**Date:** Friday, 29 October 2021  
**Time:** 3:00pm – 4:00pm  
**Speaker:** Professor Geordie Williamson (USyD).  
**Venue:** Zoom

**Title:** Functions and sheaves

**Abstract:** Interesting functions often satisfy interesting differential equations. This can be seen as an instance of Grothendieck’s "function-sheaf" correspondence, which has been slowly transforming representation theory and number theory over the last four decades. I will try to explain (in colloquium terms) what this correspondence says, and give some examples. One of the most striking is Lusztig’s description of the character table of finite reductive groups via "character sheaves". If I’m not already way over time I’ll give some hints as to the tiny part my work plays in this magnificent story.

**Bio:** Professor Geordie Williamson obtained his PhD from Albert-Ludwigs-Universität Freiburg in 2008, and is a Professor of Mathematics at the University of Sydney and director of the Sydney Mathematical Research Institute. Prof. Williamson is the recipient of numerous awards and honors, including the Clay Research Award in 2016 ("In recognition of his ground-breaking work in representation theory and related fields"). In 2018, he was elected a Fellow of the Royal Society as well as Fellow of the Australian Academy of Science, and also received the Australian Mathematical Society Medal. His research interests include higher categories, microlocal approaches to perverse sheaves, and braid group actions.