them as an early marker that could be targeted for prevention. There are also no effective and acceptable memory or cognitive treatments, especially for young people who have different treatment preferences and functional goals to adults. This PhD program will be a collaboration with the Cognition Team at Orygen and will aim to advance understanding of the onset and treatment of memory and cognitive difficulties early in the course of depression in youth.
Sue Cotton	**Project: Advancing the assessment of mental health through psychometric investigations** Many mental health assessment tools that are commonly employed. by clinicians and researchers were developed decades ago and are outdated. These include measures of depression, anxiety, psychological distress and quality of life. Measures have most often been developed without input from key stakeholders such as those with a lived experience. In this research program there will be an opportunity to not examine the properties of commonly used measures but to develop

	new measures. One study is focused on undertaking a review of the Health of Nation Outcome Scales that is widely used in mental health services. Other studies including critiquing screening and assessment tools used for bipolar disorder. Another study is focused on developing a tool focused on risk (e.g., hypersexuality, impulsive spending). Another study would be focused on identifying what quality of life means to young people today.
Sue Cotton	**Project: Understanding the impacts of being a woman living with bipolar disorder** Bipolar disorder can have serious impacts for the individual and especially women. In this research program a range of studies can be examined. This includes the relationship between mood and hormones, relationships, risky behaviours, etc. Understanding the unmet needs of women with bipolar disorder will inform development of novel treatments.
Susmita Saha	**Project: Identifying Novel Disease Progression subgroups in Rare Diseases Using Machine Learning.** Hereditary cerebellar ataxias (HCAs) are rare neurodegenerative conditions marked by progressive movement, coordination, and balance difficulties. While genetic testing confirms diagnosis, it does not capture the wide variation in how quickly symptoms progress or how individuals are affected. This study aims to identify and characterise distinct subtypes of major HCAs – including Friedreich Ataxia based on disease progression patterns derived from multimodal brain scans, clinical and cognitive data. Using advanced machine learning techniques, we will integrate structural, diffusion and susceptibility MRI with neurochemical, blood, cognitive and clinical data to identify subgroups of patients who share similar progression trajectories. These data-driven subgroups will be validated against patient symptoms, comorbidities, genetics, and lifestyle factors to enhance clinical relevance and to find their biological links. The project will develop a scalable analytical framework to enhance diagnosis, prognosis, clinical trial design, and patient outcomes by enabling more precise patient stratification, with the potential for application to other rare neurological movement disorders.
Susmita Saha	**Project: Multisystem Multimodal Data and Artificial Intelligence to Reduce Diagnostic Delay in Rare Hereditary Neurodegenerative Disorders** This project addresses a pressing healthcare challenge: the significant delays in diagnosing rare, hereditary neurodegenerative disorders. By harnessing advanced Artificial Intelligence (AI) applied to a rich, multi-domain dataset—including neuroimaging, clinical scores, and published case reports—we aim to develop accurate, rapid, and accessible diagnostic decision-support tools. These tools will enable

	clinicians to initiate timely and appropriate genetic testing, ultimately leading to earlier and more reliable diagnoses of conditions such as Hereditary Cerebellar Ataxias (HCAs). In addition, this project will investigate novel neuroimaging biomarkers driven by brain geometry to further enhance diagnostic accuracy in clinical settings.
Tracey Sletten	**Project: SleepSync: digital sleep health management** Digital sleep health interventions for mental health in shift workers. Development and evaluation of app-based technology to provide personalised recommendations for sleep-related behaviour to manage sleep and health in shift work where immediate access to clinical support is limited. The program incorporates adjustment of digital health to the needs of users, and evaluation of effectiveness. This project can include the optimisation of interventions via qualitative user-centred design. Projects will be shaped in collaboration with the student, to best align with their interests. The vision of our research program is to optimise circadian rhythmicity, sleep, alertness and mental health in society, with a particular focus on individuals experiencing circadian misalignment, a mismatch in the timing of the circadian pacemaker and the timing of sleep. Our research is focussed on understanding the mechanisms and impacts of sleep and circadian disruption, especially in the workplace, and developing targeted interventions to improve sleep, health and wellbeing. Research will be conducted in community and industry settings. Candidates will gain unique experience in well-designed research and intervention in real-world settings, and adaptation to the specific requirements of the population in question to support scaling of health support. Projects will include collaboration with additional experts at Monash, across national and international collaborating academic institutions, and external industry and policy stakeholders.
Tracey Sletten	**Project: SWITCH: personalised sleep health interventions** Personalised behavioural recommendations for optimising sleep, alertness and health in shift workers, a vulnerable population who form up ~16% of the working population. This research is deploying novel individualised sleep and lighting recommendations tailored to each individuals' circadian timing and shift schedule to help shift workers to manage their non-standard work hours and improve their sleep wake behaviour and wellbeing. The project will include examination of the factors influencing compliance with behavioural change interventions to support successful implementation across multiple cohorts. Projects will be shaped in collaboration with the student, to best align with their interests.

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Tracey Sletten	**Project: Sleep and alertness in commercial flight operations** Sleep, alertness and cognitive performance during extended flight duty. This project will examine the sleep, alertness and wellbeing of international pilots and cabin crew during long range flight patterns to understand the impact of shift work, variable occupational workload and regular time zone transitions. Data collection includes working with Qantas Airways during specifically designed flight patterns and incorporate assessments of health, cognition and wellbeing. The program will support the development of recommendations for improving the safety case for extended duration flight patterns proposed for the future on international aviation. Projects will be shaped in collaboration with the student, to best align with their interests. The vision of our research program is to optimise circadian rhythmicity, sleep, alertness and mental health in society, with a particular focus on individuals experiencing circadian misalignment, a mismatch in the timing of the circadian pacemaker and the timing of sleep. Our research is focussed on understanding the mechanisms causing sleep and circadian disruption, especially in the organisational setting, and developing targeted interventions to improve sleep, health and wellbeing. Research will be conducted with external industry and policy stakeholders. Candidates will gain unique experience in research and intervention in real-world settings. Projects will include collaboration with additional experts at Monash, across national and international collaborating academic institutions.