

Colloquia Treverensia

Fachbereich I - Psychologie

Prof. Dr. Gina Grimshaw

Victoria University of Wellington



Professor Gina Grimshaw leads the Cognitive and Affective Neuroscience Lab at Victoria University of Wellington, New Zealand, and is a Principal Investigator in Te Pūnaha Matatini, the New Zealand Centre for Research Excellence in Complexity Science. She first studied at the University of Waterloo (Canada) and at the University of California (San Diego) before moving to New Zealand in 2007. Her work focuses on the interactions between cognition and emotion, and particularly on cognition during authentic emotional states. She uses a range of research approaches including virtual reality, EEG, motion-tracking, and physiological measures to determine how emotions play out in our mind, body, and behaviour. Her research has been supported by the Royal Society of New Zealand, the Neurological Foundation, and National Institute of Mental Health (US). She is a Fellow of the Association for Psychological Science, and the recipient of several teaching and research awards.

Feeling Virtual: Multidimensional assessment of emotional states in virtual reality

Emotions are complex states that involve physiological changes, behavioural action tendencies, and subjective feelings. These states in turn affect how we perceive, remember, and act in the world. At the same time, cognitive processes like appraisal and attention influence our emotional states. Untangling the causal mechanisms in these complex interactions requires well-controlled experimental methods. However, our established research methods, in which people view emotional stimuli – pictures, faces, or perhaps videos – in sterile laboratory environments while constrained by chinrests and tethered to recording equipment, do not permit authentic emotional experiences or allow the range of behaviours that emotions typically entail. Over the past six years, our lab has been developing alternative research methods using highly immersive virtual reality to induce fear, awe, and disgust, and to determine how these states affect attention, self-regulation, and cognitive control. VR provides solutions for several challenges in emotion research. It allows us to induce strong emotional responses and permit a wide range of natural behaviours, while still maintaining experimental control of the environment and simultaneously tracking physiological and neural responses, eye-movements, and body position. In this talk I'll describe our process of creating and validating emotional scenarios, and the outcomes of a series of experiments on how emotional states affect attention and cognitive control.

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