



# Physics PhD Workshop

AULA 21  
h 9.30 – 18.00  
December 5th 2008

The goal of the Workshop is to briefly **present the different projects** we are carrying on, to **welcome the new students** and also to **know each other**.

All the PhD students and interested people are warmly invited.

website: <http://www.science.unitn.it/~armani/dott/>

# Program

## Morning Session 1

**Chairman:** Francesco Bariani.

- 9.30: Introduction by Prof. Stefano Giorgini (vice director of the PhD School)
- 9.40 - 10.00: [Public Understanding of Science and Science Communication](#), *Michela Guglielmino*.
- 10.00 - 10.20: [Quantum Monte Carlo study of the 2-D electron gas in presence of Rashba interaction](#), *Alberto Ambrosetti*.
- 10.20 - 10.40: [Effective Field Theory and Quantum Monte Carlo Methods in nuclear physics](#), *Paolo Armani*.
- 10.40 - 11.00: [Strong CP-violation in external magnetic fields: vacuum polarization and vacuum birefringence](#), *Raffaele Millo*.

Coffee break

## Morning Session 2

**Chairman:** Giacomo Gradenigo.

- 11.20 - 11.40: [Nonlinear optical properties of Silicon nanocrystals at 1550 nm and their application](#), *Rita Spano*.
- 11.40 - 12.00: [Whispering Gallery Mode resonators based on Silicon nanocrystal in a Silicon Oxide host](#), *Alessandro Pitanti*.
- 12.00 - 12.20: [Guiding light in silicon : new materials and building blocks](#), *Romain Guider*.
- 12.20 - 12.40: [Dynamics of criterion setting under feedback control in human perception](#), *Davide Tabarelli*.
- 12.40 - 13.00: [Physically and chemically synthesized TiO<sub>2</sub> composite thin films for hydrogen production by photocatalytic water splitting](#), *Rupali Dholam*

Lunch break

## Afternoon Session 1

**Chairman:** Gianluca Bertaina.

- 14.30 - 14.50: [Physical techniques on lipidomics](#), *Tommaso Sandron*.
- 14.50 - 15.10: [EXAFS studies of negative thermal expansion Zincblende Materials](#), *AbdelAll Naglaa*.
- 15.10 – 15.30: **Discussion about the Phd School in Physics at Trento.**
- 15.30 – 16.00: **The situation of PhD and University in Italy**, *Stefano Miori, Presidente ADI Trento*.

Coffee break

## Afternoon Session 2

**Chairman:** Raffaele Millo.

- 16.30 - 16.50: [Interplay between surface tension and local amorphous order in the Mosaic picture of glass transition](#), *Giacomo Gradenigo*.
- 16.50 - 17.10: [Density Profiles of a Trapped Polarized Fermi Gas](#), *Gianluca Bertaina*.
- 17.10 - 17.30: [Chandrasekhar-Clogston limit in Fermi mixtures with unequal masses at Unitarity](#), *Ingrid Bausmerth*.
- 17.30 - 17.50: [Dynamical Photonic Structures using EIT](#), *Francesco Bariani*.
- 17.50: Concluding remarks by Prof. Lorenzo Pavesi (director of the PhD School).