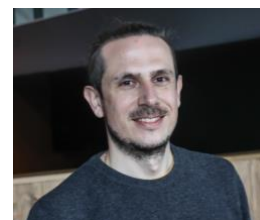


Curriculum Vitae

Contact:

Name and Surname: Giovanni Zamborlini
Address: Universitätsplatz 5, 8010 Graz, Austria.
Phone: Office: +43 316 380 5203
Date and Place of Birth: 27 March 1989, San Vito al Tagliamento (PN), Italy
Nationality: Italian
ORCID: 0000-0002-0460-4958



Education:

02/2014-07/2017 Ph.D. at Forschungszentrum Jülich (PGI-6).

Thesis: "Organic-Metal Hybrid Interfaces at the Mesoscopic Scale"

Mark: "*magna cum laude*" (sehr gut)

Advisor: Prof. Dr. Claus M. Schneider

2011-2013 Master degree in Physics, University of Trieste, Italy.

Thesis: "Spectro-microscopic characterization of the Graphene/Ir(100) interface irradiated with Ar ions."

Mark: 110/110 "*cum laude*"

Curriculum: Condensed matter physics.

Advisor: Prof. Giovanni Comelli. Co-Advisor: Dr. Andrea Locatelli

09/2012-01/2013

ERASMUS exchange student at Copenhagen University

2008-2011 Bachelor in Physics, University of Trieste, Italy.

Thesis: "Metallation of Tetraphenylporphyrins by means of surface ad-atoms on Ni(111) and Fe(110)"

Mark: 110/110

Advisor: Prof. Dr. Alberto Morgante. Co-Advisor: Dr. Andrea Goldoni.

2003-2008 Maturità Scientifica (Highschool diploma).

Mark: 100/100

Liceo Ginnasio Statale con sezione scientifica "XXV Aprile", Portogruaro, Italy.

Work experience:

12/2023 – Present: Assistant Professor (Tenure-Track), Department of Experimental Physics, University of Graz, Austria.

01/2021 – 11/2023: Akademischer Rat auf Zeit, Experimental Physics VI, Department of Physics, TU Dortmund.

10/2018 – 12/2020: Postdoctoral fellow at Experimental Physics VI, TU Dortmund, Germany.

06/2017 – 09/2018: Postdoctoral fellow at Forschungszentrum Jülich (PGI-6), Germany. Working station: NanoESCA beamline at Elettra Sincrotrone Trieste, Italy.

02/2014 – 05/2017: Ph.D. at Forschungszentrum Jülich (PGI-6), Germany. Working station: NanoESCA beamline at Elettra Sincrotrone Trieste, Italy.

Bibliometric track-record:

updated 21/05/2024.

Total number of peer-reviewed papers:	42
Citations:	
SCOPUS	723
Google Scholar	939
h-index:	
SCOPUS	16
Google Scholar	18

Publication list:

(*) indicates the corresponding author.

The full list can be also found here: <https://orcid.org/0000-0002-0460-4958>.

