

# Ultracold linelands

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## Séminaire SFP Midi-Pyrénées

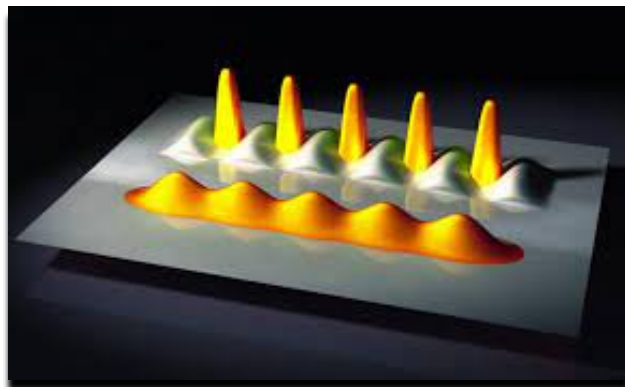
**Vendredi**  
**1/10/2021**  
**11h30**

**Amphi**  
**CONCORDE**

Bâtiment U4  
Université  
Paul Sabatier

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The last few decades progress on cooling and manipulation of atomic gases has allowed to have full access to the quantum world. Quantum degeneracy has been reached both for fermions and bosons and Bose-Einstein condensation has been experimentally observed, cooling down atomic gases to few tens of nK. These ultracold gases can be confined not only in three-dimensions but also in two and one dimension. The effect of lowering the dimensionality is to increase correlations between the atoms. For quantum particles living in a lineland, amazing things can happen: the effect of interactions increase by lowering the number of atoms, and strongly interacting bosons behave as free fermions. This seminar will be devoted to this strange lineland quantum world.