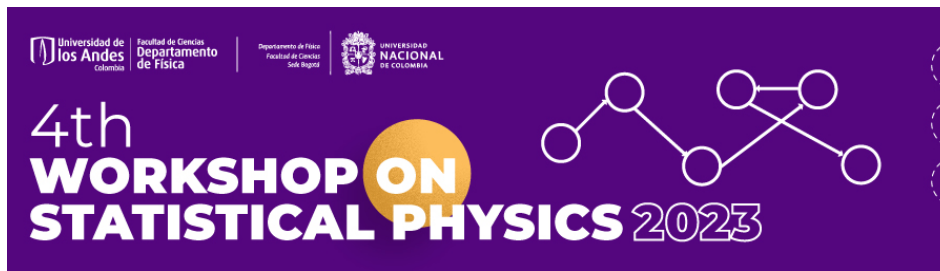


4th Workshop on Statistical Physics



Contribution ID: 50

Tipo: **Tutorial courses**

Recent Advances in Percolation Theory

lunes, 2 de octubre de 2023 10:30 (1h 30m)

In the course we will first introduce the basic concepts of percolation, its scaling laws and its fractal subsets like the backbone, the elastic backbone, the shortest path with its perturbations and the distribution of currents. We will also present rigidity percolation, bootstrap percolation and drilling percolation. Particular emphasis will be given to discontinuous percolation like explosive and bridge percolation as well as abrupt epidemic spreading. Next, we will consider correlated surfaces with Hurst exponents to study the fractality of its coastlines, its watersheds and its retention capacity. We will investigate the Schramm-Loewner Evolution of various loop-less curves on top of these surfaces. We will dedicate the end of the course to failure models, like the fuse model, metallic breakdown and the optimal path crack.

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Session Classification: Tutorial courses

Track Classification: Statistical Physics