



SCUOLA  
NORMALE  
SUPERIORE

## SEMINARIO DI MATEMATICA

**Giovedì 5 dicembre 2019**  
ore 11:00

Scuola Normale Superiore  
Pisa  
Aula Fermi

**Simone Cito**

(Università del Salento)

Terrà un seminario dal titolo:

### **“Shape Optimization of Robin Eigenvalues with negative boundary parameter”**

*Abstract:*

The results presented in the seminar are motivated by the study of the existence of optimal domains maximizing the  $k$ -th Robin Laplacian eigenvalue among sets of prescribed measure, in the case of a negative boundary parameter. In a joint work with Dorin Bucur, we show the existence of optimal shapes in any dimension in the framework of sets with finite perimeter. The key tools of our analysis rely on sharp isodiametric and isoperimetric geometric controls of the eigenvalues. In two dimensions of the space, under simply connectedness assumptions, further qualitative properties are obtained on the optimal sets. Moreover, for the first eigenvalue, we present a stability result recently obtained in collaboration with Domenico Angelo La Manna.

Tutti gli interessati sono invitati a partecipare.

Classe di Scienze