

PhD Opportunities

Melbourne Centre for Behaviour change



The Melbourne Centre for Behaviour Change (MCBC) is seeking motivated and high performing students interested in undertaking a PhD in behaviour change research. Students must satisfy the Medicine, Dentistry and Health Sciences PhD eligibility requirements and be competitive for a scholarship. Below is an overview of available opportunities. Expressions of interest are due by **October 1st**.

Supervisor: Professor Ron Borland, PhD



Professor Borland recently joined the Melbourne School of Psychological Sciences after almost 30 years working in applied research on cancer prevention, with a strong focus on reducing smoking. In that time, he has applied a wide range of psychological knowledge to help people change their behaviour to reduce cancer risk; behaviour changes that also reduce risk of other causes of premature mortality and morbidity. He is regularly listed as one of the world's most influential scientists and has strong collaborative links around the world. He has developed a comprehensive theory of behaviour change (CEOS theory) and has contributed more broadly to thinking around system-based models of behaviour change.

Research links: [Find an Expert](#) [Google Scholar](#)

Opportunity

Professor Borland is currently semi-retired but is interested in supervising or co-supervising research programs in either of two issues or ideally their combination. First, projects researching aspects of his CEOS theory and its implications for behaviour change in any domain. This may include experimental studies that test specific hypotheses, especially around the primacy of affect in driving behaviour and the limits of rational thinking. The second is projects that might build on the International Tobacco Control Policy Evaluation Project, a study that commenced in 2002 and has funding till at least 2026. It is an ongoing series of multi-country longitudinal studies of smokers and recent quitters which contains data on a range of potential psychological and contextual influences on tobacco use. His core interests here are in better understanding why quitting smoking is so hard and the potential of harm reduced alternative products. More recently, he has become engaged in developing and evaluating digital health tools to support person-centered rather than problem-focused approaches, but opportunities here will only emerge if grants to support the work are funded.

Key reading:

Borland, R. (2016). CEOS Theory: A comprehensive approach to understanding hard to maintain behaviour change. *Applied Psychology: Health and Wellbeing*, 9(1). doi: 10.1111/aphw.12083.

Borland, R., Young, D., Coghill, K., and Zhang, J. Y. (2010) The tobacco use management system: Analyzing tobacco control from a systems perspective. *American Journal of Public Health*, 100(7). doi: 10.2105/ajph.2009.165910

Candidate

Project opportunities are available for full-time three-year PhD positions. To be suitably qualified, applicants will need to have education and training in a relevant discipline (e.g., psychology, public health, health promotion, or any cognate discipline).

Contact details

Professor Ron Borland: rborland@unimelb.edu.au, +61 409 979 269

Supervisor: A/Prof Michelle Jongenelis, *MPsych (clinical), PhD*



PhD Candidates will work under the direct supervision and mentorship of Dr Michelle Jongenelis, Deputy Director and a Senior Research Fellow at the MCBC. This is a unique opportunity to complete your PhD within a multi-disciplinary team. You will be mentored and supported to develop research skills in psychology and public health and to connect with industry and other stakeholders. Dr Jongenelis has expertise in health promotion, intervention development and evaluation, behavioural psychology, and clinical psychology. She works across multiple and diverse health-related behaviours including alcohol and tobacco control (including use of e-cigarettes), nutrition, and physical activity. She also has an interest in body image disturbances and eating disorders. Michelle works as a researcher and consultant for a broad range of organisations covering the not-for-profit and government-sectors. She is an accredited Clinical Psychologist and maintains a position in private practice.

Research links: [Find an Expert](#) [Google Scholar](#) [LinkedIn](#)

Opportunity 1: Healthy families, happy families: Developing intergenerational health interventions

Undertake a PhD focusing on the development of intergenerational interventions to improve health and well-being in families. By the completion of the PhD, you will have gained and generated new knowledge on how the health and well-being of children, parents, and grandparents can be improved via intergenerational family-based interventions that focus on nutrition, physical activity, alcohol consumption, smoking, and mental health.

