3rd edition of NLEPDE in Hauts-de-France, 27-30 June 2022

Speaker : Louis Jeanjean (University of Franche-Comté)

Title : Normalized solutions of L^2-supercritical NLS equations on compact metric graphs.

Abstract : This talk is devoted to the existence of non-trivial bound states of prescribed mass for the mass-supercritical nonlinear Schrödinger equation on compact metric graphs. The investigation is based upon a general variational principle which combines the monotonicity trick and a min-max theorem with second order information, and upon the blow-up analysis of bound states with prescribed mass and bounded Morse index.
If times permit, we shall also discuss some extensions to non-compact graphs.

This talk is based on joint work with Xiaojun Chang (Northeast Normal University) and Nicola Soave (Politecnico di Milano).