Tesis leídas en el curso 2018-2019

Doctorando	Titulo	Directores	Calificación
CELIA CASTILLO BLAS	CONTROL DE LA DISPOSICIÓN DE CATIONES METÁLICOS EN UNIDADES DE CONSTRUCCIÓN SECUNDARIAS DE ESTRUCTURAS METAL-ORGÁNICAS Y SU TRANSFERENCIA A ÓXIDOS. METALCATION ARRANGEMENT CONTROL IN SECONDARY BUILDING UNITS OF METAL ORGANIC FRAMEWORKS AND THEIR TRANSLATION TO OXIDES.	FELIPE GANDARA BARRAGAN / MARÍA ÁNGELES MONGE BRAVO (ICMM-CSIC)	Sobresaliente cum laude

Castillo-Blas, C., Álvarez-Galván, C., Puente-Orench, I. *et al.* Highly efficient multi-metal catalysts for carbon dioxide reduction prepared from atomically sequenced metal organic frameworks. *Nano Res.* **14,** 493–500 (2021). doi: 10.1007/s12274-020-2813-x

Castillo, Celia; López-Salas, Nieves; Gutiérrez, María; Puente Orench, Inés; Gutiérrez-Puebla, Enrique; Ferrer, M.L; Monge, Angeles; Gandara, Felipe. (2019). Encoding Metal-Cation Arrangements in Metal-Organic Frameworks for Programming the Composition of Electrocatalytically Active Multi-Metal Oxides. Journal of the American Chemical Society. 141. doi: 10.1021/jacs.8b12860

Celia Castillo-Blas,Dr. Felipe Gándara. Metal-organic Frameworks Incorporating Multiple Metal Elements Israel Journal of Chemistry 2018, 58, 1036-1043. doi: 10.1002/ijch.201800085

Celia Castillo-Blas Víctor A. De La Peña-O'shea Inés Puente-Orench Julio Romero De Paz Regino Sáez-Puche Enrique Gutiérrez-Puebla Felipe Gándara and Ángeles Monge. Addressed realization of multication complex arrangements in metal-organic frameworks. SCIENCE ADVANCES 2017 VOL. 3, NO. 7. doi: 10.1126/sciadv.1700773

C. Castillo-Blas, N. Snejko, V. A. de la Peña-O'Shea, J. Gallardo, E. Gutiérrez-Puebla, M. A. Monge and F. Gándara. Crystal phase competition by addition of a second metal cation in solid solution metal–organic frameworks. Dalton Trans., 2016,45, 4327-4337. doi: 10.1039/c5dt03856a

Doctorando	Titulo	Directores	Calificación
REBECA MAGNOLIA TORRENTE RODRIGUEZ	BIOPLATAFORMAS ELECTROANALÍTICAS VERSÁTILES PARA DIAGNÓSTICO TEMPRANO Y FIABLE DE CÁNCER A DIFERENTES NIVELES MOLECULARES.	SUSANA CAMPUZANO RUIZ / JOSE MANUEL PINGARRON CARRAZON / MARIA GAMELLA CARBALLO	Sobresaliente cum laude

R. M. Torrente-Rodríguez; S. Campuzano; M. Gamella; F. Conzuelo; A. J. Reviejo; J. M. Pingarrón. "Amperometric disposable magnetoimmunosensor for the determination of fibrinogen in plasma". Chemical Sensors, 4 (2014) 7.

S. Campuzano; R. M. Torrente-Rodríguez; E. López-Hernández; F. Conzuelo; R. Granados; J. M. Sánchez-Puelles; J. M. Pingarrón. "Magnetobiosensors Based on Viral Protein p19 for MicroRNA Determination in Cancer Cells and Tissues". Angewandte Chemie International Edition, 53 (2014) 6168–6171.

R. M. Torrente-Rodríguez, S. Campuzano, E. López-Hernández, R. Granados, J. M. Sánchez-Puelles, J. M. Pingarrón. "Direct determination of miR-21 in total RNA extracted from breast cancer samples using magnetosensing platforms and the p19 viral protein as detector bioreceptor". Electroanalysis, 26 (2014) 2080–2087.

U. Eletxigerra; J. Martinez-Perdiguero; S. Merino; R. Barderas; R. M. Torrente-Rodríguez; R. Villalonga; J. M. Pingarrón; S. Campuzano. "Amperometric magnetoimmunosensor for ErbB2 breast cancer biomarker determination in human serum, cell lysates and intact breast cancer cells". Biosensors & Bioelectronics, 70 (2015) 34–41.

R. M. Torrente-Rodríguez, S. Campuzano, E. López-Hernández, V. Ruiz-Valdepeñas Montiel, R. Barderas, R. Granados, J. M. Sánchez-Puelles, J. M. Pingarrón. "Simultaneous detection of two breast cancer-related miRNAs in tumor tissues using p19-based disposable amperometric magnetobiosensing platforms". Biosensors & Bioelectronics, 66 (2015) 385–391.

R. M. Torrente-Rodríguez; S. Campuzano; V. Ruiz-Valdepeñas-Montiel; M. Pedrero; M. J. Fernández-Aceñero; R. Barderas; J. M. Pingarrón. "Rapid endoglin determination in serum samples using an amperometric magneto-actuated disposable immunosensing platform". Journal of Pharmaceutical and Biomedical Analysis, 129 (2016) 288–293.

M. Garranzo-Asensio; A. Guzman-Aranguez; C. Povés; M. J. Fernández-Aceñero; R. M. Torrente-Rodríguez; V. Ruiz-Valdepeñas Montiel; G. Domínguez; L. San Frutos; N. Rodríguez; M. Villalba; J. M. Pingarrón; S. Campuzano; R. Barderas. "Toward Liquid Biopsy: Determination of the Humoral Immune Response in Cancer Patients Using HaloTag Fusion Protein-Modified Electrochemical Bioplatforms". Analytical Chemistry, 88 (2016) 12339–12345.

R. M. Torrente-Rodríguez; V. Ruiz-Valdepeñas Montiel; S. Campuzano; M. Farchado-Dinia; R. Barderas; P. San Segundo-Acosta; J. J. Montoya, J. M. Pingarron. "Fast Electrochemical miRNAs determination in cancer cells and tumor tissues with antibody functionalized magnetic microcarriers". ACS Sensors, 1 (2016) 896–903.

R. M. Torrente-Rodríguez; S. Campuzano; V. Ruiz-Valdepeñas Montiel; A. Sagrera; J. J. Domínguez-Cañete; E. Vargas; J. J. Montoya; R. Granados; J. M. Sánchez- Puelles; J. M. Pingarrón. "Electrochemical Mirnas Determination in Formalin- Fixed, Paraffin-Embedded Breast Tumor Tissues Association with HER2 Expression". JSM Biotechnology & Biomedical Engineering, 3 (2016) 1064.

R. M. Torrente-Rodríguez; S. Campuzano; V. Ruiz-Valdepeñas Montiel; J. J. Montoya; J. M. Pingarrón. "Sensitive electrochemical determination of miRNAs based on a sandwich assay onto magnetic microcarriers and hybridization chain reaction amplification". Biosensors & Bioelectronics, 86 (2016) 516–521.

R. M. Torrente-Rodríguez; S. Campuzano; V. Ruiz-Valdepeñas Montiel; M. Gamella; J. M. Pingarrón. "Electrochemical bioplatforms for the simultaneous determination of interleukin (IL)-8 mRNA and IL-8 protein oral cancer biomarkers in raw saliva". Biosensors & Bioelectronics, 77 (2016) 543–548.

R. M. Torrente-Rodríguez; V. Ruiz-Valdepeñas Montiel; S. Campuzano; M. Pedrero; M. Farchado; E. Vargas; F. J. Manuel de Villena; M. Garranzo-Asensio; R. Barderas; J. M. Pingarrón. "Electrochemical Sensor for Rapid Determination of Fibroblast Growth Factor Receptor 4 in Raw Cancer Cell Lysates". PLoS One, 12 (2017) e0175056.

