

# Physikalisches Kolloquium an der Universität Mainz

## Sonderkolloquium

Montag, 22. Januar 2018

Hörsaal des Instituts für

Mikrobiologie, IMB

Ackermannweg 4

16.15 Uhr – 17.15 Uhr



*Prof. Dr. Wolfgang Ketterle  
Nobelpreisträger für Physik  
Direktor des Center of Ultracold Atoms (CUA),  
Massachusetts Institute of Technology  
(MIT), USA*

### New forms of matter with ultracold atoms: superfluids and supersolids

Why do physicists freeze matter to extremely low temperatures? Why is it worthwhile to cool to temperatures which are a billion times lower than that of interstellar space? In this talk, I will discuss new forms of matter, which only exist at extremely low temperatures. With the help of laser beams, gases of ultracold atoms can be transformed into crystals and insulators, and recently into a supersolid which is gaseous, liquid and solid at the same time.