1. "A Local Point of View of the Cu(100) \rightarrow NiTPP Charge Transfer at the NiTPP/Cu(100) interface". S. Carlotto, A. Verdini, G. Zamborlini, I. Cojocariu, V. Feyer, L. Floreano and M. Casarin. *Physical Chemistry Chemical Physics* **25**, 26779 (2023).
2. "Valence band electronic structure of the van der Waals antiferromagnet FePS₃". J. E. Nitschke, D. L. Esteras, M. Gutnikov, K. Schiller, S. Mañas-Valero, E. Coronado, M. Stupar, G. Zamborlini, S. Ponzoni, J. J. Baldoví and M. Cinchetti. *Materials Today Electronics* **6**, 100061 (2023).
3. "Metalloporphyrins on oxygen-passivated iron: Conformation and order beyond the first layer". D. M. Janas, A. Windischbacher, M. S. Arndt, M. Gutnikov, L. Sternemann, D. Gutnikov, T. Willershausen, J. E. Nitschke, K. Schiller, D. Baranowski, V. Feyer, I. Cojocariu, K. Dave, P. Puschnig, M. Stupar, S. Ponzoni, M. Cinchetti and G. Zamborlini*. *Inorganica Chimica Acta* **557**, 121705 (2023).
4. "Enhancing Electron Correlation at a 3d Ferromagnetic Surface". D. M. Janas, A. Droghetti, S. Ponzoni, I. Cojocariu, M. Jugovac, V. Feyer, M. M. Radonjić, I. Rungger, L. Chioncel, G. Zamborlini* and M. Cinchetti. *Advanced Materials* **35**, 2205698 (2023).
5. "Dirac bands in the topological insulator Bi₂Se₃ mapped by time-resolved momentum microscopy". S. Ponzoni, F. Paßlack, M. Stupar, D. M. Janas, G. Zamborlini* and M. Cinchetti. *Advanced Physics Research* **2**, 2200016 (2023).
6. "Momentum-selective orbital hybridization". X. Yang, M. Jugovac, G. Zamborlini, V. Feyer, G. Koller, P. Puschnig, S. Soubatch, M. G. Ramsey and F. S. Tautz. *Nature Communications* **13**, 5148 (2022).
7. "One-dimensional Rashba states with unconventional spin texture in Bi chains". P. M. Sheverdyeva, D. Pacilè, D. Topwal, U. Manju, M. Papagno, V. Feyer, M. Jugovac, G. Zamborlini, I. Cojocariu, C. Tusche, X. L. Tan, K. Hagiwara, Y.-J. Chen, J. Fujii, P. Moras, L. Ferrari, E. Vescovo, G. Bihlmayer, and C. Carbone. *Phys. Rev. B* **106**, 045108 (2022).
8. "Fe(001) angle-resolved photoemission and intrinsic anomalous Hall conductivity in Fe seen by different ab initio approaches: LDA and GGA versus GW". E. Młyńczak, I. Aguilera, P. Gospodarič, T. Heider, M. Jugovac, G. Zamborlini, J.-P. Hanke, C. Friedrich, Y. Mokrousov, C. Tusche, S. Suga, V. Feyer, S. Blügel, L. Plucinski, and C. M. Schneider. *Phys. Rev. B* **105**, 115135 (2022).
9. "Spin-polarized hybrid states in epitaxially-aligned and rotated graphene on cobalt". M. Jugovac, E. D. Donkor, P. Moras, I. Cojocariu, F. Genuzio, G. Zamborlini, G. Di Santo, L. Petaccia, N. Stojić, V. Feyer, C. M. Schneider, A. Locatelli and T. O. Mentş. *Carbon* **198**, 188-194 (2022).
10. "Disproportionation of Nitric Oxide at a Surface-Bound Nickel Porphyrinoid". M. Stredansky, S. Moro, M. Corva, H. Sturmeit, V. Mischke, D. Janas, I. Cojocariu, M. Jugovac, A. Cossaro, A. Verdini, L. Floreano, Z. Feng, A. Sala, G. Comelli, A. Windischbacher, P. Puschnig, C. Hohner, M. Kettner, J.