E. Vargas; R. M. Torrente-Rodríguez; V. Ruiz-Valdepeñas Montiel; E. Povedano; M. Pedrero; J. J. Montoya; S. Campuzano; J. M. Pingarrón. "Magnetic Beads-Based Sensor with Tailored Sensitivity for Rapid and Single-Step Amperometric Determination of miRNAs". International Journal of Molecular Sciences, 18 (2017) 2151; DOI:10.3390/ijms18112151.

M. Vázquez-González; R. M. Torrente-Rodríguez; A. Kozell; W-C. Liao; A. Cecconello; S. Campuzano; J. M. Pingarrón; I. Willner. "Mimicking peroxidase activities with Prussian Blue nanoparticles and their cyanometallate structural analogs". Nano Letters, 17 (2017) 4958–4963.

Doctorando	Titulo	Directores	Calificación
ANDREA MARTÍN ORTIZ	DESARROLLO DE NUEVAS METODOLOGÍAS AVANZADAS PARA EL ANÁLISIS DE OLIGOSACÁRIDOS BIOACTIVOS.	ANA ISABEL RUIZ MATUTE / MARÍA LUZ SANZ MURIAS / FRANCISCO JAVIER MORENO ANDÚJAR (IQO-CSIC)	Sobresaliente cum laude
A. Martín-Ortiz, A.I. Ruiz Matute, M.L. Sanz, F.J. Moreno, M. Herrero, Separation of di- and trisaccharide mixtures by comprehensive two dimensional liquid chromatography. Application to prebiotic oligosaccharides, Anal. Chim. Acta 1060 (2019) 125-132.			

Doctorando	Titulo	Directores	Calificación
ISAAC ALFONSO CUADRA MENDOZA	PREPARACIÓN DE CO-CRISTALES FARMACÉUTICOS, ADUCTOS Y COMPOSITES USANDO CO2 SUPERCRÍTICO COMO ANTIDISOLVENTE.	CONCEPCION PANDO GARCIA-PUMARINO / ALBERTINA CABAÑAS POVEDA	Sobresaliente cum laude
Cuadra I., Cabañas A., Cheda J.A.R., Martínez-Casado F.J.y Pando C. "Pharmaceutical co-crystals of the anti-inflammatory drug diflunisal and nicotinamide obtained using supercritical CO2 as an antisolvent" J. CO2 Utilization 13, 29-37 (2016) doi: 10.1016/j.jcou.2015.11.006 C. Pando, A. Cabañas y I. Cuadra. “Preparation of pharmaceutical co-crystals through sustainable processes using supercritical carbon dioxide: a review” RSC Adv., 6, 71134-71150(2016) doi: 10.1039/c6ra10917a I.A. Cuadra, A. Cabañas, J.A.R. Cheda, C. Pando. “Polymorphism in the co-crystallization of the anticonvulsant drug carbamazepine and saccharin using supercritical CO2 as an anti-solvent” The Journal of Supercritical Fluids 136, 60–69(2018) doi: 10.1016/j.supflu.2018.02.004 Cuadra I., Zahran F., Martín D., Cabañas A., Pando, C. “Preparation of 5-fluorouracil microparticles and 5-fluorouracil/poly(L-lactide) composites by a supercritical CO2 antisolvent process” J. Supercrit. Fluids, 143, 64-71 (2019) doi: 10.1016/j.supflu.2018.07.027 Cuadra I., Martinez-Casado, F.J., Cheda J.A.R., Redondo M.I., Cabañas A; Pando, C. “Production and characterization of a new Copper(II) propanoate-Isonicotinamide adduct obtained via Slow Evaporation and using Supercritical CO2 as an Antisolvent” Crystal Growth & Design 19, 620–629 (2019) doi: 10.1021/acs.cgd.8b01034 Cuadra I.A., Cabañas A., Cheda J.A.R., Türk M., Pando C. “Cocrystallization of the anticancer drug 5-fluorouracil and coformers urea, thiourea or pyrazinamide using supercritical CO2 as an antisolvent (SAS) and as a solvent (CSS)” J. Supercrit Fluids 159, 104813 (2020) doi: 10.1016/j.supflu.2020.104813.			

Doctorando	Titulo	Directores	Calificación
DANIEL ARENAS ESTEBAN	MATERIALES COMPUESTOS BASADOS EN CARBONO DESORDENADO COMO ELECTRODOS EN SUPERCONDENSADORES. COMPOSITE MATERIALS BASED ON DISORDERED CARBON AS SUPERCAPACITOR ELECTRODES.	DAVID AVILA BRANDE / LUIS CARLOS OTERO DIAZ	Sobresaliente cum laude

Fernandez-Benito, Amparo; Rodriguez, Giovanna; Arenas-Esteban, Daniel; Sjödin, Martin; Navalpotro, Paula; Rodriguez-Caballero, Daniel; Ávila-Brande, David; Manchado, Miguel; Gonzalez, Javier. (2020). Multifunctional metal-free rechargeable polymer composite nanoparticles boosted by CO2. Materials Today. 10. doi: 10.1016/j.mtsust.2020.100048.

Daniel Arenas Esteban, Andrés Guerrero Martínez, Javier Carretero González, Viola I. Birss, Luis Otero-Díaz, David Ávila Brande Tunable supercapacitor materials derived from hydrochar/gold nanograpes ACS Appl. Energy Mater. 2020, 3, 9, 9348–9359. doi: 10.1021/acsaem.0c01711

Daniel Arenas-Esteban, Esteban Urones-Garrote, Javier Carretero-González, Viola Birss, L. Carlos Otero-Díaz, and David Ávila-Brande. Organometallic-Derived Carbon (ODC)–Metal Nano-Oxide Composites as Improved Electrode Materials for Supercapacitors. Inorg. Chem. 2019, 58, 14, 9175–9180. doi: 10.1021/acs.inorgchem.9b00800

González-García P, Arenas-Esteban D, Ávila-Brande D, Urones-Garrote E, Otero-Díaz LC. Nickelocene as precursor of microporous organometallic-derived carbon and nickel oxide-carbon nanocomposite. J Colloid Interface Sci. 2017 Mar 15; 490: 410-419. doi: 10.1016/j.jcis.2016.11.034

David Ávila-Brande, Daniel Arenas-Esteban, L. Carlos Otero-Díaz, Andrés Guerrero-Martínez, Gloria Tardajos and Javier Carretero-González. Activated nanoporous carbon–gold nanoparticle composite electrode with enhanced volumetric capacitance. RSC Adv., 2015,5, 86282-86290. doi: 10.1039/c5ra14543k

Doctorando	Titulo	Directores	Calificación
JULIO SERRANO CHECA	DESARROLLO DE LAS TÉCNICAS FORENSES NUCLEARES: VALORACIÓN DE RIESGOS.	JAVIER QUIÑONES DIEZ (CIEMAT)	Sobresaliente cum laude

Javier Quiñones Díez, Marta Fernández, Emiliano Mingorance, Julio Serrano, José Antonio Torres, Luis Jesús Amigo, José Manuel Cobo, DNA resistance to radiation field: forensic genotyping in a radiological incident scenario, The European Physical Journal Plus, 2021, 136, 413, doi: 10.1140/epjp/s13360-021-01407-x

Doctorando	Titulo	Directores	Calificación
SARA GISMERA DIEZ	COMPORTAMIENTO REOLÓGICO DE CEMENTOS Y MORTEROS ACTIVADOS ALCALINAMENTE. INFLUENCIA DE LAS VARIABLES DEL PROCESO.	MARIA DEL MAR ALONSO LOPEZ / MARTA PALACIOS AREVALO / FRANCISCA PUERTAS MAROTO (IETcc-CSIC)	Sobresaliente cum laude

