



Mathematics Department Special Seminar

**Special values of automorphic  $L$ -functions  
for  $GL_n \times GL_m$**

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Automorphic  $L$ -functions are complex functions of a complex variable, attached to abstract objects known as automorphic representations. They are the object of intense study in number theory, motivated by the far-reaching conjecture, in the framework of the Langlands program, that all  $L$ -functions and zeta functions of arithmetic interest can be regarded as automorphic  $L$ -functions. In particular, there is great interest in their special values, which in a number of cases can be studied by relating them to certain invariants (known as “*periods*”) of the underlying representations. In my dissertation, I specifically look at Rankin–Selberg  $L$ -functions for  $GL_n \times GL_m$ , with  $n$  odd and  $m < n$  even, over a totally real number field.

In this talk, I will start with a problem in elementary number theory, and use it to illustrate (a version of) reciprocity and introduce certain types of  $L$ -functions. Next, I will explain what is meant by the *special values* of an  $L$ -function and what kind of results are sought after in this field. Finally, I will get to my dissertation topic and relay the salient points of my research.

Thursday, January 26th, 4:00 - 5:00 PM, JMH 132  
or via zoom at <https://shorturl.at/AEK27>

All are welcome.