- Libuda, M. Cinchetti, C. M. Schneider, V. Feyer, E. Vesselli, G. Zamborlini*. *Angewandte Chemie* **61**, e20220191 (2022).
11. "Room-temperature on-spin-switching and tuning in a porphyrin-based multifunctional interface". H. Sturmeit, I. Cojocariu, A. Windischbacher, P. Puschnig, C. Piamonteze, M. Jugovac, A. Sala, C. Africh, G. Comelli, A. Cossaro, A. Verdini, L. Floreano, M. Stredansky, E. Vesselli, C. Hohner, M. Kettner, J. Libuda, C. M. Schneider, G. Zamborlini*, M. Cinchetti and V. Feyer. *Small* **27**, 2104779 (2021).
 12. "Reversible redox reactions in metal-supported porphyrin: the role of spin and oxidation state". I. Cojocariu, S. Carlotto, G. Zamborlini, M. Jugovac, L. Schio, L. Floreano, M. Casarin, V. Feyer and C. M. Schneider. *Journal of Materials Chemistry C* **9**, 12559 (2021).
 13. "Ferrous to ferric transition in Fe-phthalocyanine driven by NO₂ exposure". I. Cojocariu, S. Carlotto, H. M. Sturmeit, G. Zamborlini, M. Cinchetti, A. Cossaro, A. Verdini, L. Floreano, M. Jugovac, P. Puschnig, C. Piamonteze, M. Casarin, V. Feyer, C. M. Schneider. *Chemistry—A European Journal* **27**, 3526 (2021).
 14. "Spin-polarized quantized electronic structure of Fe (001) with symmetry breaking due to the magnetization direction". E. Młyńczak, I. Aguilera, P. Gospodarič, T. Heider, M. Jugovac, G. Zamborlini, C. Tusche, S. Suga, V. Feyer, S. Blügel, L. Plucinski, C. M. Schneider. *Physical Review B* **103**, 035134 (2021).
 15. "Nanoscale Surface Decomposition of Pr_{0.5}Ba_{0.5}CoO_{3-δ} Perovskites Turns Performance Descriptors Ambiguous". D. N. Mueller, M. Giesen, T. Duchoň, S. Cramm, F. Gunkel, M. Jugovac, G. Zamborlini, V. Feyer and C. M. Schneider. *J. Phys. Chem. C* **125**, 10043–10050 (2021).
 16. "Signatures of an atomic crystal in the band structure of a C₆₀ thin film". N. Haag, D. Lüftner, F. Haag, J. Seidel, L. L. Kelly, G. Zamborlini, M. Jugovac, V. Feyer, M. Aeschlimann, P. Puschnig, M. Cinchetti, B. Stadtmüller. *Physical Review B* **101**, 165422 (2020).
 17. "Vibronic Fingerprints of the Nickel Oxidation States in Surface-Supported Porphyrin Arrays". M. Stredansky, S. Moro, M. Corva, M. Jugovac, G. Zamborlini, V. Feyer, C. M. Schneider, I. Cojocariu, H. M. Sturmeit, M. Cinchetti, A. Verdini, A. Cossaro, L. Floreano, E. Vesselli. *Journal of Physical Chemistry C* **124**, 6297-6303 (2020).
 18. "Tunable coupling by means of oxygen intercalation and removal at the strongly interacting graphene/cobalt interface". M. Jugovac, F. Genuzio, T. O. Menteş, A. Locatelli, G. Zamborlini, V. Feyer, C. M. Schneider. *Carbon* **163**, 341-347 (2020).
 19. "Molecular anchoring stabilizes low valence Ni(i)TPP on copper against thermally induced chemical changes". H. M. Sturmeit, I. Cojocariu, M. Jugovac, A. Cossaro, A. Verdini, L. Floreano, A. Sala, G. Comelli, S. Moro, M. Stredansky, M. Corva, E. Vesselli, P. Puschnig, C. M. Schneider, V. Feyer, G. Zamborlini*, M. Cinchetti. *Journal of Materials Chemistry C* **8**, 8876-8886 (2020).
 20. "Plane-wave final state for photoemission from nonplanar molecules at a metal-organic interface". C. Metzger, M. Graus, M. Grimm, G. Zamborlini, V. Feyer, M. Schwendt, D. Lüftner, P. Puschnig, A. Schöll and F. Reinert. *Physical Review B* **101**, 165421 (2020).
 21. "Combined orbital tomography study of multi-configurational molecular adsorbate systems". P. Kliuiev, G. Zamborlini, M. Jugovac, Y. Gürdal, K. von Arx, K. Waltar, S. Schnidrig, R. Alberto, M. Iannuzzi, V. Feyer, M. Hengsberger, J. Osterwalder and L. Castiglioni. *Nature Communications* **10**, 5255 (2019).
 22. "Evaluation of molecular orbital symmetry via oxygen-induced charge transfer quenching at a metal-organic interface". I. Cojocariu, H. M. Sturmeit, G. Zamborlini*, A. Cossaro, A. Verdini, L. Floreano, E. D'Incecco, M. Stredansky, E. Vesselli, M. Jugovac, M. Cinchetti, V. Feyer and C. M. Schneider. *Applied Surface Science* **504**, 144343 (2020).
 23. "Coexisting Charge States in a Unary Organic Monolayer Film". X. Yang, L. Egger, J. Fuchsberger, M. Unzog, D. Lüftner, F. Hajek, P. Hurdax, M. Jugovac, G. Zamborlini, V. Feyer, G. Koller, P. Puschnig, F. S. Tautz, M. G. Ramsey and S. Soubatch. *Journal of Physical Chemistry Letters* **10**, 6438 (2019).

