

CMM PDE Seminar

Speaker: [Mikel Ispizua](#) from **Universidad del País Vasco (UPV/EHU)**,

Title: "Evolution of viscous vortex filaments"

Abstract: Vorticity filaments (one-dimensional structures where vorticity concentrates) play a central role in understanding turbulence generation and energy transfer in fluids. In this talk, I will discuss about how these structures evolve in a viscous fluid. I will consider initial data given by a vorticity measure supported on an infinite smooth curve in \mathbb{R}^3 . I will show that, for short enough time, the solution consists of a leading-order Lamb–Oseen vortex centered around a curve that evolves according to the binormal flow, a second-order term reflecting the local curvature of the filament, and a small nonlocal correction. For this, I will need to assume that Γ , the circulation around the vortex, is sufficiently small.

The talk will be held in person

Venue: DIM seminar room, Beauchef 851, 5th floor.

Zoom:

<https://uchile.zoom.us/j/93613339766?pwd=vB3J7Vhb0EX3kQDHfH741CKN19YKQz.1>

Wednesday, August 13th at 16:15, pm

For further information, see our webpage: <https://eventos.cmm.uchile.cl/pdeseminar/>

