

CURRICULUM VITAE

Manuel Algarra González

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Date of Birth: 1/10/1967 (Spanish)
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Education

1988-1994 Licenciatura (MsC) in Chemistry. University of Málaga, Spain
 1995-2000 PhD. in Analytical Chemistry. University of Málaga, Spain.
 Thesis: Application of Cyclodextrin and Selective Solid Supports for Determination of Environmental Pollutants by Means Luminescent Techniques. Summa Cum Laude
 2007 Technician in Risks and Industrial Safety (OHSAS 18001) .
 2012 ANECA Habilitation.

Research Experience

Jun 2013 – continue Research. Universidad de Malaga. Dept. Inorganic Chemistry. Spain
May 2008 – Jun 2013 Research Assistant. University of Porto, Faculty of Sciences. Porto, Portugal (Ciencias 2007).
Feb 2003 – Nov 2004 Research. University of Porto, Departamento de Química e Bioquímica Porto, Portugal
Feb 2001 – Sep 2002 Research. New University of Lisbon, Department of Physics. Lisbon, Portugal
Jan 1995 – Jul 2000 Ph Student.. University of Malaga, Department of Analytical Chemistry. Málaga, Spain

Industrial Experience

Sept 2004 – June 2005 I+D. Lactea Antequerana. Antequera. Malaga
 Sept 2005- June 2007 Lab Manager. Verdifresh SL. Antequera. Malaga

Language Skills

Idioms	Speak	Read	Write
English	Fluent	Fluent	Fluent
Portuguese	Fluent	Fluent	Fluent

Participation in Research Projects

Project: Interactive Methods for Environmental Chemistry Education

Funded by: Univ. Málaga (1999-2000)

Director: Prof. Pascual Olivera Pastor (Universidad de Málaga)

Project: Síntesis y Caracterización de Catalizadores para la Eliminación de NO_x en la Industria

Funded by: EU 4th Framework Program (1998-2001)

Director: Dr. Antonio Jiménez López (Universidad de Málaga)

Contact: castellon@uma.es

Project: EC Research Training Network Laboratory Studies of Reactive Intermediates Relevant to Atmospheric Chemistry and Combustion. Reactive Intermediates as Post doc

Funded by: EU 5th Framework Program (Contract HPRN-CT-2000-00006) (2001-2002)

Director: Dra. M^a Lourdes Costa (Universidad Nova de Lisboa)

Seminars in this Project

- 1) 2nd Network Meeting of Laboratory Studies of Reactive Intermediate Relevant to Atmospheric Chemistry and Combustion. Lisboa, Portugal
Título de la Exposición Oral: UV PES of Unstable Molecules
 - 2) 3th Network Meeting of Laboratory Studies of Reactive Intermediate Relevant to Atmospheric Chemistry and Combustion, Munich, Germany
Título de la Exposición Oral: UV PES of Azides Compounds
 - 3) 4th Network Meeting of Laboratory Studies of Reactive Intermediate Relevant to Atmospheric Chemistry and Combustion Creta, Greece
Título de la Exposición Oral: Termal Decomposition of Azides
-

Project: Chiral Discrimination through Cyclodextrins Films Adsorbed on Gold Surfaces. As Post doc

Funded by: FCT, Portugal (2003-2004)

Director: Prof. M Natalia DS Cordeiro (University of Porto)

Contact: ncordeir@fc.up.pt

Project: SenRONS - Development of optical fiber sensors for the determination of reactive oxygen (ROS) and nitrogen (RNS) species in biological systems. Collaborator

Fundedby: FCT, Portugal (2008-20011)

Director: Prof. J. C. G. Esteves da Silva (Universidad de Oporto)

Contact: jesilva@fc.up.pt

Project: Effects of atmospheric non-biological pollutants on pollen grains. Collaborator

Funded by: FCT, Portugal (2010-2013)

Director: Prof. Ilda Noronha (University of Porto)

Project: Photochemical behavior of new azides: Gateway to nitrenes. Research Promoter

Funded by: FCT, Portugal, PTDC/QUI-QUI/118078/2010 (2012-2014)

Director: Dr Igor Reva (University of Coimbra)

Contact: igor.reva@gmail.com

Project: Bilateral Agreement Spain-Portugal
Funded by: CRUP
Responsible: Manuel Algarra (University Porto) as IP

Project: Superficies Modificadas con Moléculas Orgánicas y Nanopartículas: Biocompatibilidad, Transporte y Nanoestructuración
Funded by: Ministerio de Economía y Competitividad (CTQ13-48418P): 01/2014-31/08/2017
Responsible: Juan Manuel Lopez Romero (University of Malaga,

Project: Advanced Catalytic Treatment for Biomass Valorization and Removing of Associated Residues.
Funded by: Ministerio de Economía y Competitividad MINECO CTQ2015-68951-C3-3-R: 1/1/2016-31/12/2019
Responsible: Prof. Enrique Rodríguez-Castellón and Prof. Jose Jiménez-Jiménez (University of Málaga).

Project: MULTI-modal Imaging of FOREnsic SciEnce Evidence (MULTI-FORESEE) - tools for Forensic Science. COST CA16101
Funded by: COST. European Cooperation in Science and Technology
Role: Management Committee Member (http://www.cost.eu/COST_Actions/ca/CA16101?management)

Book Chapters (As corresponding Author)

Joaquim C G Esteves da Silva, M. Algarra, B.B. Campos: *Dendrimers Quantum Dots Nanocomposites for Chemical Sensing*. Dendrimers: Synthesis, Applications and Role in Nanotechnology, Edited by Heather B. Harris, Brian L. Turner, 01/2013: chapter Dendrimers Quantum Dots Nanocomposites for Chemical Sensing; Nova Publishers., ISBN: 978-1-62808-604-1

Manuel Algarra, Joaquim G.G. Esteves da Silva, Bruno B. Campos: *Synthesis and Analytical Applications of Quantum Dots Coated with Different Generations of DAB Dendrimers*. Advances in Nanocomposites - Synthesis, Characterization and Industrial Applications, 04/2011; ISBN: 978-953-307-165-7

M. Algarra, J. Jiménez-Jiménez, Joaquim C.G. Esteves da Silva: *Application of Nanochemistry to Forensic Science - Making Latent Fingerprints Visible*. Alumni Book of the Canon Foundation - Making Research Visible to the World, Edited by Mercedes Rodrigo Garcia, Oscar Martinez Mozos. MA Li, Miguel Oliveira, Helen Westgeest, Corrie Siahaya, 11/2010: pages 54-57; Canon Foundation in Europe, Amstelveen, The Netherlands.

