

SPEAKER: Zachary Kent (Emory University)

TITLE: L -series and L -values for weakly holomorphic modular forms

ABSTRACT: We explore a method for associating L -series to weakly holomorphic modular forms (those modular forms with possible poles supported at cusps), and then proceed to study their L -values. Critical L -values are shown to fit nicely within the framework of period polynomials and an extended Eichler-Shimura theory recently studied by Bringmann, Guerzhoy, Kent, and Ono. A generating series for non-critical L -values is then interpreted as a mock period function, extending recent work of Bringmann, Diamantis, and Raum. Finally, we prove a curious limiting theorem which relates transcendental periods of a mock modular form and its shadow to the ratio of their non-critical L -values. This is joint work with Kathrin Bringmann.