



UNIVERSITÀ DEGLI STUDI DELL'AQUILA
Prof. VALENTINA PAOLUCCI
Curriculum scientifico

(Aggiornato il 2023/01/04)

VALENTINA PAOLUCCI, PhD

short CV

Education and Academics:

- 2022 ? now Research Fellow (RTDa) at the Department of Industrial Engineering of L'Aquila University (SSD ING-IND/22 - Materials Science and Technology)
- 2019 ? 2022 Post Doctoral position at the Department of industrial engineering L'Aquila University
- 2019 PhD in Industrial Engineering Ph.D. Degree in Materials Science from the same university with a thesis entitled "Graphene-like nanoscale gas sensors from material synthesis to applications",
- 2016 Degree in Chemical Engineering from University of L'Aquila

Teaching:

Academic Year 2022/2023:

- lecturer (30 hours) for the "Materiali Polimerici e Tecnologie di Recupero" course, scheduled for the second semester of the LM in Chemical Engineering of the University of L'Aquila;
- lecturer (60 hours) for the course "Materials and Corrosion Engineering", at the LM in Chemical Engineering of the University of L'Aquila;

Academic Year 2021/2022:

- lecturer (30 hours) for the "Materiali Polimerici e Tecnologie di Recupero" course, scheduled for the second semester of the LM in Chemical Engineering of the University of L'Aquila;
- contract lecturer (60 hours) for the "Corrosione e protezione dei materiali" course, at the LM in Chemical Engineering of the University of L'Aquila;

Academic Year 2020/2021:

- contract lecturer (60 hours) of the course "Scienza e Tecnologia dei materiali II" at the LM in Chemical Engineering of the University of L'Aquila

Academic Year 2019/2020:

- appointment as Expert in Corrosion and protection of materials by the Educational Area Council of the master's degree in Chemical Engineering of the University of L'Aquila.

- appointment as Expert in the subject of Science and Technology of Materials II by the Educational Area Council of the master's degree in Chemical Engineering of the University of L'Aquila

Research:

Since 2016 she focused her research on the synthesis, microstructural and electrical characterization of second generation 2D layered materials for gas sensing applications. Specifically, she set up simple and scalable and effective exfoliation methods to deposit few layers thin films of WS₂, MoS₂, SnSe₂, etc. metal chalcogenides (MCs) and transition metal dichalcogenides (TMDs).

Journal publications

1. S. Santoro, M. Aquino, C. Rizza, J. Occhiuzzi, D. Mastrippolito, G. D'Olimpio, A.H. Avci, J. De Santis, V. Paolucci, L. Ottaviano, L. Lozzi, A. Ronen, M. Bar-Sadan, D.S. Han, A. Politano, E. Curcio, Lithium recovery through WS₂ nanofillers-promoted solar photothermal membrane crystallization of LiCl, *Desalination*. 546 (2023) 116186. <https://doi.org/10.1016/j.desal.2022.116186>.

2. R. Colaiezzi, A. Lazzarini, F. Ferella, V. Paolucci, A. Di Giuseppe, M. Crucianelli, Catalytic oxygen atom transfer promoted by tethered Mo(VI) dioxido complexes onto silica-coated magnetic nanoparticles, *Inorganica Chim. Acta*. 531 (2022) 120711. <https://doi.org/10.1016/j.ica.2021.120711>.

3. V. Paolucci, J. De Santis, L. Lozzi, G. Giorgi, C. Cantalini, Layered amorphous α -SnO₂ gas sensors by controlled oxidation of 2D-SnSe₂, *Sensors Actuators B Chem*. 350 (2022) 130890. <https://doi.org/10.1016/J.SNB.2021.130890>.

4. L. Zhang, C. Guo, C.-N. Kuo, H. Xu, K. Zhang, B. Ghosh, J. De Santis, D.W. Boukhvalov, I. Vobornik, V. Paolucci, C.S. Lue, H. Xing, A. Agarwal, L. Wang, A. Politano, Terahertz Photodetection with Type-II Dirac Fermions in Transition-Metal Ditellurides and Their Heterostructures, *Phys. Status Solidi - Rapid Res. Lett.* 2100212 (2021) 2100212. <https://doi.org/10.1002/pssr.202100212>.

5. D.W. Boukhvalov, S. Nappini, M. Vorokhta, T.O. Mente, L. Piliai, M. Panahi, F. Genuzio, J. De Santis, C.-N. Kuo, C.S. Lue, V. Paolucci, A. Locatelli, F. Bondino, A. Politano, Revisiting the Chemical Stability of Germanium Selenide (GeSe) and the Origin of its Photocatalytic Efficiency, *Adv. Funct. Mater.* 2106228 (2021) 1-13. <https://doi.org/10.1002/adfm.202106228>.