M.V. Jiménez, J. Jiménez, M. Algarra, E. Rodríguez, A. Jiménez: *Retención de Ni²⁺ en aminopropil-silice MCM-41 y su aplicación al tratamiento de aguas residuales de la industria del galvanizado*. Ecotoxicología e remoção de poluentes estudos na península ibérica, Edited by Duarte, A, Santos, T.R., Panteleitchouk, A, Prego, R, 01/2002: chapter Retención de Ni²⁺ en aminopropil-silice MCM-41 y su aplicación al tratamiento de aguas residuales de la industria del galvanizado: pages 133-139; Instituto Piaget, Lisboa., ISBN: 972-771-620-2 9789727716203

Journal Publications (*As corresponding author)

Y. Bentahir, M.J. Villaseñor, Rachid Salghi, S. Jodeh, M. Algarra, M. Zougagh, A. Ríos. *Magnetic/non-magnetic argan press cake nanocellulose for the selective extraction of Sudan dyes in food samples prior to the determination by capillary liquid chromatography*. Talanta 2017

Bruno B. Campos, Rafael Contreras-Cáceres, Teresa J. Bandoz, José Jiménez-Jiménez, Enrique Rodríguez-Castellón, Joaquim C.G. Esteves da Silva, Manuel Algarra*. *Carbon dots coated with vitamin B12 as selective ratiometric nanosensor for phenolic carbofuran*. Sensors & Actuators B: Chemical 2017, 239:553-561.

María Moreno Oliva, Alberto Riaño, Iratxe Arrechea-Marcos, María M. Ramos, Rafael Gómez, Manuel Algarra, Rocío Ponce Ortiz, Juan T. López Navarrete, José L. Segura, and Juan Casado. *Extending Hexaazatriphenylene with Mono-/Bithiophenes in Acceptor-Donor Diads and Acceptor-Donor-Acceptor Triads*. J. Physical Chemistry C 2016, 120:23276-23285,

- B.B. Campos, R. Contreras-Caceres, T.J. Badosz, J. Jiménez-Jiménez, E. Rodríguez-Castellón, J.C.G. Esteves da Silva, **M. Algarra**, *Carbon Dots as Fluorescent Sensor for Detection of Explosive Nitrocompounds*. Carbon 2016, 106: 171-178
- Marco Laurenti, Miguel Paez-Perez, Manuel Algarra, Paulino Alonso-Cristobal, Enrique Lopez-Cabarcos, Diego Mendez-Gonzalez, Jorge Rubio-Retama, *Enhancement of the Upconversion Emission by Visible to Near Infrared fluorescent Graphene Quantum Dots for miRNA Detection*, ACS Applied Materials & Interfaces 2016, 8:12644-12651 DOI: 10.1021/acsami.6b02361
- B.B. Campos, L. Gelde, **M. Algarra**, M. I. Vázquez, J. C. G. Esteves da Silva, J. Benavente, *Characterization of cellulose membranes modified with luminescent silicon quantum dots nanoparticles*, Carbohydrate Polymers 2016, 151:939-946
- R. Contreras-Caceres, M. Doña, M.R. Lopez-Ramirez, **M. Algarra**, J. Hierrezuelo, M. A. Casado-Rodriguez, M. Sanchez-Molina, A. Diaz, B.B. Campos, J.C. G. Esteves da Silva, J. M. Lopez-Romero. *DMABI Tripod Structures with Sensing Capabilities: Synthesis, Characterization and Fluorescence Analysis*. New J. Chemistry 2016, 40, 2393-2400. DOI: 10.1039/C5NJ03613E
- M. A. Casado-Rodriguez, M. Sanchez-Molina, A. Lucena-Serrano, C. Lucena-Serrano, B. Rodriguez-Gonzalez, **Manuel Algarra**, Amelia Diaz, M. Valpuesta, J. M. Lopez-Romero, J. Perez-Juste, R. Contreras-Caceres: *Synthesis of Vinyl-Terminated Au Nanoprisms and Nanooctahedra Mediated by 3-Butenoic Acid: Direct Au@pNIPAM Fabrication for Improved SERS Capabilities*. Nanoscale 2016, 8, 45677-45684.
- Bruno B Campos, María Moreno-Oliva, Rafael Contreras Cáceres, Enrique Rodríguez-Castellón, Jose Jimenez-Jimenez, Joaquim CG Esteves da Silva, **Manuel Algarra***: *Carbon Dots on Based Folic Acid Coated with PAMAM Dendrimer as Platform for Pt(IV) detection*. Journal of Colloid and Interface Science 2016, 465:165-173.
- Bruno B Campos, Carlos Abellan, Jose Jimenez-Jimenez, Enrique Rodríguez-Castellón, Joaquim CG Esteves da Silva, Angel Rios, **Manuel Algarra***: *Fluorescent Chemosensor for Pyridine Based on N-Doped Carbon Dots*. Journal of Colloid and Interface Science 07/2015; 458:209-218. DOI:10.1016/j.jcis.2015.07.053
- Bruno B Campos, **Manuel Algarra***, Beatriz Alonso, Carmen M Casado, Jose Jimenez-Jimenez, Enrique Rodriguez-Castellon, Joaquim CG Esteves da Silva: *Fluorescent Sensor for Cr(VI) Based in Functionalized Silicon Quantum Dots with Dendrimers*. Talanta 07/2015; 144:862-867. DOI:10.1016/j.talanta.2015.07.038
- M Isabel Vazquez, **Manuel Algarra***, Juana Benavente: *Modification of Regenerated Cellulose Membrane Based on Thiol Dendrimer*. Carbohydrate Polymers 06/2015; 131:273-279. DOI:10.1016/j.carbpol.2015.05.067
- Amelia Diaz, Juan Manuel Lopez-Romero, Rafael Contreras-Caceres, **Manuel Algarra**, Rodrigo Rico, Maria Valpuesta: *New Synthesis of Isoindolo[2,1-b]Isoquinolines. Preparation and Aqueous Bioavailability of its Silica Nanoparticles Hybrid System*. Current Organic Chemistry 04/2015; 19(13):1292-1300. DOI:10.2174/1385272819666150410004957
- Bruno B. Campos, **Manuel Algarra***, Ksenija Radotić, Dragosav Mutavdžić, Enrique Rodríguez-Castellón, José Jiménez-Jiménez, Beatriz Alonso, Carmen M Casado, Joaquim CG Esteves da Silva: *ZnS:Mn Nanoparticles Functionalized by PAMAM-OH Dendrimer based Fluorescence Ratiometric Probe for Cadmium*. Talanta 02/2015; 134:317-324. DOI:10.1016/j.talanta.2014.10.010
- Mohamed Bouri, Rachid Salghi, **Manuel Algarra**, Mohammed Zougagh, Angel Rios: *A Novel Approach for Size Separation of Gold Nanoparticles by Capillary Electrophoresis-Evaporative Light Scattering Detection*. RSC Advances 01/2015; 5:16672-16677. DOI:10.1039/C4RA17217E
- C. López, M. Zougagh, **M. Algarra***, E. Rodríguez-Castellón, B.B. Campos, Joaquim C.G. Esteves da Silva, J. Jiménez-Jiménez, A. Ríos: *Microwave-Assisted Synthesis of Carbon Dots and its Potential as Analysis of Four Heterocyclic Aromatic Amines*. Talanta 01/2015; 132:845-850. DOI:10.1016/j.talanta.2014.10.008
- Manuel Algarra***, Carmen M Jimenez-Herrera, Joaquim CG Esteves da Silva: *Recent Applications of Magnesium Chemical Sensors in Biological Samples*. Critical Reviews in Analytical Chemistry 01/2015; 45(1):32-40. DOI:10.1080/10408347.2013.867229
- Vladimir. N. Emelyanenko, **Manuel Algarra**, Joaquim C.G. Esteves da Silva, Jesus Hierrezuelo, Juan M. López-Romero, Sergey P. Verevkin: *Thermochemistry of Organic Azides Revisited*. Thermochemica Acta 10/2014; 597:78-84. DOI:10.1016/j.tca.2014.10.015
- Manuel Algarra***, Margarita Pérez-Martín, Manuel Cifuentes-Rueda, José Jiménez-Jiménez, Joaquim CG Esteves da Silva, Teresa J Badosz, Enrique Rodríguez-Castellón, Juan Teodomiro López-Navarrete, Juan Casado: *Carbon Dots obtained using hydrothermal treatment of formaldehyde. Cell imaging in-vitro*. Nanoscale 06/2014; 6(15):9071 - 9077. DOI: 10.1039/C4NR01585A

