Francesca TERENZIANI – short CV

Born: 18/10/1975 in Parma (Italy)

ORCID: 0000-0001-5162-9210
ResearcherID: K-2951-2015
Scopus Author ID: 6602851796

Dipartimento di Scienze Chimiche, della Vita e della Sostenibilità Ambientale & INSTM-UdR Parma, Università di Parma, Parco Area delle Scienze 17/a 43124 Parma – Italy
e-mail: francesca.terenziani@unipr.it
Tel. +390521905453

Education

- 1994 – 1999: Laurea Degree in Chemistry, University of Parma (cum laude).
- January 2000 – December 2002: PhD in Chemical Sciences at University of Parma. Title of the thesis: *Molecular materials with highly delocalized electrons: charge and energy transfer in multiphoton and multiphonon processes*. Date of PhD thesis defense: 14/03/2003.

Career Profile at a Glance

- January 2003 – March 2004: Research fellow at the Department of Chemistry, University of Parma.
- April 2004 – September 2005: Research fellow (European Commission FP6, Marie-Curie Intra-European Fellowship) at CNRS-UMR6510, Université Rennes 1 (France).
- July 2006: invited researcher at CNRS-UMR6510, Université Rennes 1 (France).
- July 2007: invited researcher at the Los Alamos National Laboratories (New Mexico, US).
- November 2005 – February 2015: research staff member and Assistant Professor at University of Parma.
- Since March 2015: Associate Professor at University of Parma.
- 10/04/2017: National Scientific Qualification (Abilitazione Scientifica Nazionale) to Full Professor (Professore Universitario di Prima Fascia, settore concorsuale 03/A2 - Modelli e Metodologie per le Scienze Chimiche).

Main research topics

Molecular functional materials: linear and nonlinear optical properties, medium effects, intermolecular interactions, charge- and energy-transfer processes.
Development of original interpretative and predictive theoretical models for the description of the properties of chromophores and multichromophores of increasing complexity.
Spectroscopic characterization of molecular and supramolecular systems, with techniques available in the lab or through collaborations.
Definition of guidelines for the realization of molecular and supramolecular systems with tailored properties.
Preparation and characterization of fully organic nanoparticles for bioimaging or energy-conversion devices.

Teaching (@ University of Parma)

- Supervisor of 9 PhD Theses, 13 Master1 and 10 Master2 Theses.
- Since 2015: Professor of Molecular Photonics (Second-Level Degree in Chemistry) and Laboratory of Physical Chemistry II (First-Level Degree in Chemistry).
- 2017 & 2019: “Fluorescence Spectroscopy: a physico-chemical introduction” (European Master degree in Oral Laser applications - EMDOLA).
- Since 2017: Introduction to fluorescence spectroscopy (PhD Programme in Chemical Sciences).
- 2015: Introduzione alla spettroscopia non-lineare
- 2011-2014: Professor of Molecular Photonics (Second-Level Degree in Chemistry).
- 2006-2010: Professor of Laboratory of Physical Chemistry II (First-Level Degree in Chemistry); Laboratory of Physical Chemistry (Second-Level Degree in Industrial Chemistry); Laboratory of Physical Chemistry II (First-Level Degree in Packaging Science and Technology).
- 2003-2004: Professor of Laboratory of Chemical Physics II (First-Level Degree in Materials Science).

Experimental skills

Optical absorption and fluorescence spectroscopy (steady-state and time-resolved). IR and (micro)Raman spectroscopy of solid and liquid samples. Preparation and characterization of organic nanoparticles. Multiphoton excited fluorescence; multiphoton microscopy.

Theoretical skills

Development of original theoretical models. Critical evaluation of approximation schemes. Modelling of steady-state and time-dependent spectroscopic properties. Description of cooperative and collective effects in complex many-body problems.

Scientific production

- 96 publications in international, indexed, peer-reviewed journals; 3 book chapters.
- 72 contributions to international conferences: 15 oral communications and 1 invited talk personally presented.
- 2 oral and 1 invited communications personally presented at national conferences.
- 8 invited lectures at international research centers.

Scopus citation report, May 2023: 102 publications; h-index = 30; 3631 citations.

Responsibility of Research Labs

- Laboratory of UV-vis-NIR optic spectroscopy (room 13.01.0.017)
- Laboratory of spectrofluorimetry (room 13.01.0.033)
- Laboratory of Multiphoton Microscopy (room 13.01.S.032)

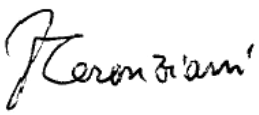
Funding ID as Principal Investigator

- *Novel molecular probes for 4D sensing of electromechanical activity in cardiac tissue* [2021-2023].
  Funding: University of Parma (University Grant for Research 2020) [70.000 €].
- *Investigation of energy and charge flow in new ad-hoc synthesized multichromophores of increasing and controlled complexity: towards knowledge-based systems for organic photovoltaics* [2012-2015] (local PI).
  Collaboration with Scuola Normale Superiore di Pisa and LENS (Florence).
  Funding: MIUR (FIRB Futuro in Ricerca 2010) [1.034.000 €, 415.699 € for the research unit].
- *Fenomeni di trasferimento di carica e di energia in materiali molecolari per applicazioni fotovoltaiche innovative* [2010-2013]. Funding: Fondazione Cariparma [38.790 €].
- *Fenomeni di trasferimento di carica e d'energia in materiali molecolari per immagazzinamento della luce* [2010-2012]. Funding: Università Italo-Francese [4.500 €].
- *Supramolecular nanophotonics: a concerted experimental and theoretical approach* [2007-2012].
  Collaboration with the Los Alamos National Laboratories (New Mexico, USA).
  Funding: CINT, Center for Integrated Nanotechnologies (US Department of Energy) [Travel costs].
- *Supramolecular Interactions in Smart Materials* [01/04/2004 – 30/09/2005].
  Marie-Curie Intra-European Fellowship, 6th Framework Programme, Project reference 501133.
  Funding: European Commission [113.670 €].

Third-party contracts

- 2018-2019: Mectron S.p.A., Carasco (GE) [5.000 €].
- 2019-2020: Mectron S.p.A., Carasco (GE) [5.000 €].
- 2021-2022: Mectron S.p.A., Carasco (GE) [24.335 €].
- 2022-2023: Mectron S.p.A., Carasco (GE) [26.500 €].
- 2023-2024: Mectron S.p.A., Carasco (GE) [27.000 €].

In compliance with the Italian legislative Decree no. 196 dated 30/06/2003, I hereby authorize the recipient of this document to use and process my personal details contained in this document.

Parma, 30/06/2023

Francesca Terenziani