M. Palacios, S. Gismera, M.M. Alonso, J.B. d'Espinose de Lacaillerie, B. Lothenbach, A. Favier, C. Brumaud, F. Puertas. Early reactivity of sodium silicate-activated slag pates and its impact on rheological properties. Cement and Concrete Research, Vol 140, February 2021, 106302 doi: 10.1016/j.cemconres.2020.106302

S. Gismera, M.M. Alonso, M. Palacios and F. Puertas. Rheology of Alkali-Activated mortars: Influence of particle size and nature of aggregates. Minerals, 10, 726 (2020) doi: 10.3390/min10080726

M.M. Alonso, S. Gismera, M.T. Blanco, M. Lanzón, F. Puertas. Rheology of cementitious materials: Alkali- Activated Materials or Geopolymers. MATEC Web of Conferences 149, 01002 (2018) doi: 0.1051/matecconf/201714901002

S. Gismera, M.M. Alonso, M. Palacios, F. Puertas. Factors influencing in the rheological behaviour of alkali- activated mortars. International Conference on Construction Research-Eduardo Torroja. Architecture, Engineering and Concrete / AEC (2018). ISBN: 978-84-941820-8-2

M. Palacios, S. Gismera, M.M. Alonso, M.T. Blanco-Varela, B. Lothenbach, P. Carmona- Quiroga, J. B. D´Espinose de lacaillerie, F. Puertas. A comprehensive study of the early reaction of slag with strongly alkaline solutions. International Conference on Construction Research-Eduardo Torroja. Architecture, Engineering and Concrete / AEC (2018). ISBN: 978-84-941820-8-2

S. Gismera, M.M. Alonso, F. Puertas. Influencia de la naturaleza y granulometría de los áridos en el comportamiento reológico de morteros de cementos activados alcalinamente. HAC 2018. V Congreso Iberoamericano de Hormigón Autocompactable y Hormigones Especiales (2018) doi: 10.4995/HAC2018.2018.6002

M.M Alonso, S. Gismera, R. Martínez-Gaitero, F. Puertas. PCE and BNS admixture adsorption in sands with different composition and particle size distribution. Mater. Construcc., Vol 67, 326; Abril-junio (2017) doi: 10.3989/mc.2017.08116

M.M. Alonso, S. Gismera, M.T. Blanco, M. Lanzón, F. Puertas. Alkali-activated mortars: workability and rheological behavior. Construction and Building Material, Vol 145; 576–587 (2017) doi: 10.1016/j.conbuildmat.2017.04.020

S. Gismera, M.M. Alonso, C. Varga, F. Puertas. Rheological behaviour of OPC and geopolymer pastes. III International Congress on Construction and Building Research, COINVEDI. Escuela Técnica Superior de Edificación (ETSII-UPM). Diciembre 2015. ISBN: 987-84-933567-6-7

Doctorando	Titulo	Directores	Calificación
RIIKKA JOHANNA PELTOMAA	NUEVAS ESTRATEGIAS PARA EL DESARROLLO DE BIOSENSORES ÓPTICOS APLICADOS AL ANÁLISIS DE MICOTOXINAS Y HONGOS TOXIGÉNICOS EN ALIMENTOS. NEW OPTICAL BIOSENSING STRATEGIES FOR THE ANALYSIS OF MYCOTOXINS AND TOXIGENIC FUNGI IN FOOD.	MARIA CRUZ MORENO BONDI / MARIA ELENA BENITO PEÑA	Sobresaliente cum laude

Peltomaa, R.; Agudo-Maestro, I.; Más, V.; Barderas, R.; Benito-Peña, E.; Moreno-Bondi, M. C. Development and Comparison of Mimotope-Based Immunoassays for the Analysis of Fumonisin B1. Anal Bioanal Chem **2019**, 411 (26), 6801–6811. doi: 10.1007/s00216-019-02068-7.

Peltomaa, R.; Amaro-Torres, F.; Carrasco, S.; Orellana, G.; Benito-Peña, E.; Moreno-Bondi, M. C. Homogeneous Quenching Immunoassay for Fumonisin B1 Based on Gold Nanoparticles and an Epitope-Mimicking Yellow Fluorescent Protein. ACS Nano **2018**, 12 (11), 11333–11342. doi: 10.1021/acsnano.8b06094.

Peltomaa, R.; Benito-Peña, E.; Barderas, R.; Sauer, U.; González Andrade, M.; Moreno-Bondi, M. C. Microarray-Based Immunoassay with Synthetic Mimotopes for the Detection of Fumonisin B1. Anal. Chem. **2017**, 89 (11), 6216–6223. doi: 10.1021/acs.analchem.7b01178.

Peltomaa, R.; Fikacek, S.; Benito-Peña, E.; Barderas, R.; Head, T.; Deo, S.; Daunert, S.; Moreno-Bondi, M. C. Bioluminescent Detection of Zearalenone Using Recombinant Peptidomimetic Gaussia Luciferase Fusion Protein. Microchim Acta **2020**, 187 (10), 547. doi: 10.1007/s00604-020-04538-7.

Peltomaa, R.; Vaghini, S.; Patiño, B.; Benito-Peña, E.; Moreno-Bondi, M. C. Species-Specific Optical Genosensors for the Detection of Mycotoxigenic Fusarium Fungi in Food Samples. Analytica Chimica Acta **2016**, 935, 231–238. doi: 10.1016/j.aca.2016.06.009.

Peltomaa, R.; Benito-Peña, E.; Barderas, R.; Moreno-Bondi, M. C. Phage Display in the Quest for New Selective Recognition Elements for Biosensors. ACS Omega **2019**, 4 (7), 11569–11580. doi: 10.1021/acsomega.9b01206.

Peltomaa, R.; Benito-Peña, E.; Moreno-Bondi, M. C. Bioinspired Recognition Elements for Mycotoxin Sensors. Anal Bioanal Chem **2018**, 410 (3), 747–771. doi: 10.1007/s00216-017-0701-3.

Peltomaa, R.; Glahn-Martínez, B.; Benito-Peña, E.; Moreno-Bondi, M. C. Optical Biosensors for Label-Free Detection of Small Molecules. Sensors **2018**, 18 (12), 4126. doi: 10.3390/s18124126.

Peltomaa, R.; López-Perolio, I.; Benito-Peña, E.; Barderas, R.; Moreno-Bondi, M. C. Application of Bacteriophages in Sensor Development. Anal Bioanal Chem **2016**, 408 (7), 1805–1828. doi: 10.1007/s00216-015-9087-2

Doctorando	Titulo	Directores	Calificación
LAURA FERNANDEZ PEÑA	ESTUDIO FÍSICO-QUÍMICO DE FLUIDOS COMPLEJOS DE USO COSMÉTICO.	RAMON GONZALEZ RUBIO / EDUARDO GUZMAN SOLIS	Sobresaliente cum laude

Eduardo Guzmán, Sara Llamas, Armando Maestro, Laura Fernández-Peña, Andrew Akanno, Reinhard Miller, Francisco Ortega, Ramón G. Rubio. "Polymer – Surfactant Systems in Bulk and at Fluid Interfaces", Advances in Colloid and Interface Science 2016, 233, 38-64. doi: 10.1016/j.cis.2015.11.001

Sara Llamas, Laura Fernández-Peña, Andrew Akanno, Eduardo Guzmán, Víctor Ortega, Francisco Ortega, Aurelio. G. Csaky, Richard A. Campbell, Ramón G. Rubio. "Towards understanding the behavior of polyelectrolyte–surfactant mixtures at the water/vapor interface closer to technologically-relevant conditions". Physical Chemistry Chemical Physics 2018, 20, 1395 – 1407. doi:10.1039/C7CP05528E