- Manuel Algarra***, María Isabel Vázquez, Beatriz Alonso, Carmen María Casado, Juan Casado, Juana Benavente: *Characterization of an engineered cellulose based membrane by thiol dendrimer for heavy metals removal*. Chemical Engineering Journal 05/2014; 253:472-477. DOI:10.1016/j.cej.2014.05.082
- Manuel Algarra***, Bruno B. Campos, Ksenija Radotić, Dragosav Mutavdžić, Teresa J. Bandosz, J. Jiménez-Jiménez, Enrique Rodríguez-Castellón, Joaquim C. G. Esteves da Silva: *Luminescent Carbon Nanoparticles: Effects of chemical Functionalization, and Evaluation of Ag⁺ Sensing properties*. Journal of Materials Chemistry A 03/2014; 2(22):8342 - 8351. DOI: 10.1039/C4TA00264D
- Francisco Garcia Sanchez, Aurora Navas Díaz, Ignacio Medina Lama, Alfonso Aguilar, **Manuel Algarra**: *HPLC enantioseparation of the alkaloid Canadine and determination of enantiomeric purity with chiral/photometric and achiral/polarimetric detection*. Journal of Liquid Chromatography & Related Technologies 02/2014; 37:26-38. DOI:10.1080/10826076.2012.733996
- Manuel Algarra***, Ana Fernandes, Nuno Mateus, Victor de Freitas, Joaquim CG Esteves da Silva, Juan Casado: *Anthocyanin profile and antioxidant capacity of black carrots (*Daucus carota L. ssp. sativus var. atropubens Alef.*) from Cuevas Bajas, Spain*. Journal of Food Composition and Analysis 02/2014; 33(1):71-76. DOI:10.1016/j.jfca.2013.11.005
- Manuel Algarra***, Ksenija Radotić, Aleksandar Kalauzi, Dragosav Mutavdžić, Aleksandar Savić, José Jiménez-Jiménez, Enrique Rodríguez-Castellón, Joaquim C. G. Esteves da Silva, Juan José Guerrero-González: *Fingerprint Detection Using Intercalated CdSe Nanoparticles on Non-Porous Surfaces*. Analytica Chimica Acta 01/2014; 812:228-235. DOI:10.1016/j.aca.2014.01.015
- Bruno B Campos, Javier Aguilar-Carrillo, **Manuel Algarra**, Mario A Gonçalves, Enrique Rodríguez-Castellón, Joaquim CG Esteves da Silva, Iulius Bobos: *Adsorption of uranyl ions on kaolinite, montmorillonite, humic acid and composite clay material*. Applied Clay Science 10/2013; 85:53-63. DOI:10.1016/j.clay.2013.08.046
- Marco S. Lucas, **Manuel Algarra**, Jose Jimenez-Jimenez, Enrique Rodríguez-Castellón, José A. Peres: *Catalytic Activity of Porous Phosphate Heterostructures-Fe towards Reactive Black 5 Degradation*. International Journal of Photoenergy 08/2013; 43(ID 658231 (6 pages)). DOI:10.1155/2013/658231
- Juan Casado, Víctor Hernández, Juan T. Lopez Navarrete, **Manuel Algarra**, Demetrio A. da Silva Filho, Shigehiro Yamaguchi, Raquel Rondão, Sérgio J Seixas de Melo, Víctor Navarro-Fuster, Pedro G. Boj, María A Díaz-García: *Amplified Spontaneous Emission in Pentathienoacene Dioxides by Direct Optical Pump and by Energy Transfer: Correlation with Photophysical Parameters*. Advanced Optical Materials 08/2013; 1(8):588-599. DOI:10.1002/adom.201300155
- Alexandra Guedes, Manuel Algarra, A. Carmelo Prieto, Bruno Valentim, Vanesa Hortelano, Selma Neto, Rafael Algarra, Fernando Noronha: *Raman Microspectroscopy of Genuine and Fake Euro Banknotes*. Spectroscopy Letters 07/2013; 46(8):569-576. DOI:10.1080/00387010.2013.769007
- B. Valentim, M. Algarra, A. Guedes, J. E. Rodriguez-Borges, J. C. G. Esteves da Silva, I. Suárez-Ruiz: *Coal Rank Increase and Aerial Oxidation by a Combination of Fourier Transform Infrared Spectroscopy with Multivariate Analysis*. Spectroscopy Letters 03/2013; 46(4):277-285. DOI:10.1080/00387010.2012.728159
- Jesus Hierrezuelo, Rodrigo Rico, Maria Valpuesta, Amelia Diaz, J. Manuel Lopez-Romero, M.Rutkis, Jana Kreigberga, Valdis Kampars, Manuel Algarra: *Synthesis of Azobenzene Substituted Tripod-Shaped Bi(p-phenylene)s. Adsorption on Gold and CdS Quantum-Dots Surfaces*. Tetrahedron 03/2013; 69:3465-3474. DOI:10.1016/j.tet.2013.02.054
- M Algarra***, K Radotić, A Kalauzi, B Alonso, C M Casado, J C G Esteves da Silva: *Component analysis of fluorescence spectra of thiol DAB dendrimer/ZnSe-PEA nanoparticles*. Talanta 02/2013; 105C:267-271. DOI:10.1016/j.talanta.2012.09.008
- Manuel Algarra, Bruno B. Campos, Beatriz Alonso, Carmen M. Casado, Joaquim C. G. Esteves da Silva, Juana Benavente: *Inclusion of thiol DAB dendrimer/CdSe quantum dots based in a membrane structure: Surface and bulk membrane modification*. Electrochimica Acta 02/2013; 89:652-659. DOI:10.1016/j.electacta.2012.10.143
- M. Algarra***, J. Jimenez-Jimenez, M.S. Miranda, B.B. Campos, R. Moreno-Tost, E. Rodriguez-Castellón, J.C. G. Esteves da Silva: *Solid luminescent CdSe-thiolated porous phosphate heterostructures. Application in fingerprint detection in different surfaces*. Surface and Interface Analysis 02/2013; 45(2):612. DOI:10.1002/sia.5100
- Margarida S Miranda, **Manuel Algarra***, Jose Jimenez-Jimenez, Enrique Rodriguez Castellón, Bruno B Campos, Joaquim CG Esteves da Silva: *Luminescent behavior of CdTe quantum dots: Neodymium(III) complex-capped nanoparticles*. Journal of Luminescence 02/2013; 134:408-413. DOI:10.1016/j.jlum.2012.08.012

