

Curriculum Vitae

Ambra Guarnaccio

Researcher @ National Research Council (CNR) - Institute of Structure of Matter (ISM)
Potenza Research Area - CNR, C. da S. Loja, 85050 Tito Scalo (PZ), ITALY

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Date of birth: 29 July 1982 **Nationality:** Italian

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Scopus Author ID: [55135883200](#)

Orcid: [0000-0002-7927-5845](#)

Presentation

Master's degree in Chemistry at University of Basilicata. Ph.D. in Chemical Sciences at University of Basilicata (March 2014). During her academic training she has acquired a deep knowledge in organic and heterocyclic chemistry for synthesis of organic semiconductors and π -conjugated systems. During Ph.D. she has gained experience also in the field of physical chemistry making experience with techniques such as laser ablation and laser spectroscopies for nanomaterial preparation and characterizations, respectively. At this regard, she spent a period of research abroad at the LASERLAB EUROPE facility at FORTH - Institute of Electronic Structure and Lasers (Crete-Greece).

Since June 2016 she is a Researcher at ISM-CNR. Currently, she is in charge of the CheMiX Lab, the laboratory for chemical synthesis of new materials at the CNR-ISM Tito Scalo branch. Her research activities concern preparing organic-inorganic polymeric nanocomposite materials by wet chemistry useful as material for 3D printing. Moreover, she leads activities about the synthesis of novel organic heterocyclic π -conjugated molecules such as donors and acceptors useful for OSCs by studying their electronic properties both in the gas phase and as thin films by high-resolution XPS and XAS analysis taking advantage of synchrotron light radiation. Another field of activity is the synthesis and the spectroscopic characterization of new photoinduced Drug Delivery Systems based on metal nanoparticles useful to trap and release anti-tumoral drugs.

Research Interests

- Design and synthesis of π -conjugated organic systems, such as oligothiophene-based molecules and their spectroscopic characterization for applications in OSCs;
- Study and preparation of innovative nanocomposite polymers to be used for the 3D printed manufacturing of passive, active and programmable components in the field of automotive production processes to increase their efficiency, reliability, maintainability, sustainability and safety;
- Design, synthesis and spectroscopic characterization of new photoinduced Drug Delivery Systems based on metal nanoparticles useful to trap and release drugs;
- PES and NEXAFS Spectroscopies using synchrotron light of π -conjugated organic systems isolated in the gas phase and at the interface with technologically interesting surfaces (*e.g.*, Au (111), Ag (110), ITO etc.).

Education

- **2010-2013 - Ph.D. Candidate in Chemical Sciences at University of Basilicata - Italy**

"OLIGOTHIOPHENES SYNTHESIS AND HIGH-RESOLUTION SPECTROSCOPIC CHARACTERIZATIONS"

Supervisors: Prof. Maurizio D'Auria (UNIBAS-Italy); Prof. Roberto Teghil (UNIBAS-Italy); Dr Antonio Santagata (CNR-ISM).
Topics: Organic Chemistry; Physical Chemistry

- **2007-2010 Master's degree in Chemical Sciences at University of Basilicata - Italy**

Thesis: "Synthesis of benzothienopyridine with potential biological activity and their precursors."

Supervisor: Prof. Maria Funicello

- **2002-2006 Bachelor's degree in Chemistry at University of Basilicata - Italy**

Thesis: "Extraction purification and characterization of the peptide encoded by exon 2-7 of human elastin."

