

TEMPLE UNIVERSITY

Department of Mathematics

Analysis Seminar

Room 617 Wachman Hall

Monday, September 11th, 2023, 2:30 p.m.

Zeta and Fredholm determinants of self-adjoint operators

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Abstract: Given an invertible self-adjoint operator L in a Hilbert space, under a certain assumption on L , I will describe the relation between the (regularized) Fredholm determinant, $\det_p(I + z \cdot L^{-1})$, and the zeta regularized determinant, $\det_\zeta(L + z)$. Moreover, I will discuss the asymptotic expansion of the Fredholm determinant in relation to the heat trace coefficients, showing that the constant term is the zeta-determinant of L .