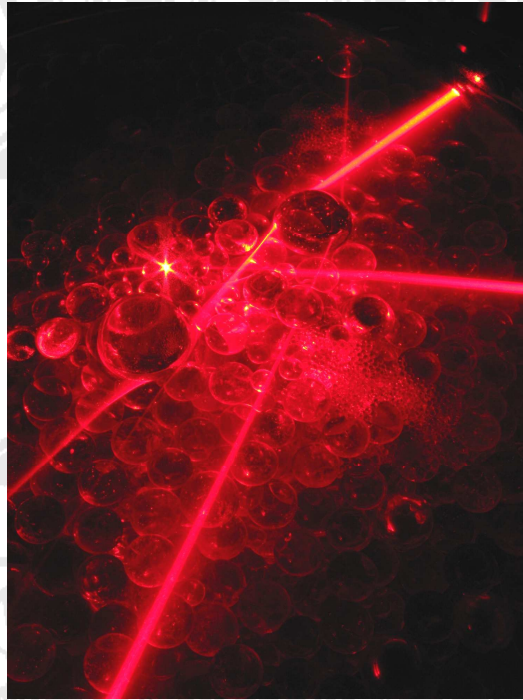


# PHYSIKALISCHES KOLLOQUIUM

AM 25. JUNI 2012 UM 17 UHR C.T.

IM GROßEN HÖRSAAL



## PHOTONS, DUST, AND HONEY BEES

PROF. DR. DIEDERIK S. WIERSMA

*EUROPEAN LABORATORY FOR NON LINEAR SPECTROSCOPY (LENS), UNIVERSITY OF FLORENCE*

*NATIONAL INSTITUTE FOR OPTICS, CNR, ITALY*

Lévy flights determine how animals search for food, how earthquakes are distributed, and how the stock market goes up and down daily. In this talk, I will explain how one can realize optical materials in which light waves follow Lévy flights, and which new possibilities this offers in photonics.

Disordered photonic materials have surprisingly interesting physical properties, and allow to study the fundamental physics of transport processes. On the other hand, their fascinating optical response leads to unexpected effects, like the efficient trapping of light in thin films. The latter property turns out to be very valuable for improving thin film photovoltaic solar cells and creating new light sources.