SPEAKER:

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TITLE:

Strichartz estimates for a class of Schrödinger equations with a real drift

ABSTRACT:
In his 1977 seminal paper, Strichartz established some a priori estimates for solutions of the Cauchy problem for the Schrödinger equation (among other PDEs). Such estimates play a pivotal role in the analysis of nonlinear equations and have since become the most fundamental tool in the study of dispersive phenomena. In this talk I will present some new a priori estimates of Strichartz type for a class of possibly degenerate dispersive equations with a real drift. I will give some motivation for their interest, and show that the broader framework provided by the relevant class of equations leads to the identification of new a priori inequalities, where the exponents of integrability of the solution are determined exclusively by the "local homogeneous dimension" of a nilpotent Lie algebra naturally associated with the equation itself. This is joint work with Federico Buseghin.