

Speaker: Matt Baker

Title: Riemann-Roch for Graphs and Applications

Abstract: We will begin by formulating the Riemann-Roch theorem for graphs due to the speaker and Norine. We will then describe some refinements and connections with Berkovich analytic spaces. Applications include a new proof by Jensen and Payne of the Gieseker-Petri theorem in algebraic geometry, a generalization by Amini and the speaker of the Eisenbud-Harris theory of limit linear series, and a new Chabauty-Coleman style bound for the number of rational points on an algebraic curve over the rationals, proved recently by Katz and Zureick-Brown.