Sara Llamas, Eduardo Guzmán, Andrew Akanno, Laura Fernández-Peña, Francisco Ortega, Richard A. Campbell, Reinhard Miller Ramón G. Rubio. "Study of the Liquid/Vapor Interfacial Properties of Concentrated Polyelectrolyte Mixtures Using Surface Tensiometry and Neutron Reflectometry: Equilibrium Adsorption Kinetics and Dilational Rheology". Journal Physical Chemistry C 2018, 122, 4419−4427. doi: 10.1021/acs.jpcc.7b12457

Andrew Akanno, Eduardo Guzmán, Laura Fernández-Peña, Sara Llamas, Francisco Ortega, Ramón G. Rubio. "Equilibration of a Polycation–Anionic Surfactant Mixture at the Water/Vapor Interface". Langmuir 2018, 34, 7455-7464. doi: 10.1021/acs.langmuir.8b01343

Eduardo Guzmán, Laura Fernández-Peña, Andrew Akanno, Sara Llamas, Francisco Ortega, Ramón G. Rubio. "Two Different Scenarios for the Equilibration of Polycation—Anionic Solutions at Water–Vapor Interfaces". Coatings 2019, 9, 438. doi:10.3390/coatings9070438

Andrew Akanno, Eduardo Guzmán, Laura Fernández-Peña, Francisco Ortega, Ramón G. Rubio. "Surfactant-Like Behavior for the Adsorption of Mixtures of a Polycation and Two Different Zwitterionic Surfactants at the Water/Vapor Interface". Molecules 2019, 24, 3442. doi:10.3390/molecules24193442

Laura Fernández-Peña, Sonia Gutiérrez-Muro, Eduardo Guzmán, Alejandro Lucia, Francisco Ortega, Ramón G. Rubio. "Oil-In-Water Microemulsions for Thymol Solubilization". Colloids Interfaces 2019, 3, 64; doi:10.3390/colloids3040064

Eduardo Guzmán, Sara Llamas, Laura Fernández-Peña, Fabien Léonforte, Nawel Baghdadli, Colette Cazeneuve, Francisco Ortega, Ramón G. Rubio, Gustavo S. Luengo. "Effect of a natural amphoteric surfactant in the bulk and adsorption behavior of polyelectrolyte-surfactant mixtures". Colloids and Surfaces A 2020, 585, 124178. doi: 10.1016/j.colsurfa.2019.124178

Laura Fernández-Peña, Eduardo Guzmán, Fabien Leonforte, Ana Serrano-Pueyo, Krzysztof Regulski, Lucie Tournier-Couturier, Francisco Ortega, Ramón G. Rubio, Gustavo S. Luengo. "Effect of molecular structure of eco-friendly glycolipid biosurfactants on the adsorption of hair-care conditioning polymers". Colloids and Surfaces B: Biointerfaces 2020, 185, 110578. doi: 10.1016/j.colsurfa.2019.124178

Eduardo Guzmán, Laura Fernández-Peña, Gustavo S. Luengo, Ana María Rubio, Antonio Rey, Fabien Leonforte "Self-Consistent Mean Field Calculations of Polyelectrolyte-Surfactant Mixtures in Solution and upon Adsorption onto Negatively Charged Surfaces". Polymers, 12 (2020) 624. doi:10.3390/polym12030624

Laura Fernández-Peña, Eduardo Guzmán "Physicochemical Aspects of the Performance of Hair-Conditioning Formulations". Cosmetics, 7 (2020) 26. doi: 10.3390/cosmetics7020026

Eduardo Guzmán, Laura Fernández-Peña, Francisco Ortega, Ramón G. Rubio. "Equilibrium and kinetically trapped aggregates in polyelectrolyte–oppositely charged surfactant mixtures". Current Opinion in Colloid & Interface Science, 48 (2020)9 1-108. doi: 10.1016/j.cocis.2020.04.002

María Hernández-Rivas, Eduardo Guzmán, Laura Fernández-Peña, Andrew Akanno, Andrew Greaves, Fabien Léonforte, Francisco Ortega, Ramón G. Rubio, Gustavo S. Luengo. "Deposition of Synthetic and Bio-Based Polycations onto Negatively Charged Solid Surfaces: Effect of the Polymer Cationicity, Ionic Strength, and the Addition of an Anionic Surfactant." Colloids Interfaces 2020, 4, 33. doi: 10.3390/colloids4030033

Laura Fernández-Peña, Eduardo Guzmán, Francisco Ortega, Lionel Bureau, Fabien Leonforte, Dandara Velasco, Ramón G Rubio, Gustavo S Luengo. "Physico-chemical study of polymer mixtures formed by a polycation and a zwitterionic copolymer in aqueous solution and upon adsorption onto negatively charged surfaces". Polymer 217 (2021). doi: 10.1016/j.polymer.2021.123442

Eduardo Guzmán, Laura Fernández-Peña, Lorenzo Rossi, Mathieu Bouvier, Ortega Francisco, Ramón G. Rubio "Nanoemulsions for the Encapsulation of Hydrophobic Actives". *Cosmetics* 2021, *8*(2), 45. doi: 10.3390/cosmetics8020045.

Laura Fernández-Peña, Boutaina Z. El Mojahid, Eduardo Guzmán, Francisco Ortega, Ramón G. Rubio. "Performance of Oleic Acid and Soybean Oil in the Preparation of Oil-in-Water Microemulsions for Encapsulating a Highly Hydrophobic Molecule". *olloids Interfaces* 2021, *5*(4), 50; doi.org/10.3390/colloids5040050.

Sara Llamas, Laura Fernández-Peña, Ana Mateos-Maroto, Lionel Perrin, Adrew Akkano, Francisco Ortega, Ramón G. Rubio, Eduardo Guzmán. "Adsorption of Polyelectrolytes onto Charges Surfaces" in Polyelectrolytes: Theory, Properties and Applications. Nova Science Publisher. Inc. New York (United States of America) 2016

Gustavo S. Luengo, Eduardo Guzman, Laura Fernández-Peña, Fabien Leonforte, Francisco Ortega and Ramon G. Rubio. "Interaction of Polyelectrolytes and Surfactants on Hair Surfaces.Deposits and their Characterization. In Surface Science and Adhesion in Cosmetics. John Wiley & Sons, Hoboken, NJ (United States of America) 2021.

Doctorando	Titulo	Directores	Calificación
GONZALO BENITO DÍAZ	DESARROLLO DE SISTEMAS ESPECTROMÉTRICOS PARA LA MEDIDA DE LA RADIACIÓN EXTERNA AMBIENTAL Y SU APLICACIÓN EN REDES DE ALERTA TEMPRANA	JAVIER QUIÑONES DIEZ / JUAN BENJAMIN BLAZQUEZ MARTINEZ / JOSÉ CARLOS SÁEZ VERGARA (CIEMAT)	Sobresaliente cum laude

Benito, Gonzalo & Sáez, Jose & Blázquez, Juan & Quinones, Javier. (2019). SURVEILLANCE OF ENVIRONMENTAL DOSE RATE WITH THE COVARIANCE MATRIX. Radiation protection dosimetry. 184. 230-236. doi: 10.1093/rpd/ncy204.

