

# CSTE - Computational Spectroscopy: Bridging Theory and Experiment

## Sunday 9 September

- 13:00 Registration
- 14:00 Welcome address
- 14:15 Vincenzo Barone: Computational Spectroscopy: State of the Art and Perspectives
- 16:30 Wolfgang Lubitz: Spectroscopic and electrochemical techniques in metal biocatalysis
- 18:00 Gianfranco Pacchioni The overproduction of truth. Passion, competition, and integrity in modern science
- 19:00 *Cocktail*

## Monday 10 September

### The Machinery: Methods and Tricks

- 9:00 Carlo Adamo Density functional theory and its time-dependent implementation
- 11:00 *coffee break*
- 11:15 Giovanni Scalmani Characterization of the ground and excited state potential energy surface at the mean field level
- Local and bulk electrostatic effects via electrostatic embedding and solvent models
- 13:15 *lunch*
- 14:15 Markus Reiher Vibrational spectroscopy
- 16:15 *coffee break*
- 16:30 Cristina Puzzarini Benchmarks for Computational Spectroscopy

## Tuesday 11 September

- 9:00 Julien Bloino Vibrational spectroscopy beyond the harmonic approximation
- 11:00 *coffee break*
- 11:15 Julien Bloino Vibrationally resolved electronic spectroscopy
- 13:15 *lunch*
- 14:15 Roland Lindh Practical issues on the use of the CASPT2/CASSCF method in modeling photochemistry: the selection and protection of an active space
- 16:15 *coffee break*
- 16:30 Markus Reiher An introduction to the Density Matrix Renormalization Group

## Wednesday 12 September

- 9:15 Nadia Rega Time dependent and 2D-spectroscopies
- 11:15 *coffee break*
- How to: tools & programs 1**
- 11:45 Roland Lindh (MOLCAS)
- 13:00 *lunch*

**13:00-18:00** *Poster Session*

17:00 *coffee break*

*Social dinner*

**Thursday 13 September**

**Beyond the molecules: Solid state and materials**

**Chairman: Gianfranco Pacchioni**

9:00 Hajo Freund Model catalysts at the atomic level studied by advanced experimental techniques in surface science

11:00 *coffee break*

11:30 Marek Sierka Computational spectroscopy of low-dimensional materials: Tools and applications

13:00 *lunch*

14:00 Piero Ugliengo Vibrational spectroscopies in solids and surfaces

15:30 Silvana Botti Electronic excitations in solids with time-dependent density functional theory and Green's function methods

17:00 *coffee break*

**Friday 14 September**

9:30 Martin Kaupp Computational magnetic resonance and more

11:30 *coffee break*

**How to: tools & programs 2 (tutorials)**

11:45 Marek Sierka (Turbomole)

13:15 *lunch*

14:00 Alberto Baiardi/Giovanni Scalmani (Gaussian)

15:30 *coffee break*

15:45 Anna Maria Ferrari (Crystal)