Supervisor: Prof. Faustino Bisaccia

Work Experiences

- **June 2016-to present –Researcher** at National Research Council (CNR) - Institute of Structure of Matter (ISM) – Potenza - Italy
 - **May 2014-December 2015 – POST-DOC Research Fellowship in CLaN-Solar-E Project (PO-FESR 2007-2013)** at National Research Council (CNR) - Institute of Structure of Matter (ISM) – Potenza - Italy
Project title: **"Synthesis of pi-conjugated donor-acceptor systems for photovoltaics"**
 - **Jun 2013-May 2014 – Research Fellowship in CLaN Project (PO-FESR 2007-2013)** at National Research Council (CNR) - Institute of Inorganic Methodologies and Plasmas (IMIP) – Potenza – Italy
Project title: **"Synthesis and Characterization of Oligothiophenes by Time-resolved Laser Spectroscopies"**
 - **Oct 2012-Dec 2012 - Visiting student** at Foundation for Research and Technology Hellas (FORTH) - Institute of Electronic Structure and Laser (IESL) –Heraklion – Crete – Greece Supervisors: Prof. Demetrios Anglos; Dr Panagiotis Loukakos.
 - **Jun 2012-Jun 2013 - Research Fellowship in CLaN Project (PO-FESR 2007-2013)** at National Research Council (CNR) - Institute of Inorganic Methodologies and Plasmas (IMIP) – Potenza – Italy
Project title: **"Synthesis and Characterization of Oligothiophenes by Time-resolved Laser Spectroscopies"**
 - **Feb 2012-May 2012 - Fellowship** at National Research Council (CNR)- Institute of Inorganic Methodologies and Plasmas (IMIP) – Potenza - Italy
Project title: **"Synthesis and Characterization of Oligothiophenes with Ultra-fast Spectroscopies"**
 - **Feb 2011-Feb 2012 - Fellowship** at National Research Council (CNR)- Institute of Inorganic Methodologies and Plasmas (IMIP) – Potenza – Italy
Project title: **"Synthesis and Characterization of Oligothiophenes with Ultra-fast Spectroscopies"**
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Research at Synchrotron Facilities

- **May-June 2012 – Project participant** as external user at Materials Science Beamline - Elettra Synchrotron – Trieste (Italy)
Project title: **"Orientation and structural characterization of hybrid Ag nanoparticle-oligothiophene nanocomposites by XAS and NEXAFS."**
- **May-June 2013 – Project participant** as external user at Materials Science Beamline - Elettra Synchrotron – Trieste (Italy)
Project title: **"Orientation and structural characterization of Ag-oligothiophene nanocomposites by combined XPS and NEXAFS studies."**
- **March 2014 - Project participant** as external user at GasPhase Beamline - Elettra Synchrotron – Trieste (Italy)
Project title: **"Characterization of the electronic structure of oligothiophenes by core level spectroscopy of isolated molecules."**

- **July 2014 – Project proposer** as external user at GasPhase Beamline - Elettra Synchrotron – Trieste (Italy)
Project title: **“Electronic structure and charge dynamics of short chain oligothiophenes probed by variable photon energy emission spectroscopy.”**
- **March 2015 - Project proposer** as external user at GasPhase Beamline - Elettra Synchrotron – Trieste (Italy)
Project title: **“Study of the electronic structure of short chain oligothiophenes by PES and UPS spectroscopy”**
- **September 2015 - Project proposer** as external user at GasPhase Beamline - Elettra Synchrotron – Trieste (Italy)
Project title: **“Electronic structure and charge dynamics of short chain oligothiophenes probed by variable energy PES and Resonant Auger spectroscopy”**
- **March-October 2017 - Project proposer (CERIC-ERIC Network)** at GasPhase Beamline and at Materials Science Beamline - Elettra Synchrotron – Trieste (Italy)
