

# LORENZO PANDOLFI Ph.D.



## SKILLS

Adaptability  
Commitment  
Curiosity  
Empathy  
Flexibility  
Helpful  
Leadership  
Order  
Organization  
Problem-solving  
Punctual  
Rapidity  
Teamwork  
Will power

## WORK EXPERIENCE



### ● (11/2019 – 06/2023) Ph.D. student in Chemistry

✉ Industrial Chemistry Department “Toso Montanari”, University of Bologna

*Solid-state characterization of organic semiconductors.*

*Polymorph screening of active pharmaceutical ingredients (APIs).*

*Photoreactivity in molecular crystals.*

*Supervisor of master and bachelor internship students.*

*Laboratory manager.*

### ● (03/2022 – 08/2022) Visiting Ph.D. student

✉ ICMAB (Institut de Ciència de Materials de Barcelona)

*Study of the influence of polymorphism on the performance of organic solar cells based on non-fullerene acceptors (NFAs).*

### ● (02/2019 – 10/2019) Student internship M

✉ Industrial Chemistry Department “Toso Montanari”, University of Bologna

✉ Chemistry Department “G. Ciamician”, University of Bologna

*Study of [2 + 2] photodimerizations in molecular crystals via solid-state spectroscopy.*

*Solid-state photoreactivity, THz Raman microscopy, FT-IR and X-ray diffraction techniques.*

### ● (02/2017 – 10/2017) Student internship

✉ Industrial Chemistry Department “Toso Montanari”, University of Bologna

*Solid-state characterization of organic semiconductor pigments.*

*THz Raman microscopy, DFT simulations and data analysis.*

## EDUCATION



### (11/2019 – 06/2023) Ph.D. in Chemistry

✉ Industrial Chemistry Department “Toso Montanari”, University of Bologna

“Spectroscopic investigation on photoreactivity, structure and polymorphism of organic molecular crystals”. (CHIM/02)

### (10/2017 – 10/2019) Master’s degree

✉ Industrial Chemistry Department “Toso Montanari”, University of Bologna

LM-71 - 2<sup>nd</sup> level degree in Industrial chemistry and related technologies (110/110)

“Vibrational investigation of [2 + 2] photodimerization in molecular crystals”.

### (09/2014 – 10/2017) Bachelor’s degree

✉ Industrial Chemistry Department “Toso Montanari”, University of Bologna

L-27 - 1<sup>st</sup> level degree in Industrial chemistry (107/110)

“Raman characterization of organic pigments: 6,6'-dibromoindigo and quinacridone”.

### (2009 – 2014) Maturità scientifica presso Liceo Scientifico “Copernico”, Prato

●●●●●	Italian
●●●○○	English
●●○○○	French
●○○○○	Spanish
●●●●●	Office
●●●●●	iWork
●●●●●	OriginPro
●●●●●	ChemOffice
●●●●●	CCDC
●●●●●	DFT
●●●●●	Raman
●●●●●	FT-IR
●●●●●	UV-Vis
●●●●○	XRD
●●●○○	DSC
●●○○○	TGA
●○○○○	NMR

## PUBLICATIONS



### Journal articles

- 11 F. Suárez-Blas, L. **Pandolfi**, M. Alonso-Navarro, S. Riera-Galindo, J. Martínez, B. Dörling, A. Funes, A. Harillo, E. Venuti, M. Mar Ramos, M. Campoy-Quiles, J. Segura, "Two-dimensional conjugation extension in aryleneimide-Y6 hybrids: synthesis and photovoltaic performance", (submitted manuscript)
- 10 E. Ferrari, L. **Pandolfi**, G. Schweicher, Y. Geerts, T. Salzillo, M. Masino, E. Venuti, "Structural order and thermal behavior of Ph-BTBT-10 monolayer phases", (submitted manuscript)
- 9 A. Giunchi, L. **Pandolfi**, R. G. Della Valle, T. Salzillo, E. Venuti, A. Girlando, "Lattice Dynamics of Quinacridone Polymorphs: A Combined Raman and Computational Approach", *Cryst. Growth Des.* 2023, **23**, 6765-6773, <https://doi.org/10.1021/acs.cgd.3c00634>
- 8 E. Ferrari, L. **Pandolfi**, G. Schweicher, Y. Geerts, T. Salzillo, M. Masino, E. Venuti, "Interlayer Sliding Phonon Drives Phase Transition in the Ph-BTBT-10 Organic Semiconductor", *Chem. Mater.* 2023, **35**, 5777-5783, <https://doi.org/10.1021/acs.chemmater.3c00209>
- 7 A. M. James, N. McIntosh, F. Devaux, P. Brocorens, J. Cornil, A. Greco, L. Maini, P. Pandey, L. **Pandolfi**, B. Kunert, E. Venuti, Y. Geerts, R. Resel, "Polymorph Screening at Surfaces of a Benzothieno-Benzothiophene Derivative: Discovering New Solvate Forms", *Mater. Horiz.* 2023, [doi.org/10.1039/D3MH00764B](https://doi.org/10.1039/D3MH00764B)
- 6 A. Giunchi<sup>[‡]</sup>, L. **Pandolfi**<sup>[‡]</sup>, T. Salzillo, A. Brillante, R. G. Della Valle, S. d'Agostino, E. Venuti, "Visualizing a single-crystal-to-single-crystal [2 + 2] Photodimerization through its Lattice Dynamics: an Experimental and Theoretical Investigation", *ChemPhysChem* 2022, **23**, e202200168, [doi.org/10.1002/cphc.202200168](https://doi.org/10.1002/cphc.202200168)
- 5 T. Salzillo, A. Giunchi, L. **Pandolfi**, A. Brillante, E. Venuti, "Bulk and Surface-Mediated Polymorphs of Bio-Inspired Dyes Organic Semiconductors: The Role of Lattice Phonons in their Investigation", *Isr. J. Chem.* 2021, **61**, 650-667, [doi.org/10.1002/ijch.202100067](https://doi.org/10.1002/ijch.202100067)
- 4 L. **Pandolfi**, A. Giunchi, A. Rivalta, S. d'Agostino, R. G. Della Valle, M. Mas-Torrent, M. Lanzi, E. Venuti, T. Salzillo, "Precursor polymorph determines the organic semiconductor structure formed upon annealing", *J. Mater. Chem. C* 2021, **9**, 10865-10874, [doi.org/10.1039/D1TC01313K](https://doi.org/10.1039/D1TC01313K)
- 3 L. **Pandolfi**<sup>[‡]</sup>, A. Giunchi<sup>[‡]</sup>, T. Salzillo, A. Brillante, R. G. Della Valle, E. Venuti, F. Grepioni, S. d'Agostino, "The impact of solid solution composition on kinetics and mechanism of [2 + 2] photodimerization of cinnamic acid derivatives", *CrystEngComm* 2021, **23**, 1352-1359, [doi.org/10.1039/D0CE01718C](https://doi.org/10.1039/D0CE01718C)
- 2 L. **Pandolfi**, A. Rivalta, T. Salzillo, A. Giunchi, S. d'Agostino, R. G. Della Valle, A. Brillante, E. Venuti, "In Search of Surface-Induced Crystal Structures: The Case of Tyrian Purple", *J. Phys. Chem. C* 2020, **124**, 17702-17710, [doi.org/10.1021/acs.jpcc.0c05186](https://doi.org/10.1021/acs.jpcc.0c05186)
- 1 A. Rivalta, A. Giunchi, L. **Pandolfi**, T. Salzillo, S. d'Agostino, O. Werzer, B. Schröde, N. Demitri, M. Mas-Torrent, A. Brillante, R. G. Della Valle, E. Venuti, "Crystal alignment of surface stabilized polymorph in thioindigo films", *Dyes and Pigments* 2020, **172**, 107847, [doi.org/10.1016/j.dyepig.2019.107847](https://doi.org/10.1016/j.dyepig.2019.107847)

