UNIVERSITÀ DI TRENTO
Dipartimento di Matematica

DOTTORATO

CYCLE 37th
ORAL DEFENCE OF THE PHD THESIS

Friday 15th November 2024 – at 4.00 pm
Department of Mathematics
Seminar Room 1
The event will take place in presence and online through the ZOOM platform.
To get the access codes, please contact the secretary office.

Simone Verzellesi

PhD Student in Mathematics

New and old sub-Riemannian challenges bridging analysis and geometry

Abstract:
We propose a systematic exposition of some analytic and geometric problems arising from the study of sub-Riemannian geometry, Carnot-Carathéodory spaces and, more broadly, anisotropic metric and differential structures. We begin with a very quick overview of recent results in the areas of calculus of variations and PDEs. After that, we focus on a major open problem in sub-Riemannian geometry, namely the Bernstein problem in sub-Riemannian Heisenberg groups. We give an exposition of known results and remaining open issues, and we present a solution in the second sub-Riemannian Heisenberg group, highlighting the new tools that we employed and the remaining open questions.

Supervisor: Andrea Pinamonti

CONTATTI
Staff di Dipartimento - Matematica
tel. 0461 281508-1625-1701-3786
phd.maths@unitn.it
www.maths.unitn.it