6. V. Paolucci, J. De Santis, L. Lozzi, M. Rigon, A. Martucci, C. Cantalini, ZnO thin films containing aliovalent ions for NO₂ gas sensor activated by visible light, *Ceram. Int.* 47 (2021) 25017-25028. <https://doi.org/10.1016/j.ceramint.2021.05.230>.
7. D.W. Boukhvalov, V. Paolucci, G. D'Olimpio, C. Cantalini, A. Politano, Chemical reactions on surfaces for applications in catalysis, gas sensing, adsorption-assisted desalination and Li-ion batteries: opportunities and challenges for surface science, *Phys. Chem. Chem. Phys.* 23 (2021) 7541-7552. <https://doi.org/10.1039/D0CP03317K>.
8. V. Paolucci, G. D'Olimpio, L. Lozzi, A.M. Mio, L. Ottaviano, M. Nardone, G. Nicotra, P. Le-Cornec, C. Cantalini, A. Politano, Sustainable Liquid-Phase Exfoliation of Layered Materials with Nontoxic Polarclean Solvent, *ACS Sustain. Chem. Eng.* 8 (2020) 18830-18840. <https://doi.org/10.1021/acssuschemeng.0c04191>.
9. G. D'Olimpio, S. Nappini, M. Vorokhta, L. Lozzi, F. Genuzio, T.O. Mente, V. Paolucci, B. Gürbulak, S. Duman, L. Ottaviano, A. Locatelli, F. Bondino, D.W. Boukhvalov, A. Politano, Enhanced Electrocatalytic Activity in GaSe and InSe Nanosheets: The Role of Surface Oxides, *Adv. Funct. Mater.* 30 (2020) 2005466. <https://doi.org/10.1002/adfm.202005466>.
10. G. D'Olimpio, F. Genuzio, T.O. Mente, V. Paolucci, C.N. Kuo, A. Al Taleb, C.S. Lue, P. Torelli, D. Farías, A. Locatelli, D.W. Boukhvalov, C. Cantalini, A. Politano, Charge Redistribution Mechanisms in SnSe₂ Surfaces Exposed to Oxidative and Humid Environments and Their Related Influence on Chemical Sensing, *J. Phys. Chem. Lett.* (2020) 9003-9011. <https://doi.org/10.1021/acs.jpcclett.0c02616>.
11. V. Paolucci, G. D'Olimpio, C.-N. Kuo, C.S. Lue, D.W. Boukhvalov, C. Cantalini, A. Politano, Self-Assembled SnO₂/SnSe₂ Heterostructures: A Suitable Platform for Ultrasensitive NO₂ and H₂ Sensing, *ACS Appl. Mater. Interfaces.* 12 (2020) 34362-34369. <https://doi.org/10.1021/acscami.0c07901>.
12. V. Paolucci, S.M.S.M. Emamjomeh, M. Nardone, L. Ottaviano, C. Cantalini, Two-Step Exfoliation of WS₂ for NO₂, H₂ and Humidity Sensing Applications, *Nanomaterials.* 9 (2019) 1363. <https://doi.org/10.3390/nano9101363>.
13. V. Paolucci, S.M. Emamjomeh, L. Ottaviano, C. Cantalini, Near Room Temperature Light-Activated WS₂-Decorated rGO as NO₂ Gas Sensor, *Sensors.* 19 (2019) 2617. <https://doi.org/10.3390/s19112617>.
14. M. Rigon, V. Paolucci, M. Sturaro, S.M. Emamjomeh, C. Cantalini, A. Martucci, Effect of Pt Nanoparticles on the Plasmonic and Chemoresistive Gas Sensing Properties of ZnO:Ga Film, *Proceedings.* 2 (2018) 997. <https://doi.org/10.3390/proceedings2130997>.
15. F. Perrozzi, S.M. Emamjomeh, V. Paolucci, G. Taglieri, L. Ottaviano, C. Cantalini, Thermal stability of WS₂ flakes and gas sensing properties of WS₂/WO₃ composite to H₂, NH₃ and NO₂, *Sensors Actuators, B Chem.* 243 (2017) 812-822. <https://doi.org/10.1016/j.snb.2016.12.069>.
16. A. Resmini, U. Anselmi-Tamburini, S.M.M. Emamjomeh, V. Paolucci, I.G.G. Tredici, C. Cantalini, The influence of the absolute surface area on the NO₂ and H₂ gas responses of ZnO nanorods prepared by hydrothermal growth, *Thin Solid Films.* 618 (2016) 246-252.