- FG Sánchez, A. Navas Diaz, E Sánchez Torreño, A Aguilar, I Medina Lama, M Algarra: *Determination of enantiomeric excess by chiral liquid chromatography without enantiomerically pure starting standards*. Biomedical Chromatography 10/2012; 26(10):1241-1246. DOI:10.1002/bmc.2685
- Manuel Algarra***, Diana Gomes, Joaquim C G Esteves da Silva: *Current analytical strategies for C-reactive protein quantification in blood*. Clinica Chimica Acta; international journal of clinical chemistry 09/2012; 415C:1-9. DOI:10.1016/j.cca.2012.09.007
- M Algarra***, B. B. Campos, D Gomes, B Alonso, C. M. Casado, M. M. Arrebola, M. J. Diez de los Rios, M E Herrera-Gutiérrez, G Seller-Pérez, J. C. G. Esteves da Silva: *Thiolated DAB dendrimer/ZnSe nanoparticles for C-reactive protein recognition in human serum*. Talanta 09/2012; 99(574):579. DOI:10.1016/j.talanta.2012.06.037
- Francisco García Sánchez, Aurora Navas Díaz, Alfonso Aguilar, Ignacio Medina Lama, Manuel Algarra: *HPLC enantioseparation of alkaloid malacitanine using fluorimetric/polarimetric detection*. Journal of Separation Science 08/2012; 35(15):1863-8. DOI:10.1002/jssc.201200275
- Aurora N Díaz, Francisco G Sánchez, Enrique N Baro, Ana F G Díaz, Alfonso Aguilar, Manuel Algarra: *Sensitive chemiluminescent immunoassay of triclopyr by digital image analysis*. Talanta 07/2012; 97:42-47.
- Aurora N. Díaz, Francisco G. Sánchez, Ana F. G. Díaz, Enrique N. Baro, Manuel Algarra, Alfonso Aguilar: *Chemiluminescence Detection of 2,4,5-Trichlorophenoxy Acetic Acid in Apple Juice by Digital Image Analysis*. Food Analytical Methods 06/2012; 5(448):453. DOI:10.1007/s12161-011-9265-6
- Manuel Algarra***, Ana Reis, José Jiménez-Jiménez, Ramón Moreno-Tost, Joaquim, C G Esteves Da Silva: *CdS Quantum Dots Nanoparticles Dispersed in Zeolites. Optical Study*. Journal of Dispersion Science and Technology 05/2012; 33(6):786. DOI:10.1080/01932691.2011.584485
- D Gomes, **M Algarra***, M J Diez de los Rios, M M Arrebola, M E Herrera-Gutiérrez, G Seller-Pérez, J C G Esteves da Silva: *CdSe and ZnSe quantum dots capped with PEA for screening C-reactive protein in human serum*. Talanta 05/2012; 93:411-4. DOI:10.1016/j.talanta.2012.01.042
- Manuel Algarra***, Cristobal Sánchez, Joaquim C G Esteves Da Silva, José Jiménez-Jiménez: *Fatty Acid and Cholesterol Content of Manchego Type Cheese Prepared with Incorporated Avocado Oil*. International Journal of Food Properties 05/2012; 15:796-808 DOI:10.1080/10942912.2010.503358
- Manuel Algarra***, Ana Reis, Iulius Bobos, Bruno B Campos, José Jiménez-Jiménez, Ramón Moreno-Tost, Joaquim C G Esteves Da Silva: *Optical Characterization of CdS Quantum Dots Nanoparticles Dispersed in Clays*. Journal of Dispersion Science and Technology 04/2012; 338(8):1139-1143. DOI:10.1080/01932691.2011.599238
- M Algarra, B. B. Campos, F. R. Aguiar, J. E. Rodriguez-Borges, J. C. G. Esteves da Silva: *Novel β -cyclodextrin modified CdTe quantum dots as fluorescence nanosensor for acetylsalicylic acid and metabolites*. Materials Science and Engineering C 03/2012; 32(4):799-803. DOI:10.1016/j.msec.2012.01.028
- Manuel Algarra***, Bruno B Campos, José E Rodriguez-Borges, Francisco G Sánchez, Juan M López-Romero, Joaquim C G Esteves Da Silva: *Niclosamide quantification in methyl- β -cyclodextrin after derivatization to aminoniclosamide*. Journal of inclusion phenomena and macrocyclic chemistry 03/2012; 72(1):89-94. DOI:10.1007/s10847-011-9945-2
- M Algarra, B B Campos, B Alonso, M S Miranda, A M Martínez, C M Casado, J C G Esteves da Silva: *Thiolated DAB dendrimers and CdSe quantum dots nanocomposites for Cd(II) or Pb(II) sensing*. Talanta 01/2012; 88:403-7. DOI:10.1016/j.talanta.2011.11.007
- Francisco G Sánchez, Aurora N Díaz, Manuel Algarra, Josefa Lovillo, Alfonso Aguilar: *Time resolved spectroscopy of 2-(dimethylamine)fluorene. Solvent effects and photophysical behavior*. Spectrochimica Acta Part A Molecular and Biomolecular Spectroscopy 08/2011; 83(1):88-93. DOI:10.1016/j.saa.2011.07.083
- Sergey P Verevkin, Vladimir N Emel 'yanenko, Manuel Algarra, J Manuel López-Romero, Fabio Aguiar, J Enrique Rodriguez-Borges, Joaquim C. G. Esteves da Silva: *Vapor pressures and enthalpies of vaporization of azides*. The Journal of Chemical Thermodynamics 07/2011; 43(11):1652-1659. DOI:10.1016/j.jct.2011.05.028
- J Jiménez-Jiménez, M Algarra, E Rodríguez-Castellón, A Jiménez-López, J C G Esteves da Silva: *Hybrid porous phosphate heterostructures as adsorbents of Hg(II) and Ni(II) from industrial sewage*. Journal of hazardous materials 06/2011; 190(1-3):694-9. DOI:10.1016/j.jhazmat.2011.03.110
- F G Sánchez, A Navas Díaz, B L Pablo, M Algarra, A Aguilar, E N Baro: *ELISA of dichlorprop by digital image analysis*.
- M Algarra***, J Jiménez-Jiménez, R Moreno-Tost, B. B. Campos, J. C. G. Esteves da Silva: *CdS nanocomposites assembled in porous phosphate heterostructures for fingerprint detection*. Optical Materials 04/2011; 33(6):893. DOI:10.1016/j.optmat.2011.01.017