G. Benito, José Carlos Sáez Vergara, J.B. Blázquez, Javier Quiñones Díez, Advance surveilance of environmental radiation in automatic networks, Radiation Protection Dosimetry, 2018, 179(4), 299-302. doi: 10.1093/rpd/ncx280

Javier Quiñones Díez, José Carlos Sáez Vergara, J.B. Blázquez, G. Benito, E. Carreño, I. Cartagena, C. Torres, Tratado de prohibición completa de ensayos nucleares. Aportación del reino de España, Colección documentos CIEMAT. Madrid (España): CIEMAT, 2018, ISBN 978-84-7834-800-8

Doctorando	Titulo	Directores	Calificación
JUAN ESCOBAR ARNANZ	AVANCES EN CROMATOGRAFÍA DE GASES PARA EL ANÁLISIS DE MICROCONTAMINANTES ORGÁNICOS PERSISTENTES EN MEZCLAS COMPLEJAS.	LOURDES RAMOS RIVERO (IQO-CSIC)	Sobresaliente cum laude

J. Escobar, L. Ramos. The latest trends in the miniaturized treatment of solid samples. TRAC Trends Anal. Chem. 71: 275-281 (2015). 10.1016/j.trac.2015.02.023

J. Escobar-Arnanz, S. Mekni, G. Blanco, E. Eljarrat, D. Barceló, L. Ramos. Characterization of organic aromatic compounds in soils affected by an uncontrolled tire landfill fire through the use of comprehensive two-dimensional gas chromatography–time-of-flight mass spectrometry. J. Chromatogr. A 1536 (2018) 163-175. doi: 10.1016/j.chroma.2017.10.044.

M. Ros, J. Escobar-Arnanz, M.L. Sanz, L. Ramo*. Evaluation of ionic liquid gas chromatography stationary phases for the separation of polychlorinated biphenyls. J. Chromatogr. A 1559 (2018) 156-163. doi: 10.1016/j.chroma.2017.12.029.

C. Carrero-Carralero, J. Escobar-Arnanz, M. Ros, S. Jiménez-Falcao, M.L. Sanz, L. Ramos. An untargeted evaluation of the volatile and semi-volatile compounds migrating into food simulants from polypropylene food containers by comprehensive two-dimensional gas chromatography–time-of-flight mass spectrometry. Talanta (2019) 195: 800-806. DOI: doi: 10.1016/j.talanta.2018.12.011.

J. Escobar-Arnanz, M.L. Sanz, M. Ros, J. Sanz, L. Ramos. Potential of topological descriptors to model the retention of polychlorinated biphenyls in different gas chromatography stationary phases, including ionic liquid-based columns. J. Chromatogr. A 1616 (2020) 460844. doi: 10.1016/j.chroma.2019.460844.

Doctorando	Titulo	Directores	Calificación
BEATRIZ SOLO DE ZALDÍVAR GÁLVEZ	ESTUDIO DE LA UTILIZACIÓN DEL GLUCOMANANO EN LA REESTRUCTURACIÓN DEL MÚSCULO DE PESCADO.	MARIA BEATRIZ HERRANZ HERNANDEZ / CLARA TOVAR RODRÍGUEZ (UCM, UVigo)	Sobresaliente cum laude

Herranz, B., Tovar, C. A., Solo-de-Zaldívar, B. and Borderias, A. J. (2012). Effect of alkalis on konjac glucomannan gels for use as potential gelling agents in restructured seafood products. Food Hydrocolloids 27, 145-153. doi: 10.1016/j.foodhyd.2011.08.003

Herranz, B., Borderias, A. J., Solo-de-Zaldívar, B., Solas, M. T. and Tovar, C. A., (2012). Thermostability analyses of glucomannan gels. Concentration influence. Food Hydrocolloids, 29, 85-92. doi: 10.1016/j.foodhyd.2012.02.011

Herranz, B., Borderias, A. J., Solo-de-Zaldívar, B., and Tovar, C. A. (2013). Influence of alkali and temperature on glucomannan gels at high concentration. LWT-Food Science and Technology, 51, 500-506. doi: 10.1016/j.lwt.2012.11.023

Solo-de-Zaldívar, B., Tovar, C. A., Borderías, A. J. and Herranz, B. (2014). Effect of deacetylation on the glucomannan gelation process for making restructured seafood products. Food Hydrocolloids, 35, 59-68. doi: 10.1016/j.foodhyd.2013.04.009

Solo-de-Zaldívar, B., Herranz, B., Borderías, A. J. and Tovar, C. A., (2014). Effect of freezing and frozen storage on restructured fish prototypes made with glucomannan and fish mince. Food Hydrocolloids, 41, 233-240. doi: 10.1016/j.foodhyd.2014.04.019

Solo-de-Zaldívar, B., Tovar, C. A., Borderías, A. J., and Herranz, B. (2015). Pasteurization and chilled storage of restructured fish muscle products based on glucomannan gelation. Food Hydrocolloids, 43, 418-426. doi: 10.1016/j.foodhyd.2014.06.016

Solo-de-Zaldívar, B., Herranz, B. and Borderias, J. A. (2012). First steps in using glucomannan to make thermostable gels for potencial use in mince fish restructuration. International Journal of Food Engineering, 8(1), 1556-3758. doi: 10.1515/1556-3758.2407

Herranz, B., Solo-de-Zaldívar, B. and Borderias, J. A. (2013a). Obtaining a restructured seafood product from non- functional fish muscle by glucomannan addition: first steps. Journal of Aquatic Food Product Technology, 22(2), 201-208. doi: 10.1080/10498850.2011.632114

Borderias, J. A, Solo-de-Zaldívar, B. y Herranz, B. (2012). Productos pesqueros reestructurados a base de músculo con proteína de escasa o nula funcionalidad. Ruta pesquera, 91, 66-67.

Patente: ES 2 363 291 B1 PRODUCTO ALIMENTICIO A BASE DE PESCADO Y GLUCOMANACO, Y PROCEDIMIENTO DE OBTENCIÓN. Inventores: Borderias Juárez, A. Javier; Solo de Zaldívar Gálvez, Beatriz Y Herranz Hernández, Beatriz.

Doctorando	Titulo	Directores	Calificación
NOEMI MOLINA FERNÁNDEZ	DETERMINACIÓN DE RESIDUOS FARMACEÚTICOS EN ALIMENTOS Y MUESTRAS MEDIOAMBIENTALES: EVALUACIÓN DE SU TOXICIDAD CON LARVAS DE PEZ CEBRA.	MARIA CONCEPCION PEREZ CONDE / JON SANZ LANDALUCE	Sobresaliente cum laude

N. Molina-Fernandez, S. Rainieri, R. Muñoz-Olivas, P. De Oro-Carretero, J. Sanz-Landaluze. Development of a method for assessing the accumulation and metabolization of antidepressant drugs in zebrafish (Danio rerio) eleutheroembryos. Anal Bioanal Chem (jul 2021). doi: 10.1007/s00216-021-03486-2.

Noemí Molina-Fernández, Ana María Coto-García, Raquel Gonzalo-Lumbreras, Jon Sanz-Landaluze, Concepción Pérez-Conde, Carmen Cámara. Sample treatment in organic compound determination: a green chemistry perspective. Current on Green Chemistry, 2016, 3:2, 133 – 144 DOI: http://dx.doi.org/10.2174/2213346103666160526130744.

N. Molina-Fernandez, C.Perez-Conde, S. Rainieri, J. Sanz-Landaluze. Method for quantifying NSAIDs and clofibric acid in aqueous samples, lumpfish (Cyclopterus lumpus) roe, and zebrafish (Danio rerio) eleutheroembryos and evaluation of their bioconcentration in zebrafish eleutheroembryos. Environmental Science and Pollution Research, 2017, 24(12), 10907-10918. DOI: http://dx.doi.org/10.1007/s11356-016-6671-8

Doctorando	Titulo	Directores	Calificación
ESTEFANÍA GARCÍA CALVO	NUEVAS APROXIMACIONES BASADAS EN TÉCNICAS ÓMICAS PARA LA EVALUACIÓN DE LOS MECANISMOS DE TOXICIDAD DE CONTAMINANTES ALIMENTARIOS Y AMBIENTALES.	JOSE LUIS LUQUE GARCIA	Sobresaliente cum laude

Cristina Nerin, Elena Canellasa, Paula Vera, Estefanía Garcia-Calvo, José Luis Luque-Garcia, Carmen Cámara, Raquel Ausejo, Joaquín Miguel, Noelia Mendoza. A common surfactant used in food packaging found to be toxic for reproduction in mammals. Food and Chemical Toxicology 113 (2018) 115–124.