Project title: **“Spectroscopic Study of Molecular Building Blocks for Donor-Acceptor Structures”**
- **July 2017 - Project participant** as external user at GasPhase Beamline - Elettra Synchrotron – Trieste (Italy)
Project title: **“Core-level spectroscopic study of derivatives of boric acid. A detailed experimental and theoretical investigation”**
- **September-October 2017 - Project participant (CERIC-ERIC Network)** as external user at GasPhase Beamline, Materials Science Beamline and SuperESCA beamline - Elettra Synchrotron – Trieste (Italy)
Project title: **“Charge transfer process in D-A molecules and in their donor and acceptor moieties”**
- **March-April 2018 - Project participant (CERIC-ERIC Network)** as external user at GasPhase Beamline and Materials Science Beamline - Elettra Synchrotron – Trieste (Italy)
Project title: **“D-A molecules and their donor and acceptor moieties: electronic structure and charge transfer process investigations”**
- **May 2018 - Project participant** as external user at SLS@Paul Scherrer Institute at PEARL Beamline – Synchrotron Light Source (SLS) – Paul Scherrer Institute – Villigen (Swiss)
Project aim: *Monolayers of PPT (2,8-Bis(diphenylphosphoryl)dibenzo-[b,d]thiophene) on different substrates like Au(111), Ag(111) and ITO. The main characterizations have been the STM useful to find out how the molecule is organized on the surfaces; the XPS for core-levels studies and Resonant Auger Spectroscopy.*
- **February 2019 - Project participant** as external user at ALOISA Beamline - Elettra Synchrotron – Trieste (Italy)
Project title: **“Confirming a theoretical predicted pre-edge feature in the x-ray absorption spectrum of donor molecules”**
- **November-December 2019 - Project proposer (CERIC-ERIC Network)** as external user at GasPhase Beamline and at Materials Science Beamline - Elettra Synchrotron – Trieste (Italy)
Project title: **“ Electronic structure investigations of a D-A-A molecule: from the free building blocks to the adsorbate phase”**
- **September 2020 - Project proposer** as external user at GasPhase Beamline - Elettra Synchrotron – Trieste (Italy)
Project title: **“Investigation of the electronic structure of gas phase isolated benzothienobenzothiophene novel derivatives”**
- **March 2021 - Project participant** as external user at GasPhase Beamline - Elettra Synchrotron – Trieste (Italy)
Project title: **“Investigation of the electronic structure of a gas-phase isolated benzothienobenzothiophene novel derivative”**
- **July 2021 - Project participant (CERIC-ERIC Network)** as external user at GasPhase Beamline and at Materials Science Beamline - Elettra Synchrotron – Trieste (Italy)
Project title: **“Oxidized Benzothieno-benzothiophene (BTBTOx2) architecture. A promising n-type organic semiconductor with outstanding optical properties [OBAMA]”**
- **July 2021 - Project proposer** as external user at GasPhase Beamline - Elettra Synchrotron – Trieste (Italy)
Project title: **“Gas phase electronic structure investigation of the dicyanobenzene regioisomers series as electron-withdrawing building blocks of donor-acceptor derivatives”**
- **November 2023 – Project participant at ALOISA Beamline - Elettra Sincrotrone – Trieste.**
Project title: **“Charge transfer studies of adsorbed and co-adsorbed Donor and Acceptor Molecular systems for Organic Electronic Devices”**
- **February 2024 – Project participant at PHELIX Beamline – Solaris Synchrotron – Cracovia (Poland)**
Project title: **“Charge Transfer Studies of Adsorbed and Co-adsorbed Donor and Acceptor Molecular System for Organic Electronic Devices”**