- M Algarra, B B Campos, M S Miranda, Joaquim C G Esteves da Silva: *CdSe quantum dots capped PAMAM dendrimer nanocomposites for sensing nitroaromatic compounds*. *Talanta* 02/2011; 83(5):1335-40. DOI:10.1016/j.talanta.2010.10.056
- Abel J Duarte, Célia Rocha, Fernando Silveira, Gerardo González Aguilar, Pedro A S Jorge, João M M Leitão, Manuel Algarra, Joaquim C G Esteves: *Luminol-Doped Nanostructured Composite Materials for Chemiluminescent Sensing of Hydrogen Peroxide*. *Analytical Letters* 05/2010; 43(17):2762-2772. DOI:10.1080/00032711003731456
- M. Algarra, I. Bobos, J. Jimenez-Jimenez, R. Moreno-Tost, E. Rodriguez-Castellon, J.C.G. Esteves da Silva: *Porous Phosphate Heterostructures containing CdS Quantum Dots: Assembly characterization and photoluminescence*. *Journal of inclusion phenomena and macrocyclic chemistry* 02/2010; 67:225-232.
- Jesús Hierrezuelo, J Manuel López-Romero, Rodrigo Rico, José Brea, M Isabel Loza, Chengzhi Cai, Manuel Algarra: *Synthesis of theophylline derivatives and study of their activity as antagonists at adenosine receptors*. *Bioorganic & medicinal chemistry* 02/2010; 18(6):2081-8. DOI:10.1016/j.bmc.2010.02.014
- Manuel Algarra, José E Rodríguez-Borges, Joaquim C G Esteves da Silva: *LC-MS identification of derivatized free fatty acids from adipocere in soil samples*. *Journal of Separation Science* 02/2010; 33(2):143-54. DOI:10.1002/jssc.200900614
- Bruno B Campos, Manuel Algarra, Beatriz Alonso, Carmen M Casado, Joaquim C G Esteves da Silva: *Mercury(II) sensing based on the quenching of fluorescence of CdS-dendrimer nanocomposites*. *The Analyst* 12/2009; 134(12):2447-52. DOI:10.1039/b914302e
- Nuno Durães, Débora Cortez, Manuel Algarra, Francisco G Sánchez, José E Rodríguez-Borges, Iulius Bobos, Joaquim C G Esteves da Silva: *Comparison of adipocere formation in four soil types of the Porto (Portugal) district*. *Forensic science international* 12/2009; 195(1-3):168.e1-6. DOI:10.1016/j.forsciint.2009.11.010
- Bruno B Campos, Manuel Algarra, Joaquim C G Esteves da Silva: *Fluorescent properties of a hybrid cadmium sulfide-dendrimer nanocomposite and its quenching with nitromethane*. *Journal of Fluorescence* 10/2009; 20(1):143-51. DOI:10.1007/s10895-009-0532-5
- F. García Sánchez, A. Navas Díaz, M C Torrijas, E. Nava Baro, M Algarra: *Resolution of (+)-cinchonine and (-)-cinchonidine by phase-modulation fluorescence spectroscopy*. *Analytica chimica acta* 05/2009; 639(1-2):67-72. DOI:10.1016/j.aca.2009.02.043
- Aurora Navas Díaz, Francisco García Sánchez, Alfonso Aguilar, Visitación Bracho, Manuel Algarra: *HPLC Determination of the Cardiotonics, Dopamine and 4Methyl 2-aminopyridine, in Serum Following Fluorescamine Derivatization*. *Journal of Liquid Chromatography & Related Technologies* 03/2009; 32(6):849-859. DOI:10.1080/10826070902768104
- Francisco García Sánchez, Aurora Navas Díaz, Visitación Bracho, Alfonso Aguilar, Manuel Algarra: *Automated determination of asulam by enhanced chemiluminescence using luminol/peroxidase system*. *Luminescence* 01/2009; 24(6):448-52. DOI:10.1002/bio.1137
- M Algarra, M.V Jimenez, F.G.Sanchez, J.Soto, J. Jimenez-Jimenez, J.C.G. Esteves da Silva: *ADSORPTION AND RECOVERY OF NITRATED POLYCYCLIC AROMATIC HYDROCARBONS ON HYBRID SURFACTANT EXPANDED ZIRCONIUM- PHOSPHATE*. *Polycyclic Aromatic Compounds* 01/2009; 29:28-40. DOI:10.1080/10406630902720070
- Aurora Navas Díaz, Visitación Bracho, Manuel Algarra, Francisco García Sánchez: *Chemiluminometric Determination of the Pesticide Pirimicarb by a Flow Injection Analysis Assembly*. *Analytical Letters* 11/2008; 41(17):3210-3220. DOI:10.1080/00032710802463014
- F. Garcia Sanchez, A. Navas Diaz, C. Delgado Tellez, M Algarra: *Determination of asulam by fast stopped-flow chemiluminescence inhibition of luminol/peroxidase*. *Talanta* 11/2008; 77(1):294-7. DOI:10.1016/j.talanta.2008.06.025
- Aurora Navas Díaz, Manuel Algarra, Lorenzo, Sánchez Feria, Francisco García Sánchez: *Fluorimetric Determination of p-Hydroxybenzoic Acid in Beer as α -Cyclodextrin Inclusion Complex*. *Analytical Letters* 05/2008; 41(10):1802-1810. DOI:10.1080/00032710802162368
- Manuel Algarra, Victoria Jiménez, Philippe Fornier de Violet, Michel Lamotte: *Detection and quantification of PAH in drinking water by front-face fluorimetry on a solid sorbent and PLS analysis*. *Analytical and Bioanalytical Chemistry* 07/2005; 382(4):1103-10. DOI:10.1007/s00216-005-3199-z
- Manuel Algarra, M Victoria Jiménez, Enrique Rodríguez-Castellón, Antonio Jiménez-López, José Jiménez-Jiménez: *Heavy metals removal from electroplating wastewater by aminopropyl-Si MCM-41*. *Chemosphere* 06/2005; 59(6):779-86. DOI:10.1016/j.chemosphere.2004.11.023

