



**Conference on Long-Range Interacting Many-Body Systems:  
from Atomic to Astrophysical Scales  
(25 - 29 July 2016)**

**Venue: ICTP Leonardo da Vinci Building - Budinich Lecture Hall**  
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Title:

**Collective effects in light scattering:  
from Dicke Sub- and Superradiance to Anderson localisation**

Speaker:

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The quest for Anderson localization of light is at the center of many experimental and theoretical activities. Cold atoms have emerged as interesting quantum system to study coherent transport properties of light. Initial experiments have established that dilute samples with large optical thickness allow studying weak localization of light.

The goal of our research is to study coherent transport of photons in cold atomic samples. One important aspect is the quest of Anderson localization of light with cold atoms and its relation to Dicke super- or subradiance. In this talk I present our latest results on Dicke sub- and superradiance.