Conferences and Workshops

33 contributions to national and international scientific conferences and workshops by oral and poster presentations.

Projects Responsibilities

- **2023-2025 - PRIN 2022 – CNR Unit Coordinator - Project ODYSSEY “OperanDo electron spectroscopy for a molecular-level understanding of water-Splitting with triazinE-based photocatalYsts”** Call: PRIN - PROGETTI DI RICERCA DI RILEVANTE INTERESSE NAZIONALE – Bando 2022 Project n. 2022AXN9EK.
ERC field: PE - Physical Sciences and Engineering; ERC subfields: PE4_4 Surface science and nanostructures. PE4_2 Spectroscopic and spectrometric techniques; PE4_12 Chemical reactions: mechanisms, dynamics, kinetics and catalytic reactions.
Project Budget: € 277.218,00; Budget CNR: 92.800,00 €
Coordinator: Università degli Studi di Trieste (PI Dott.ssa Valeria Lanzilotto); Partners: CNR-ISM, CNR-IOM, Università degli Studi di Roma “La Sapienza”.
- **2023-2025 – PRIN PNRR 2022 – CNR Unit Coordinator - Project GoldBFnanoPDDS “Gold Nanostructures for Benzofuryl-based Anti-tumoral Photoinduced Drug Delivery Systems”** Call: PRIN - PROGETTI DI RICERCA DI RILEVANTE INTERESSE NAZIONALE – Bando 2022 PNRR Project n. P2022Y3AA8.
ERC field: PE - Physical Sciences and Engineering; PE5_17 Organic chemistry, PE5_18 Medicinal chemistry, PE4_2 Spectroscopic and spectrometric techniques Strategic emerging topic: HUMAN WELLBEING; Cluster: Health; Sub Cluster: 6. EU health industry is more innovative, sustainable and globally competitive thanks to improved up-take of breakthrough technologies and innovations.
Project Budget: 299.550,00 €; Budget CNR: 149.800,00 €
Coordinator: Università degli Studi della Basilicata; Partner: CNR-ISM.
- **2022-2025 – Scientific Responsible for CNR-ISM Potenza – Innovation Ecosystem ROME TECHNOPOLE - Projects: SPOKE 1 “Applied research, technology development and innovation”; SPOKE 2 “Technology transfer, new entrepreneurship, business incubation and acceleration”; SPOKE 3 “University education, industrial PhD courses, internationalization”; SPOKE 5 “Outreach, public engagement, lifelong learning”; SPOKE 6 “Open Research Infrastructures, joint labs, higher education with industrial collaboration”**
Progetto ECS 0000024 Rome Technopole, - CUP B83C22002820006 – Call: Ecosistemi dell’Innovazione – Piano Nazionale di Ripresa e Resilienza, Missione 4 Istruzione e ricerca – Componente 2 Dalla ricerca all’impresa – Investimento 1.5, finanziato dall’Unione europea – NextGenerationEU
Coordinator: Sapienza Università di Roma; Partners: Luiss - Libera Università Internazionale degli Studi Sociali Guido Carli; Università Campus Bio-Medico di Roma- UCBM; Università degli Studi della Tuscia; Università degli studi di Cassino e del Lazio Meridionale; Università degli Studi Roma Tre; Università di Roma Tor Vergata; CNR – Consiglio Nazionale delle Ricerche; ENEA - Agenzia nazionale per le nuove tecnologie, l’energia e lo sviluppo economico sostenibile; INFN - Istituto Nazionale di Fisica Nucleare; ISS – Istituto Superiore di Sanità; Regione Lazio; Roma Capitale; Camera di Commercio Roma; Camera di Commercio Frosinone Latina; Unindustria; INAIL; Acea S.p.A.; Aeroporti di Roma S.p.A.; Airbus Italia S.p.A.; Almagora – The Italian Innovation Company S.p.A.; BV Tech S.p.A.; Capgemini Italia S.p.A.; Catalent Anagni S.r.l.; Coima REM S.r.l.; Confindustria Dispositivi Medici; ENI S.p.A.; GALA S.p.A.; Lazio Innova S.p.A.; Leonardo S.p.A.; Lventure Group S.p.A.; Maire Tecnimont S.p.A.; MBDA Italia SpA; Takis S.r.l.; Thales Alenia Space Italia S.p.A.; Unicredit S.p.A.; Unidata S.p.A.; Wsense srl; Westpole S.p.A
CNR Budget: ab. 4.700.000 €
- **2021 – Principal Investigator - Short Term Mobility 2020** funded by CNR “*Data analysis and simulations of electronic dynamics in D-A systems*” under the supervision of Prof. Carla Puglia at Uppsala University - Division of Molecular and Condensed Matter Physics (Department of Physics and Astronomy) – 8th-28th November 2021.
- **2020-2023 - Scientific Responsible of the CNR-ISM team - Project ARPA “Autonomous and flexible manufacturing and Augmented Reality techniques for Processes Automation” - Italian National Project, Call: MISE Fabbrica Intelligente “HORIZON 2020” PON I&C 2014-2020. OR3 Activity Co-leader: “Studio di nano-compositi innovativi per la realizzazione di componenti smart attivi e passivi (eventualmente programmabili) mediante tecnica di stampa 3D”.** Task OR3.1: “Studio dei tecnopolimeri ottimizzati per l’additive-manufacturing da impiegare come matrice dei nano-compositi anche in sostituzione dell’ABS” Task OR3.2: “Studio di nanocompositi ibridi micro e nanostrutturati

programmabili la cui forma può essere dinamicamente modulata attraverso l'applicazione di uno stimolo esterno ("4D printing")" [Task OR3.3](#): "Studio di nanocompositi da impiegare per la realizzazione di sistemi di tracciabilità"

Coordinator: MASMEC Automotive S.p.A.; Partners: CRF S.C.p.A., CNR-IMAA/ISM.

Project value: 5.000.000,00 €

- **2017-2019 - Leader of the sub activity WP 8.3** - "Definizione di nuovi tecnopolimeri ai fini del processo di riuso" - Project Ri-Circola "La fabbrica verso una economia circolare: dal recupero della plastica all'end-of-life dei veicoli", Italian National Project, Call: MISE Fondo Crescita Sostenibile - DM 1° giugno 2016, "Horizon 2020" PON "Imprese e Competitività" 2014/2020.

Coordinator: CRF S.p.A.; Partners: MECTRA S.r.l. and CNR-ISM.