24. "Topotactic Phase Transition Driving Memristive Behavior". V. R. Nallagatla, T. Heisig, C. Baeumer, V. Feyer, M. Jugovac, G. Zamborlini, C. M. Schneider, R. Waser, M. Kim, C. U. Jung and R. Dittmann. *Advanced Materials* **31**, 1903391 (2019).
25. "Role of carbon dissolution and recondensation in graphene epitaxial alignment on cobalt". M. Jugovac, F. Genuzio, E. Gonzalez Lazo, N. Stojić, G. Zamborlini, V. Feyer, T. O. Menteş, A. Locatelli and C. M. Schneider. *Carbon* **152**, 489 (2019).
26. "Kink far below the Fermi level reveals new electron-magnon scattering channel in Fe". E. Młyńczak, M.C.T.D. Müller, P. Gospodarič, T. Heider, I. Aguilera, Bihlmayer, G., M. Gehlmann, M. Jugovac, G. Zamborlini, C. Tusche, S. Suga, V. Feyer, L. Plucinski, C. Friedrich, S. Blügel and C. M. Schneider. *Nat. Comm.* **10**, 505 (2019).
27. "Molecular Orbital Imaging beyond the First Monolayer: Insights into the Pentacene/Ag110 interface". M. Grimm, C. Metzger, M. Graus, M. Jugovac, G. Zamborlini, V. Feyer, A. Schöll and F. Reinert. *PRB*. **98**, 195412 (2018).
28. "On-surface nickel porphyrin mimics reactive center of enzyme cofactor". G. Zamborlini*, M. Jugovac, A. Cossaro, A. Verdini, L. Floreano, D. Lüftner, P. Puschnig, V. Feyer and C. M. Schneider. *Chem. Comm.* **54**, 13423 (2018).
29. "Principal Component Analysis A Tool to Detect Camouflaged Information in XAS PEEM of Complex Thin Oxide Films". M. Giesen, M. Jugovac, G. Zamborlini, V. Feyer, F. Gunkel and D. Müller. *Thin Solid Films* **665**, 75-84 (2018).
30. "Algorithms and image formation in orbital tomography". P. Kliuiev, T. Latychevskaia, G. Zamborlini, M. Jugovac, C. Metzger, M. Grimm, A. Schöll, J. Osterwalder, M. Hengsberger and L. Castiglioni. *Physical Review B* **98**, 085426 (2018).
31. "Beyond van der Waals Interaction: The Case of MoSe₂ Epitaxially Grown on Few-Layer Graphene". M. Dau, M. Gay, D. Di Felice, C. Vergnaud, A. Marty, C. Beigné, G. Renaud, O. Renault, P. Mallet, T. Le Quang, J. Veuillen, L. Huder, V. T. Renard, C. Chapelier, G. Zamborlini, M. Jugovac, V. Feyer, Y. J. Dappe, P. Pochet and M. Jamet. *ACS Nano* **12**, 2319 (2018).
32. "Localized segregation of gold in ultrathin Fe films on Au(001)". P. Gospodarič, E. Młyńczak, M. Eschbach, M. Gehlmann, G. Zamborlini, V. Feyer, L. Plucinski and C. M. Schneider. *Physical review B* **97**, 085409 (2018).
33. "Direct observation of the band gap transition in atomically thin ReS₂". M. Gehlmann, I. Aguilera, G. Bihlmayer, S. Nemšák, P. Nagler, P. Gospodarič, G. Zamborlini, M. Eschbach, V. Feyer, F. Kronast, E. Młyńczak, T. Korn, L. Plucinski, C. Schüller, S. Blügel and C. M. Schneider. *Nano Letters* **17**, 5187 (2017).
34. "Multi-orbital charge transfer at highly oriented organic/metal interfaces". G. Zamborlini*, D. Lüftner, Z. Feng, B. Kollmann, P. Puschnig, C. Dri, M. Panighel, G. di Santo, A. Goldoni, G. Comelli, M. Jugovac, V. Feyer and C. M. Schneider. *Nature Communications* **8**, 335 (2017).
35. "Schottky barrier measurements on individual GaAs nanowires by X-ray photoemission microscopy". L. di Mario, S. Turchini, G. Zamborlini, V. Feyer, L. Tian, C. M. Schneider, S. Rubini and F. Martelli. *Applied Surface Science* **386**, 72-77 (2016).
36. "Switchable graphene-substrate coupling through formation/dissolution of an intercalated Ni-carbide layer". C. Africh, C. Cepek, L. L. Patera, G. Zamborlini, P. Genoni, T. O. Menteş, A. Sala, A. Locatelli and G. Comelli. *Scientific Reports* **6**, 19734 (2016).
37. "Fabrication of 2D Heterojunction in Graphene via Low Energy N₂⁺ Irradiation". A. Sala, G. Zamborlini, T. O. Menteş and A. Locatelli. *Small* **11**, 5927–5931 (2015).
38. "Nanobubbles at GPa Pressure under Graphene". G. Zamborlini, M. Imam, L. L. Patera, T. O. Menteş, N. Stojić, C. Africh, A. Sala, N. Binggeli, G. Comelli and A. Locatelli. *Nano Letters* **15**, 6162-6169 (2015).