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- Vijaykumar S. Ijeri, Manuel Algarra, Ana Martins: *Electrocatalytic Determination of Vitamin C Using Calixarene Modified Carbon Paste Electrodes*. Electroanalysis 11/2004; 16(24):2082 - 2086. DOI:10.1002/elan.200403054
- M V Jiménez, M Algarra, J J Jiménez, M Lamotte: *Evaluation of new surfactant expanded zirconium and titanium phosphates for polycyclic aromatic hydrocarbons extraction from waters*. Chemosphere 11/2004; 57(3):179-86. DOI:10.1016/j.chemosphere.2004.06.009
- J M Dyke, G Levita, A Morris, J S Ogden, AA Dias, M Algarra, J P Santos, M L Costa, P Rodrigues, M T Barros: *A Study of the Thermal Decomposition of 2-Azidoacetamide by Ultraviolet Photoelectron Spectroscopy and Matrix-Isolation Infrared Spectroscopy: Identification of the Imine Intermediate H₂NCOCHNH*. The Journal of Physical Chemistry A 05/2004; 108(25):5299-5307. DOI:10.1021/jp031288s
- M Frankowski, B S Fox, A M Smith-Gicklhorn, M K Beyer, V E Bondybey, M Algarra, M L Costa, P Rodrigues, M T Barros, MNDS Cordeiro: *Matrix-isolation FTIR study of azidoacetone and azidoacetonitrile*. Low Temperature Physics 11/2003; 29(9-10):870-876. DOI:10.1063/1.1619361
- Manuel Algarra***: *Direct Determination of Aromatic Compounds by Solid Phase Extraction*. Organic Geochemistry 11/2002; 33(1):91-92.
- M. Algarra, C. Radin, Ph. Fournier de Violet, M. Lamotte, Ph. Garrigues, M. Hardy, R. Gillard: *Direct Fluorometric Analysis of PAHs in Water and in Urine Following Liquid Solid Extraction*. Journal of Fluorescence 11/2000; 10(4):355-359. DOI:10.1023/A:1009474312620
- Manuel Algarra, Michel Lamotte, Philippe Fournier De Violet, M Hernandez, Philippe Garrigues, Philippe Fournier: *Solid Phase Enhanced Direct Spectrofluorometric Determination of Polychlorinated Biphenyls (PCBs) in Natural Waters*. Polycyclic Aromatic Compounds 01/2000; 19:241-251. DOI:10.1080/10406630008034737
- M. L. Pola, M Algarra, A Becerra, M Hernandez: *Cyclodextrin Enhanced Spectrofluorimetric Determination of Melatonin in Pharmaceuticals and Urine*. Analytical Letters 01/2000; 33(5):891-903. DOI:10.1080/00032710008543097
- Miguel Hernández López, Manuel Algarra González, Ma Isabel López Molina: *Synchronous-derivative phosphorimetric determination of 1- and 2-naphthol in irrigation water by employing β -cyclodextrin*. Talanta 08/1999; 49(3):679-89. DOI:10.1016/S0039-9140(99)00067-3
- Manuel Algarra González, Miguel Hernández López: *Determination of fluorene in sea-water by room temperature phosphorescence in organised media*. The Analyst 11/1998; 123:2217-2221. DOI:10.1039/A804222E

Relevance Research Activities-Industries (I+D)

Project: Analysis of waste-waters in Axarquía (Málaga, Spain)

Funded: Council Vélez-Málaga, Málaga (2000-2001)

Director: Prof. José Miguel Hernández López

Contact: mhernandez@uma.es

Project: Analysis of pesticides in Commercial

Funded: Química Industrial Mediterránea S. A. Málaga (2000)

Director: Prof. José Miguel Hernández López

Contact: mhernandez@uma.es

Project: Mediterranean Project. Functional Milk products using Mediterranean Diet.

