Chilean Probability Seminar

Orador: Pablo López Rivera (Université Paris Cité).

Título: On Wu's Inequality and the Poisson-Föllmer Process.

Resumen: In the discrete setting the Poisson distribution is a ubiquitous object, as the Gaussian distribution is in the Euclidean setting. In spite of that, it does not satisfy Gross' log-Sobolev inequality. Nevertheless, Bobkov and Ledoux were able to prove that it satisfies a "modified" version of it, which was subsequently reinforced by Wu. In the first part of this talk we will exhibit a new stochastic proof of Wu's modified log-Sobolev, via an entropy-minimizing process constructed by Klartag and Lehec, which we call the Poisson-Föllmer process. We will also see how this stochastic process gives a proxy to prove a stability result for Wu's inequality.

In the second part of the talk, we will again use the Poisson-Föllmer process and the Malliavin calculus on the Poisson space to extend Wu's inequality, via a transport proof, for ultra log-concave measures; i.e., discrete measures which are more log-concave than the Poisson distribution.

This is joint work with Shrey Aryan (MIT) and Yair Shenfeld (Brown).

El enlace para conectarse al seminario es:

Unirse a la reunión Zoom
https://reuna.zoom.us/j/84521834914?pwd=OTZ6Y0NWM3pYTGtTbEt3c0luTG96UT09

ID de reunión: 845 2183 4914
Código de acceso: 997973

Modalidad híbrida en la sala Multimedia CMM, Beauchef 851, Torre Norte Piso 6.
Miércoles 15 de mayo a las 16:15 hrs.