39. "Cathode lens spectromicroscopy: methodology and applications". T. O. Menteş, G. Zamborlini, A. Sala and A. Locatelli. *Beilstein J. Nanotechnol.* **5**, 1873–1886 (2014).
40. "The geometric and electronic structure of TCNQ and TCNQ+Mn on Ag(001) and Cu(001) surfaces". V. Feyer, M. Graus, P. Nigge, G. Zamborlini, R.G. Acres, A. Schöll, F. Reinert and C. M. Schneider. *Journal of Electron Spectroscopy and Related Phenomena* **204**, 125-131, (2015).
41. "Growth of single and multi-layer graphene on Ir(100)". A. Locatelli, G. Zamborlini and T. O. Menteş. *Carbon* **74**, 237 (2014).
42. "The thinnest carpet on the smallest staircase: the growth of graphene on Rh(533)". B. Casarin, A. Cian, Z. Feng, E. Monachino, F. Randi, G. Zamborlini, M. Zonno, E. Miniussi, P. Lacovig, S. Lizzit, and A. Baraldi. *J. Phys. Chem. C* **118**, 6242 (2014).

Oral presentations:

Invited:

1. "Charge transfer at organic/metal interface: combining Photoemission Tomography and X-ray absorption spectroscopy". Workshop "Photoemission Tomography: Applications and Future Developments", Bad Honnef (DE), 27/10/2022.
2. "Activating reactivity and magnetism of 2D molecular film via charge transfer." Quantum Nanoscience Seminar, RTWH Aachen and Forschungszentrum Jülich (DE), 07/02/2023.
3. "Photoemission Electron Microscopy, a technique for every occasion". Condensed matter physics seminar, University of Bremen (DE), 23/01/2024.

Contributions:

1. "Probing the molecular conformation via photoemission orbital tomography". *Symposium on Surface Science*, St. Christoph am Arlberg (ÖS), 15.03.2024.
2. "Controlling the integer charge transfer at the Pentance/MgO/Fe interface". VUVX 2023, Campinas (BR), 07/07/2023
3. "Activating reactivity and magnetism of 2D molecular film via charge transfer". ECSCD15, Grainau (DE), 25/05/2023.
4. "Versatile photoemission electron microscope for time- and angle-resolved photoemission spectroscopy". LEEM/PEEM 12, Cordoba (ES), 28/09/2022.
5. "Activating reactivity and magnetism of 2D molecular film via charge transfer". ECOS 35, Luxemburg, 31/08/2022.
6. "Tuning spin- and oxidation state of chelated metal ions via functionalization". ECMoIS, Dortmund (DE), 06/04/2022.
7. "Functionalized Nickel Porphyrins on copper: electronic properties and adsorption configuration". VUVX 19, San Francisco (USA), 05.07.2019.
8. "Functionalized Nickel Porphyrins on copper: electronic properties and adsorption configuration". ECMoIS, Peñíscola (ES), 23.10.2018.
9. "Reduction of the metal atom at the porphyrin core driven by charge transfer at the organic/metal interface". ICN+T, Brno (CZ), 25.07.2018.
10. "Reduction of the metal atom at the porphyrin core driven by charge transfer at the organic/metal interface". VI San Luis Conference on Surfaces, Interfaces and Catalysis, Santa Fe (Argentina), 07.06.2018.
11. "Multi-orbital charge transfer at highly oriented organic/metal interfaces". *FisMat 2017*, Trieste (IT), 05.10.2017.
12. "Unexpected multi-orbital charge transfer at highly oriented organic/metal interfaces". *ECSCD 13*, San Sebastián (ES), 21.06.2017.
13. "STM, LEEM and m-ARPES studies of Ni-TPP self-assembly on Cu(100)". *LEEM/PEEM 10*, Monterey (USA), 14.09.2016.