E. Garcia-Calvo, P. Cabezas-Sanchez, J.L. Luque-Garcia. In-vitro and in-vivo evaluation of the molecular mechanisms involved in the toxicity associated to CdSe/ZnS quantum dots exposure. Chemosphere 263 (2021) 128170, doi: 10.1016/j.chemosphere.2020.128170.

Estefania Garcia-Calvo, Andres Machuca, Cristina Nerín, Noelia Rosales-Conrado, Daniela S. Anunciaç˜ao, Jose L. Luque-Garcia. Integration of untargeted and targeted mass spectrometry-based metabolomics provides novel insights into the potential toxicity associated to surfynol. Food and Chemical Toxicology 146 (2020) 111849, doi: 10.1016/j.fct.2020.111849.

Doctorando	Titulo	Directores	Calificación
IRENE HERRERO ANSORREGUI	MODIFICACIÓN ELECTROQUÍMICA DE SUPERCONDUCTORES DE ALTA TEMPERATURA	MIGUEL ÁNGEL ALARIO FRANCO / EMILIO MORAN MIGUELEZ	Sobresaliente cum laude

Herrero-Ansorregui, Irene; López Paz, Sara; Irujo-Labalde, Xabier; Morán, Emilio; Sánchez-Marcos, Jorge; Menéndez, Nieves; Alario-Franco, Miguel. (2017). Superconductivity in MxCu(1 - x)Sr2RECu2O(7+delta) (M = Mo and Fe) cuprates: structure-properties relations in the road to higher T_\mathrmTc. Quantum Studies: Mathematics and Foundations. 5. 1-10. doi: 10.1007/s40509-017-0132-z

Prado-Gonjal, J. and Guti errez-Seijas, J. and Herrero Ansorregui, I. and Mor an, E. and Terry, I. and Schmidt, R. (2016) 'The role of defects in microwave and conventionally synthesized LaCoO3 perovskite.', Journal of the European Ceramic Society., 36 (5). pp. 1197-1206. doi: 10.1016/j.jeurceramsoc.2015.12.014

Doctorando	Titulo	Directores	Calificación
XABIER MARTINEZ DE IRUJO LABALDE	EFECTOS DEL ORDEN ESTRUCTURAL EN LAS PROPIEDADES ELÉCTRICAS Y MAGNÉTICAS DE ÓXIDOS MULTI-CATIÓNICOS CON ESTRUCTURA DERIVADA DE LA PEROVSKITA.	MIGUEL ÁNGEL ALARIO FRANCO / SUSANA GARCIA MARTIN	Sobresaliente cum laude

Xabier Martínez de Irujo-Labalde, Ulises Amador, Clemens Ritter, Masato Goto, Midori Amano Patino, Yuichi Shimakawa, and Susana García-Martín, "3D to 2D Magnetic Ordering of Fe3+ Oxides Induced by Their Layered Perovskite Structure", Inorganic Chemistry 60, 2021, 8027−8034. doi: 10.1021/acs.inorgchem.1c00529

Xabier Martinez de Irujo-Labalde, Sara A. Lopez-Paz, Susana Garcia-Martin and Miguel A. Alario-Franco, "A far from conventional Tc-p correlation in the highly doped superconducting molybdo-cuprates: The case of Mo0.3Cu0.7Sr2TmCu2O7-δ", J. Solid State Chem. 286, 2020, 121289. doi: 10.1016/j.jssc.2020.121289

Rafael Marín Gamero, Xabier Martinez de Irujo-Labalde, Esteban Urones Garrote and Susana Garcia-Martin, "Structural Ordering Supremacy on the Oxygen Reduction Reaction of Layered Iron-Perovskites", Inorganic Chemistry 59, 2020, 5529-5537. doi: 10.1021/acs.inorgchem.0c00171

Masato Goto, Xabier Martinez de Irujo-Labalde, Takashi Saito, Susana Garcia-Martin and Shimakawa, Yuichi, "Successive and Site-Selective Oxygen Release from B Site-Layer-Ordered Double Perovskite Ca2FeMnO6 with Unusually High Valence Fe4+", Inorganic Chemistry 59, 2020, 2024−2029. doi: 10.1021/acs.inorgchem.9b03374

Xabier Martínez de Irujo-Labalde, Masato Goto, Esteban Urones-Garrote, Ulises Amador, Clemens Ritter, Midori E. Amano Patino, Anucha Koedtruad, Zhenhong Tan, Yuichi Shimakawa and Susana Garcia-Martin, "Multiferroism Induced by Spontaneous Structural Ordering in Antiferromagnetic Iron Perovskites", Chemistry of Materials 31 (15), 2019, 5993-6000. doi: 10.1021/acs.chemmater.9b02716

Xabier Martínez de Irujo-Labalde, Esteban Urones-Garrote, Susana García-Martín, Miguel Ángel Alario-Franco, "Influence of Structural (Cation and Anion) Order in the Superconducting Properties of Ozone-Oxidized Mo0.3Cu0.7Sr2RECu2Oy (RE = Yb, Tm, Gd, Nd, and Pr)", Inorganic Chemistry 57 (19), (2018), 12038–12049. doi: 10.1021/acs.inorgchem.8b01594

Xabier Martínez de Irujo-Labalde, Daniel Muñoz-Gil, David Ávila-Brande, Esteban Urones-Garrote and Susana García-Martín. "Complex modulation of the crystal structure of a layered perovskite. A promising solid-oxide-fuel-cell cathode" J. Mater. Chem. A 4, 2016, 10241-10247, doi: 10.1039/c6ta03307e

Doctorando	Titulo	Directores	Calificación
MARÍA JESÚS GARCÍA SARRIÓ	ESTRATEGIAS ANALÍTICAS AVANZADAS DE OBTENCIÓN Y ANÁLISIS DE COMPUESTOS BIOACTIVOS EN MUESTRAS DE ORIGEN VEGETAL.	MARÍA LUZ SANZ MURIAS / ANA CRISTINA SORIA MONZON (IQO-CSIC)	Sobresaliente cum laude

M.J. García-Sarrió, S. Rodríguez-Sánchez, A. Martín-Ortiz. "Análisis de carbohidratos bioactivos mediante cromatografía de interacción hidrofílica (HILIC)". Cromatografía y Técnicas Afines 2014, 35(2), 47-58.

S. Rodríguez-Sánchez, M.J. García-Sarrió, J.E. Quintanilla, A.C. Soria, M.L. Sanz. Analysis of iminosugars and other low molecular weight carbohydrates in Aglaonema sp. extracts by hydrophilic interaction liquid chromatography coupled to mass spectrometry J. Chromatogr. A 1423(2015), 104-110.

A.C. Soria, M.J. García-Sarrió, M.L. Sanz. Volatile sampling by headspace techniques. Trends Anal. Chem. 71(2015), 85-99.

M.J. García-Sarrió, M.L. Sanz, J. Sanz, A. González-Coloma, A.C. Soria. A new method for microwave assisted ethanolic extraction of Mentha rotundifolia bioactive terpenoids. Electrophoresis 39(2018), 1957-1965.

A.C. Soria, M.J. García-Sarrió, A.I. Ruiz-Matute, M.L. Sanz. "Chapter 9. Headspace techniques for volatile sampling". En "Comprehensive Analytical Chemistry. Green extraction techniques: principles, advances and applications. Volume 76". Editores: E. Ibáñez y A. Cifuentes (Elsevier), 2017, pág. 255-278. ISBN impreso: 978-0-128-11082-9.