<sup>[‡]</sup> These authors contributed equally to this work.

### Ph.D. thesis

(2023) Spectroscopic investigation on photoreactivity, structure and polymorphism of organic molecular crystals

### Co-supervisor of master's thesis

(2020) Sintesi e caratterizzazione di cristalli charge-transfer da derivati di [1]Benzotieno[3,2-b]benzotiofene e tetracianochinodimetano

### Co-supervisor of bachelor's thesis

(2022) Studio dei co-cristalli di interesse farmaceutico pirimetamina:caffèina mediante spettroscopia Raman e IR

(2021) Studio spettroscopico della reazione di dimerizzazione in stato solido della vitamina K<sub>3</sub>

(2020) Il polimorfismo dell'aspirina

(2020) Studio di soluzioni solide di fenotiazina e iminostilbene mediante microscopia Raman

Scopus

ORCID

## CONGRESSES



### ASC Winter School 2023 - "Spectroscopy at different length and time scales"

14-17 January 2023      Bologna, Italy

Poster session

Training School

### UHMob International Conference - Organic Semiconductors: from principles to applications

6-9 September 2022      Mainz, Germany

Oral communication

### SURE2022 (SUSTAINABLE MATERIALS FOR RENEWABLE ENERGY APPLICATIONS)

11-15 July 2022

Barcelona, Spain

Oral communication

Training School

## CONGRESSES



### HORATES (Hybrid and ORgAnic ThermoElectric Systems)

#### SCHOOL ON THERMAL PROPERTIES OF MATERIALS

📅 26-27 April 2022 ⚡ Barcelona, Spain

### 11<sup>th</sup> Crystal Forms: walking the walk of polymorphism, co-crystals and solvates

📅 10-11 September 2021 ⚡ Bologna, Italy

### ISFOE 2021 - International Symposium on Flexible Organic Electronics

📅 5-8 July 2021 ⚡ Thessaloniki, Greece ⚡ Oral communication

### Mechanochemistry: from supramolecular to covalent bond

📅 22-25 March 2021 ⚡ Lisbon, Portugal ⚡ Flash presentation ⚡ Training School

### Giornata di discussione sui Metodi Chimico Fisici utilizzati per lo studio di fasi condensate (SCI)

📅 24 February 2021 ⚡ Bologna, Italy ⚡ Oral communication

### SINCHEM WINTER SCHOOL 2020

📅 4-6 February 2020 ⚡ Bologna, Italy ⚡ Training School

### La ricerca chimica per il settore salute: un'opportunità di networking tra industria e università

📅 31 January 2020 ⚡ Bologna, Italy

### StSPM 2019 - Science through Scanning Probe Microscopy (CNR)

📅 21-22 November 2019 ⚡ Bologna, Italy

## COURSES



### From Intellectual Property Management to Technology Transfer for Business (University of Bologna)

## ACCOLADES



(2023) “Gian Piero Spada” Award for best doctoral thesis in Physical Chemistry (University of Bologna)

(2022) “Fondazione Toso Montanari” scholarship for abroad research activities (University of Bologna)

(2021) Radiation Protection and Safety training for **Elettra Synchrotron** 

(2019) Radioprotection Certificate (University of Bologna)

(2014) Laboratory Safety Certificate (University of Bologna)

(2014 – 2019) ER.GO scholarship, based upon academic merit and financial need

