## Colloqui della Classe di Scienze Anno Accademico 2015/2016

Sala Azzurra | Palazzo della Carovana Scuola Normale Superiore Piazza dei Cavalieri, 7 - PISA

**20 APRILE 2016** ore 15.00

## JEAN-MICHEL MOREL

École Normale Supérieure de Cachan

What is a texture?

## Abstract

In this conference illustrated by many images, I wish to present the mathematical, psychophysical, artistic and computer graphics challenges raised by the concept of (visual) "texture". In psychophysics the question simply is: what makes us discriminate two textures, or instead consider them undiscriminable (Bela Julesz). In computer graphics, the problem is: how to synthesize new, larger texture samples (of say, wood, stone, etc.) from examples? In abstract art the question is simply how to invent new sorts of images. And in mathematics, we might see this as a more specialized instance of the famous question raised by Frege: Was ist eine Funktion? and some aspects of geometric measure theory. Each of these questions is fascinating and can occupy a life. Yet these questions interact of late, and I'll base my exposition on new and striking recent theories and experiments.

