Curriculum of Elisabetta Venuti

Place and Date Of Birth: Florence, 14 June 1960

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Professional Appointments in Research

Current Position		Full Professor Professor in Physical Chemistry at the Department of Industrial Chemistry of the University of Bologna (Italy)
2017		National Scientific Qualification (Abilitazione) for Full Professorship in January 2017.
July 2014-October 2022		Associate Professor in Physical Chemistry at the Department of Industrial Chemistry of the University of Bologna (Italy)
April 1990-July 2014		Assistant Professor in Physical Chemistry at the Department of Physical Chemistry and Inorganic of the University of Bologna (Italy)
August 1996-January 1997		Visiting scientist at the University Helsinki, Department of Chemistry, EU grant (SADOVEM Project)
August 1993-July 1994		Visiting scientist at the University of Reading (UK), Department of Chemistry, CNR grant
January 1989-July 1990		Max-Planck Gesellschaft Post-doctoral researcher at the Max-Planck Institut für Strahlenchemie, Mülheim ad Ruhr (Germany)
December 1986 – January 1989		Research grant at the National Council of Research (CNR) – FRAE Institute
May – December 1986		Research activity at the Laboratory of physical chemical measurements of polymers in solution, Donegani Institute (Montedison, Novara, Italy)

Research Interests

In her research EV has dealt with the spectroscopic properties of molecules in gaseous and condensed phases, by means of: fluorescence spectroscopy, both time-resolved and static, of organic systems in solution; high resolution vibro-rotational and vibrational spectroscopy of isolated molecular species; solid-state Raman spectroscopy also at low wavenumbers; calculation of vibrational force fields; calculations of molecular and lattice dynamics of crystalline and amorphous materials; solid state DFT calculations.

Current fields of interest

In recent years, EV's research activity has focused on the study of the structural and transport properties of materials for organic electronics, of crystalline polymorphism and of solid-state photoreactivity by means of optical spectroscopy techniques, including confocal microscopy Raman at low wavenumbers plays a decisive role. Porous materials, and interactions with these scaffoldings with adsorbed species are a very recent and stimulating new field of investigation for EV.

The spectroscopic approach employed by EV makes use of the support of DFT methods for the minimization of the lattice energy, the prediction of stable polymorphs and the calculation of the lattice vibrations, but the understanding of the chemical-physical system also involves the use of techniques for the structural and morphological characterization.

The keywords that summarize EV's scientific interests are:

- Confocal Raman spectroscopy
- Lattice vibrations in molecular crystals
- Phase transitions in solid state
- Crystal structure predictions
- Polymorphism in molecular crystals
- Crystalline growth on substrate
- Thin film phases
- Spectroscopic study of solid state photoreactivity

The chemical systems mainly studied are:

- Organic semiconductors
- Compounds of pharmaceutical interest
- Porous materials (MOFs and COFs)
- CT charge transfer crystals

Esteem Factors of EV scientific activity

source: Scopus, author ID: 6701850150

Number of Published papers (see below for the full list)		125
Total citations		3975 by 2527 documents
h-index		35

Lecturing and Tutoring

Courses: most recent lecturing activity

EV has been devoted to teaching activity in physical chemistry since 1995 and the the wide range of topics covered in her courses reflect her expertise in treating both experiments and theory.

Professor in charge of the courses of : *Chemical Physics with Laboratory* from 2014 to date (bachelor degree in Chemistry and Technologies for the Environment and Materials, University of Bologna, UNIBO), *Spectroscopy of the Condensed Phases* from 2015 to date (master degree Course in Advanced Spectroscopy in Chemistry, UNIBO), *Physical Chemistry of the Solid state* (master degree Course in Industrial Chemistry, UNIBO) and *Applied Spectroscopy* (bachelor degree in Industrial Chemistry, yrs 2019-2020, 2022-2023). Past lecturer in the courses of : *Physics* (bachelor degree in Chemistry and Technologies for the Environment and Materials, yrs 2014-1016), *Chemical Physics II – Quantum Chemistry* ((bachelor degree in Industrial Chemistry, UNIBO, yrs 2021-2022); *Chemical Physics I* (bachelor degree in Industrial Chemistry, yrs 2011-2015).

Thesis tutoring and refereeing : EV has been supervisor and co-supervisor of over 35 undergraduate, master and PhD students. She has also acted as external referee for the theses of PhD students (Physical Chemistry curricula) at the Universities of Parma, Italy (2022) and Florence, Italy (2010, 2022)

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