

## Winter school on Non-Equilibrium Quantum Systems: Theory and Experimental Implementation Universitätszentrum Obergurgl, 7.-10. April 2015

**Objectives:** We intend to bring together theoretical models of many-body quantum systems and emerging experimental techniques to probe these systems. Our goal is to build a common language and reach a better understanding between diverse groups employing different techniques. The school is aimed at PhD students and Postdocs who work in quantum field theory, quantum simulation or in many body quantum physics; theory and experiment. Details can be found at:  
[www.atomchip.org/obergurgl2015](http://www.atomchip.org/obergurgl2015).

### Lectures on Many-Body and Field Theory (3×45 min):

- Jürgen Berges (Heidelberg): Universality far from equilibrium: From superfluid Bose gases to heavy-ion collisions
- Marcello Dalmonte & Philipp Hauke (Innsbruck): Dynamical artificial gauge fields
- Eugene Demler (Harvard): Quenches, dynamics and many body localisation
- Austen Lamacraft (Cambridge, UK): Out-of-equilibrium systems near quantum phase transitions

### Lectures on Experiments and experimental techniques: (30 min)

Alberto Amo (Marcoussis), Christoph Becker (Hamburg), Fabrice Gerbier (ENS), Selim Jochim (Heidelberg), Tim Langen (JILA), Hanns-Christoph Nägerl (Innsbruck), Nir Navon (Cambridge), Markus Oberthaler (Heidelberg), Christian Roos (Innsbruck), Ulrich Schneider (LMU/MPQ), Matthias Weidemüller (Heidelberg)

Participants at the school are encouraged to bring a Poster to discuss their own work. We expect the poster sessions, which will run throughout the week, to be a substantial element of the school.

**Venue:** Obergurgl, located at the end of the Ötztal in Tyrol, is a prominent winter and summer resort. The school will be held at the University Centre Obergurgl, which is associated with the University of Innsbruck.

**Participation fee:** 500€ for Students, 560€ for postdocs and other scientists. The participation fee includes accommodation on double rooms (for single room add 120€), breakfast and dinner.

**Application:** [www.atomchip.org/obergurgl2015/application](http://www.atomchip.org/obergurgl2015/application). The 50 slots will be filled starting March 1<sup>st</sup>.

Jörg Schmiedmayer (VCQ, TU-Wien)  
Thomas Gasenzer (Univ. Heidelberg)

The school is supported by the Austrian Science Fund FWF via the SFB-FOQUS and the PhD school CoQuS, the Extreme-Matter-Institute **EMMI**, the Universität Heidelberg and by the EU: IP-SIQS, STREP-AQuS and the ERC QuantumRelax.