

Department of Mathematics, BGU

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# AGNT

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*On Wednesday, June ,22 2022*

*At 16:00 – 17:00*

*In 101-*

Qirui Li (online meeting) (Bonn)

will talk about

## **The linear AFL for non-basic locus**

Abstract: The Arithmetic Fundamental Lemma (AFL) is a local conjecture motivated by decomposing both sides of the Gross–Zagier Formula into local terms using the Relative Trace formula. For each of the local terms, one side is the intersection number in some Rapoport–Zink space. The other side is some orbital integral. To reduce the global computation to local, one needs to consider intersection numbers on both basic and non-basic locus, while the original linear AFL only considers basic locus.

Collaborated with Andreas Mihatsch, we consider the non-basic locus of Unitary Shimura varieties and conjectured a similar version of linear AFL for Rapoport–Zink space on non-basic locus parameterizing  $p$ -divisible groups with étale extensions. We proved that this version of linear AFL conjecture can be essentially reduced to the linear AFL conjecture for Lubin–Tate spaces, which corresponds to the basic locus parameterizing one-dimensional connected  $p$ -divisible groups.