

# **Uniqueness of Self-Similar Solutions to the Network Flow in a Given Topological Class**

Mariel Saez

*Pontifical Catholic University of Chile*

*Mathematics Department*

We will discuss the uniqueness in a fixed topological class of expanding self-similar solutions to the flow of networks by curve shortening flow. We prove the result via a parabolic Allen-Cahn approximation. Moreover, we prove that any regular evolution of connected tree-like network (with an initial condition that might be not regular) is unique in a given a topological class.