

## Quantum Science and Technology in Arcetri: QSTAR Tuesday, March 12th, 2013

- 9:15 ..... Introductory Remarks: **Theodor W. Hänsch**/Massimo Inguscio
- 9:30 ..... **Augusto Smerzi** (QSTAR/CNR-INO)
- 10:05 ..... **Martin Plenio** (Universitaet Ulm)
- 10:40 ..... **Stefano Ruffo** (Università di Firenze)
- 11:15 ..... Coffee Break
- 11:45 ..... **Rosario Fazio** (Scuola Normale Superiore)
- 12:20 ..... **Elisabeth Giacobino** (Laboratoire Kastler Brossel/CNRS)
- 12:55 ..... **Chiara Stringari** (University of California Irvine)
- 13:15 ..... Lunch
- 14:30 ..... **Diederik Wiersma** (LENS/CNR-INO)
- 15:05 ..... **Gerd Leuchs** (Max Planck for the Science of Light)
- 15:40 ..... **Robert Boyd** (University of Rochester)
- 16:15 ..... **Nathalie Picquè** (Max Planck for Quantum Optics/CNRS)
- 16:45 ..... Coffee Break
- 17:15 ..... **Francesco S. Cataliotti** (QSTAR/LENS)
- 17:35 ..... **Costanza Toninelli** (QSTAR/CNR-INO)
- 17:55 ..... **Karim Murr** (QSTAR)
- 18:15 ..... End of Works

## INO ANNUAL SYMPOSIUM Wednesday, March 13th, 2013

- 9:00 ..... Registration
- 9:30 ..... Introductory Remarks: **Paolo De Natale** (CNR-INO Director)
- 09:45 ..... Opening Lecture: **Theodor W. Hänsch** (Nobel Laureate in Physics)  
*"Laser Frequency Combs: Applications from the Atomic to the Cosmic Scale"*
- 10:30 ..... *Cold molecules for precision ro-vibrational spectroscopy: assessing the constancy of the proton-to-electron mass ratio* (**Pasquale Maddaloni**)
- 10:45 ..... *Generation and Manipulation of quantum states of light* (**Alessandro Zavatta**)
- 11:00 ..... Coffee Break
- 11:30 ..... *Dielectric optical resonators for sensing and spectroscopy in the liquid phase* (**Gianluca Gagliardi**)
- 11:45 ..... *Infrared Digital Holography, new perspectives* (**Massimiliano Locatelli**)
- 12:00 ..... *THz sensing at INO* (**Marco Ravaro**)
- 12:15 ..... *Optical Radiocarbon Dating* (**Iacopo Galli**)
- 12:30 ..... *Small-scale laser based electron accelerators for biology and medicine: a comparative study of the biological effectiveness* (**Petra Koester**)
- 12:45 ..... *Biomedical laser imaging of human tissues* (**Riccardo Cicchi**)
- 13:00 ..... Lunch
- 14:30 ..... Tutorial Lecture: **Federico Capasso** (Harvard University)  
*"The impact of Quantum Cascade lasers on Science and Technology"*

# NEW RESEARCH HORIZON IN ARCETRI

Aula A – Dipartimento di Fisica e Astronomia, Largo Enrico Fermi 2, Firenze

- 15:15 ..... *Novel strategies in opto and microfluidic for lab on chip platform*  
(**Lisa Miccio**)
- 15:30 ..... *Holographic imaging in microfluidics* (**Vittorio Bianco**)
- 15:45 ..... *A new route to micro/nano-manipulation of fluids and particles*  
(**Simonetta Grilli**)
- 16:00 ..... *A frequency-comb-referenced OPO for high-resolution spectroscopy  
in the mid-infrared region* (**Iolanda Ricciardi**)
- 16:15 ..... *Photon management in two dimensional disordered media*  
(**Matteo Burresti**)
- 16:30 ..... *Optical antennas* (**Mario Agio**)
- 16:45 ..... Coffee break
- 17:15 ..... *Carbon nanohorns for solar energy* (**Elisa Sani**)
- 17:30 ..... *Optical metrology for cultural heritage* (**Raffaella Fontana**)
- 17:45 ..... *ICT methodologies for intelligent optical systems* (**Cosimo Distante**)
- 18:00 ..... Special Session: *Quantum degenerate atomic gases in Italy* - Chairs:  
**Massimo Inguscio, Sandro Stringari**
- 18:15 ..... *Ultracold Ytterbium: Fermions and Bosons for Quantum Simulation and  
Information* (**Jacopo Catani**)
- 18:30 ..... *Multi-component Bose gases* (**Alessio Recati**)
- 18:45 ..... *High-fidelity quantum control* (**Oliver Morsch**)
- 19:00 ..... *Progress towards the production of quantum dipolar gases of NaK*  
(**Gabriele Ferrari**)
- 19:15 ..... *Quantum Interferometry with Bose-Einstein Condensation* (**Luca Pezzé**)
- 19:30 ..... End of Works

## INO ANNUAL SYMPOSIUM Thursday, March 14th, 2013

- 9:00 ..... Introductory Remarks: **Massimo Inguscio** (DSFTM Director)
- 9:15 ..... CNR-INO Staff Meeting with CNR President **Luigi Nicolais**
- 10:30 ..... Registration and Welcome coffee
- 11:00 ..... Round Table "*Perspectives for Optics and Photonics on a national and international scale*"  
Moderator: **Paolo De Natale** (CNR-INO Director)
- 13:00 ..... Lunch
- 14:30 ..... Poster session
- 16:00 ..... Coffee break
- 16:30 ..... *INO future strategies and concluding remarks: Paolo De Natale*  
(CNR-INO Director)
- 17:00 ..... End of the Meeting