Funded: Láctea Antequerana S. L. Antequera, Málaga (Spain) (2004-2005)

Director: Prof. José Jiménez Jiménez (Universidad de Málaga)

Contact: jjimenez@uma.es

Project: Development of Functional Products

Funded: Salsa Natura S. L. (Sociedad Azucarera Larios SA), Málaga (Spain) (2005-2007)

Director: Prof. José Jiménez Jiménez (Universidad de Málaga)

Contact: jjimenez@uma.es

Project: Development of Functional Products for Bread

Funded: Centro de Investigación y Desarrollo de la Pastelería Andaluza SA (2005-2007)

Director: Prof. José Jiménez Jiménez (Universidad de Málaga)

Contact: jjimenez@uma.es

Technology Transfer

Project: Inclusion of Compounds in Nanosphere. ICON Project

Funded: Spin Off 2005. Universidad de Málaga

Director: Prof. José Manuel Romero López (Univ. Málaga)

Contact: jmromero@uma.es

Project: Development of Carbon Nanomaterials for Cell Stain. NANOM Project

Director: Prof. José Jménez-Jiménez (Univ. Málaga)

Contact: jjimnez@uma.es / malgarra67@gmail.com

Visit to International and Excellent Research Centers

CLAVE:D = doctorado, P = postdoctoral, I = invitado, C = contratado, O = otras (especificar).

Center: Laboratoire de Physico-Toxicochimie des Milieux Naturels (LPTC). Université Bordeaux I. CNRS 5472 Talence, Francia

Fluorimetric Analysis in Solid Phase of Environmental Pollutans.

Pre-doc

Date: 1/2/1998 al 31/7/1998 (24 weeks)

Date: 1/9/1998 al 12/12/1998 (24 weeks)

Date: 1/6/1999-31/7/1999 (8 weeks)

Center: National Institute of Resources Environment (NIRE).

Tsukuba, Japan

Shpol'kii Spectroscopy of Polycyclic Aromatics at Low Temperature.

Post-doc

Date: 9/7/2000-16/10/2000 (14 weeks)

Center: Dept of Chemistry, University of Southampton

Southampton, United Kingdom

Characterization of Organic Azides by means UPES and Matrix Isolation FTIR

Post-doc

Date: 9/1/2002-19/3/2002 (10 weeks)

Center:Laboratoire de Physico-Toxicochimie des Milieux Naturels (LPTC). Université Bordeaux I. CNRS 5472

Talence, Francia

Multivariate Analysis of Fluorescent Measurements

Invited

Date: 22/10/2002-20/12/2002 (9 weeks)

Institute des Science Moleculaire (ISM) CNRS 5255. University of Bordeaux, France

Characterization of Organic Azides by means UPES and Matrix Isolation FTIR

Post Doc

Date: 10/01/2008-31/03/2008

Date: 19/05/2008-31/05/2008

Institute for Multidisciplinary Research, University of Beograd, Serbia

Statistical Study of fluorescence of Dendrimers Based Nano-Composites as Possible Markers

Invited

Date: 7/10/2012-16/10/2012

City College of University of New York, USA

Synthesis of nanoparticles from Carbon

Invited

Date: 29/11/2015-16/12/2015

Communications in Conference

May, 26-29. 1998. Las Palmas de Gran Canaria, Spain: VIIIth Intern. Symposium on Luminescence Spectrometry in Biomedical and Environmental Analysis-Detection Techniques and Applications in Chromatography and Capillary Electrophoresis. Las Palmas de Gran Canaria, Spain

POSTER: Determination of Fluorene in sea-water by Room temperature Phosphorimetry in Organised Media.

June, 20-25. 1998. Warsaw, Poland. Xth Intern. Symposium on Molecular Recognition and Inclusion (ISMRI).

POSTER: Analysis of alfa and beta-Naphthol mixtures by Synchronous-Derivative Phosphorimetry in β -Cyclodextrin Aqueous Solution.

September, 12-15. 1999. Paris, France: VIth Intern. Conference on Methods and Applications of Fluorescence Spectroscopy (MAFS-6).

POSTER: Direct fluorometric analysis of PAHs in Water and Urine following Liquid-Solid Extraction.

October, 25-29. 1999. Bordeaux, France: XVIIth Intern. Symposium on Polycyclic Aromatic Compounds. Bordeaux., France

POSTER: Solid Phase Enhanced Direct Spectrofluorometric Determination of Polychlorinated Biphenyls (PCB's) in Natural Waters

May, 15-17. 2000. Montpellier, France. Xth International Symposium on Luminescence Spectrometry in Biomedical and Environmental Analysis Spectroscopic and Imaging Detection Techniques.

POSTER: Biological Monitoring of PAH Exposed Persons by Detection of 1-Hydroxypyrene and 1-Hydroxyphenanthrene in Urine by Fluorometric Analysis on Solid Sorbing Phase

June, 4-7. 2002. Granada, Spain: Xth International Symposium on Luminescence Spectrometry Detection Techniques in Flowing Streams-Quality Assurance and Applied Analysis. Granada, Spain.

POSTER: Simultaneous Determination of PAH in Natural Waters by Synchronous Fluorescence Front Face Spectroscopy Following Solid Phase.

September, 1-6. 2002. Villeneuve d'Ascq, France.

XXVI European Congress on Molecular Spectroscopy (Eucmos2002) Villeneuve d'Ascq, France.

POSTER: Experimental and Theoretical Study of the Thermal Decomposition of Azidoacetone

October, 27-31, 2002. Freising, Germany

International Conference on Cryocrystal and Quantum Crystals

POSTER: FT-IR Study of Azidoacetone and Azidoacetone

March, 12-14, 2003. Paris, France.

Jeunes Chercheurs Marie Curie. European Union.

POSTER: Solid Phase Enhanced Direct Spectroscopic Determination of Polycyclic Aromatic Hydrocarbons in Environmental Waters

October 15-17, 2003. Lisbon, Portugal

Synthetic Receptors 2003.

POSTER: SAM of Thiolated Calix[8]arene and 1-Naphthol Inclusion Complex in Gold Surface

Abril, 15-17, 2004. Coimbra, Portugal

XIX Meeting Portuguese Society of Chemistry

POSTER: Chiral Templates Prepared by Self-Assembled Monolayers of R and S- Phenylethylamine

July 6-10, 2004. Rennes, France

8° EPS Conference on Atomic and Molecular Physics

POSTER: Thermal Decomposition of 2-Azidoacetamide by Ultraviolet Photoelectron Spectroscopy and Matrix Isolation Infrared Spectroscopy: Identification of the Imine Intermediate $H_2NCOCHNH$.