14. "A multi-technique approach in studies of NiTPP self-assembly on the Cu(100) surface". *Surface Science Symposium*, St. Christoph am Arlberg (ÖS), 26.02.2016.
15. "The geometric and electronic structure of TCNQ and TCNQ+Mn on Ag(001) surface". *DPG*, Berlin (DE), 18.03.2015.

Conference Organization:

- Organizer of: "Photoemission Tomography as a tool for studying molecular interfaces: applications and future perspectives" Symposium, within the ECOSS-36 conference (28/08 – 01/09/2023 Lodz, Poland). <https://www.ecoss36.uni.lodz.pl/mini-symposia>.

Poster contributions

- "The adsorption of TCNQ on the Ag(100) and Cu(100) surfaces: photoelectron momentum microscope Mapping". LEEM/PEEM 9, Berlin (DE), 15.09.2014.
- "Molecular Orbital Tomography @NanoESCA beamline". PLESI 2016, Dresden (DE), 25.04.2016.

Teaching and mentoring:

Teaching:

- **“Applications of Synchrotron Radiation”**. SoSe2020 (2 SWS) and SoSe 2021 (2 SWS).
Due to the pandemic, both times, the course took place on-line (using ZOOM and Moodle platforms).
The aim of the course is to provide a basic knowledge on the main parameters involved in a synchrotron-based experiment, as well as to have an overview on the most important techniques that can be performed, with a special focus on the photoemission-related experiments.
- **“Laboratory of condensed matter physics: time-resolved photoemission”**.
SoSe2022 (4 SWS) and WiSe2022 (4 SWS). The aim of the course is to provide a basic knowledge of state-of-the-art instrumentation related to surface preparation/characterization, as well as to have an overview of time-resolved photoemission spectroscopy and also a basic knowledge on the basic principles of data-analysis. Frontal lectures are followed by practical lab sessions where students carry on a specific (and new) experiment. SoSe2022: Growth of Porphyrins on metal surfaces and characterization of the energy level alignment at the interface. WiSe2022: Growth and characterization of WS₂ by means of XPS, LEED and ARPES.

Co-supervision of: 4 PhD students, 6 Master students and 5 Bachelor students in the framework of the ERC project hyControl

<http://www.e6.physik.tu-dortmund.de/cms/en/Research/hyControl/index.html>)

Research Grants and third-party funds:

- **2023-2027** Spoken person of DFG Research Grant “*SPINteger – Molecular multi-spinterfaces supporting integer SPIN charge transfer*”. Other PIs: Dr. V. Feyer and Prof. M. Cinchetti. Total project amount: 400k€ (personal share ≈**200k€**). Aim: Study of the ultrafast response of a molecular/dielectric interface enabling a single spin (and charge) transfer at the femtosecond scale.
- **2023-2027** Principal investigator of DFG Research Grant “*Graphene Based Triple-Gate-Platforms for Novel Tunnel Field-Effect Transistors*”. Other PI: Prof. Stefan Tappertzhofen. Total project amount: ≈500k€ (personal share ≈**250k€**). Aim: engineering of field effect transistor based on a novel buried triple gate platform with buried graphene electrodes. Photoemission electron microscopy will be used to study the *in-operando* performances of the fabricated device.
- **2023** Beneficiary of **10 k€** from the Young Academy project funding scheme (TU Dortmund) for the project “*Nontrivial topology in conjugated 2D molecular frameworks*”. Aim: rational design of Kagome lattices, based on the seamless integration of surface chemistry and surface science methods, by depositing heterotriangulene molecular units atop a gold surface to form a 2D covalent organic framework.
- **2022** Starting funds for supporting young researchers within the framework of TRR160 (DFG). Total amount: **50k€**.

