

Online
seminar

Thursday [December 09](#) at 16:00
Hosted on: [Zoom](#)

Federico STRA

Politecnico di Torino

Non-local scalar conservation laws with congestion

Prof. Vallarino introduces the seminar.

Abstract

In this seminar I present a recent result obtained in collaboration with Emanuela Radici (EPFL). We studied a deterministic particle scheme (Lagrangian discretization) to solve non-local scalar conservation laws with congestion in one dimension. We show that the discrete approximations converge to the unique entropy solution under more general assumptions than the existing literature: the velocity fields are less regular (in particular the interaction force can have a discontinuity at the origin), there are no prescribed attractive/repulsive regimes, and the mobility can have unbounded support.

I then give a summary of several possible future developments, focusing in particular on a brief description of an ongoing work in collaboration with Emanuela Radici and Elio Marconi (EPFL) about the stability of “almost-entropy solutions” of scalar conservation laws.

Biography

Federico Stra graduated in Mathematics in 2014 at Università di Pisa, obtaining in parallel the “diploma di licenza” from the Scuola Normale Superiore. He finished in 2018 the PhD at Scuola Normale Superiore under the supervision of Prof. L. Ambrosio. He has been a postdoc for one year at Université Paris-Sud (Orsay) and for two and a half years at EPFL (Lausanne). In September 2021 he became RTDa at Politecnico di Torino.