Doctorando	Titulo	Directores	Calificación
VICTOR RUIZ VALDEPEÑAS MONTIEL	DESARROLLO DE PLATAFORMAS ELECTRÓQUÍMICAS PARA BIOSENSADO DIRECTO DE ANALITOS DE RELEVANCIA ALIMENTARIA Y CLÍNICA EN MUESTRAS DE ELEVADA COMPLEJIDAD	ANGEL JULIO REVIEJO GARCIA / SUSANA CAMPUZANO RUIZ / JOSE MANUEL PINGARRON CARRAZON	Sobresaliente cum laude

V. Ruiz-Valdepeñas Montiel, S. Campuzano, F. Conzuelo, R. M. Torrente-Rodríguez, M. Gamella, A. J. Reviejo y J. M. Pingarrón. Electrochemical magnetoimmunosensing platform for determination of the milk allergen β-Lactoglobulin. *Talanta* 131 (2015) 156–162

V. Ruiz-Valdepeñas Montiel, S. Campuzano, A. Pellicanò, R. M. Torrente-Rodríguez, A. J. Reviejo, M. S. Cosio y J. M. Pingarrón. Sensitive and selective magnetoimmunosensing platform for determination of the food allergen Ara h 1. *Anal. Chim. Acta* 880 (2015) 52–59.

V. Ruiz-Valdepeñas Montiel, A. Pellicanò, S. Campuzano, R. M. Torrente-Rodríguez, A. J. Reviejo, M. S. Cosio y J. M. Pingarrón. Electrochemical detection of peanuts at trace levels in foods using a magnetoimmunosensor for the allergenic protein Ara h 2. *Sens. Actuators B Chem*. 236 (2016) 825–833.

V. Ruiz-Valdepeñas Montiel, R. M. Torrente-Rodríguez, S. Campuzano, A. Pellicanò, A. J. Reviejo, M. S. Cosio y J. M. Pingarrón. Simultaneous determination of the main peanut allergens in foods using disposable amperometric magnetic beads-based immunosensing platforms. *Chemosensors* 4 (2016) 11.

V. Ruiz-Valdepeñas Montiel, S. Campuzano, R. M. Torrente-Rodríguez, A. J. Reviejo y J. M. Pingarrón. Electrochemical magnetic beads-based immunosensing platform for the determination of α-lactalbumin in milk. *Food Chem.* 213 (2016) 595–601.

V. Ruiz-Valdepeñas Montiel, R. M. Torrente-Rodríguez, G. González de Rivera, A. J. Reviejo, C. Cuadrado, R. Linacero, F. J. Gallego, S. Campuzano y J. M. Pingarrón. Amperometric determination of halzelnut traces by means of Express PCR coupled to magnetic beads assembled on disponsable DNA sensing scaffolds. *Sens. Actuators B Chem.* 245 (2017) 895–902.

V. Ruiz-Valdepeñas Montiel, M. L. Gutiérrez, R. M. Torrente-Rodríguez, Eloy Povedano, E. Vargas, A. J. Reviejo, R. Linacero, F. J. Gallego, S. Campuzano y J. M. Pingarrón. Disposable amperometric PCR-free biosensor for direct detection of adulteration with horsemeat in raw lysates targeting mitochondrial DNA. *Anal. Chem.* 89 (2017) 9474–9482.

V. Ruiz-Valdepeñas Montiel, E. Povedano, E. Vargas, R. M. Torrente-Rodríguez, M. Pedrero, A. J. Reviejo, S. Campuzano y J. M. Pingarrón. Comparison of different strategies for the development of highly sensitive electrochemical nucleic acid biosensors using neither nanomaterials nor nucleic acid amplification. *ACS Sens.* 3 (2018) 211–221

S. Benedé, V. Ruiz-Valdepeñas Montiel, E. Povedano, M. Villalba, L. Mata, P. Galán-Malo, R. M. Torrente-Rodríguez, E. Vargas, A. J. Reviejo, S. Campuzano y J. M. Pingarrón. Fast amperometric immunoplatform for ovomucoid traces determination in fresh and baked foods. *Sens. Actuators B Chem*. 265 (2018) 421–428.

V. Ruiz-Valdepeñas Montiel, J. R. Sempionatto, B. Esteban-Fernández de Ávila, A. Whitworth, S. Campuzano, J. M. Pingarrón y J. Wang. Delayed sensor activation based on transient coatings: biofouling protection in complex biofluids. *J. Am. Chem. Soc.* 140 (2018) 14050–14053.

V. Ruiz-Valdepeñas Montiel, J. R. Sempionatto, S. Campuzano, J. M. Pingarrón, B. Esteban-Fernández de Ávila y J. Wang. Direct electrochemical biosensing in gastrointestinal fluids. *Anal. Bioanal. Chem.* 411 (2019) 4597–4604.

V. Ruiz-Valdepeñas Montiel, E. Povedano, S. Benedé, L. Mata, P. Galán-Malo, M. Gamella, A. J. Reviejo, S. Campuzano, J. M. Pingarrón. Disposable amperometric immunosensor for the detection of adulteration in milk through single or multiplexed determination of bovine, ovine or caprine immunoglobulins G. *Anal. Chem.* 91 (2019) 11266–11274.

S. Campuzano, V. Ruiz-Valdepeñas Montiel, R. M. Torrente Rodríguez, A. J. Reviejo y J. M. Pingarrón. Capítulo: Electrochemical biosensors for food security: allergens and adulterants detection. Título del libro: *Biosensors for Security and Bioterrorism Applications*, Advanced Sciences and Technologies for Security Applications, Capítulo 14 (2016) pp. 287-307. Editores: Dimitrios Nikolelis, Georgia-Paraskevi Nikoleli. Editorial: Springer. Print ISBN: 978-3-319-28924-3. Nueva York, Estados Unidos.

V. Ruiz-Valdepeñas Montiel, M. L. Gutiérrez, R. M. Torrente-Rodríguez, E. Povedano, E. Vargas, A. J. Reviejo, R. Linacero, F. J. Gallego, S. Campuzano y J. M. Pingarrón. Biosensor electroquímico para la detección de adulteraciones con carne de caballo. *Eurocarne* 262 (2017) 79–88.

S. Benedé, V. Ruiz-Valdepeñas Montiel, E. Povedano, M. Villalba, L. Mata, P. Galán-Malo, R. M. Torrente-Rodríguez, E. Vargas, A. J. Reviejo, S. Campuzano y J. M. Pingarrón. Biosensor para detector huevo. *Revista Alimentaria* 500 (2019) 18–21.

J. M. Pingarrón, S. Campuzano, F. J. Gallego, R. Linacero, V. Ruiz-Valdepeñas Montiel. Título: “Método y kit para detectar y/o cuantificar la presencia de ADN de caballo en muestras aisladas”. N. de solicitud: P201700642 (concedida 28 Mayo 2018). Entidad titular: UCM

V. Ruiz-Valdepeñas Montiel, E. Povedano, S. Campuzano, S. Benedé, J. M. Pingarrón, A. J. Reviejo, M. Gamella, L. Mata, P. Galán-Malo. Título: “Método y plataforma electroquímica inmunosensora para la detección y/o cuantificación de adulteraciones en leche y productos lácteos”. N. de solicitud: P201900082 (enviada OEPM 17 Mayo 2019). Entidad titular: UCM (80%)-ZEULAB S.L. (20%)

Doctorando	Titulo	Directores	Calificación
ANDREA ILLANA SANCHEZ	RECUBRIMIENTOS PROTECTORES PARA INCREMENTAR LA VIDA EN SERVICIO DE MATERIALES QUE OPERAN EN CONDICIONES EXTREMAS	MARIA SONIA MATO DIAZ / FRANCISCO JAVIER PEREZ TRUJILLO	Sobresaliente cum laude

P. Eh. Hovsepian, A. P. Ehiasarian, Y. P. Purandare, B. Biswas, F. J. Pérez, M. I. Lasanta, M. T. de Miguel, A. Illana, M. Juez-Lorenzo, R. Muelas, A. Agüero, Performance of HIPIMS deposited CrN/NbN nanostructured coatings exposed to 650 °C in pure steam environment, Materials Chemistry and Physics, 2016, 179, 110-119. doi: 10.1016/j.matchemphys.2016.05.017

