



## Seminar/Talk

# Spectra in representation theory

**Geordie Williamson**

University of Sidney

Host: Tamas Hausel

In geometric representation theory cohomology, intersection cohomology and constructible sheaves show up everywhere. This might seem strange to an algebraic topologist, who might ask: why this emphasis on cohomology, when there are so many other interesting cohomology theories (like K-theory, elliptic cohomology, complex cobordism, ...) out there? They might also ask: is there something like "intersection K-theory", or "intersection complex cobordism"? This is something I've often wondered about. I will describe work in progress with Ben Elias, where we use Soergel bimodules to investigate what KU-modules look like on the affine Grassmannian. We have checked by hand that in types A1, A2 and B2, one gets something roughly resembling the quantum group. Speaking very roughly, the intersection K-theory of Schubert varieties in the affine Grassmannian should recover the irreducible representations of the quantum group. Inspirations for this work include a strange Cartan matrix discovered by Ben Elias, and work of Cautis-Kamnitzer.

**Thursday, June 10, 2021 09:00am - 11:00am**

<https://mathseminars.org/seminar/AGNTISTA>



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.

Please find a schedule of the ISTA Shuttle on our webpage:

<https://ista.ac.at/en/campus/how-to-get-here/> The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.