# SEMPARIS – Séminaires en région parisienne

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## Balades Quantiques de le LPENS

**Mercredi 22 Janvier 2025, 12 :45**
LPENS, CdF (3 Rue d'Ulm)
Domaines : cond-mat.stat-mech

Titre : *Bound states stabilization and generalized hydrodynamics in a one-dimensional attractive Bose gas*

Orateur : **Alvise Bastianello ( TU Munich )**

Résumé : *Ultracold quantum gases provide a versatile platform for exploring strong interactions and non-equilibrium phases with no equilibrium counterparts. These phenomena often surpass the computational reach of traditional numerical methods, necessitating innovative approaches. In this talk, I will discuss the experimental realization of the attractive one-dimensional Bose gas in highly non-equilibrium states, stabilized by approximate integrability. I will also introduce the theoretical framework of generalized hydrodynamics, a powerful tool for nearly-integrable systems that enables precise quantitative descriptions of these exotic phases.*

*Ref Exp. [to appear] : M. Horvath, A. Bastianello, S. Dhar, R. Koch, Y.Guo, J.S. Caux, M. Landini, and H.-C. Nägerl. Ref Th. : R. Koch, A. Bastianello, J.-S. Caux, Phys. Rev. B 103, 165121 (2021).*