

TESIS DEFENDIDAS EN 2025-26 Y PUBLICACIONES DERIVADAS DE LAS MISMAS

QUÍMICA INORGÁNICA

Doctoranda	Titulo	Directores	Calificación
Rosario Presentación Criado García	DESARROLLO DE MATERIALES POLIFUNCIONALES: CRISTALES LIQUIDOS IONICOS Y METALOMESOGENOS DE METALES DE TRANSICION BASADOS EN GRUPOS PIRAZOL.	CRISTIÁN CUERVA DE ALAÍZ MERCEDES CANO ESQUIVEL	Sobresaliente
1. Criado, R.; Duarte, F.; Caro-Campos, I.; Cano, M.; Herrero, S.; Lodeiro, C.; Cuerva, C. Ionic liquid crystals containing pyridinium and pyrazolium units: mesomorphism and acidochromic behaviors. Dyes and Pigments, 2025, 243, 113050. DOI: 10.1016/j.dyepig.2025.113050.			

Doctorando	Titulo	Directores	Calificación
Daniel Gutiérrez Martín	SISTEMA ABO3-D (A = BA, ND; B = NI, FE): INFLUENCIA DE LAS CARACTERÍSTICAS COMPOSICIONALES Y TEXTURALES EN LAS PROPIEDADES CATALÍTICAS Y ELECTROCATALÍTICAS. / ABO3-D (A = BA, ND; B = NI, FE) SYSTEM: INFLUENCE OF COMPOSITIONAL AND TEXTURAL CHARACTERISTICS ON CATALYTIC AND ELECTROCATALYTIC PROPERTIES.	MARINA MARTA PARRAS VAZQUEZ MARIA AUREA VARELA LOSADA	Sobresaliente cum laude
2. Gutiérrez-Martín, D., Varela, A., Torres-Pardo, A., Hernando, M., Matesanz, E., González-Calbet, J. M., Portehault, David, Parras, M. BaNiO3 Electrocatalysts for Oxygen Evolution Reaction: The Role of Synthetic Methods. Inorganic Chemistry, 2025, 64, 36, 18385-18393. doi: 10.1021/acs.inorgchem.5c02875			
3. D. Gutiérrez-Martín, M. Hernando, M. Parras, A. Torres-Pardo, M.T. Fernández-Díaz, S. Savvin, J.M. González-Calbet, J.E. Rodrigues, R.S. Silva Jr, J.L. Martínez, A. Varela, Unveiling the magnetic structure of BaFeO3-y: Shedding light on the elusive magnetic behavior, Journal of Alloys and Compounds, 2025, 1010, 177081, DOI:10.1016/j.jallcom.2024.177081			

4. Daniel Gutiérrez-Martín, Abdelilah Asserghine, Almudena Torres-Pardo, Áurea Varela, Joaquín Rodríguez-López, José María González-Calbet, Marina Parras, Evaluating the impact of iron impurities in KOH on OER performance of BaNiO₃ single crystals using scanning electrochemical cell microscopy, *Electrochimica Acta*, 2024, 499, 144705, DOI: 10.1016/j.electacta.2024.144705
5. Gutiérrez-Martín, D.; Varela, A.; González-Calbet, J.M.; Matesanz, E.; Parras, M. Revisiting the Decomposition Process of Tetrahydrate Co(II) Acetate: A Sample's Journey through Temperature. *Appl. Sci.* 2022, 12, 6786. DOI: 10.3390/app12136786
6. D. Gutiérrez-Martín, A. Varela, M. Hernando, A. Torres-Pardo, E. Matesanz, I. Gómez-Recio, J. M. González-Calbet, M. T. Fernández-Díaz, J. J. Calvino, M. A. Cauqui, M. P. Yeste, and M. Parras. Exploring Reversible Redox Behavior in the 6H-BaFeO₃- δ ($0 < \delta < 0.4$) System: Impact of Fe³⁺/Fe⁴⁺ Ratio on CO Oxidation. *Inorganic Chemistry* 2024 63 (19), 8908-8918. DOI: 10.1021/acs.inorgchem.4c00917

