

# KIDS TALK

## “Impurity physics with single atoms in a Bose-Einstein Condensate”

Speaker: Michael Bauer, AG Widera

Abstract: We are currently building up an experiment that aims at connecting two worlds: A single neutral atom that can individually be controlled and examined on the one hand and a quantum many body system on the other. Immersing single neutral atoms into a Bose-Einstein Condensate ('BEC') will pave the way to study interesting physics, for instance thermalization phenomena, quantum non-demolition measurements and the observation of Fröhlich-Polarons.

On a basic level I will give an overview over the interesting physics we are going to investigate. The technical part of my talk will cover the cold-gases tools and methods we use in this experiment, for instance magneto-optical traps, dipole traps, optical conveyor-belt lattices, evaporative cooling, absorption and fluorescence imaging.

When: Friday, November 21<sup>th</sup>, 10:00 am

Where: Room 46-387/388

All undergraduate and graduate students as well as postdocs are welcome and encouraged to join our discussion!

For subscription to kids mailinglist, questions, comments or suggestions:  
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\*\*\*\*\* **COFFEE, TEA AND COOKIES** WILL BE SERVED \*\*\*\*\*

