



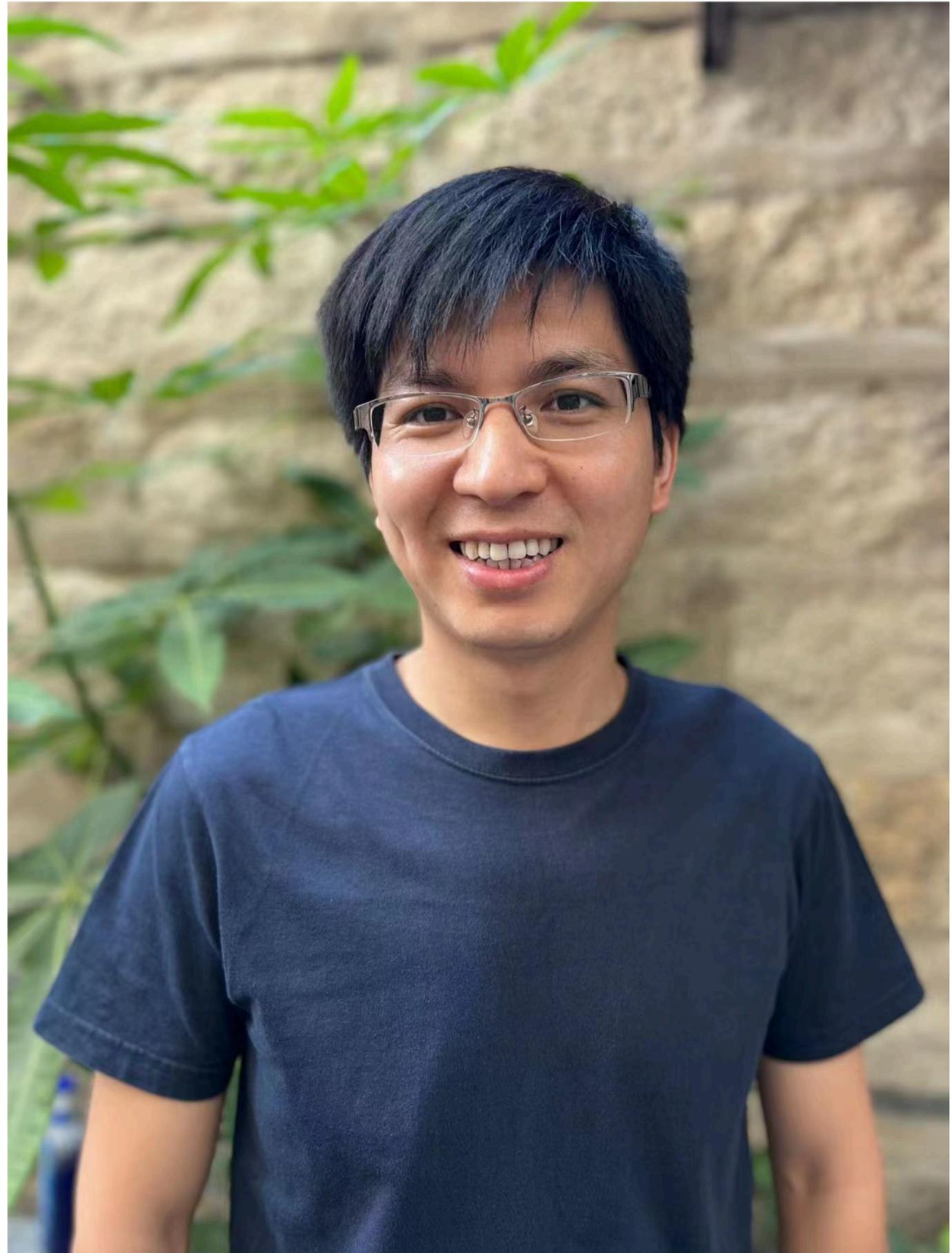
XIAMEN UNIVERSITY MALAYSIA

廈門大學 馬來西亞分校

## Research Talk – XMU-XMUM

### SOME REMARKS ON CLASSICAL AND ADELIC EISENSTEIN SERIES

April 7, 2025 (Monday), 3:30–4:30 pm Room A4#G04



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Research interests: Number Theory & Representation Theory

### SPEAKER INTRODUCTION

Shaoyun Yi is an Assistant Professor at the School of Mathematical Sciences, Xiamen University. He received his bachelor's degree in mathematics from the University of Science and Technology of China in 2012 and earned his Ph.D. in 2019 from the University of Oklahoma. His research focuses on number theory and representation theory.

### ABSTRACT

In this talk, we will discuss the classical Siegel Eisenstein series of weight  $k$  and degree 2 within an adelic framework, mainly applying the method known as “Hecke summation”. In the process, we recover the classical Fourier expansion of the Siegel Eisenstein series from an adelic point of view. One of our goals is to determine the automorphic representations associated to these Siegel Eisenstein series, particularly for the case of weight  $k = 2$ , where the underlying global representation is highly reducible. We will begin by introducing the necessary background and motivation for this work. Next, we will review recent results in the study of classical and adelic Eisenstein series for  $GL(2)$  (the degree 1 case), which may be viewed as a toy example. Finally, we will present an overview of our ongoing work on the Siegel Eisenstein series of degree 2. These are joint works with Manami Roy and Ralf Schmidt.