Barcelona Analysis Seminar **2023–2024**

Date: October 26, 2023
Time: 15:00 CET
Room: UB iA (Universitat de Barcelona)
Online streaming: click here to join.

Spectral properties of the interacting Bose gas

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The interacting Bose gas is a system composed of a very large number of quantum particles with totally symmetric wavefunction. Below a critical temperature, a phase transition to a Bose-Einstein condensate is expected to occur, and collective behavior emerges from the underlying many-body theory. While the many-body theory is linear, the emergent behavior is described in terms of an effective non-linear theory. In this talk I will present results justifying the effective description of the spectrum of the many-body Hamilton operator at zero temperature. I will also discuss extensions to systems at the critical temperature.

This is based on joint works with C. Brennecke, S. Cenatiempo, A. Deuchert, R. Seiringer, B. Schlein, and D. Stocker.

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