

## CDMS Research Seminar

### On brain decoding and representational geometry: how computational techniques are shaping our understanding of the human brain

Thursday, 10<sup>th</sup> November 2022, 12:00 pm

<https://uws.zoom.us/j/84013011482?pwd=Nk9iQWszWGUvNnZGZ2NkdVAoMm9JUT09>

Speaker: Dr Tijl Grootswagers, Western Sydney University

Abstract: Computational methods have significantly transformed the landscape of cognitive neuroscience. In this talk, I will present an overview of how computational methods have transformed the study of brain function, focusing on advancements of the last decade. I will then give a detailed account of a popular geometry-based method and how it is used to study information processing in the brain, with examples of how I use this method in my research to further our understanding the neurobiology underpinning efficient human object recognition. I will close with a discussion of currently unsolved problems that could benefit from new perspectives.

Bio: Dr Tijl Grootswagers is a Computational Cognitive Neuroscientist who combines computer science techniques, neuroimaging, and behavioural data to understand how the human brain represents and processes information. He holds a bachelors and master's degrees in Artificial Intelligence from Nijmegen, the Netherlands, and a PhD in cognitive science from Macquarie University. He was a Postdoctoral Research Fellow at the University of Sydney in computational cognitive neuroscience before joining the MARCS Institute for Brain, Behaviour and Development at Western Sydney University as a Vice-Chancellor's Research Fellow in Cognitive Neuroscience. In 2022, he was awarded a Discovery Early Career Researcher Award from the Australian Research Council to continue his work in Computational Cognitive Neuroscience.

Rodrigo Calheiros is inviting you to a scheduled Zoom meeting.

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