



SCUOLA  
NORMALE  
SUPERIORE

## SEMINARIO MATEMATICA

Venerdì 3 maggio 2013  
ore 14:30

Scuola Normale Superiore  
Pisa  
Aula Mancini

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Terrà un seminario dal titolo:

# “Models of the group schemes of roots of unity and perfectoid spaces”

**Abstract:**

Let  $K$  be a discretely valued complete field with ring of integers  $R$  of characteristic 0 and residue field  $k$  of characteristic  $p$ . In joint work with A. Mézard and D. Tossici, we investigated families of models of the group scheme  $\mu_{\{p^n, K\}}$  of roots of unity. We constructed some families parametrized by  $n(n+1)/2$  elements living in truncations of  $R$ , and we also described the Dieudonné-type classification of these models due to Breuil and Kisin, providing a parametrization by  $n(n+1)/2$  elements living in truncations of the power series ring  $k[[u]]$ .

In order to tie the two approaches together, one needs to relate points of some "spaces" with values in rings of different characteristics (0 and  $p$ ). I will report on our work and on Scholze's recent theory of perfectoid spaces, which gives a framework where such a relation might exist.

Tutti gli interessati sono invitati a partecipare.

Classe di Scienze