



Davide Comoretto

Full professor

✉ davide.comoretto@unige.it

☎ +39 0103538736

☎ +39 0103538744

📱 +39 3358046559

Education and training

1993

PhD in Chemical Sciences

Optical properties and electronic states in conjugated polymers
Consortium of Universities Torino-Genova-Pavia - Turin (I) - IT

1988

Master in Physics

Study of the optical properties of oriented polymer semiconductors -
107/110
University of Milano - Milan - IT

Academic experience

2019 - ONGOING

Full Professor (Industrial Chemistry)

University of Genova - Genoa - IT

2011 - 2019

Associated Professor

University of Genova - Genoa - IT

1993 - 2011

Assistant Professor

University of Genova - Genoa - IT

Language skills

English

Proficient

French

Independent

Teaching activity

He is in charge for teaching several classes for both the Masters in Industrial Chemistry and Materials Science and Technology.

Postgraduate research and teaching activity

Supervision of PhD students, residents and post-doctoral fellows

Supervisor of several PhD students and Postdoctoral Fellows working on polymer photonics.

PhD committees membership

He is a member of the Teaching Board of the PhD School in Science and Technology of the Chemistry and of Materials of the University of Genova since 2010.

Postgraduate (PhD) teaching activity

Since 2018:

- Organic Materials for Photonics

2011 - 2017:

- Organic Materials for Electronics, Optoelectronics and Photonics

Research interests

Davide Comoretto was born in Milano, Italy, in 1963. He graduated in Physics in 1988. In 1993 He obtained the PhD in Chemical Sciences and was enrolled as Research Scientist at the Department of Chemistry and Industrial Chemistry of the University of Genoa (I) where is now Full Professor of Industrial Chemistry. During his research activity, He worked at the Institute of Macromolecular Chemistry - CNR (Milan, Italy), the Department of Physics 'A. Volta' (University of Pavia, Italy) and the Institute for Polymers and Organic Solids at the University of California Santa Barbara (USA) in the group chaired by Prof. A.J. Heeger (Nobel Laureate).

His research field concerns the spectroscopic properties of conjugated polymers and polymer nanostructures. Main investigated items are the study of the optical anisotropy in highly oriented polymers as well as the photophysics of polyconjugated materials. He addressed the relations between the nature of the photoexcitations (charged states, triplet excitons) and the polymer supramolecular structure. Moreover, He is working on polymer & hybrid photonic crystals like artificial opals, polymer Distributed Bragg Reflectors and planar microcavities with the goal to engineer such nanostructures with photo-active materials (molecular semiconductors, metal/semiconducting nanoparticles, plasmonic nanostructures, conjugated polymers, perovskites, nanocrystals and photochromic polymers) in order to control their optical response. He is also working on solution processable polymer and hybrid nanocomposites having controlled refractive index. Fields of applications for such systems concern polymer lasers, spectral redistribution of fluorescence and

radiative rate engineering, photovoltaics (light in-coupling and trapping), photocatalysis, and thermal shielding. Moreover, polymer photonic crystals are used as sensors for the label-free colorimetric detection of different chemical species and pollutants in vapors and water as well as for the optical determination of the diffusion coefficient in polymer thin films. He is co-author of more than 170 papers published on refereed international journals with more than 3000 citations (H-index 30), 8 international patent requests, and more than 270 conference communications (several invited). He collaborates as a referee for several international scientific publishers (among others, American Chemical Society, American Physical Society, RSC, Wiley-VCH, Springer-Nature, Elsevier, Optical Society of America...).

He has been PI of PRIN 2020 as well as scientific coordinator of Genoa research unit for PRIN 2004 and 2006, CARIPO (2010-2012), CARIGE (2013-2014), H2020-MSCA-ETN-SYNCHRONICS (2015-2018) projects. He is supervisor of several PhD students and Postdoctoral Fellows. He also collaborates on Industrial Projects with several companies to the development of conjugated polymers and organic and hybrid photonic crystals in the fields of sensing, photovoltaics, and photonics.

He is the coordinator of the Master in Industrial Chemistry. He is a member of the Teaching Board of the PhD School in Science and Technology of the Chemistry and of Materials of the University of Genova since 2010. He is member of the Board of the School of Mathematical, Physical and Natural Sciences, He is in charge for the management of the International Scientific and Didactical Cooperation agreements between the University of Genoa and the Nanyang Technological University of Singapore and the JNCASR (Bangalore - India). He has also been co-chair and organizer of several national and international conferences. He has been member of the Board of Directors as well as of the Research Committee of the University of Genova (2007-2010). He served (2016-2021) as the Secretary and Treasurer for the Italian Association for the Science and Technology of Macromolecules.

Editorial activity

Davide Comoretto collaborates as a referee with several international scientific publishers (among others, American Chemical Society, American Physical Society, Royal Society of Chemistry, Wiley-VCH, Springer-Nature, Elsevier, Optical Society of America, ...).

He also serves as reviewer for Phd Thesis and International research projects.

Other professional activities

He is the coordinator of the Master in Industrial Chemistry. He is a member of the Teaching Board of the PhD School in Science and Technology of the Chemistry and of Materials of the University of Genova since 2010. He is member of the Board of the School of Mathematical, Physical and Natural sciences, He is in charge for the management of the International Scientific and Didactical Cooperation agreements between the University of Genoa

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