

“Let one reptile gobble up another of its kind.” – Ivan Karamazov

The Trivial Notions Seminar  
Proudly Announces  
Semi-infinite Linear Algebra

A talk by  
Justin Campbell

**Abstract**

How does one take the determinant or trace of operators on infinite-dimensional vector spaces? I'll explain the conditions under which this is possible in the algebraic setting. In fact, one can even restore duality by introducing so-called Tate vector spaces. In this context the general linear group, rather than mapping to scalars, has a canonical central extension by scalars called the Tate extension. This can be used, for example, to construct the Kac-Moody extension, which is fundamental in the representation theory of loop groups.

Thursday March 30<sup>th</sup>, at 12:00 pm  
Science Center 232