

The Vienna Doctoral Programme on Complex Quantum Systems  
invites you to a

## Seminar Talk

by

**Quentin Glorieux**

*Labaratoire Kastler Brossel (LKB)*

*Ecole Normale Supérieure Sorbonne Université - CNRS*

***“Quantum simulation with light:  
from superfluidity to Hawking radiation”***

During this presentation I will introduce the basics of hydrodynamics with light in two important systems: exciton-polariton micro-cavities and warm rubidium vapors. Using the analogy between the non-linear Schrodinger equation and the Gross-Pitaevskii equation, I will answer the question about “Can we observe superfluidity with light ?”

I will also discuss recent non-linear and quantum optics experiments through the perspective of hydrodynamics and I will show what are the surprising consequences of this approach. Finally, I will review recent attempts to observe an analogue of the Hawking radiation at a black hole horizon with table-top experiments.

**Monday, 12 November 2018,  
16:30h get-together with coffee and snacks!**

Lise Meitner Hörsaal, Strudlhofgasse 4, 1<sup>st</sup> floor, Vienna

The seminar talk will be preceded by a CoQuS Student talk at 17:00h  
by

**Valeria Saggio**

*University of Vienna*

***“Experimental few-copy multi-particle entanglement detection”***

Hosted by: Arno Rauschenbeutel