Key reading:

Jongenelis, M. I., Morley, B., Pratt, I. S., & Talati, Z. (2020). Diet quality in children: A function of grandparents' feeding practices? *Food Quality and Preferences*, 83, <https://doi.org/10.1016/j.foodqual.2020.103899>

Opportunity 2: Minimise the use of emerging nicotine delivery systems among youth

Undertake a PhD focusing on the development of health communications that aim to minimise uptake of e-cigarettes and other emerging nicotine delivery systems among adolescents and young adults. By the completion of the PhD you will have gained and generated new knowledge on the determinants of e-cigarettes use among adolescents and young adults, how stakeholders can be supported to reduce e-cigarette use in their settings, and the development of messages that aim to minimise use and encourage cessation.

Key reading:

Jongenelis, M. I., Jardine, E., Kameron, C., Rudaizky, D., & Pettigrew, S. (2019). E-cigarette use is associated with susceptibility to tobacco use among Australian young adults. *International Journal of Drug Policy*, 74, <https://doi.org/10.1016/j.drugpo.2019.06.017>

Candidate

Project opportunities are available for full-time three-year PhD positions. To be suitably qualified, applicants will need to have education and training in a relevant discipline (e.g., psychology, public health, health promotion).

Contact details

Dr Michelle Jongenelis: michelle.jongenelis@unimelb.edu.au

Deputy Director and Senior Research Fellow, supported by a National Health and Medical Research Council Research Fellowship



Supervisor: A/Prof Camille Short, PhD

Dr Camille Short is a senior behavioural scientist with experience and training in health psychology, and digital, and public health. Her research focuses on the use of technology for improving access to high quality, personalised, and multidisciplinary health services, especially for exercise-related behaviour change and improved mental health among individuals with chronic and complex health issues. Her research is highly cited internationally, including in clinical guidelines, with significant contributions to understanding engagement in digital behaviour change interventions, the role of personalisation in effective behaviour change support, and the co-development and evaluation of several digital exercise and behaviour change interventions for chronic disease control, including cancer.

Research links: [Find an Expert](#) [Twitter](#) [Google Scholar](#) [LinkedIn](#)

Bridging gaps in supportive care for cancer using new digital health tools

Undertake a PhD on the use of digital health tools for improving access to rehabilitation and supportive care services for cancer patients. Successful candidates will work under the direct supervision and mentorship of Dr Camille Short who holds a joint position with the School of Psychological Sciences and the School of Health Sciences and is an affiliate at the Peter MacCallum Cancer Centre. Dr Short's team is currently focused on improving quality of life for cancer patients by developing, trialling and implementing multi-disciplinary digital health interventions to support cancer patients rehabilitate and adopt and maintain healthy lifestyles. The research has a focus on equity and access, with the aim to ensure high quality support is available to patients regardless of geographical location and other barriers. This is a unique opportunity to complete a PhD within a multi-disciplinary team and as part of established projects. By the completion of the PhD, candidates can expect to have gained and generated new knowledge on how to design health interventions that are person-centred, and how to support uptake and maintenance of new health routines using digital technologies.

Key reading:

The Role of Behavioral Science in Personalized Multimodal Prehabilitation in Cancer. *Frontiers in Psychology*, 12(261). <https://www.frontiersin.org/articles/10.3389/fpsyg.2021.634223/full>

Candidate

Project opportunities are available for full-time three-year PhD positions. To be suitably qualified, applicants will need to have education and training in a relevant health-related discipline, including (but not limited to) psychology, public health, physiotherapy, computer science, exercise physiology, medicine or nursing.