Project value: 4.000.000,00 €

Lectures

- **5th-10th August 2024** - Teaching at the Summer School "**Frontier Research on Next-Generation Semiconductors**" at Beijing Institute of Technology (BIT) - School of Integrated Circuits and Electronics, Beijing (China). Course: 32 hours with final exam.
- **31st July-5th August 2023** - Teaching at the Summer School "**Development of Frontier Research on Organic Semiconductors**" at Beijing Institute of Technology (BIT) - School of Integrated Circuits and Electronics, Beijing (China). Course: 32 hours with final exam.

Scientific publications

1. [Review: Heterocycles in Peptidomimetics and Pseudopeptides: Design and Synthesis](#)
Authors: I. Cerminara, L. Chiummiento, M. Funicello, A. Guarnaccio and P. Lupattelli.
Pharmaceuticals **2012**, 5(3), 297-316. DOI: [10.3390/ph5030297](#)
2. [Synthetic Approach to and Characterization of a Fullerene-DTBT-Fullerene Triad](#)
Authors: M. D'Auria, A. Guarnaccio, R. Racioppi, A. Santagata, R. Teghil.
Synlett **2013**; 24(8): 943-946. DOI: [10.1055/s-0032-1316902](#)
3. [Fs-ns double-pulse Laser Induced Breakdown Spectroscopy of copper-based-alloys: Generation and elemental analysis of nanoparticles](#)
Authors: A. Guarnaccio, G. P. Parisi, D. Mollica, A. De Bonis, R. Teghil, A. Santagata.
Spectrochimica Acta - Part B Atomic Spectroscopy **2014**; 101, 261-268. DOI: [10.1016/j.sab.2014.09.011](#)
4. [Comparison of silver nanoparticles confined in nanoporous silica prepared by chemical synthesis and by ultra-short pulsed laser ablation in liquid](#)
Authors: Á. Szegedi, M. Popova, J. Valyon, A. Guarnaccio, A. De Stefanis, A. De Bonis, S. Orlando, M. Sansone, R. Teghil, A. Santagata.
Applied Physics A: Materials Science and Processing **2014**; 117 (1), 55-62. DOI: [10.1007/s00339-014-8499-8](#)
5. [Production of silver-silica core-shell nanocomposites using ultra-short pulsed laser ablation in nanoporous aqueous silica colloidal solutions](#)
Authors: A. Santagata, A. Guarnaccio*, D. Pietrangeli, Á. Szegedi, J. Valyon, A. De Stefanis, A. De Bonis, R. Teghil, M. Sansone, D. Mollica and G. P. Parisi
J. Phys. D: Appl. Phys. 2015, 48, 205304. DOI: [10.1088/0022-3727/48/20/205304](#)
6. [SYNTHESIS AND PHOTOPHYSICAL PROPERTIES OF SOME DITHIENYLBENZO\[C\]THIOPHENE DERIVATIVES](#)
Authors: Maurizio D'Auria*, Ambra Guarnaccio, Rocco Racioppi, Antonio Santagata, and Roberto Teghil.