Doctoranda	Titulo	Directores	Calificación
Marianela Gómez Toledo	CALCULOS DFT EN EL ESTUDIO DE OXIDOS MIXTOS: ESTRUCTURA, PROPIEDADES Y APLICACIONES EN LA ECONOMIA DEL HIDROGENO.	MARIA ELENA ARROYO DE DOMPABLO	Sobresaliente cum laude
1. ME Arroyo-de Dompablo and M Gomez-Toledo, DFT insights on iron-based layered perovskites as oxygen catalysts, <i>Journal of Materiomics</i>, 101128 (2025) https://doi.org/10.1016/j.jmat.2025.101128 2. M Gómez-Toledo, K Boulahya, L Collado, V. de la Peña and ME Arroyo-de Dompablo, Upgrading photocatalytic hydrogen evolution in Ba–Sr–Ta–O perovskite-type layered structures, <i>International Journal of Hydrogen Energy</i> 63, 1003-1012 (2024) https://doi.org/10.1016/j.ijhydene.2024.02.346 3. M. Gómez-Toledo and E.M. Arroyo-de Dompablo Ab Initio Investigation of Oxygen Ion Diffusion in the Layered Perovskite System YSr₂Cu₂FeO_{7+δ} ($0 < \delta < 1$), <i>Appl. Sci.</i> 14(15), 6586 (2024). https://doi.org/10.3390/app14156586 4. M Gómez-Toledo and EM Arroyo-de Dompablo The SCAN+ U method in the investigation of complex transition metal oxides: a case study on YSr₂Cu₂ FeO_{7+ δ} ($\delta = 0, 1$), <i>Physical Chemistry Chemical Physics</i> 26 (24), 17255-17264, (2024) 10.1039/D4CP00874J 5. M. Gómez-Toledo, K. Boulahya and M.E. Arroyo-de Dompablo First Principles Study on the Features of Ca_x Sr_{2-x} Ta₂ O₇ ($x = 0, 1$) as a Photocatalytic Material. <i>Engineering Proceedings</i> 31(1), 3- 6 (2023) https://doi.org/10.3390/ASEC2022-13794 6. M.Gómez-Toledo, S. A. López-Paz, S.García-Martín, and M. Elena Arroyo-de Dompablo, Metal-to-Insulating Transition in the Perovskite System YSr₂Cu₂FeO_{8-δ} ($0 < \delta < 1$) Modeled by DFT Methods, <i>Inorganic Chemistry</i>, 62, 8, 3445–3456 (2023). https://doi.org/10.1021/acs.inorgchem.2c03475			

7. Gómez-Toledo, M.; Amador, U.; Arroyo-de Dompablo, M.E: Dimensionality and Compositional Effects on Sr–Fe-Based Ruddlesden–Popper Oxides for Oxygen Catalysis. Chem. Mater. 2026, 38 (7), 3572–3580. DOI: 10.1021/acs.chemmater.5c03458.

Doctoranda	Titulo	Directores	Calificación
Isabel Coloma Manjón-Cabeza	DESIGN AND SYNTHESIS OF DIRUTHENIUM COMPOUNDS FOR APPLICATIONS IN BIOMEDICINE AND THE STUDY OF THE CHIRALITY-INDUCED SPIN SELECTIVITY EFFECT. / DISEÑO Y SINTESIS DE COMPUESTOS DE DIRRUTENIO PARA APLICACIONES EN BIOMEDICINA Y EL ESTUDIO DEL EFECTO DE SELECTIVIDAD DE ESPIN INDUCIDO POR LA QUIRALIDAD.	SANTIAGO HERRERO DOMINGUEZ MIGUEL CORTIJO MONTES	Sobresaliente cum laude
1. Isabel Coloma; Thierry Buffeteau; Gilles Pecastaings; Santiago Herrero; Elizabeth Hillard; Patrick Rosa; Miguel Cortijo; Mathieu Gonidec, Robust large-area molecular junctions of self-assembled monolayers of a model helical paddlewheel complex. Nanoscale, 2025,17, 12065-12071. DOI: 10.1039/d5nr00050e 2. Isabel Coloma; Miguel Cortijo. Dissymmetry in paddlewheel chemistry. Coord Chem Rev. 2025, 544, 216979. DOI: 10.1016/j.ccr.2025.216979 3. Isabel Coloma; Santiago Herrero; Miguel Cortijo. Intrinsically chiral paddlewheel diruthenium complexes. CrystEngComm. 2024, 26, 6739-6747. DOI: 10.1039/D4CE01040J 4. Isabel Coloma; Jorge Parrón-Ballesteros; Miguel Cortijo; Cristián Cuerva; Javier Turnay; Santiago Herrero, Overcoming Resistance of Caco-2 Cells to 5-Fluorouracil Through Diruthenium Complex Encapsulation in PMMA Nanoparticles. Inorg Chem. 2024, 63, 28, 12870-12879. DOI: 10.1021/acs.inorgchem.4c01323			

5. Isabel Coloma; Miguel Cortijo; María José Mancheño; María Eugenia León-González; Crisanto Gutierrez; Bénédicte Desvoves; Santiago Herrero, Diruthenium complexes as pH-responsive delivery systems: a quantitative assessment. *Inorg. Chem. Front.* 2023, 10, 4402-4413. DOI: 10.1039/D3QI00399J
6. Isabel Coloma; Miguel Cortijo; Inés Fernández-Sánchez; Josefina Perles; José L. Priego; Crisanto Gutiérrez; Reyes Jiménez-Aparicio; Bénédicte Desvoves; Santiago Herrero, pH- and Time-Dependent Release of Phytohormones from Diruthenium Complexes. *Inorg Chem.* 2020, 59, 11, 7779-7788. DOI: 10.1021/acs.inorgchem.0c00844
7. Coloma, I.; Giaconi, N.; Parmeggiani F.; Buffeteau, T.; Pécastaings, G.; Herrero, S.; Hillard, E.A.; Rosa, P.; Poggini, L.; Mannini, M.; Cortijo, M.; Gonidec, M. Efficient Chirality-Induced Spin Selectivity in Self-Assembled Monolayers of Ru₂⁵⁺ Paddlewheel Complexes, *J. Am. Chem. Soc.* 2026, 148 (27), 28283–28292. DOI: 10.1021/jacs.6c02811.
8. Coloma I.; Kordestani, N.; Herrero, S.; Hillard, E. A.; Cortijo, M. Cationic chiral-at-metal paddlewheel diruthenium complexes. *Polyhedron*, 2026, 297, 118268. DOI: 10.1016/j.poly.2026.118268.

Doctorando	Titulo	Directores	Calificación
Rubén Serrano Nieto	Novel phosphonate-based metal-organic frameworks: from design to application/ Nuevas redes metal-orgánicas basadas en ligandos fosfonato: del diseño a la aplicación	Patricia Horcajada Cortés	Sobresaliente Cum Laude
1. Salcedo-Abraira, P.; Serrano-Nieto, R.; Biglione, C.; Cabrero-Antonino, M.; Vilela, S.M.; Babaryk, A.A.; Tilve-Martínez, D.; Rodríguez-Diéguez, A.; Navalón, S.; García, H. Horcajada, P. Two Cu-Based Phosphonate Metal-Organic Frameworks as Efficient Water-Splitting Photocatalysts, <i>Chem. Mater.</i> 2023, 35 (11), 4211. DOI: 10.1021/acs.chemmater.3c00054. 2. Serrano-Nieto, R.; Carrasco, S.; Morales-Cámara, S.; Rodríguez-Diéguez, A.; Biglione, C.; Salcedo-Abraira, P.; Pérez Y.; Rojas, S.; Horcajada, P. Novel pyrene phosphonate metal-organic frameworks to efficiently degrade sulfamethazine in wastewater, <i>Journal of Environmental Chemical Engineering</i>, 2025, 13, 115647. DOI: 10.1016/j.jece.2025.115647. 3. Serrano-Nieto R.; Rentero, C.; Salcedo-Abraira, P.; Biglione, C.; Cornejo Manrique, A.M.; Devic, T.; Sessini, V.; Mosquera, M.E.G.; Horcajada, P. Triazine Mg-Based Phosphonate Metal–Organic Framework for ε-Caprolactone Polymerization, <i>Inorg. Chem.</i> 2025, 64 (23), 11696–11704. DOI: 10.1021/acs.inorgchem.5c01174.			

4. Serrano-Nieto, R.; Yiu, W.K.; Giza, M.; Angus, F.J.; Cooke, G.; Horcajada, P.; Pérez, Y.; Docampo, P. Controlling Band-Bending for Perovskite Optoelectronic Devices Using Bismuth-Based Interlayers. *ACS Omega*, 2025, 10 (43), 52067–52075. DOI: 10.1021/acsomega.5c09745.
5. Serrano-Nieto, R.; Abán, M.; Mosquera, M.E.G.; Hidalgo, T.; Ayala, C.; Álvarez-Miguel, I.; Horcajada, P. Ca-triazine phosphonate metal–organic framework as fungicide active packaging. *Inorg. Chem. Front.* 2026, 13 (2), 708–717. DOI: 10.1039/D5QI01619C.

Doctoranda	Titulo	Directores	Calificación
Monica Chivite Lacaba	Diseño y optimización de electrodos para SOFC alimentadas con H₂ y NH₃ como vía hacia sistemas energéticos sostenibles/ Design and optimization of electrodes for H₂ and NH₃ fueled SOFCs as a pathway toward sustainable energy systems.	Vanessa Amelia Cascos Jiménez José Antonio Alonso Alonso	
1. Chivite Lacaba, M.; Alveal, A.; Prado-Gonjal, J.; Antonio Alonso, J.; Fernández Díaz, M.T.; Troncoso, L.; Cascos V. Reducing the Cobalt Content in SrCo_{0.95}Ti_{0.05}O_{3-δ}-Based Perovskites to Produce Cleaner Cathodes for IT-SOFCs. <i>ACS Appl. Energy Mater.</i> 2023, 6 (2), 1046–1055. DOI: 10.1021/acsaem.2c03569. 2. Chivite-Lacaba, M.; Prado-Gonjal, J.; Troncoso, L.; Alonso, J.A.; Cascos, V. SrCo_{0.50}Fe_{0.40}Ir_{0.10}O_{3-δ} Decorated with Pd and La_{0.8}Sr_{0.2}Ga_{0.83}Mg_{0.17}O_{3-δ}: A Cleaner Electrode for Intermediate-Temperature Solid Oxide Fuel Cells with Reduced Cobalt Content. <i>ACS Appl. Energy Mater.</i> 2024, 7 (3): 986–996. DOI: 10.1021/acsaem.3c02361. 3. Cascos, V.; Chivite-Lacaba, M.; Biškup, N.; Fernández-Díaz, M. T.; Alonso, J. A. SrMo_{0.9}O_{3-δ} Perovskite with Segregated Ru Nanoparticles Performing as Anode in Solid Oxide Fuel Cells. <i>ACS Appl. Mater. Interfaces</i>, 2024, 16 (14) 17474–17482. DOI: 10.1021/acsami.3c19099. 4. Chivite-Lacaba, M.; Prado-Gonjal, J.; Alonso, J.A.; Fernández-Díaz, M.T.; Cascos, V. High performance of SrCo_{1-x}Zr_xO_{3-δ} perovskite cathodes for IT-SOFCs. <i>Ceramics International</i>, 2024, 50 (15), 26929. DOI: 10.1016/j.ceramint.2024.04.424. 5. Chivite-Lacaba, M.; García Fernandes, A.; Prado-Gonjal, J.; Alonso, J.A.; Cascos, V. Sr_{0.7}R_{0.3}CoO_{3-δ} (R = Gd, Eu, and Sm) Perovskites Infiltrated with Pd: Enhancing the Performance as Cathode Materials in Solid Oxide Fuel Cells. <i>Appl. Energy Mater.</i> 2024, 7 (19): 8726–8734. DOI: 10.1021/acsaem.4c01683.			

6. Chivite-Lacaba, M.; Prado-Gonjal, J.; Alonso, J.A.; Fernández-Díaz, M.T.; Cascos, V. Sr0.90Ba0.10Co0.95Ti0.05O3- δ cathode as an improved electrode for IT-SOFCs, *Ceramics International*, 2024, 50 (22), 45640. DOI: 10.1016/j.ceramint.2024.08.403.
7. Cascos, V.; Chivite-Lacaba, M.; Prado-Gonjal, J.; Fernández-Díaz, M. T. Alonso, J. A. Mixed ionic and electronic behaviour in SrCo1-xScxO3- δ (x = 0.1 and 0.2) perovskites: novel cathode materials for SOFC, *Acta Materialia*, 2025, 296, 121262. DOI: 10.1016/j.actamat.2025.121262.
8. Chivite-Lacaba, M; Alonso, J. A.; Fernández-Díaz, M. T.; Cascos, V. SrCo0.90Nb0.10O3- δ perovskite as performing cathode for SOFC: structure-properties relationship from high-temperature synchrotron x-ray studies. *Ceramics International*, 2025, 51(26), 50825. DOI: 10.1016/j.ceramint.2025.08.307.
9. Cascos V.; Sánchez de Bustamante, L.; Chivite-Lacaba, M.; Fernández-Díaz, M. T.; Alonso, J. A. High-temperature evolution of Ba0.75Sr0.25Fe0.875Ga0.125O3- δ : A DFT-designed perovskite cathode for solid oxide fuel cells investigated by neutron powder diffraction. *Journal of Materiomics*, 2026. DOI: 10.1016/j.jmat.2026.101316.

Doctorando	Titulo	Directores	Calificación
Juan Carlos Martínez López	POLÍMEROS DE MICROPOROSIDAD INTRÍNSECA (PIMs) PARA ALMACENAMIENTO DE ENERGÍA / POLYMERS OF INTRINSIC MICROPOROSITY (PIMs) FOR ENERGY STORAGE	Javier Carretero González y Cristina Álvarez Sancho	
1. Fernández-Benito, A.; Martínez-López, J. C.; Javad Jafari, M. ; Solin, N.; Martinez, J. G.; Garcia-Gimenez, D.; Ederth, T. ; Inganäs, O.; Carretero-González, J. Green and Scalable Biopolymer-Based Aqueous Polyelectrolyte Complexes for Zinc-Ion Charge Storage Devices. <i>ChemElectroChem</i>, 2023. DOI: 10.1002/celec.202300327. 2. Martínez-López, J. C.; García Giménez, D.; Ares Dorado, A. El papel de los polímeros en la revolución de las baterías: Impulsando la eficiencia y sostenibilidad en la movilidad eléctrica. <i>Revista de Plásticos Modernos CSIC</i>, 2023. 3. Martínez-López, J. C.; Santos Rodríguez, M.; Oliver Cuenca, V.; Testa, S.; van Eck, E.; Zhao, E. W.; Lozano, A. E.; Álvarez, C.; Carretero-González J., Dibenzodioxin-Based Polymers of Intrinsic Microporosity with Enhanced Transport Properties for Lithium Ions in Aqueous Media. <i>Macromolecules</i>. 2024, 57 (19), 9442. DOI: 10.1021/acs.macromol.4c01243. 4. Durán-Egido, V.; García-Giménez, D.; Martínez-López, J. C.; Pérez-Vidal, L.; Carretero-González, J. Metal–Organic Frameworks as Fillers in Porous Organic Polymer-Based Hybrid Materials: Innovations in Composition, Processing, and Applications. <i>Polymers</i>, 2025. DOI: 10.3390/polym17141941.			

5. Silva Testa, G. A.; Santos Rodríguez, M.; Martínez-López, J.C.; Lozano, A.E.; Álvarez, C.; Carretero-González, J.; Zhao, E.W. Operando benchtop NMR study of ion transport through fluorine-free polymer membranes in a symmetric redox flow cell. J. Mater. Chem. C. 2026. DOI: 10.1039/D5TA06160A.

QUÍMICA ANALÍTICA

Doctorando	Titulo	Directores	Calificación
CLARA ANTÍA GARCÍA GUERRERO	Desarrollo de un protocolo de optimización con Inteligencia Artificial y su aplicación en el tratamiento de muestras para la detección de Agentes de Guerra Biológicos	María Milagros Gómez Gómez Javier Bermejo Higuera	Sobresaliente CUM LAUDE
Sin publicaciones derivadas.			

Doctorando	Titulo	Directores	Calificación
VÍCTOR MANUEL EXPÓSITO SUÁREZ	Análisis y aplicación de las Series Radiactivas Naturales para la resolución de problemas medioambientales. Analysis and application of Natural Radioactive Series for the resolution of environmental problems	José Antonio Suárez Navarro	Sobresaliente CUM LAUDE

1. J.A. Suárez-Navarro, V.M. Expósito-Suárez, M.T. Crespo, B. Sánchez-Castaño, M.J. Suárez-Navarro, C. Gascó, M. Barragán, J.L. Gascón, R. Pecker, L. Sánchez-Pérez, L. González-Cano e, A. Rosario. Improvements in the radiochemical method for separating ^{226}Ra in solid samples through coprecipitation with BaSO_4 . *Applied Radiation and Isotopes*, vol. 187 (2022). DOI: 10.1016/j.apradiso.2022.110321.
2. V. M. Expósito-Suárez, J. A. Suárez-Navarro, P. Vacas-Arquero, A. Caro. Application of gamma spectrometry for the characterization and influence of the archeological works of an archaeological site. *Journal of Radioanalytical and Nuclear Chemistry*, vol. 332 (2022). DOI: 10.1007/s10967-022-08708-0.
3. V.M. Expósito-Suárez, J.A. Suárez-Navarro, J.F. Benavente, P. Aragón, J.C. Mora. Radiological characterization of a uranium glass collectible by gamma spectrometry. *Radiation Physics and Chemistry*, vol. 199 (2022). DOI: 10.1016/j.radphyschem.2022.110299.
4. J.A. Suárez-Navarro, E. Gil-Pacheco, V.M. Expósito-Suárez, M.B. Gómez-Mancebo, N. Vicente-Prieto, H. García-Gómez, M.J. Suárez-Navarro, S.M. Sánchez-González, A. Caro, G. Hernáiz, M. Barragán, C. Cid-Morillo. Influence of soil chemical composition on U, ^{226}Ra and ^{210}Pb uptake in leaves and fruits of *Quercus ilex* L. *Journal of Environmental Radioactivity*, vol. 264 (2023). DOI: 10.1016/j.jenvrad.2023.107187.
5. V.M. Expósito-Suárez, J.A. Suárez-Navarro, C.M. Aguado-Herreros, M.B. Sanz, M.J. Suárez-Navarro, A. Caro. Increasing the recovery and selectivity of ^{238}U , ^{235}U , and ^{234}U extraction with tri-n-butyl phosphate in mine tailing samples with a high copper content. *Analytica Chimica Acta*, vol. 1259 (2023) DOI: 10.1016/j.aca.2023.341183.
6. A. Barba-Lobo, V.M. Expósito-Suárez, J.A. Suárez-Navarro, J.P. Bolívar. Robustness of LabSOCS calculating the Ge detector efficiency for the measurement of radionuclides. *Radiation Physics and Chemistry*, vol. 205 (2023). DOI: 10.1016/j.radphyschem.2022.110734.
7. V.M. Expósito-Suárez, J.A. Suárez-Navarro, A. Caro, M.B. Sanz, M.B. Gómez-Mancebo, M. Barragán, M.J. Suárez-Navarro, A. Ferreiro, T. Fitzgerald, P. Sánchez-Sánchez, E. Gil-Pacheco. Model of U and ^{226}Ra uptake by *Spergularia rubra* (L.) J. Presl C. Presl in an área affected by Cu ore mining. *Journal of Radioanalytical and Nuclear Chemistry*, vol. 333 (2024). DOI: 10.1007/s10967-024-09626-z.
8. V.M. Expósito-Suárez, J.A. Suárez-Navarro, M. Morales-Quijano, M.B. Gómez-Mancebo, M. Barragán, M. Cortecero, J.F. Benavente. Modelling the Uptake of ^{226}Ra and ^{238}U Stable Elements in Plants during Summer in the Vicinity of Tailings from an Abandoned Copper Mine. *Applied Sciences*, vol. 14 (2024). DOI: 10.3390/app14209201.
9. V.M. Expósito-Suárez, J.A. Suárez-Navarro, A. Caro, M.B. Sanz, G. Hernaiz, A. González-Sanabria, M.J. Suárez-Navarro, L. Jordá-Bordehore, H. Chamorro-Villanueva, M. Arlandi, J.F. Benavente. Radiological characterization of the tailings of an abandoned copper

mine using a neural network and geostatistical analysis through the Co-Kriging method. Environmental Geochemistry and Health, vol. 46 (2024). DOI: 10.1007/s10653-024-02070-8.

10. V.M. Expósito-Suárez, J.A. Suárez-Navarro, J.F. Benavente. Study of the Chemical Recovery and Selectivity against U in the Radiochemical Separation of Th with Tri-n-butyl Phosphate by Varying the Proportion of Xylene and HCl Concentration. Molecules, vol. 29 (2024). DOI: 10.3390/molecules29174225.
11. J.A. Suárez-Navarro, J.F. Benavente, V.M. Expósito-Suárez, A. Caño, G. Hernaiz, M.M. Alonso. ^{226}Ra activity concentration determined directly from the 186 keV photopeak using gamma spectrometry and a neural network. Radiation Physics and Chemistry, vol. 217 (2024). DOI: 10.1016/j.radphyschem.2023.111486.
12. A. Barba-Lobo, V.M. Expósito-Suárez, J.A. Suárez-Navarro, J.P. Bolívar. A new methodology for efficiency calibration of uncharacterized Ge detectors by using characterized Ge detectors. Radiation Physics and Chemistry, vol. 221 (2024). DOI: 10.1016/j.radphyschem.2024.111763.
13. V.M. Expósito-Suárez, J.A. Suárez-Navarro, E. Fernandez, M. Barragán, O.C. Lind, J. Mantero, R. García-Tenorio. Plant transfer factors of naturally occurring radioactive decay series radionuclides, ^7Be and ^{137}Cs in a semi-arid climate. Applied Radiation and Isotopes, vol. 217 (2025). DOI: 10.1016/j.apradiso.2024.111616.
14. V.M. Expósito-Suárez, M.B. Gómez-Mancebo, M. Barragán, E.A. Herreras, E. Sánchez-Barroso, J.F. Benavente, J.A. Suárez-Navarro. Mobility and Retention Mechanisms of ^{238}U , ^{230}Th , ^{226}Ra , and ^{210}Pb in Soils from the Waste Dump of an Abandoned Cu Mine. Journal of Hazardous Materials, vol. 500 (2025). DOI: 10.1016/j.jhazmat.2025.140598.
15. J.A. Suárez-Navarro, V.M. Expósito-Suárez*, P. Salvador, E.M. Fernández, J.L. Costa-Krämer, R. Álvaro, J.E. Ndjana Nkoulou II, J.F. Benavente. Contribution of Natural and Anthropogenic Radionuclides from Saharan Dust during the March 2022 Event in the Iberian Peninsula. Chemosphere, vol. 393 (2025). DOI: 10.1016/j.chemosphere.2025.144778.
16. A. Álvarez, J.A. Suárez-Navarro, M.A. López Ponte, V.M. Expósito-Suárez. Optimisation of waste management from the remediation of uranium contaminated soils. Annals of Nuclear Energy, vol. 227 (2026). DOI: 10.1016/j.anucene.2025.111955.
17. E. Sánchez-Barroso, J.A. Suárez-Navarro, J.F. Benavente, M. Gonzalo-Barrajón, V. Yagüe-Jiménez, I. Cañamón, V.M. Expósito-Suárez. Correction of the influence of ^{235}U on the determination of ^{226}Ra activity concentration using the 186 keV gamma peak. Radiation Physics and Chemistry, vol. 249 (2026) 114228. DOI: 10.1016/j.radphyschem.2026.114228.

Doctorando	Titulo	Directores	Calificación
JAFET CÁRDENAS ESCUDERO	Análisis de muestras complejas mediante espectroscopía de ablación inducida por láser (LIBS) y tratamiento quimiométrico avanzado.	Dr. Jorge O. Cáceres	Sobresaliente CUM LAUDE

1. Cárdenas-Escudero, J., David Galán-Madruga, and Jorge O. Cáceres. "Laser-Induced Breakdown Spectroscopy as an Accurate Forensic Tool for Bone Classification and Individual Reassignment." *Applied Spectroscopy* 79, no. 2 (2025): 241-59. <https://doi.org/10.1177/00037028241277897>.
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12. Galán-Madruga, D., J. Cárdenas-Escudero, P. Broomandi, J. O. Cáceres, and María Del Carmen González. "Evaluating Urban Indoor and Outdoor Pm10-Bound Organochlorine Pesticides. Air Quality Status and Health Impact." *Building and Environment* 228 (2023): 109818. <https://doi.org/10.1016/j.buildenv.2022.109818>.
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16. Galán-Madruga, David, Jafet Cárdenas-Escudero, and J. O. Cáceres. "Relationship between Disabilities and Air Quality." In *The Palgrave Encyclopedia of Disability*. Edited by Gabriel Bennett and Emma Goodall. Palgrave Macmillan Cham: Springer Nature Switzerland, 2025. https://doi.org/10.1007/978-3-031-40858-8_353-1.
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Doctorando	Titulo	Directores	Calificación
ANABEL VILLALONGA CHICO	PLATAFORMAS BIOSENSORAS PARA APLICACIONES BIOMÉDICAS	Reynaldo Villalonga Santana Irene Ojeda Fernández Yaiza Belacortu Pastor	Sobresaliente CUM LAUDE

1. Villalonga, A., Estabiel, I., Pérez-Calabuig, A. M., Mayol, B., Parrado, C., & Villalonga, R. (2021). Amperometric aptasensor with sandwich-type architecture for troponin I based on carboxyethylsilanetriol-modified graphene oxide coated electrodes. *Biosensors and Bioelectronics*, 183, 113203. <https://doi.org/10.1016/j.bios.2021.113203>.
2. Villalonga, A., Sánchez, A., Vilela, D., Mayol, B., Martínez-Ruiz, P., & Villalonga, R. (2022). Electrochemical aptasensor based on anisotropically modified (Janus-type) gold nanoparticles for determination of C-reactive protein. *Microchimica Acta*, 189(8), 309. <https://doi.org/10.1007/s00604-022-05420-4>.
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6. Villalonga, A., Garrido, I., Qamlach, W. R., Ferchichi, H., Ojeda, I., Vilela, D., Sánchez, A., Fernández-Valverde, C., Martínez-Ruiz, P. & Villalonga, R. (2025). Sandwich-type amperometric aptasensor for carcinoembryonic antigen based on Janus colloids as enzyme-free labeling elements. *Sensing and Bio-Sensing Research*, 100907. <https://doi.org/10.1016/j.sbsr.2025.100907>.
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QUÍMICA FÍSICA

Doctorando	Titulo	Directores	Calificación
David Valdivieso González	Curvature sorting of rotating F1Fo-ATP synthase in lipid tubes / Acumulación de F1Fo-ATP sintasa activa en nanotubos lipídicos	Iván López Montero y Víctor Galileo Almendro Vedia	Sobresaliente Cum laude
1. Valdivieso González, D., Sacristan M.A., Natale, P., Orgaz, B., Lillo, M.P., Almendro-Vedia, V., and López-Montero, I. (2025). Elastic remodeling of model and cell membranes by rotating ATP synthase. Cell Reports Physical Science (5), 102567. doi: 10.1016/j.xcrp.2025.102567. 2. Valdivieso González, D.*, Makowski, M.*, Lillo, M.P., Cao-García, F.J., Melo, M.N., Almendro-Vedia, V.G., and López-Montero, I. (2023). Rotation of the c -Ring Promotes the Curvature Sorting of Monomeric ATP Synthases. Advanced Science (10), e2301606. doi: 10.1002/advs.202301606. *Shared first authorship 3. Schiaffarino, O., Valdivieso González, D., García-Pérez, I.M., Peñalva, D.A., Almendro-Vedia, V., Natale, P., and López-Montero, I. (2022). Mitochondrial membrane models built from native lipid extracts: Interfacial and transport properties. Frontiers in Molecular Biosciences (9) 910936. doi: 10.3389/fmolb.2022.910936. 4. Almendro-Vedia, V., Natale, P., Valdivieso González, D., Lillo, M.P., Aragonés, J.L, and López-Montero, I. (2021). How rotating ATP synthases can modulate membrane structure. Archives of Biochemistry and Biophysics (708), 108939. doi: 10.1016/j.abb.2021.108939.			

Doctorando	Titulo	Directores	Calificación
Laura Maestro Guijarro	Metodologías fotónicas avanzadas para el estudio y conservación de Patrimonio Cultural tangible	Dr. Mohamed Oujja Ayoubi Dra. Paula María Carmona Quiroga	Pendiente de defensa

1. D. Ciofini, L. Maestro-Guijarro, P.M. Carmona-Quiroga, I. Osticioli, M. Castillejo, S. Siano, M. Oujja, «Varnish-coated oil paints under laser treatment: Comparative surface- and depth-resolved assessment of 213 nm (15 ns), 266 nm (15 ns), and 2940 nm (160 μ s) ablation regimes», *Appl. Surf. Sci.*, vol. 745, p. 167446, 2026, doi: 10.1016/j.apsusc.2026.167446.
2. D. Quintero Balbas, L. Maestro-Guijarro, P.M. Carmona-Quiroga, M. Oujja, M. Castillejo, B. Cattaneo, A. Bernardoni, A. Santagostino Barbone, A. Cagnini, J. Striova., «Insights into the stratigraphy of gelatin-based emulsion in historical dry plate photographic negatives: A multi-analytical approach», *Microchem. J.*, vol. 212, p. 113379, 2025, doi: 10.1016/j.microc.2025.113379.
3. L. Maestro-Guijarro, M. Sedano, N. Schibille, T. Pradell, M. Castillejo, M. Oujja, T. Palomar, «Determination of Boron Content in Surface Paintings From Historical Stained-Glass Windows», *Chem. Methods*, vol. 5, n.o 5, p. e202400057, 2025, doi: 10.1002/cmt.202400057.
4. L. Maestro-Guijarro, P. Punter, F.J. Menasalvas, A. Crespo, S. Sanchez-Cortes, R. Fort, M. Álvarez De Buergo, P.M. Carmona-Quiroga, M. Castillejo, M. Oujja, «Spectroanalytical approach for analysis of archaeological objects related to personal adornment from Teruel Museum», *J. Cult. Herit.*, vol. 76, pp. 277-287, 2025, doi: 10.1016/j.culher.2025.10.012.
5. L. Maestro-Guijarro, A. Pinilla, P.M. Carmona-Quiroga, F. Agua, M. Castillejo, M. García-Heras, M. Oujja, M.A. Villegas, «Authentication of glass beads from Cultural Heritage: An interdisciplinary and multi-analytical approach», *Talanta*, vol. 286, p. 127510, 2025, doi: 10.1016/j.talanta.2024.127510.
6. D. Quintero Balbas, L. Maestro-Guijarro, P.M. Carmona-Quiroga, M. Oujja, M. Castillejo, F. Bettini, S. Porcinai, J. Striova, «Non-invasive stratigraphic analyzes of gelatine-based modern painting materials with linear and nonlinear optical methods», *J. Phys.: Photonics*, vol. 6, n.o 3, p. 035018, 2024, doi: 10.1088/2515-7647/ad5772.
7. L. Maestro-Guijarro, S. Martínez-Ramírez, S. Sanchez-Cortes, J.F. Marco, J. De La Figuera, M. Castillejo, M. Oujja, P.M. Carmona-Quiroga, «Assessment of silver-based calcium silicate hydrate as a novel SERS sensor», *Appl. Surf. Sci.*, vol. 662, p. 160107, 2024, doi: 10.1016/j.apsusc.2024.160107.

Conjuntos de datos

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Doctorando	Titulo	Directores	Calificación
Carolina Muñoz Núñez	Polímeros sostenibles biobasados con actividad antimicrobiana. Biobased polymers with antimicrobial activity.	Alexandra Muñoz Bonilla y Marta Fernández García	Sobresaliente Cum Laude
- Muñoz-Núñez, C., Fernández-García, M., & Muñoz-Bonilla, A. (2022). Chitin nanocrystals: Environmentally friendly materials for the development of bioactive films. <i>Coatings</i>, 12(2), 144. - Muñoz-Nuñez, C., Cuervo-Rodríguez, R., Echeverría, C., Fernández-García, M., & Muñoz-Bonilla, A. (2023). Synthesis and characterization of thiazolium chitosan derivative with enhanced antimicrobial properties and its use as component of chitosan based films. <i>Carbohydrate Polymers</i>, 302, 120438. - Muñoz-Núñez, C., Hevilla, V., Zagora, J., Plachá, D., Muñoz-Bonilla, A., & Fernández-García, M. (2025). Functionalization of chitosan-chitin nanowhiskers films by impregnation with essential oils via supercritical CO₂. <i>Journal of Polymers and the Environment</i>, 33(1), 96-111. - Muñoz-Núñez, C., Hevilla, V., Blázquez-Blázquez, E., Zagora, J., Plachá, D., Muñoz-Bonilla, A., & Fernández-García, M. (2024). Functionalization of chitosan films using essential oils by supercritical CO₂ impregnation method for various applications. <i>Carbohydrate Polymer Technologies and Applications</i>, 8, 100559. - Muñoz-Núñez, C., Gómez-Fernández, N., Muñoz-Bonilla, A., & Fernández-García, M. (2025). Chemical modification of chitosan with bioactive molecules: a sustainable approach for advanced film development. <i>International Journal of Molecular Sciences</i>, 26(21), 10403. - Muñoz-Nuñez, C., Quiroz-Pereira, Y., Muñoz-Bonilla, A., & Fernández-García, M. (2025). Enhancing antimicrobial and antioxidant properties of chitosan-based films with 1-methylimidazolium-chitosan. <i>Polymers</i>, 17(19), 2608. - Muñoz-Núñez, C., Barco-Martín, A., Deshpande, K., Schmidt, D. S., González-García, L., Trujillo, S., ... & Fernández-García, M. (2025). Tuning the biological scaffolds' performance by the combination of two antioxidant and antimicrobial chitosan derivatives. <i>Carbohydrate Polymer Technologies and Applications</i>, 101069.			

8. Muñoz-Núñez, C., Barco-Martín, A., Deshpande, K., Schmidt, D. S., González-García, L., Trujillo, S., ... & Fernández-García, M. (2026). Incorporation of imidazolium chitosan derivative yields scaffolds with enhanced antioxidant, antimicrobial and immunomodulatory properties. *Regenerative Biomaterials*, 13, rbag077.