Contact details

Associate Professor Camille Short: camille.short@unimelb.edu.au

Principal Research Fellow, supported by a Victoria Cancer Agency Research Fellowship

Supervisor: Professor Iain Walker, PhD



Professor Walker is a social psychologist with broad interests in social and environmental sustainability and in social justice. His research focuses on understanding processes of social and environmental change, with a broader aim of developing a better understanding of the interplay between theory and practice. Professor Walker's goal is to join analyses of ecosystems, social systems, and ecosystems to enhance social and environmental sustainability within and across those systems. Consistent with this, his research has increasingly been done in interdisciplinary contexts and appears in interdisciplinary outlets. Iain believes this helps spread the scientific impact of social psychology, provides novel and important forums in which to do social psychology, and ultimately helps inform and advance the science of social psychology.

Research links: [Find an Expert](#) [Google Scholar](#) [LinkedIn](#)

Opportunity 1: Public understandings of climate change and promoting pro-environmental behaviours

The ways that people, individually and socially, understand climate change and the environment more generally, are important in shaping the sorts of environmentally relevant behaviours they engage in. This program of research has spanned more than a decade, and included tracking segmentation analyses of the Australian population, articulating how false consensus and pluralistic ignorance biases influence readiness to engage in behaviours, and how beliefs and opinions relate to environmental behaviours including policy support. Iain is especially keen to develop the program of work by focusing more directly in stimulating and maintaining changes in behaviour.

Key reading:

Stanley, S. K., Leviston, Z., Hogg, T., & Walker, I. (2021). Anger about climate change promotes climate action and wellbeing. *The Journal of Climate Change and Health*. <https://doi.org/10.1016/j.joclim.2021.100003>

Opportunity 2: Science communication and environmental risk perception

Human health and welfare are inextricably and reciprocally tied to environmental quality. Professor Walker is a co-lead of the Science Communication theme in the recently-established *Healthy Environments and Lives research network*. This theme will be examining: how (or if) people perceive environmental risks and how that relates to behaviour; the effects of environmental degradation and restoration on human wellbeing; and how the ways people think about the future influence their decisions and behaviours today. There is ample scope for a student to develop a PhD project within these broad parameters, and to be connected to a nation-wide network of colleagues. A related topic area would be to look at science communication, engagement, and translation.

Key reading:

Leviston, Z., Walker, I., Green, M., & Price, J. (2018). Linkages between ecosystem services and human wellbeing: A Nexus Webs approach. *Ecological Indicators*, 93, 658-668. <https://doi.org/10.1016/j.ecolind.2018.05.052>

Opportunity 3: Bushfire preparedness and response

Professor Walker has been working for two years with a team of colleagues from psychology, population health, and medicine to examine the effects of the 2019-2020 bushfires on mental health and wellbeing, and community resilience. Most results are yet to be published, but suggest huge rates of PTSD, especially among people directly affected by the bushfires but also among those not directly affected. Simultaneously, there appears to be a similar effect on indicators of growth and resilience. Perhaps most usefully in terms of disaster preparedness, social belonging and connectedness seems to have both prophylactic and restorative effects on psychological distress. There are plenty of opportunities for students to engage with the [main project](#), which is funded for one more year, or to develop a spin-off project.

Key reading

Leviston, Z., Walker, I., Green, M., & Price, J. (2018). Linkages between ecosystem services and human wellbeing: A Nexus Webs approach. *Ecological Indicators*, 93, 658-668. <https://doi.org/10.1016/j.ecolind.2018.05.052>

Opportunity 4: Relative deprivation and prejudice

Relative deprivation describes the experience (usually anger) of being denied something one thinks one is entitled to. Personal RD usually leads to individual-level behaviours; group-based RD usually leads to intergroup outcomes such as social protest or outgroup derogation. Iain and colleagues have been trying to extend the theoretical framework of RD to accommodate environmental outcomes. One promising angle is to consider RD on behalf of others, particularly on future generations but also others in parts of the globe that are likely to be severely affected by climate change or other forms of environmental change (land-clearing, biodiversity loss, etc). Iain would be happy to talk with prospective students about possible projects in this area, or in the more typical area for RD research of prejudice and intergroup conflict.