Awards:

- **12/2022** Research Award of the Young Academy - TU Dortmund.
- **09/2011 – 09/2013** Scholarship “Luciano Fonda”
granted by “*Collegio universitario per le scienze Luciano Fonda*” and Elettra-Sincrotrone Trieste.

Main collaborations:

- Prof. Peter Puschnig (University of Graz, Austria).
- Dr. Vitaliy Feyer and Prof. Claus M. Schneider (Forschungszentrum Jülich, Germany).
- Prof. Giovanni Comelli and Prof. Erik Vesselli (University of Trieste, Italy).
- Prof. Stefan Tappertzhofen and Prof. Sebastian Henke (TU Dortmund, Germany).
- Dr. Andrea Droghetti (Trinity College, Ireland).

Research projects at large scale facilities:

Principal investigator and main proposer of 11 proposals that obtained public beamtime at a synchrotron facility:

1. 2022 *“Interplay between the spin state, the molecular conformation, and the coordination number in strapped porphyrin derivatives”*. ALOISA beamline (Elettra, Trieste, Italy).
2. 2022 (continuation) *“Spin-resolved photoemission tomography at a molecular MTJ”*. NanoESCA beamline (Elettra, Trieste, Italy).
3. 2021 *“Magnetic coupling at an organic magnetic tunnel junction”*. XTreme beamline (SLS, Villigen, Swiss).
4. 2021 *“Spin-resolved photoemission tomography at a molecular MTJ”*. NanoESCA beamline (Elettra, Trieste, Italy).
5. 2019 *“Substrate-induced activation and tuning of the magnetic moment of a low-spin 2D porphyrin array on copper”*. XTreme beamline (SLS, Villigen, Swiss).
6. 2019 *“Time resolved molecular orbital tomography: proof-of-principle experiment on a non-interacting porphyrin overlayer”*. T-REX beamline (Elettra, Trieste, Italy).
7. 2019 *“Copper QWS on fcc Co(100): dependence of the spin-polarization on the film thickness”*. NanoESCA beamline (Elettra, Trieste, Italy).
8. 2018 *“Adsorption dynamics of NO at the NiTPP/Cu(100) interface”*. SuperESCA beamline (Elettra, Trieste, Italy).
9. 2017 *“Molecular spin hybrids at the organic/ferromagnetic interface”*. NanoESCA beamline (Elettra, Trieste, Italy).
10. 2015 *“Magnetic coupling at the organic/ferromagnetic interface”*. BACH beamline (Elettra, Trieste, Italy).
11. 2013 *“Extrinsic Doping in epitaxial Graphene through substrate chemisorption at film defects”* NanoSpectroscopy beamline (Elettra, Trieste, Italy).

Co-proposers of 13 proposals that obtained public beamtime at a synchrotron facility.

Principal investigator and main proposer of 1 NFFA proposal (*Reduced Nickel(I) tetraphenyl porphyrins arrays for heterogeneous catalysis*) and co-proposer of other 2 NFFA proposals.

Experimental techniques and software skills:

Standard ultra-high vacuum characterization techniques:

- Low energy electron diffraction (LEED), Auger electron spectroscopy (AES), Electron beam epitaxy.

Main experimental techniques:

- Photoemission tomography (PT), Momentum Microscopy (MM), X-ray photoemission spectroscopy (XPS), X-ray absorption spectroscopy (XAS), Spin-resolved photoemission, Angular-resolved photoemission (ARPES), time-resolved ARPES, Photoemission electron microscopy (PEEM), Low energy electron microscopy (LEEM).

Ancillary experimental techniques:

- Scanning tunneling microscopy and spectroscopy (STM/STS), *in-situ* infrared reflection absorption spectroscopy (*in-situ* IRAS).

Programming language and data analysis software:

- Igor pro (from version 6 on), extended knowledge.
- LabView (basic knowledge).

Referee for:

ACS Nano, Chemical Society Reviews, Beilstein Journal of Nanotechnology, Applied Surface Science, NFFA and Swiss Science Foundation.

Spoken languages:

Italian: mother tongue.

English: Proficient user (C1).

German: Intermediate user (B1/B2).