Speaker: Benjamin Baker

Title: The geometric Andre–Grothendieck period conjecture

Abstract: The periods of an algebraic variety defined over a number field K are the integrals of K-rational differential forms over topological cycles. Gronthendieck's period conjecture predicts that all algebraic relations between such periods arise from geometry. A wide-sweeping generalization due to Andre predicts the same over an arbitrary finitely-generated field K, and this in turn implies many important conjectures in transcendental number theory. In this talk I will explain how to prove the analog of this conjecture over complex function fields, and how it provides a capstone to the advances in the transcendence theory of period maps made over the past decade. This is joint work with J. Tsimerman.