I am Professor Susan Rossell. I am the deputy director here at the Brain and Psychological Sciences Research Centre, which is part of Swinburne University. The neuroimaging facilities here at Swinburne consist of the MRI, which is a state-of-the-art MRI machine used for research. We have six EEG labs on the third floor, and this is combined with a TMS lab as well. We are currently standing in the MEG, which stands for magnetoencephalography. This is a machine that we use to measure people's brain waves.

We have prided ourselves on becoming a multimodal centre, so what that means is that we have all the different neuroimaging facilities available to us. Within all of those labs we have peripheral equipment so we can monitor heart rate, eye tracking. We can present visual and audio information to them so they can watch videos or they can look at memory tasks, a whole range of different things. And this does stand us quite apart from all the other centres. So for example, other centres might have MRI expertise, or they might have EEG expertise, but we've tried to pull that all together to form this multimodal centre.

The centre was part funded by the university, by the National Imaging Facility, and by the Victorian Bioimaging Capability. The centre as a whole came to $7 million, so it was a substantial investment by all three partners. We've really established a fantastic team. The university have built on the existing Brain Sciences Institute that was part of the university for the last 10 or so years, and that was combined with the psychology department to form our new centre. So we have a huge range of staff with different experiences and different expertise. So everything from psychologists to neuroscientists, computational modellers, mathematicians.

Primarily it is a research-focused centre, and we will be focusing on research in mental illness. But one of the major practical outcomes we're seeking is working with hospitals, so St. Vincent's Hospital, the Austin Hospital, the Royal Children's Hospital, and working with patients with treatment-resistant epilepsy. So a lot of these patients have tried many different medications, and that hasn't produced beneficial effects for these patients, whereas surgery is then the only option for them. So in order for them to have surgery, we really need to carefully map the areas of the brain that are causing the seizures. An MEG is one of the primary pieces of equipment that we can use to map these areas that are malfunctioning.
The other research that we are starting off is with mental health patients. So there's work in depression, and schizophrenia, and bipolar disorder. In terms of our international standing, in terms of cognitive neuroscience and mental health research, we really are one of the world leaders. We would become an equal competitor with some very large labs at the NIH, or in London. This is a world leading facility, and it's fantastic for research students. Research students across a range of different disciplines can come to the centre, and we do encourage research students to apply.