A. Illana, S. Mato, A. Ehiasarian, Y. Purandare, M. I. Lasanta, M. T. de Miguel, P. Hovsepian, F. J. Pérez-Trujillo, Substrate Finishing and Niobium Content Effects on the High-Temperature Corrosion Resistance in Steam Atmosphere of CrN/NbN Superlattice Coatings Deposited by PVD-HIPIMS, Oxidation of Metals, 2017, 87, 455-46. doi: 10.1007/s11085-016-9701-5 A. Illana, E. Almandoz, G.G. Fuentes, F.J. Pérez, S. Mato, Comparative study of CrAlSiN monolayer and CrN/AlSiN superlattice multilayer coatings: Behavior at high temperature in steam atmosphere, Journal of Alloys and Compounds, 2019, 778, 652-661. doi: 10.1016/j.jallcom.2018.11.199

Doctorando	Titulo	Directores	Calificación
IGNACIO BARAIBAR GONZALEZ DE MENDOZA	ESTUDIO DE LA ENERGÍA SUPERFICIAL DE REFUERZOS POR IGC PARA SU APLICACIÓN EN EL DESARROLLO DE MATERIALES COMPUESTOS.	MARÍA CRUZ GUTIÉRREZ HERREROS / JOSE MARIA GOMEZ DE SALAZAR CASO DE LOS COBOS / SUSANA OSUNA ESTEBAN (INTA, UCM)	Sobresaliente cum laude
Alina Agüero, Ignacio Baráibar, Marcos Gutiérrez, Satu Tuurna, Aki Toivonen, Sami Penttilä, Pertti Auerkari, Steam Oxidation of Aluminide-Coated and Uncoated TP347HFG Stainless Steel under Atmospheric and Ultra-Supercritical Steam Conditions at 700ºC, Coatings, 2020, 10(9), 839, doi: 10.3390/coatings10090839			

Doctorando	Titulo	Directores	Calificación
MARIA TERESA DE MIGUEL GAMO	ESTUDIO DE NUEVOS FLUIDOS CALOPORTADORES Y DE ALMACENAMIENTO TÉRMICO Y SU COMPATIBILIDAD CON MATERIALES DE CONSTRUCCIÓN EN PLANTAS TERMOSOLARES.	FRANCISCO JAVIER PEREZ TRUJILLO / MARIA ISABEL LASANTA CARRASCO / RICARDO DIAZ MARTIN (UCM, UDIMA)	Sobresaliente cum laude
de Miguel, M.T., Encinas-Sánchez, V., Lasanta, M.I., García-Martín, G., Pérez, F.J., Corrosion resistance of HR3C to a carbonate molten salt for energy storage applications in CSP plants, Solar Energy Materials and Solar Cells, 2016, 157, pp. 966–972. doi: 10.1016/j.solmat.2016.08.014 Encinas-Sánchez, V., de Miguel, M.T., García-Martín, G., Lasanta, M.I., Pérez, F.J., Corrosion resistance of Cr/Ni alloy to a molten carbonate salt at various temperatures for the next generation high-temperature CSP plants, Solar Energy, 2018, 171, pp. 286–292. doi: 10.1016/j.solener.2018.06.091 Agüero A., Audigié P, Rodríguez S., Encinas-Sánchez V., De Miguel M.T., Pérez F.J., Protective coatings for high temperature molten salt heat storage systems in solar concentration power plants, AIP Conference Proceedings, 2018, 2033, 090001. doi: 10.1063/1.5067095			

Doctorando	Titulo	Directores	Calificación
ÁLVARO DELGADO CABELLO	PREPARACIÓN DE NANOPARTÍCULAS DE FERRITA Y ESTUDIO DE PROPIEDADES MAGNÉTICAS Y MAGNETOTÉRMICAS	MARIA JOSEFA TORRALVO FERNANDEZ / REGINO SAEZ PUCHE	Sobresaliente cum laude

M. Virumbrales-del Olmo, A. Delgado-Cabello, A. Andrada-Chacón, J. Sánchez-Benítez, E. Urones-Garrote, V. Blanco-Gutiérrez, M. J. Torralvo and R. Sáez-Puche. Effect of composition and coating on the interparticle interactions and magnetic hardness of MFe2O4 (M = Fe, Co, Zn) nanoparticles. Phys. Chem. Chem. Phys. 2017, 19, 8363 doi: 10.1039/c6cp08743d M. Virumbrales, V. Blanco-Gutierrez, A. Delgado-Cabello, R. Saez-Puche, M.J. Torralvo. Superparamagnetism in CoFe2O4 nanoparticles: An example of a collective magnetic behavior dependent on the medium Journal of Alloys and Compounds 2018, 767, 559-566 doi: 10.1016/j.jallcom.2018.07.096

Doctorando	Titulo	Directores	Calificación
ÁLVARO LOBATO FERNÁNDEZ	UNA PERSPECTIVA MECÁNICA SOBRE LA ESTABILIDAD DEL ENLACE QUÍMICO	VALENTIN GARCIA BAONZA / MERCEDES TARAVILLO CORRALO	Sobresaliente cum laude
Á. Lobato, M. A. Salvado, M. Taravillo and V. G. Baonza. 2021. Highs and lows of bond lengths: Is there any limit? Angew. Chem. Int. Ed., 60, 17028-17036. doi: 10.1002/anie.202102967 A. Lobato, H.H. Osman, M.A. Salvadó, P. Pertierra, A. Vegas, V.G. Baonza and J.M. Recio, 2020. Generalized Stress-Redox Equivalence: A Chemical Link between Pressure and Electronegativity in Inorganic Crystals, Inorg. Chem. 59, 5281-5291. doi: 10.1021/acs.inorgchem.9b01470, A. Lobato, H. H. Osman, M. A. Salvadó, M. Taravillo, V. G. Baonza, J. M. Recio, 2019. Chemical pressure-Chemical Knowledge: squeezing bonds and lone pairs within the valence Shell electron pair repulsion model, Phys. Chem. Chem. Phys. 21, 12585-12596. doi: 10.1039/c9cp00913b H. Chorfi, A. Lobato, F. Boudjada, M.A. Salvadó, R. Franco, V.G. Baonza and J.M. Recio. 2019. Computational Modeling of Tensile Stress Effects on the Structure and Stability of Prototypical Covalent and Layered Materials. Nanomaterials 9, 1483-1498. doi: 10.3390/nano9101483 C. Menéndez, A. Lobato, V. G. Baonza, and J. M. Recio. 2017. Temperature effects on the friction-like mode of graphite. Theor. Chem. Acc. 136, 40-46. doi: 10.1007/s00214-017-2072-4 C. Menéndez, A. Lobato, D. Abbasi-Pérez, J. Fernández-Núñez,V. G. Baonza, and J. M. Recio. 2016. Anharmonicity effects in the friction-like mode of graphite. Phys Rev. B 93, 144112-9. doi: 10.1103/PhysRevB.93.144112			

Doctorando	Titulo	Directores	Calificación
JORGE BERMEJO SANZ	RECOCIDO SUBCRÍTICO DE ACEROS DE ALTA RESISTENCIA Y ESTUDIO DE SU COMPORTAMIENTO FRENTE AL DESGASTE PROVOCADO POR LA COMBUSTIÓN DE EXPLOSIVOS.	VLADISLAV KOLARIK / ANTONIO JOSE CRIADO PORTAL (ICT, UCM)	Sobresaliente cum laude
Bemejo Sanz, J., Roussel García, R., Kolarik, V., Juez Lorenzo, M.M. (2017). Influence of the Slurry Thickness and Heat Treatment Parameters on the Formation of Aluminium Diffusion Coating. Oxidation of Metals, 2017, 88, 179-190. doi:10.1007/s11085-017-9771-z.			