

Theme Leader profile - Clare Anderson

I'm an Associate Professor in Psychology in the School of Psychological Sciences. I lead my research team in the Sleep and Circadian Medicine Laboratory at Monash University. I also hold an adjunct position as an Assistant Neuroscientist in the Division of Sleep Medicine at the Brigham and Women's Hospital, in Boston, USA. I am the Theme Leader in the CRC for Alertness, Safety and Productivity leading Theme 1.1 "Real-time Biomarkers of Alertness".

What area of research are you working in?

Broadly speaking, I conduct research, in the field and the laboratory, that examines the effect of sleep loss and circadian misalignment on human performance. My research falls into two main streams.

The first stream focusses on how insufficient sleep or misalignment of the circadian timing system influences alertness in otherwise healthy individuals. This might entail laboratory manipulations of sleep or circadian timing while evaluating the impact on aspects of performance such as cognition, attention and alertness, or it might examine changes in alertness state and associated performance during shift work or while driving.

My second research stream focusses on age-related changes in sleep and cognition. Alongside my research team, we examine how sleep quality and quantity change as a consequence of growing older and evaluate how these changes impact cognitive function in older individuals.

What attracted you to this type of research?

My interest in this area sparked very early on in my studies. As a 17 year old A Level/VCE student, I became fascinated by the science of sleep. When I went to University I pursued a Psychology degree with the goal of working in sleep science. Sleep is a basic requisite for every individual and every animal and yet we know so little about its function (or more appropriately its functions!). As sleep and circadian timing is linked to so many aspects of health, well-being and cognitive function it's difficult not to be intrigued and fascinated by it.

What do you like best about your role?

There are so many aspects of the role that I enjoy that it's difficult to say what I like best!

I enjoy the diversity that the role offers; no two days are the same which makes this an exciting and fun career path.

Secondly, the research pathway is simply fascinating and I can't think of anything else I would rather do. To see an idea develop into a research question, an experimental protocol, and an evidence-based response is both exciting and rewarding.

Finally, I enjoy working with the people in this area, both working with the team here at Monash, but also being part of the wider sleep and circadian research community. Having the opportunity to work with so many different people in industry, from a number of different sectors, is the icing on the cake!

What was the most fulfilling piece of research you've completed to date?

My research established that following sleep loss, distraction and sleepiness interact to adversely affect cognitive performance. This has broad implications.

Firstly, any study examining performance in the relatively sterile laboratory environment may underestimate the level of impairment in the workplace which includes many additional distractors.

Secondly, this research allows for an understanding of causal factors involved in sleep-related accidents, beyond simply falling asleep. This informs targeted interventions for reducing accident risk on the roads and in workplaces.

What impact will your research have?

Within the CRC, my research will develop novel markers of alertness or attention failure that will ultimately lead to tools and systems to predict, monitor and mitigate the impact of sleep loss or circadian misalignment.

What is the best piece of advice you've been given?

I have always received great advice from my former PhD mentor Professor Jim Horne. Among the many things he taught me, he taught me to observe. His advice was always to stand back watch, look and observe. There's so much less to be gained in collecting masses of data and simply running statistics when you don't immerse yourself in the observation of the data.

What advice would you give to young researchers?

My advice would be to choose your mentors carefully. I have been extremely lucky to work with some truly brilliant people. Not only have they provided knowledge and expertise, they have provided (and continue to provide) immense support and guidance. A good mentor will teach you well, and then let you flourish.