7. [Thiophene-Based Oligomers Interacting with Silver Surfaces and the Role of a Condensed Benzene Ring](#)
Authors: A. Guarnaccio*, M. D'Auria, R. Racioppi, G. Mattioli, A. Amore Bonapasta, A. De Bonis, R. Teghil, K. C. Prince, R. G. Acres, and A. Santagata
J. Phys. Chem. C **2016**, 120, 252–264. DOI: [10.1021/acs.jpcc.5b08733](https://doi.org/10.1021/acs.jpcc.5b08733)
8. [Plasmonic angular tunability of gold nanoparticles generated by fs laser ablation](#)
Authors: M.L. Pace, A. Guarnaccio, F. Ranù, D. Trucchi, S. Orlando*, D. Mollica, G.P. Parisi, L. Medici, A. Lettino, A. De Bonis, R. Teghil, A. Santagata
Applied Surface Science 374 (2016) 397–402. DOI: [10.1016/j.apsusc.2016.02.111](https://doi.org/10.1016/j.apsusc.2016.02.111)
9. [Inverse Calibration Free fs-LIBS of Copper-Based Alloys](#)
Authors: Antonella Smaldone, Angela De Bonis, Agostino Galasso, Ambra Guarnaccio, Antonio Santagata*, and Roberto Teghil
Z. Phys. Chem. **2016**, 230(9), 1201–1217. DOI: [10.1515/zpch-2015-0704](https://doi.org/10.1515/zpch-2015-0704)
10. [5-Substituted Benzothiophenes: Synthesis, Mechanism, and Kinetic Studies](#)
Authors: Iole Cerminara, Luciano D'Alessio, Maurizio D'Auria*, Maria Funicello, and Ambra Guarnaccio
Helv. Chim. Acta **2016**, 99, 384 – 392. DOI: [10.1002/hlca.201500285](https://doi.org/10.1002/hlca.201500285)
11. [3D additive manufactured 316L components microstructural features and changes induced by working life cycles](#)
Authors: M. L. Pace, A. Guarnaccio, P. Dolce, D. Mollica, G. P. Parisi, A. Lettino, L. Medici, V. Summa, R. Ciancio, A. Santagata*
Applied Surface Science 418, Part B, **2017**, 437-445. DOI: [10.1016/j.apsusc.2017.01.308](https://doi.org/10.1016/j.apsusc.2017.01.308)
12. [Study of the electronic structure of short chain oligothiophenes](#)
Authors: C. Grazioli, O. Baseggio, M. Stener, G. Fronzoni*, M. de Simone, M. Coreno, A. Guarnaccio, A. Santagata, and M. D'Auria
J. Chem. Phys. 146, 054303 (2017) DOI: [10.1063/1.4974841](https://doi.org/10.1063/1.4974841)
13. [S2p core level spectroscopy of short chain oligothiophenes](#)
Authors: Baseggio, O., Toffoli, D., Stener, M., Fronzoni, G.*, De Simone, M., Grazioli, C., Coreno, M., Guarnaccio, A., Santagata, A., D'Auria, M.
J. Chem. Phys. 147, 244301 (2017). DOI: [10.1063/1.5006875](https://doi.org/10.1063/1.5006875)
14. [Electronic Structure Characterization of a Thiophene Benzo-Annulated Series of Common Building Blocks for Donor and Acceptor Compounds Studied by Gas Phase Photoelectron and Photoabsorption Synchrotron Spectroscopies](#)
Authors: Daniele Toffoli, Ambra Guarnaccio*, Cesare Grazioli, Teng Zhang, Fredrik O.L Johansson, Monica de Simone, Marcello Coreno, Antonio Santagata, Maurizio D'Auria, Carla Puglia, Elisa Bernes, Mauro Stener, and Giovanna Fronzoni*
J. Phys. Chem. A, **2018**, 122, 44, 8745-8761. DOI: [10.1021/acs.jpca.8b08333](https://doi.org/10.1021/acs.jpca.8b08333)
15. [Lone-Pair Delocalization Effects within Electron Donor Molecules: The Case of Triphenylamine and Its Thiophene-Analog](#)
Authors: T. Zhang*, I. E. Brumboiu, C. Grazioli, A. Guarnaccio, M. Coreno, M. de Simone, A. Santagata, H. Rensmo, B. Brena, V. Lanzilotto, and C. Puglia*
J. Phys. Chem. C **2018**, 122, 31, 17706-17717. DOI: [10.1021/acs.jpcc.8b06475](https://doi.org/10.1021/acs.jpcc.8b06475)
16. [Identification of supramolecular structure in a semiconductor mixture of two organic compounds: curcumin and paracetamol](#)
Authors: S. Bassaid, A. Guarnaccio, A. Dehbi, M. D'Auria*, I. Tifour

