Scuola Normale Superiore
Piazza dei Cavalieri, 7
Pisa

Martedì 5 Febbraio 2013
Sala Stemmi
Palazzo della Carovana
ore 16,00

SCUOLA
NORMALE
SUPERIORE

Colloquio De Giorgi

EMMANUEL KOWALSKI

ETH Zuerich

Trace functions over finite fields and applications

Abstract
In recent works with E. Fouvry and Ph. Michel, we have studied arithmetic properties of certain functions over finite fields which arise from algebraic geometry, and which contain as special cases characters and various exponential sums. The talk will explain the origin of these functions and give examples, and discuss results such as quasi-orthogonality, sums over primes of trace functions, and estimates for uniformity norms. One of the main tools is the Riemann Hypothesis over finite fields.

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