

Speaker: **Jacob Tsimerman**
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Wednesday, November 16, 2011
4:15 pm
117 Hayes-Healy Hall

Title: Counting cubic fields and Roberts conjecture

Abstract:

(This is joint work with Manjul Bhargava and Arul Shankar) A theorem of Davenport-Heilbronn says that the number of cubic fields of discriminant at most X is asymptotic to cX for a constant $c > 0$. In the last decade, Bhargava obtained a similar asymptotic for quartic and quintic fields, as well as other arithmetic counting problems.

The theory of Shintani Zeta functions suggests a more precise asymptotic formula by adding lower order correction terms. In the case of cubic fields, we will explain how to improve this asymptotic to $cX + dX^{5/6} + o(X^{5/6})$, verifying a conjecture of Roberts.