Key reading:

Walker, I., & Wang, S. (2021). Implicit bias. In C. Tileagă, M. Augoustinos, & K. Durrheim (Eds.), *Routledge Handbook of Prejudice, Stereotyping and Discrimination* (pp. 197-210). London: Routledge.
<https://doi.org/10.4324/9780429274558>

Candidate

Project opportunities are available for full-time three-year PhD positions. To be suitably qualified, applicants will need to have education and training in a relevant discipline (e.g., psychology, sociology, public health, environmental sciences).

Contact details

Professor Iain Walker: iain.walker@unimelb.edu.au
Director

Supervisor: Dr John Cook, PhD



Dr John Cook is a cognitive scientist whose research focuses on understanding and countering misinformation about scientific issues such as climate change and vaccination. There is a strong practical element to his work, with his theoretical research often being applied in public engagement campaigns. In 2007, he founded [Skeptical Science](#), an award-winning website debunking climate misinformation. He created the [Cranky Uncle](#) game, combining critical thinking, cartoons, and gamification to build resilience against misinformation. He currently works with organizations like Facebook, NASA, and UNICEF to develop evidence-based responses to misinformation.

Research links: [Find an Expert](#) [Google Scholar](#)

Opportunity 1: Developing a framework for correcting climate misinformation

Corrections against misinformation can take many forms. The framing can be logic-based (explaining misleading techniques), fact-based (showing how misinformation is false through factual explanations), or source-based (exposing the lack of credibility of misinformation sources). Corrections can be humorous or serious. They can be text-based and/or visual, using still images or video. They can be deployed on a variety of outlets, including social media platforms and mainstream media. Climate misinformation that is being corrected can also vary, including misleading claims about scientific issues, climate solutions, or ad hominem attacks against climate actors. Existing research into correcting climate misinformation has looked at specific combinations of these various factors but an overall framework on how these different factors interact is yet to be explored empirically.

Key reading:

Vraga, E. K., Kim, S. C., Cook, J., & Bode, L. (2020). [Testing the Effectiveness of Correction Placement and Type on Instagram](#). *The International Journal of Press/Politics*, 1940161220919082.

Cook, J., Lewandowsky, S., & Ecker, U. (2017). [Neutralizing misinformation through inoculation: Exposing misleading argumentation techniques reduces their influence](#). *PLOS ONE*, 12(5): e0175799.

Opportunity 2: Using gamification to counter vaccine misinformation

The *Cranky Uncle Vaccine* game builds public resilience against vaccine misinformation by explaining the most common fallacies found in vaccine myths. The game was developed through a series of co-design workshops in a number of countries including Uganda, Kenya, Pakistan, and Ghana. Pilot tests are currently being conducted or planned in a number of countries. These field research tests will explore the game's effectiveness in increasing vaccine attitude and intent as well as the ability to discern between vaccine facts and misinformation. However, cross-country analysis is required to assess the game's effectiveness across different countries and cultures. How do vaccine misconceptions vary in prevalence across different countries and how can the game be calibrated to better suit each country? What other dependent variables, including actual vaccination behaviour, can be collected to more thoroughly assess the effectiveness of the game, particularly in concert with broader public engagement programs?

Key reading:

Cook, J., Ecker, U. K., Trecek-King, M., Schade, G., Jeffers-Tracy, K., Fessmann, J., ... & McDowell, J. (2022). The cranky uncle game—Combining humor and gamification to build student resilience against climate misinformation. *Environmental Education Research*, 1-17.

Opportunity 3: Developing a holistic, interdisciplinary solution to climate misinformation

The 4D framework (Detect, Deconstruct, Debunk, Deploy) is a holistic, interdisciplinary solution to the complex, interconnected problem of climate misinformation. It involves *Detection* (training machine learning models to detect and categorize climate misinformation), *Deconstruction* (using critical thinking to analyse and identify reasoning fallacies), *Debunking* (developing and testing interventions neutralising the influence of misinformation), and *Deployment* (applying theoretical insights from the first three themes in collaboration with communication practitioners). This framework can be applied in a variety of ways, offering broad scope for PhD research. It could focus on improving machine learning models that detect online misinformation, furthering deconstruction of different types of climate misinformation, testing different debunking formats, or synthesising existing research in a real-world application. Given the interdisciplinary nature of the 4D framework, this research would likely involve supervisors from multiple disciplines.