- 17. [Investigation of the surface species during temperature dependent dehydrogenation of naphthalene on Ni\(111\)](#)**
Authors: Kess Marks*, Milad Ghadami Yazdi, Witold Piskorz, Konstantin Simonov, Robert Stefanuik, Daria Sostina, Ambra Guarnaccio, Ruslan Ovsyannikov, Erika Giangrisostomi, Yasmine Sassa, Nicolas Bachellier, Matthias Muntwiler, Fredrik O.L. Johansson, Andreas Lindblad, Tony Hansson, Andrzej Kotarba, Klas Engvall, Mats Göthelid, Dan J. Harding, Henrik Öström
J. Chem. Phys. 150, 244704 (2019). DOI: [10.1063/1.5098533](https://doi.org/10.1063/1.5098533)
- 18. [Electronic Structure Modifications Induced by Increased Molecular Complexity: From Triphenylamine to m-MTDATA](#)**
Authors: Teng ZHANG*, Iulia Emilia Brumboiu, Valeria Lanzilotto, Cesare GRAZIOLI, Ambra Guarnaccio, Fredrik Johansson, Marcello Coreno, Monica de Simone, Antonio Santagata, Barbara Brena and Carla PUGLIA*
Phys. Chem. Chem. Phys., 2019,21, 17959-17970. DOI: [10.1039/C9CP02423A](https://doi.org/10.1039/C9CP02423A)
- 19. [PPT Isolated Molecule and Its Building Block Moieties Studied by C 1s and O 1s Gas Phase X-ray Photoelectron and Photoabsorption Spectroscopies](#)**
Authors: Ambra Guarnaccio*, Teng Zhang, Cesare Grazioli, Fredrik O. L. Johansson, Marcello Coreno, Monica de Simone, Giovanna Fronzoni*, Daniele Toffoli, Elisa Bernes, and Carla Puglia
J. Phys. Chem. C 2020, 124, 18, 9774–9786. DOI: [10.1021/acs.jpcc.0c01764](https://doi.org/10.1021/acs.jpcc.0c01764)
- 20. [S 2p and P 2p Core Level Spectroscopy of PPT Ambipolar Material and Its Building Block Moieties](#)**
Autori: E. Bernes, G. Fronzoni, M. Stener, A. Guarnaccio*, T. Zhang, C. Grazioli, F. O. L. Johansson, M. Coreno, M. de Simone, C. Puglia, and D. Toffoli*
J. Phys. Chem. C 2020 124, 27, 14510–14520. DOI: [10.1021/acs.jpcc.0c03973](https://doi.org/10.1021/acs.jpcc.0c03973)
- 21. [Femtosecond laser surface texturing of polypropylene copolymer for automotive paint applications](#)**
Authors: Ambra Guarnaccio*, Claudia Belviso*, Pietro Montano, Francesco Toschi, Stefano Orlando, Gabriele Ciaccio, Sergio Ferreri, Dimitri Trevisan, Donato Mollica, Giovanni P. Parisi, Patrizia Dolce, Alessandro Bellucci, Adriana De Stefanis, Daniele Trucchi, Veronica Valentini, Antonio Santagata, Francesco Cavalcante, Antonio Lettino, Luca Medici, Pietro P. Ragone, Vito G. Lambertini
Surface and Coatings Technology 2020, 406, 126727. DOI: [10.1016/j.surfcoat.2020.126727](https://doi.org/10.1016/j.surfcoat.2020.126727)
- 22. [Determining the role of the method used to recycle polypropylene waste materials from automotive industry using sepiolite and zeolite fillers](#)**
Authors: Claudia Belviso*, Pietro Montano, Antonio Lettino, Francesco Toschi, Vito Guido Lambertini, Antonino D. Veca, Elisabetta Moschetto, Francesco Cavalcante & Ambra Guarnaccio
Journal of Material Cycles and Waste Management 2021, 23, 965–975. DOI: [10.1007/s10163-021-01184-w](https://doi.org/10.1007/s10163-021-01184-w)
- 23. [Effects of fs pulsed laser ablation on synthetic zeolite targets](#)**
Author: Claudia Belviso*, Stefano Orlando, Antonio Lettino, Luca Medici, Francesco Cavalcante, Donato Mollica, Ambra Guarnaccio*
Applied Surface Science 2022, 580, 152308. DOI: [10.1016/j.apsusc.2021.152308](https://doi.org/10.1016/j.apsusc.2021.152308)
- 24. [Clarifying the Adsorption of Triphenylamine on Au\(111\): Filling the HOMO–LUMO Gap](#)**
Authors: Teng Zhang*, Pamela H. W. Svensson, Iulia Emilia Brumboiu, Valeria Lanzilotto, Cesare Grazioli, Ambra Guarnaccio, Fredrik O. L. Johansson, Klára Beranová, Marcello Coreno, Monica de Simone, Luca Floreano, Albano Cossaro, Barbara Brena*, and Carla Puglia*
J. Phys. Chem. C 2022, 126, 3, 1635–1643. DOI: [10.1021/acs.jpcc.1c08877](https://doi.org/10.1021/acs.jpcc.1c08877)

25. [m-MTDATA on Au\(111\): Spectroscopic Evidence of Molecule–Substrate Interactions](#)
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