



DIPARTIMENTO DI MATEMATICA  
UNIVERSITÀ DEGLI STUDI DI ROMA 'TOR VERGATA'  
Via della Ricerca Scientifica 1 – 00133 ROMA

## COLLOQUIA DI DIPARTIMENTO 2010



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### **Zeta and L-functions Yesterday and Tomorrow**

**Martedì 8 giugno 2010 ore 14.00**

**Aula G2C della Facoltà di Scienze M.F.N.**

**Abstract:** This lecture is a panorama of zeta and L-functions. The Riemann, Dirichlet, Dedekind zeta functions, and Hecke L-functions are introduced. This is followed by the second way of introducing L-functions, via Galois extensions and Artin L-functions. This is followed by the third way of defining L-functions, via automorphic functions. The interrelation of these three classes leads to the modern theory with basic conjectures and the Langlands program. The geometric point of view is also given, with zeta functions of varieties over finite fields, with an outline of Weil's proof of the Riemann hypothesis for curves over a finite field. The lecture concludes with the modern conjectures and developments and about the analytic theory of zeta and L-functions and open problems.

Organizzazione Colloquia:  
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