

Jean-Morlet Chair - Conference
Arithmetic Statistics - Statistiques arithmétiques

Ajith Anilkumar NAIR, City University of New York

Title: *Gauss Composition and Higher Composition Laws*

Abstract: In this talk, I will describe Bhargava's remarkable generalization of Gauss composition on binary quadratic forms to higher degree forms such as binary cubic forms, senary alternating 3-forms, pairs of binary quadratic forms and pairs of quaternary alternating 2-forms. I will briefly explain Bhargava's methodology and how these spaces of forms parametrize arithmetic objects associated to quadratic number fields. I will then give an outline of an ongoing work with my advisor Gautam Chinta (as part of my PhD) on formulating the higher composition laws in a manner similar to Gauss's formulation in the binary quadratic forms case.