



SEMINARIO DI GEOMETRIA

Mercoledì 18 novembre 2015

ore 15:00

*Scuola Normale Superiore*

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terrà un seminario dal titolo

## **Variations on the Chevalley–Weil Theorem**

*Abstract:*

Let  $\psi: X \rightarrow C$  be an étale cover of smooth projective curves defined over a number field  $K$ . The classical Chevalley-Weil theorem asserts that there exists a finite set  $S$  of places of  $K$  such that, for any  $P \in C(\overline{\mathbb{Q}})$ , the field extension  $K(\psi^{-1}(P))/K(P)$  is unramified outside places of  $K(P)$  lying above  $S$ .

Given a suitable degree  $d$  map  $C \rightarrow \mathbb{P}^1$ , we show how it is possible to construct infinitely many points  $P \in C(\overline{\mathbb{Q}})$  such that  $[K(P) : K] = d$  and  $K(\psi^{-1}(P))/K(P)$  is unramified everywhere. We give applications to the construction of class groups of number fields with large torsion.

This is joint work with Yuri Bilu.

*Tutti gli interessati sono invitati a partecipare.*

*Classe di Scienze Matematiche e Naturali*