Key reading:

Cook, J. (2022). *The 4D framework: a holistic approach to countering climate change misinformation*. Companion to Development Studies. Routledge. Available at <http://sks.to/4d>

Candidate

Project opportunities are available for full-time three-year PhD positions. To be suitably qualified, applicants will need to have education and training in a relevant discipline (e.g., psychology, public health, health promotion, or any cognate discipline).

Contact details

Dr John Cook: jocook@unimelb.edu.au, +61 421 807 576

Supervisor: A/Prof Stefan Bode, PhD



Associate Professor Stefan Bode is an experimental psychologist and cognitive neuroscientist. His primary research interests are decision-making, changes of mind, performance monitoring and information-seeking. He investigates basic neurocognitive functions, and he also uses cognitive neuroscience methods to bridge the gap between basic research questions and translations to applied psychology. He has worked on diverse topics, such as the decoding food decisions from brain activity, the design of health warning messages for improving dietary decision-making, and the role of information for reducing uncertainty. He is the Head of the Decision Neuroscience Lab at the Melbourne School of Psychological Sciences at the University of Melbourne.

Opportunity 1: Information-seeking behaviour in the presence of misinformation

This project will investigate how people's decision-making changes in the presence of misinformation, and whether and how people compensate for misinformation by actively seeking out new information. The main aim of the project will be to understand the basic cognitive and neural mechanisms underlying the processing of misinformation and information-seeking decisions. The PhD candidate will have the opportunity to learn neuroscience methods, such as electroencephalography (EEG), as well as computational modelling. The project is aimed at bridging the gap between neurocognitive mechanisms and real-world decision problems, paving the way for interventions to change information-seeking behaviour.

Key reading:

Jiwa M, Yu Y, Boonyaratvej J, Ciston A, Haggard P, Charles L, Bode S (2023). Misleading and unreliable information reduce information-seeking. *BioRxiv*.

Candidate:

This project is available for a full-time three-year PhD position. To be suitably qualified, applicants will need to have education and training in a relevant discipline (e.g., psychology, cognitive neuroscience, or related disciplines).

Opportunity 2: Understanding the impact of health messaging through cognitive neuroscience

This project will investigate whether the efficacy of health messaging, e.g., aimed at improving dietary decisions or e-cigarette use, can be predicted using methods from cognitive neuroscience. The PhD candidate will investigate neural signals using electroencephalography (EEG) and apply neural 'decoding' methods to investigate whether unique signatures of brain signals, related to aspects of products and health messages, can predict changes in product-related attitudes as well as in real-world decisions.

Key readings:

Rosenblatt DH, Summerell P, Ng A, Dixon H, Murawski C, Wakefield M, Bode S (2018). Food product health warnings promote dietary self-control through reductions in neural signals indexing food cue reactivity. *Neuroimage: Clinical*, 18, 702-712.

Schubert E, Rosenblatt D, Eliby D, Kashima Y, Hogendoorn H, Bode S (2021). Decoding explicit and implicit representations of health and taste attributes of foods in the human brain. *Neuropsychologia*, 162, 108045.

Candidate

This project is available for a full-time three-year PhD position. To be suitably qualified, applicants will need to have education and training in a relevant discipline (e.g., psychology, cognitive neuroscience, population health, or related disciplines).

Contact details

A/Prof Stefan Bode: sbode@unimelb.edu.au

Please send an Expression of Interest by **1st October 2023** to the relevant contact person. All expressions of interest should include:

- CV
- Academic Transcript (with WAM or GPA)