August 29-September 1. 2004. Bordeaux, France

9th FECS Conference on Chemistry and the Environment

M.V. Jimenez, M. Algarra, M. Lamotte, Ph. Fournier de Violet, C. Dumas

POSTER: Direct determination of PAHs mixtures in tap water by front face fluorimetry on solid sorbent and PLS analysis.

September 15-17. 2004. Porto (Portugal)

M. Algarra, A. Martins, C. M. Pereira and A. F. Silva.

XXIX Reunión Ibérica de Adsorción.

POSTER: Electrochemical Study of Oligothiophene Derivative Adsorbed in Au(111).

July 24-29 2005 Madeira, Portugal

Matrix 2005.

POSTER: The Physics and Chemistry of FTIR Matrix-Isolation Spectroscopy and DFT Studies of Isolated Species of Aliphatic Azide Methyl Sulfides Photochemistry

August 7-12 2005. Edinburgh, UK

International Symp. On Reactive Intermediates

POSTER: Photochemical Studies of Aliphatic Azide-Methyl and Unusual Molecule Sulfides by Matrix Isolation Spectroscopy

August 27-September 1 2006. Chernogolovka, Russia

6th Int. Conference on Low Temperature

POSTER: FTIR Matrix-Isolation Spectroscopy and DFT Studies of Azide-Methyl Sulfide

October 20-24 2008, Barcelona, Spain

12th Seminar of Instrumental Analysis (JAI)

POSTER: Enantiomeric Purity Determination of the Alkaloid Malacitanine by HPLC with Fluorimetric and Polarimetric Detection

April 5-7, 2009 Riyadh, Saudi Arabia

The International Conference For Nano-Technology Industries

1. J.C. G. Esteves da Silva, B. Campos, A. M. Casado, B. Alonso, M. Algarra

POSTER: Synthesis and Characterization of CdS and ZnS Quantum Dots Coated with DAB Dendrimer

2. M. Algarra, R. Moreno, E. R-Castellon, J. Jimenez, J.C.G. Esteves da Silva.

POSTER: Synthesis and Characterization of CdS Quantum Dots Conjugated with Porous Phosphate Heterostructures

4-7 September 2009. Budapest, Hungary

M. Algarra, B. Campos, JCG Esteves da Silva

MAFS-12 Methods and Application of Fluorescence Spectroscopy

POSTER: Mercury(II) Sensing Based on the Quenching of Fluorescence of Dendrimer-CdS Quantum dots

February 22-26, 2010 Sydney, Australia

International Conference On Nano science and Nanotechnology

M. Algarra, B. Campos, JCG Esteves da Silva

POSTER: Water Synthesis of Hybrid DAB Dendrimer ZnS, CdS:ZnS and CdS Quantum Dots Nanocomposites

May 26-27, 2011, Merida (Badajoz), Spain

Marco S Lucas, José Jiménez-Jiménez, M. Algarra, José A Peres

4th International Congress on Energy and Environment Engineering and Management

POSTER: Catalysts based on Fe-Porous Phosphate Heterostructures (PPH) for azo dye decolorization through heterogeneous Fenton

July 5-17, 2013. Toronto, Canada

International Conference on Environmental Pollution and Remediation (ICERP)

ORAL PRESENTATION: Application of Porous Phosphate Heterostructures in Environmental Remediation

M. Algarra, J. Jiménez-Jiménez, E. Rodríguez-Castellón, A. Jiménez-López

October 10-11, 2013. Turin, Italy

M.I. Vazquez, M. Algarra, J. Benavente

Membranes for liquid separation and water treatment: Environmental applications and future perspectives

POSTER: Electrolytes permeation across dendrimer-modified cellulosic membrane

Manuel Algarra: Fluorescent Sensor for Cr(VI) Based in Functionalized Silicon Quantum Dots with Dendrimers. VII Workshop in NanoScience and Analytical NanoTechnologies, Salamanca; 07/2015

V. Guimarães, I. Bobos, F. Rocha, M. Algarra, E. Rodríguez-Castellón: *Kinetic experiments and XPS study of uranyl adsorption onto Ca-montmorillonite in the presence and absence of carbonates*. 7th MID-EUROPEAN CLAY CONFERENCE, Dresden, Germany; 09/2014

Awards Received

- *European Science Foundation Fellowship 1998 and 1999
- *European Organic Geochemistry Association Fellowship, 2000
- *Canon Foundation in Europe Fellowship, 2000
- *Calouste Gubelkian Foundation Fellowship, 2003 and 2009
- *Spin-Off Award, Univ Málaga 2005
- *Spin-Off Award, Univ Málaga 2005
- *Andalucia Tech Fellowship 2013
- *European Science Foundation Exchange Grant, 2014

Experience as scientific adviser

Univ Bordeaux. Adviser in Pollutant Remediation

2002 MsC. M. Victoria Jiménez Herrera

Univ. Porto: Adviser in Nanotechnology of Quantum Dots

2008-2009 MsC Bruno B. Campos

Synthesis of nanoparticles based on CdS-ZnS Quantum Dots coated with dendrimers

2009-2010 Ms C. Ana Maria Rei

Synthesis of nanocomposites based in fluorescent nanoparticles and geo-materials.

2010-2011 Ms C. Diana Gomes

Determination C-Reactive protein by means CdSe and ZnSe Quantum dots capped with PEA

2013-2016 Bruno B. Campos (PhD Thesis) Co-Orientation

Dendrimer and Cadmium free Quantum dots Fluorescent Nanocomposites

2010-2012 Dr. Margarida S Miranda (Post doc)

Dendrimers and its applications

Teaching in University

2005	Summer Course: University-Industry. University of Malaga (8 h).
2006	Summer Course: University-Industry. University of Malaga (8 h).
2007	Summer Course: University-Industry. University of Malaga (14 h).
2008	Summer Course: University-Industry. University of Malaga (6 h).
2009/2010	Subject. Evaluation, Prevention and Monitorization of Risks 5h/semana 1º Semester. University of Porto
2010/2011	Subject. Evaluation, Prevention and Monitorization of Risks 5h/semana 1º Semester. University of Porto
2010/2011	Subject Fundaments of Chemistry. University of Porto.(4 horas/semana) 2º Semester.
2010/2011	Subject: Solid State, Erasmus Program. University of Malaga (25 h)
2011/2012	Subject. Evaluation, Prevention and Monitorization of Risks 5h/semana 1º Semester. University of Porto

All information included in this CV can be contrasted by documentation

(Manuel Algarra González)

Málaga (Spain) January 10, 2017