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## Invitation

# From the open Dicke model to a superradiant Mott-insulator

Hans Keßler

Universidade de São Paulo \_ Instituto de Física de São Carlos  
Departamento de Física e Ciência dos Materiais  
Laboratório: Grupo de Óptica

It is well known that the bosonic Hubbard model possesses a Mott insulator phase. Likewise, it is known that the Dicke-model exhibits a self-organized superradiant phase. By implementing an optical lattice inside of a high-finesse optical cavity, both models are merged such that an extended Hubbard model with cavity-mediated infinite range interactions arises. In addition to a normal superfluid phase, two superradiant phases are found, one of them coherent and hence superfluid and one incoherent Mott insulating.

**Monday, February 11<sup>th</sup> 2019**  
**14:30**

Atominstitut, Seminarraum  
1020 Wien

Arno Rauschenbeutel