JOINT ALGEBRA SEMINAR – ALGEBRAIC GEOMETRY/ANALYTIC NUMBER THEORY SEMINAR

May 1 (Thu), 2:30pm-3:20pm, Snow 306

Speaker:	Professor	Yasuyuki	Kachi ((KU)	
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Title: Interplay of Combinatorics, Number Theory and Algebraic Geometry – I. What is Riemann zeta?

Abstract: Certain functions are tailor-made to decipher the intricate structures of basic mathematical objects. The Riemann zeta function ('zeta') is of special importance for one of the most vexing and fascinating problems in math: the distribution of primes. Unlike any other vogue topics in math history, zeta seems to escape the fate of mortality: The ubiquity and universality of zeta in math are paramount. Tens of thousands of researchers worldwide work on zeta today, and their collective effort so far does not seem enough to crack The Riemann Hypothesis (the most coveted prize problem in math) open. In this talk I first introduce zeta, motivate the audience to work on zeta, and then spotlight the multi-faceted personality of zeta: Combinatorics plays a pivotal role in this talk. Prerequisite: Math 116 (and Binomial coefficients). Familiarity with rudiments of complex numbers will be paramount. This is based on my joint work with Professor Pavlos Tzermias (University of Patras, Greece). The talk will continue on Sept. 12 in Combinatorics Seminar.