

# Entanglement Detection and Quantification

Bilbao, Spain

March 10th – 13th  
2014

Entanglement is an important resource for quantum information processing and quantum metrology. Its amount is related to the difficulty of the classical simulation of many-body systems and it can also be used to characterise novel states of matter such as, e.g., those displaying topological order. Detecting its presence or quantifying it experimentally is a formidable task. This is especially true if the number of particles carrying the quantum information is large or if one aims at multipartite quantum correlations beyond the bipartite setting.

This conference will provide a platform for experimentalists and theorists to discuss and present novel approaches to entanglement detection and quantification. It will also provide a snapshot of experimentally available systems that already offer the necessary access and control to enable entanglement characterisation and a glimpse into the future at the hand of systems that hold the possibility of doing so soon.

## Invited speakers:

Antonio Acín (ICFO Barcelona)  
Dagmar Bruß (Uni Düsseldorf)  
Marc Cheneau (Institut d'Optique, Paris)  
Fabrizio Illuminati (Uni Salerno)  
Fedor Jelezko (Uni Ulm)  
Barbara Kraus (Uni Innsbruck)  
Carsten Klempt (Uni Hannover)  
Stefan Kuhr (Uni Strathclyde)

Morgan Mitchell (ICFO Barcelona)  
Markus Oberthaler (Uni Heidelberg)  
Martin Plenio (Uni Ulm)  
Phil Richerme (Uni Maryland & NIST)  
Anna Sanpera (UAB Barcelona)  
Roman Schmied (Uni Basel)  
Augusto Smerzi (CNR-INO & LENS Florence)  
Harald Weinfurter (LMU Munich)  
Christof Wunderlich (Uni Siegen)

## Organizers:

Géza Tóth (Uni Bilbao)  
Otfried Gühne (Uni Siegen)  
Marcus Cramer (Uni Ulm)

Funding:

