TESIS DEFENDIDAS EN 2021-22 Y PUBLICACIONES DERIVADAS DE LAS MISMAS

Doctorando	Titulo	Directores	Calificación
Ana Arenas Vivo	**Enhancement of metal-organic frameworks properties by the association of active nano-species. Mejora de las propiedades de redes metal-orgánicas mediante la asociación de nano-especies activas.**	**Patricia Horcajada Cortés**	**Sobresaliente cum laude**

1. Rojas, S., Arenas-Vivo, A., Horcajada, P. (2019). Metal-organic frameworks: A novel platform for combined advanced therapies. Coordination Chemistry Reviews, 388, 202-226.
2. Carrillo-Carrión, C., Martínez, R., Navarro Poupard, M. F., Pelaz, B., Polo, E., Arenas-Vivo, A., Horcajada, P., Del Pino, P. (2019). Aqueous stable gold nanostar/ZIF-8 nanocomposites for light-triggered release of active cargo inside living cells. Angewandte Chemie, 131(21), 7152-7156.
3. Arenas-Vivo, A., Rojas, S., Ocaña, I., Torres, A., Liras, M., Salles, F., Horcajada, P. (2021). Ultrafast reproducible synthesis of a Ag-nanocluster@ MOF composite and its superior visible-photocatalytic activity in batch and in continuous flow. Journal of Materials Chemistry A, 9(28), 15704-15713.
4. Quaresma, S., André, V., Antunes, A. M., Vilela, S. M., Amariei, G., Arenas-Vivo, A., Horcajada, P., Duarte, M. T. (2019). Novel antibacterial azelaic acid BioMOFs. Crystal Growth & Design, 20(1), 370-382.
5. Arenas-Vivo, A., Amariei, G., Aguado, S., Rosal, R., Horcajada, P. (2019). An Ag-loaded photoactive nano-metal organic framework as a promising biofilm treatment. Acta Biomaterialia, 97, 490-500.
6. Arenas-Vivo, A., Avila, D., Horcajada, P. (2020). Phase-selective microwave assisted synthesis of iron (III) aminoterephthalate MOFs. Materials, 13(6), 1469.
7. Navarro Poupard, M. F., Polo, E., Taboada, P., Arenas-Vivo, A., Horcajada, P., Pelaz, B., Del Pino, P. (2018). Aqueous synthesis of copper (II)-imidazolate nanoparticles. Inorganic Chemistry, 57(19), 12056-12065.

Doctorando	Titulo	Directores	Calificación
Irene Barba Nieto	**CATALIZADORES MULTICOMPONENTE BASADOS EN TIO2-PT PARA FOTO-PRODUCCION DE HIDRÓGENO.**	**ANNA ELZBIETA KUBACKA, MARCOS FERNANDEZ GARCIA**	**Sobresaliente cum laude**

1. M.N. Gómez-Cerezo+, I. Barba-Nieto+, M. Fernández-García, A. Kubacka, Efficiency of Thermo-Photo Catalytic Production of Hydrogen from Bio-Molecules: a Multifaceted Perspective, Energy Adv., 2022, https://doi.org/10.1039/d2ya00190j.

2. I. Barba-Nieto, G. Colón, M. Fernández-García, A. Kubacka, Shepherding Reaction Intermediates to Optimize H2 Yield using Composite-Doped TiO2-based Photocatalysts, Chem. Eng. J. 442 (2022) 136333. https://doi.org/10.1016/j.cej.2022.136333.
3. I. Barba-Nieto, G. Colón, A. Kubacka, M. Fernández-García, H2 Photoproduction Efficiency: Implications of the Reaction Mechanism as a Function of the Methanol/Water Mixture, Catalysts. 12 (2022) 402. https://doi.org/10.3390/catal12040402.
4. A. Kubacka, I. Barba-Nieto, U. Caudillo-Flores, M. Fernández-García, Interpreting quantum efficiency for energy and environmental applications of photo-catalytic materials, Curr. Opin. Chem. Eng. 33 (2021) 1–5. doi:10.1016/j.coche.2021.100712.
5. U. Caudillo-Flores, I. Barba-Nieto, M.N. Gómez-Cerezo, E. Rodríguez-Castellón, M. Fernández-García, A. Kubacka, Pt/B-g-C3N4 catalysts for hydrogen photo-production: Activity interpretation through a spectroscopic and intrinsic kinetic analysis, J. Environ. Chem. Eng. 9 (2021). doi:10.1016/j.jece.2021.106073.
6. U. Caudillo-Flores, I. Barba-Nieto, M.J. Muñoz-Batista, D. Motta Meira, M. Fernández-García, A. Kubacka, Thermo-photo production of hydrogen using ternary Pt-CeO2-TiO2 catalysts: A spectroscopic and mechanistic study, Chem. Eng. J. 425 (2021). doi:10.1016/j.cej.2021.130641.
7. I. Barba-Nieto, N. Gómez-Cerezo, A. Kubacka, M. Fernández-García, Oxide-based composites: Applications in thermo-photocatalysis, Catal. Sci. Technol. 11 (2021) 6904–6930. doi:10.1039/d1cy01067k.
8. A. Kubacka, U. Caudillo-Flores, I. Barba-Nieto, M. Fernández-García, Towards full-spectrum photocatalysis: Successful approaches and materials, Appl. Catal. A Gen. 610 (2021) 117966. doi:10.1016/j.apcata.2020.117966.

Doctorando	Titulo	Directores	Calificación
MARÍA DEL MAR DARDER AMENGUAL,	**DESARROLLO DE UN SENSOR ÓPTICO DE FORMALDEHÍDO PARA AMBIENTES INDUSTRIALES.**	**Guillermo Orellana Moraleda**	**Sobresaliente cum laude**

1. -M. Mar Darder, L. A. Serrano, M. C. Moreno-Bondi, M. A. Alba, G. Orellana, Fiberoptic Formaldehyde Field Sensors for Industrial Environments: Capitalizing on Evanescent-Wave Spectroscopy, Spectroscopy (US) 2020, 35(S6), 25-29; (ISSN 1939-1900 [digital])
2. M. M. Darder, M.Bedoya, L. A. Serrano, M. A. Alba, G. Orellana, Fiberoptic colorimetric sensor for in situ measurements of airborne formaldehyde in workplace environments. Sensors and Actuators B: Chem. 2022, 353, 131099; doi: 10.1016/j.snb.2021.131099
3. M. Darder , L.A. Serrano, M. Bedoya, G. Orellana, 3D Printing Filaments Facilitate the Development of Evanescent Wave Plastic Optical Fiber (POF).Chemosensors 2022, 10(2), 61; doi: 10.3390/chemosensors10020061
4. - G. Orellana, M. M. Darder. J. Quílez-Alburquerque. Luminescence-Based Sensors in Water Quality Analysis. (Capítulo 191), Encyclopedia of Sensors and Biosensors (R. Narayan, Editor) Elsevier 2022, 1-14; ISBN: 9780128225486

Doctorando	Titulo	Directores	Calificación
Alba María Fernández Sotillo	**Graphene oxide solution processing strategies for innovative fuel cell technology components. Estrategias de procesado en solución de óxido de grafeno para componentes innovadores en tecnologías de pilas de combustible.**	**Paloma Ferreira Aparicio**	**Sobresaliente cum laude**

1. Fernández-Sotillo, A. M., Ferreira-Aparicio, P. (2020). Continuous graphene-like layers formed on copper substrates by graphene oxide self-assembly and reduction. ACS Applied Energy Materials, 3(10), 10023-10036.
2. Fernández-Sotillo, A. M., Ferreira-Aparicio, P. (2020). Patterning large free-standing reduced graphene oxide films assisted by open-area copper substrates for graphene drums. ACS Applied Nano Materials, 3(10), 9862-9869.
3. Fernández-Sotillo, A., Ferreira-Aparicio, P. (2023). Durable corrosion-resistant coating based in graphene oxide for cost-effective fuel cells components. Iscience, 26(5).
4. Pérez-Guizado, P. A., Fernández-Sotillo, A. M., Ferreira-Aparicio, P. (2020). Passive regulation of the water content at the anode chamber under dead-ended conditions: innovative design of an air-breathing proton exchange membrane fuel cell. Energies, 13(22), 5880.
5. Chaparro, A. M., Ferreira-Aparicio, P., Folgado, M. A., Galarza, M. A., Conde, J. J., Fernández-Sotillo, A. M. (2018). Research trends. In Portable Hydrogen Energy Systems (pp. 193-216). Academic Press.

Doctorando	Titulo	Directores	Calificación
FERNÁNDEZ MUÑIZ, MARÍA DE LAS NIEVES	**DESARROLLO Y APLICACIÓN DE ESTRATEGIAS (BIO)ANALÍTICAS PARA LA EVALUACIÓN DE LA TOXICIDAD ASOCIADA A NANOPARTÍCULAS DE PLATA EN MODELOS IN-VITRO E IN-VIVO.**	**Riansares Muñoz y José Luis Luque**	**Sobresaliente cum laude**

1. -Cristina Navarro, Cristian Mateo-Elizalde, Thotegowdanapalya C. Mohan, Eduardo Sánchez-Bermejo, Oscar Urrutia, María Nieves Fernández-Muñiz, José M. García-Mina, Riansares Muñoz, Javier Paz-Ares, Gabriel Castrillo, Antonio Leyva, Arsenite provides a selective signal that coordinates arsenate uptake and detoxification through the regulation of PHR1 stability in Arabidopsis, Molecular Plant, 14(9) 2021 1489-1507
2. -M. N. Fernández, R. Muñoz-Olivas & J. L. Luque-Garcia (2019) SILAC-based quantitative proteomics identifies size-dependent molecular mechanisms involved in silver nanoparticles-induced toxicity, Nanotoxicology, 13:6, 812-826
3. -Gonzalo Durante-Rodríguez, Helga Fernández-Llamosas, Elena Alonso-Fernandes, María Nieves Fernández-Muñiz, Riansares Muñoz-

Olivas, Eduardo Díaz, Manuel Carmona. ArxA from Azoarcus sp. CIB, an anaerobic arsenite oxidase from an obligate heterotrophic and mesophilic bacterium, Front. Microbiol. Volume 10 – 2019, https://doi.org/10.3389/fmicb.2019.01699.

Doctorando	Titulo	Directores	Calificación
GUERRERO IRIGOYEN, SARA	**PLATAFORMAS ELECTROQUÍMICAS PARA EL DISEÑO DE BIOSENSORES DE AFINIDAD APLICADOS A LA DETECCIÓN DE BIOMARCADORES DE ENFERMEDADES AUTOINMUNES.**	**JOSE MANUEL PINGARRON CARRAZON MARIA LOURDES AGUI CHICHARRO PALOMA YAÑEZ-SEDEÑO ORIVE**	**Sobresaliente cum laude**

1.- AUTORES: S. Guerrero, L. Agüí, P. Yáñez-Sedeño and J.M. Pingarrón
TÍTULO: "Screen-printed gold electrodes functionalized with grafted p-aminobenzoic acid for the construction of electrochemical immunosensors. Application to the determination of TGF-β1 cytokine in human plasma"
REFERENCIA REVISTA: Electroanalysis.- Volumen: 30 páginas: 1327-1335 fecha: 2018

2.- AUTORES S. Guerrero, L. Agüí, P. Yáñez-Sedeño and J.M. Pingarrón
TÍTULO "Oxidative grafting vs. monolayers self-assembling on gold surfaces for the preparation of electrochemical immunosensors. Application to the determination of peptide YY"
REFERENCIA REVISTA: Talanta - Volumen: 193 páginas: 139-145 fecha: 2019

3.- AUTORES S. Guerrero, D. Cadano, L. Agüí, R. Barderas, S. Campuzano, P. Yáñez-Sedeño and J.M. Pingarrón
TÍTULO "Click chemistry-assisted antibodies immobilization for immunosensing of CXCL7 chemokine in clinical serum"
REFERENCIA REVISTA: J. Electroanal. Chem. - Volumen: 837 páginas: 246-253 fecha: 2019

4.- AUTORES S. Guerrero, L. Agüí, P. Yáñez-Sedeño and J.M. Pingarrón
TÍTULO "Design of electrochemical immunosensors using electro-click chemistry. Application to the detection of IL-1β cytokine in saliva"
REFERENCIA REVISTA: Bioelectrochemistry. - Volumen: 133, páginas: 107484 fecha: 2020

5- AUTORES S. Guerrero, E. Sánchez-Tirado, G. Martínez-García, A. González-Cortés, L. Agüí, P. Yáñez-Sedeño and J.M. Pingarrón
TÍTULO "Electrochemicalbiosensor for the simultaneous determination of rheumatoid factor and anti-cyclic citrullinated peptide antibodies in human serum"

REFERENCIA REVISTA: Analyst. - Volumen: 145, páginas: 4680-4687, fecha: 2020

6.- AUTORES: Guerrero, S., Sánchez-Tirado, E., Agüí, L., Gònzalez-Cortés, A.,.Yáñez-Sedeño, P., Pingarrón, J.M.
TÍTULO: Simultaneous determination of CXCL7 chemokine and MMP3 metalloproteinase as biomarkers for rheumatoid arthritis
REFERENCIA/REVISTA: Talanta Volumen:234, páginas: 122705-122712 fecha: 2021

7.- AUTORES: S. Guerrero, E. Sánchez-Tirado, L. Agüí, A. González-Cortés, P. Yáñez-Sedeño, J.M. Pingarrón
TÍTULO: Monitoring autoimmune diseases by bioelectrochemical detection of autoantibodies. Application to the determination of anti-myelin basic protein autoantibodies in serum of multiple sclerosis patients
REFERENCIA/REVISTA: Talanta Volumen: 243, páginas, 123304 fecha: 2022
https://doi.org/10.1016/j.talanta.2022.123304

Doctorando	Titulo	Directores	Calificación
LUQUE URÍA, ÁLVARO	**NEW SELECTIVE MOLECULAR RECOGNITION ELEMENTS AND AMPLIFICATION METHODS FOR THE DEVELOPMENT OF OPTICAL BIO-SENSORS. NUEVOS ELEMENTOS DE RECONOCIMIENTO MOLECULAR SELECTIVO Y MÉTODOS DE AMPLIFICACIÓN PARA EL DESARROLLO DE BIO-SENSORES ÓPTICOS.**	**MARIA CRUZ MORENO BONDI MARIA ELENA BENITO PEÑA**	**Sobresaliente cum laude**

1. Comparative study of the performance of two different luciferases for the analysis of fumonisin B1 in wheat samples. Á. Luque-Uría, R. Peltomaa, M. Navarro-Duro, S. Fikacek, T. Head, S. Deo, S. Daunert, E. Benito-Peña, M.C. Moreno-Bondi. Analysis & Sensing 2022, 2, e20210007; doi: 10.1002/anse.202100070
2. Recombinant Peptide Mimetic NanoLuc Tracer for Sensitive Immunodetection of Mycophenolic Acid. A. Luque-Uria, R. Peltomaa, T. K. Nevanen, H. O. Arola, K. Iljin, E. Benito-Pena, M. C. Moreno-Bondi. Anal. Chem., 2021, 93, 10358-10364; doi: 10.1021/acs.analchem.1c02109

Doctorando	Titulo	Directores	Calificación
GUSTAVO MORENO MARTÍN	**CARACTERIZACIÓN Y TRANSFORMACIÓN DE NANOPARTÍCULAS METÁLICAS Y DE METALOIDES EN MUESTRAS BIOLÓGICAS Y MEDIOAMBIENTALES.**	**YOLANDA MADRID ALBARRAN**	**Sobresaliente cum laude**

1. Moreno-Martín, G., Espada-Bernabé, E., Gómez-Gómez, B., León-González, M.E., Madrid, Y. Evaluation of the transformation of selenite and selenium nanoparticles to seleno-amino acids produced by Escherichia coli and Staphylococcus aureus by using liquid chromatography -inductively coupled plasma mass spectrometry and single-particle- inductively coupled plasma mass spectrometry and different sample treatments. Spectrochimica Acta Part B: Atomic Spectroscopy, 2023, 200, 106611. I.F: 3.3; Q1 (9/41) https://doi.org/10.1016/j.sab.2022.106611
2. Moreno-Martín, G., Gómez-Gómez, B., León-González, M.E., Madrid, Y. Characterization of AgNPs and AuNPs in sewage sludge by single particle inductively coupled plasma-mass spectrometry. Talanta, 2022, 238, 123033. I.F:6.057; Q1 (12/87). https://doi.org/10.1016/j.talanta.2021.123033.
3. Moreno-Martín, G., Sanz-Landaluze, J., León-González, M.E., Madrid, Y. In vivo quantification of volatile organoselenium compounds released by bacteria exposed to selenium with HS-SPME-GC-MS. Effect of selenite and selenium nanoparticles. Talanta, 2021, 224, 121907. I.F. 6.057; Q1 (12/87). https://doi.org/10.1016/j.talanta.2020.121907.
4. Crespo, L., Gaglio, R., Martínez, F.G., Moreno-Martín, G., Franciosi, E., Madrid-Albarrán, Y., Settani, L., Mozzi, F., Pescuma, M. Bioaccumulation of selenium-by fruit origin lactic acid bacteria in tropical fermented fruit juices. LWT- Food Science and Technology, 2021, 151, 112103. I.F. 4.952; Q1 (19/163). https://doi.org/10.1016/j.lwt.2021.112103.
5. Martínez, F.G., Moreno-Martín, G., Pescuma, M., Madrid-Albarrán, Y., Mozzi, F. Biotransformation of Selenium by Lactic Acid Bacteria: Formation of Seleno-Nanoparticles and Seleno-Amino Acids. Frontiers in Bioengineering and Biotechnology, 2020, 8, 1-17. I.F. 5.89; Q1 (12/72). https://doi.org/10.3389/fbioe.2020.00506.
6. Moreno-Martín, G., Sanz-Landaluze, J., León-González, M.E., Madrid, Y. Insights into the accumulation and transformation of Ch-SeNPs by Raphanus sativus and Brassica juncea: Effect on essential elements uptake. Science of the Total Environment, 2020, 725, 138453. I.F. 7.963; Q1 (25/274). https://doi.org/10.1016/j.scitotenv.2020.138453.
7. Moreno-Martín, G., Sanz-Landaluze, J., León-González, M.E., Madrid, Y. In-vivo solid phase microextraction for quantitative analysis of volatile organoselenium compounds in plants. Analytica Chimica Acta, 2019, 1081, 72-80. I.F. 5.977; Q1 (10/86).
8. Moreno-Martín, G., León-González, M.E., Madrid, Y. Simultaneous determination of the size and concentration of AgNPs in water samples by UV–vis spectrophotometry and chemometrics tools. Talanta, 2018, 188, 393-403. I.F. 4.916; Q1 (11/84).

https://doi.org/10.1016/j.talanta.2018.06.009.

9. Moreno-Martín, G., Pescuma, M., Pérez-Corona, T., Mozzi, F., Madrid, Y. Determination of size and mass-and number-based concentration of biogenic SeNPs synthesized by lactic acid bacteria by using a multimethod approach. Analytica Chimica Acta, 2017, 992, 34 I.F. 5.123; Q1 (8/81). https://doi.org/10.1016/j.aca.2017.09.033.

CAPÍTULOS DE LIBRO

1. Moreno-Martín, G., and Madrid, Y. Elementos traza: ¿qué es la especiación? (Estrategías avanzadas para la mejora de la calidad, la seguridad y la funcionalidad de los alimentos). Universidad de Alcalá, 2021, 931-441. ISBN: 978-84-18254-33-8.
2. Moreno-Martín, G., Sanz-Landaluze, J., Madrid, Y. Nanospeciation Analysis Using Field Flow Fractionation (Encyclopedia of Analytical Chemistry: Applications, Theory and Instrumentation). John Wiley & Sons, Ltd., 2017, 1-24. ISBN: 9780470027318.

Doctorando	Titulo	Directores	Calificación
Sandra Muñoz Piña	**Recubrimientos nanocolumnares estructurados sobre sustratos rugosos y litografiados en condiciones industriales**	**GERMAN ALCALA PENADES ALBERTO PALMERO ACEBEDO RAFAEL ALVAREZ MOLINA**	**Sobresaliente cum laude**

1. R. Álvarez, S. Muñoz-Piña, M.U. González, I. Izquierdo-Barba, A. Palmero, M. Vallet-Regi, A. R. González-Elipe, J. M. García-Martín. Antibacterial Nanostructured Ti Coatings by Magnetron Sputtering: From Laboratory Scales to Industrial Reactors. Nanomaterials 9, 1217 (2019).
2. A. García-Valenzuela, S. Muñoz-Piña, G. Alcalá, R. Álvarez, B. Lacroix, A. J. Santos, J. Cuevas-Maraver, V. Rico, R. Gago, L. Vázquez, J. Cotrino, A.R. González-Elipe, A. Palmero. Growth of nanocolumnar thin films on patterned substrates at oblique angles. Plasma Processes and Polymers 16, e1800135 (2019).
3. S. Muñoz-Piña, A. García-Valenzuela, E. Oyarzábal, J. Gil-Rostra, V. Rico, G. Alcalá, R. Álvarez, F.L. Tabarés, A. Palmero, A.R. González-Elipe. Wetting and spreading of liquid lithium onto nanocolumnar tungsten coatings tailored through the topography of stainless steel substrates. Nuclear Fusion 60, 126033 (2020).
4. S. Muñoz-Piña, A.M. Alcaide, B. Limones-Ahijón, M. Oliva-Ramírez, V. Rico, G. Alcalá, M. U. González, J.M. García-Martín, R. Álvarez, D. Wang, P. Schaaf, A. R. González-Elipe, A. Palmero. Thin Film Nanostructuring at Oblique Angles by Substrate Patterning. Surface & Coatings Technology 436, 128293 (2022).

Doctorando	Titulo	Directores	Calificación
ELOY POVEDANO MUÑUMEL	**PLATAFORMAS BIOELECTROANALÍTICAS CON POTENCIAL DE MULTIPLEXADO Y MULTI-ÓMICO PARA MEDICINA DE PRECISIÓN EN EL PUNTO DE ATENCIÓN.**	**María Perero Muñoz** **Susana Campuzano Ruiz** **José Manuel Pingarrón**	**Sobresaliente cum laude**

1. Autores: E. Povedano, E. Vargas, V. Ruiz-Valdepeñas Montiel, R. M. Torrente-Rodríguez, M. Pedrero, R. Barderas, P. San Segundo-Acosta, A. Peláez-García, M. Mendiola, D. Hardisson, S. Campuzano y J. M. Pingarrón. Electrochemical affinity biosensors for fast detection of gene-specific methylations with no need for bisulfite and amplification treatments. Scientific Reports 8 (2018) 6418. DOI: 10.1038/s41598-018-24902-1.
2. E. Vargas, E. Povedano, V. Ruiz-Valdepeñas Montiel, R. M. Torrente-Rodríguez, M. Zouari, J. J. Montoya, N. Raouafi, S. Campuzano y J. M. Pingarrón. Single-step incubation determination of miRNAs in cancer cells using an amperometric biosensor based on competitive hybridization onto magnetic beads. Sensors 18(3) (2018) 863. DOI: 10.3390/s18030863.
3. E. Povedano, A. Valverde, V. Ruiz-Valdepeñas Montiel, M. Pedrero, P. Yáñez-Sedeño, R. Barderas, P. San Segundo-Acosta, A. Peláez-García, M. Mendiola, D. Hardisson, S. Campuzano y J. M. Pingarrón. Rapid electrochemical assessment of tumor suppressor gene methylations in raw human serum, and tumor cells and tissues using immuno-magnetic beads and selective DNA hybridization. Angewandte Chemie International Edition 57(27) (2018) 8194–8198. DOI: 10.1002/anie.201804339.
4. E. Povedano, V. Ruiz-Valdepeñas Montiel, A. Valverde, F. Navarro-Villoslada, P. Yáñez-Sedeño, M. Pedrero, A. Montero-Calle, R. Barderas, A. Peláez-García, M. Mendiola, D. Hardisson, J. Feliú, J. Camps, E. Rodríguez-Tomàs, J. Joven, M. Arenas, S. Campuzano y J. M Pingarrón. Versatile electroanalytical bioplatforms for simultaneous determination of cancer-related DNA 5-methyl-and 5-hydroxymethyl-cytosines at global and gene-specific levels in human serum and tissues. ACS Sensors 4(1) (2019) 227–234. DOI: 10.1021/acssensors.8b01339. Artículo resaltado en la portada.
5. E. Povedano, V. Ruiz-Valdepeñas Montiel, M. Gamella, V. Serafín, M. Pedrero, L. Jirakova, M. Bartosik, J. J. Montoya, P. Yáñez-Sedeño, S. Campuzano, J. M. Pingarrón. A novel zinc finger protein-based amperometric biosensor for miRNAs determination. Analytical & Bioanalytical Chemistry 412(21) (2020) 5031–5041. DOI: 10.1007/s00216-019-02219-w.
6. E. Povedano, V. Ruiz-Valdepeñas Montiel, M. Gamella, M. Pedrero, R. Barderas, A. Peláez-García, M. Mendiola, D. Hardisson, J. Feliú, P. Yáñez-Sedeño, S. Campuzano y J. M. Pingarrón. Amperometric bioplatforms to detect regional DNA methylation with single-base sensitivity. Analytical Chemistry 92(7) (2020) 5604–5612. DOI: 10.1021/acs.analchem.0c00628.

7. V. Serafín, C. A. Razzino, M. Gamella, M. Pedrero, E. Povedano, A. Montero-Calle, R. Barderas, M. Calero, A. O. Lobo, P. Yáñez-Sedeño, S. Campuzano y J. M. Pingarrón. Disposable immunoplatforms for the simultaneous determination of biomarkers for neurodegenerative disorders using poly(amidoamine) dendrimer/gold nanoparticles nanocomposite. Analytical & Bioanalytical Chemistry, 413 (2021) 799–811. DOI: 10.1007/s00216-020-02724-3.
8. E. Vargas, E. Povedano, S. Krishnan, H. Teymourian, F. Tehrani, S. Campuzano, E. Dassau y J. Wang. Simultaneous Cortisol/Insulin michrochip detection using dual enzyme tagging". Revista: Biosensor and Bioelectronics 167 (2020) 112512. DOI: 10.1016/j.bios.2020.112512.
9. E. Povedano, M. Gamella, R. M. Torrente Rodríguez, A. Montero-Calle, M. Pedrero, G. Solís-Fernández, F. Navarro, R. Barderas, S. Campuzano y J. M. Pingarrón. Magnetic microbeads-based amperometric immunoplatform for the rapid and sensitive detection of N6-methyladenosine to assist in metastatic cancer cells discrimination. Biosensors and Bioelectronics 171 (2021) 112708. DOI: 10.1016/j.bios.2020.112708.
10. Autores: E. Povedano, M. Gamella, R. M. Torrente-Rodríguez, V. Ruiz-Valdepeñas Montiel, A. Montero-Calle, G. Solís-Fernández, F. Navarro-Villoslada, M. Pedrero, A. Peláez-García, M. Mendiola, D. Hardisson, J. Feliú, R. Barderas, J. M. Pingarrón y S. Campuzano. Multiplexed magnetic beads-assisted amperometric bioplatforms for global detection of methylations in nucleic acids. Analytica Chimica Acta 1182 (2021) 338946. DOI: 10.1016/j.aca.2021.338946.

Doctorando	Titulo	Directores	Calificación
Esther Resines Urien	**Polímeros de coordinación conmutables de hierro(II) para aplicaciones multifuncionales. Switchable iron(II) coordination polymers for multifunctional applications.**	**José Sánchez Costa**	**Sobresaliente cum laude**

1. Fernandez-Bartolome, E., Martinez-Martinez, A., Resines-Urien, E., Pineiro-Lopez, L., Costa, J. S. (2022). Reversible single-crystal-to-single-crystal transformations in coordination compounds induced by external stimuli. Coordination Chemistry Reviews, 452, 214281.
2. Resines-Urien, E., Fernandez-Bartolome, E., Martinez-Martinez, A., Gamonal, A., Piñeiro-López, L., Costa, J. S. (2023). Vapochromic effect in switchable molecular-based spin crossover compounds. Chemical Society Reviews, 52, 705-727
3. Resines-Urien, E., Burzurí, E., Fernandez-Bartolome, E., García-Tuñón, M. Á. G., de La Presa, P., Poloni, R., Costa, J. S. (2019). A switchable iron-based coordination polymer toward reversible acetonitrile electro-optical readout. Chemical science, 10(27), 6612-6616.

4. Develioglu, A., Resines-Urien, E., Poloni, R., Martín-Pérez, L., Costa, J. S., Burzurí, E. (2021). Tunable Proton Conductivity and Color in a Nonporous Coordination Polymer via Lattice Accommodation to Small Molecules. Advanced Science, 8(22), 2102619.
5. Resines-Urien, E., Piñeiro-López, L., Fernandez-Bartolome, E., Gamonal, A., Garcia-Hernandez, M., Costa, J. S. (2020). Covalent post-synthetic modification of switchable iron-based coordination polymers by volatile organic compounds: a versatile strategy for selective sensor development. Dalton Transactions, 49(22), 7315-7318.
6. Martinez-Martinez, A., Resines-Urien, E., Piñeiro-López, L., Fernández-Blanco, A., Lorenzo Mariano, A., Albalad, J., Sánchez Costa, J. (2023). Spin Crossover-Assisted Modulation of Electron Transport in a Single-Crystal 3D Metal–Organic Framework. Chemistry of Materials, 35(15), 6012-6023.
7. Resines-Urien, E., García-Tuñón, M. Á. G., García-Hernández, M., Rodríguez-Velamazán, J. A., Espinosa, A., Costa, J. S. (2022). Concomitant Thermochromic and Phase-Change Effect in a Switchable Spin Crossover Material for Efficient Passive Control of Day and Night Temperature Fluctuations. Advanced Science, 9(24), 2202253.
8. Fernandez-Bartolome, E., Resines-Urien, E., Murillo-Vidal, M., Piñeiro-Lopez, L., Costa, J. S. (2021). Sequential single-crystal-to-single-crystal vapochromic inclusion in a nonporous coordination polymer: unravelling dynamic rearrangement for selective pyridine sensing. Inorganic Chemistry Frontiers, 8(10), 2426-2432.
9. Martinez-Martinez, A., Resines-Urien, E., Settineri, N. S., Teat, S. J., Sañudo, E. C., Fabelo, O., Costa, J. S. (2023). Two-Step Spin Crossover 3D Hofmann-Type Coordination Polymers Including a Functional Group in the Organic Moiety. Crystal Growth & Design, 23(6), 3952-3957.
10. Cordani, M., Resines-Urien, E., Gamonal, A., Milán-Rois, P., Salmon, L., Bousseksou, A., Somoza, Á. (2021). Water soluble iron-based coordination trimers as synergistic adjuvants for pancreatic cancer. Antioxidants, 10(1), 66.
11. Resines-Urien, E., García-Tuñón, M. Á. G., García-Hernández, M., Rodríguez-Velamazán, J. A., Espinosa, A., Costa, J. S. (2022). Concomitant Thermochromic and Phase-Change Effect in a Switchable Spin Crossover Material for Efficient Passive Control of Day and Night Temperature Fluctuations (Adv. Sci. 24/2022). Advanced Science, 9(24), 2270150.

Doctorando	Titulo	Directores	Calificación
Natalia Sánchez Arribas	**LIPOPLEX-MEDIATED NANOVECTORIZATION OF NUCLEIC ACIDS IN GENE THERAPY. NANOVECTORIZACIÓN DE ÁCIDOS NUCLEICOS MEDIADA POR LIPOPLEJOS EN TERAPIA GÉNICA**	**Elena Junquera González** **Andrés Guerrero Martínez**	**Sobresaliente cum laude**

1. Martínez-Negro, M.; Sánchez-Arribas, N.; Guerrero-Martínez, A.; Moyá, M.L.; de Ilarduya, C.T.; Mendicuti, F.; Aicart, E.; Junquera, E. A non-viral plasmid DNA delivery system consisting on a lysine-derived cationic lipid mixed with a fusogenic lipid. Pharmaceutics **2019**, 11, 632, doi:10.3390/pharmaceutics11120632

2. Sánchez-Arribas, N.; Martínez-Negro, M.; Villar, E.M.; Pérez, L.; Aicart, E.; Taboada, P.; Guerrero-Martínez, A.; Junquera, E. Biocompatible nanovector of siRNA consisting of arginine-based cationic lipid for gene knockdown in cancer cells. ACS Appl. Mat. Interfaces **2020**, 12, 34536-34547, doi:10.1021/acsami.0c06273

3. Sánchez-Arribas, N.; Martínez-Negro, M.; Villar, E.M.; Pérez, L.; Osío Barcina, J.; Aicart, E.; Taboada, P.; Guerrero-Martínez, A.; Junquera, E. Protein expression knockdown in cancer cells induced by a gemini cationic lipid nanovector with histidine-based polar heads. Pharmaceutics **2020**, 12, 791, doi:10.3390/pharmaceutics12090791

4. Sánchez-Arribas, N.; Martínez-Negro, M.; Aicart-Ramos, C.; de Ilarduya, C. T.; Aicart, E.; Guerrero-Martínez, A.; Junquera, E., Gemini cationic lipid-type nanovectors suitable for the transfection of therapeutic plasmid DNA encoding for pro-inflammatory cytokine interleukin-12. Pharmaceutics **2021**, 13, 729, doi:10.3390/pharmaceutics13050729

5. Sánchez-Arribas, N.; Díaz-Nuñez, P.; Osío Barcina, J.; Aicart, E.; Junquera, E.; Guerrero-Martínez, A., Controlled pDNA release in gemini cationic lipoplexes by femtosecond laser irradiation of gold nanostars. Nanomaterials **2021**, 11, 1498, doi:10.3390/nano11061498

6. Ahijado-Guzman, R.; Sanchez-Arribas, N.; Martinez-Negro, M.; Gonzalez-Rubio, G.; Santiago-Varela, M.; Pardo, M.; Piñeiro, A.; Lopez-Montero, I.; Junquera, E.; Guerrero-Martinez, A. Intercellular trafficking of gold nanostars in uveal melanoma cells for plasmonic photothermal therapy. Nanomaterials 2020, 10, 10, doi:10.3390/nano10030590.

Doctorando	Titulo	Directores	Calificación
ANA ISABEL SÁNCHEZ CABEZUDO	**CALIBRACIÓN DE RADIONUCLEIDOS MEDIANTE LA TÉCNICA DE RECUENTO POR CENTELLEO LÍQUIDO, RECUENTO 2 PI ALFA CON CÁMARA DE IONIZACIÓN CON REJA Y OTRAS TÉCNICAS ESPECTROMÉTRICAS.**	**MARÍA TERESA CRESPO VÁZQUEZ**	**Sobresaliente cum laude**

1. García-Toraño, E., Peyrés, V., Roteta, M., Sánchez-Cabezudo, A.I., Romero, E., Martínez Ortega, A., 2016. "Standardization and precise determination of the half-life of Sc-44". Applied Radiation and Isotopes 109, 314-318.
2. Kossert, K., Altzitzoglou, T., Auerbach, P., Martine Bé, m., Bobin, C., Cassette, P., García-Toraño, E., Grigaut-Desbrosses, H., Isnard, H., Lourenço, V., Nähle, O., Paepen, J., Peyres, V., Pommé, S., Rozkov, A., Sánchez-Cabezudo, A.I., Sochorová, J., Thiam, C., Van Ammel, R., 2014a. "Results of the EURAMET.RI(II)-K2.Ho-166m activity comparison". Metrologia 51, Tech. Suppl. 06022.
3. Sánchez-Cabezudo, A.I., Crespo, M.T., Roteta, M., N. Navarro, N., 2021. "Standardization of non-equilibrium 210Pb solutions by LSC and 2πα counting". Applied Radiation and Isotopes 170. https://doi.org/10.1016/j.apradiso.2021.109587.
4. Sánchez-Cabezudo, A.I., Crespo, M.T., Roteta, M., N. Navarro, N., 2021. "Standardization of 226Ra solutions with descendants by 4παβ LSC counting". Applied Radiation and Isotopes 178. https://doi.org/10.1016/j.apradiso.2021.109973.

Doctorando	Titulo	Directores	Calificación
Andreas SantaMaría	**STRUCTURE AND FUNCTION INVESTIGATION ON MEMBRANE-BINDING PROTEINS. INVESTIGACIÓN DE LA ESTRUCTURA Y FUNCIÓN DE PROTEÍNAS DE ASOCIACIÓN A MEMBRANAS.**	**ARMANDO MAESTRO MARTIN** **NATHAN RICHARD ZACCAI** **EDUARDO GUZMAN SOLIS**	**Sobresaliente cum laude**

1. Daniel Pereira, Andreas Santamaria, Nisha Pawar, Javier Carrascosa-Tejedor, Mariana Sardo, Luís Mafra, Eduardo Guzmán, David J. Owen, Nathan R. Zaccai, Armando Maestro, Ildefonso Marín-Montesinos. Engineering phosphatidylinositol-4,5-bisphosphate model membranes enriched in endocytic cargo: A neutron reflectometry, AFM and QCM-D structural study. Colloids and Surfaces B: Biointerfaces 227, 2023, 113341.
2. Andreas Santamaria, Krishna C. Batchu, Giovanna Fragneto, Valérie Laux, Michael Haertlein, Tamim A. Darwish, Robert A. Russell, Nathan R. Zaccai, Eduardo Guzmán, Armando Maestro. Investigation on the relationship between lipid composition and structure in model membranes composed of extracted natural phospholipids. Journal of Colloid and Interface Science 637, 2023, 55-66.

3. Andreas Santamaria, Javier Carrascosa-Tejedor, Eduardo Guzmán, Nathan R. Zaccai, Armando Maestro. Unravelling the orientation of the inositol-biphosphate ring and its dependence on phosphatidylinositol 4,5-bisphosphate cluster formation in model membranes. Journal of Colloid and Interface Science 629, 2023, 785-795.
4. Andreas Santamaria, Krishna C. Batchu, Olga Matsarskaia, Sylvain F. Prévost, Daniela Russo, Francesca Natali, Tilo Seydel, Ingo Hoffmann, Valérie Laux, Michael Haertlein, Tamim A. Darwish, Robert A. Russell, Giacomo Corucci, Giovanna Fragneto, Armando Maestro, and Nathan R. Zaccai. Strikingly Different Roles of SARS-CoV-2 Fusion Peptides Uncovered by Neutron Scattering. Journal of the American Chemical Society 144, 2022, 2968-2979
5. Javier Carrascosa-Tejedor, Andreas Santamaria, Daniel Pereira, and Armando Maestro. Structure of DPPC Monolayers at the Air/Buffer Interface: A Neutron Reflectometry and Ellipsometry Study. *Coatings* 10, 2020, 507.
6. Giacomo Corucci, Krishna Chaithanya Batchu, Alessandra Luchini, Andreas Santamaria, Moritz Paul Karl Frewein, Valèrie Laux, Michael Haertlein, Yoshiki Yamaryo-Botté, Cyrille Y. Botté, Thomas Sheridan, Mark Tully, Armando Maestro, Anne Martel, Lionel Porcar, Giovanna Fragneto. Developing advanced models of biological membranes with hydrogenous and deuterated natural glycerophospholipid mixtures. Journal of Colloid and Interface Science 645, 2023, 870-881.

Doctorando	Titulo	Directores	Calificación
Rubén Rodríguez Rodrigo	**Análisis técnico-energético, económico y medioambiental de tecnologías solares de concentración de media temperatura para el sector industrial lácteo en España**	**FRANCISCO JAVIER PEREZ TRUJILLO** **RICARDO DIAZ MARTIN**	**Sobresaliente cum laude**
Doctorando	Titulo	Directores	Calificación
Enrique Rojas García	**Desarrollo y materiales para sondas multiorificio para medida de emisiones cuasi-representativas en chimeneas de sección rectangular y baja altura para aplicación en banco de ensayos para turborreactores**	**JESUS JAVIER RODRIGUEZ MAROTO** **FRANCISCO JAVIER PEREZ TRUJILLO** **RICARDO DIAZ MARTIN**	**Sobresaliente cum laude**