

Seminar EDPs

Speaker: Javier Castro, DIM, Universidad de Chile.

Title: Deep Learning Schemes For Parabolic Nonlocal Integro-Differential Equations.

Abstract: In this work we consider the numerical approximation of nonlocal integro differential parabolic equations via neural networks. These equations appear in many recent applications, including finance, biology and others, and have been recently studied in great generality starting from the work of Caffarelli and Silvestre. Based in the work by Hure, Pham and Warin, we generalize their Euler scheme and consistency result for Backward Forward Stochastic Differential Equations to the nonlocal case.

We rely on Lévy processes and a new neural network approximation of the nonlocal part to overcome the lack of a suitable good approximation of the nonlocal part of the solution. We also use results presented by Bouchard and Elie on the approximation of a solution to a stochastic differential equation with jumps.

Join Zoom Meeting

<https://uchile.zoom.us/j/82509433455?pwd=dXFkbVc5OS92T054YzZBWVJlVWdxQT09>

Meeting ID: 825 0943 3455

Passcode: 352594

Thursday (5/20) at 4:15 pm (Chilean time).