

CV Date	02/02/2022
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Part A. PERSONAL INFORMATION

First Name	Aitana		
Family Name	Tamayo Hernando		
Sex	Not Specified	Date of Birth	
ID number Social Security, Passport			
URL Web			
Email Address			
Open Researcher and Contributor ID (ORCID)	0000-0002-9828-3461		

A.1. Current position

Job Title	Researcher		
Starting date	2015		
Institution	Instituto de Cerámica y Vidrio		
Department / Centre	Química Física de Superficies y Procesos / Instituto de Cerámica y Vidrio		
Country	Spain	Phone Number	(+34) 917355840
Keywords	Surface spectroscopy; Chemisorption; Chemical physics of materials; Porous materials and zeolites; Amorphous; Ceramics; Nanomaterials; Structural determination and study of properties physical-chemistries; Inorganic polymers		

A.2. Previous positions (Research Career breaks included)

Period	Job Title / Name of Employer / Country
2012 - 2015	JaeDoc Researcher / Instituto de Cerámica y Vidrio
2010 - 2012	Post Doctoral Researcher / Instituto de Cerámica y Vidrio / Spain
2008 - 2009	Post Doctoral Researcher / Technische Universität Darmstadt / Germany
2008 - 2008	Post Doctoral Researcher / Instituto de Cerámica y Vidrio / Spain
2007 - 2007	Faculty / University of Colorado at Boulder / United States of America
2004 - 2006	Pre-doctoral student / Instituto de Cerámica y Vidrio / Spain

A.3. Education

Degree/Master/PhD	University / Country	Year
Master in Biotechnology	Universidad Autónoma de Madrid / Spain	2019
Licenciado en Química Orientación Ciencia de Materiales	Universidad Complutense de Madrid	2000

Part B. CV SUMMARY

Part C. RELEVANT ACCOMPLISHMENTS

C.1. Most important publications in national or international peer-reviewed journals, books and conferences

AC: corresponding author. (n° x / n° y): position / total authors. If applicable, indicate the number of citations

- 1 **Scientific paper.** A. Martín-Illana; E. Chinarro; R. Cazorla-Luna; F. Notario-Perez; M.D. Veiga-Ochoa; J. Rubio; A. Tamayo (AC). (7/7). 2021. Optimized hydration dynamics in mucoadhesive Xanthan-based trilayer vaginal films for the controlled release of tenofovir Carbohydrate Polymers. Elsevier. 278, pp.118958. SCOPUS (1) <https://doi.org/10.1016/j.carbpol.2021.118958>
- 2 **Scientific paper.** E. Whittle; A. Martín-Illana; R. Cazorla-Luna; F. Notario-Perez; M.D. Veiga-Ochoa; J. Rubio; A. Tamayo (AC). (7/7). 2021. Silane modification of mesoporous materials for the optimization of antiviral drug adsorption and releasing capabilities in vaginal media Pharmaceutics. MDPI. 13-9, pp.1416. <https://doi.org/10.3390/pharmaceutics13091416>
- 3 **Scientific paper.** B. Perez-Roman; R. Layek; M^aA. Rodriguez; F. Rubio; J. Rubio; A. Tamayo (AC). (6/6). 2021. Insights into the structural and surface characteristics of carbide derived carbons obtained through single and double halogen etching Microporous and Mesoporous Materials. Elsevier. 310, pp.110675. ISSN 13871811. <https://doi.org/10.1016/j.micromeso.2020.110675>
- 4 **Scientific paper.** (AC); Fausto Rubio; M.Teresa Colomer; Carmen Arroyo; M^aAngeles Rodriguez. (1/5). 2020. Characterization of polymer-derived ceramers subjected to wet-etching and the evolution of the carbon phase during thermal conversion Journal of Non Crystalline Solids. 547, pp.120302. <https://doi.org/10.1016/j.jnoncrysol.2020.120302>
- 5 **Scientific paper.** Araceli Martín-Illana; Raúl Cazorla-Luna; Fernando Notario; Roberto Ruiz-Caro; Luis Miguel Bedoya; Maria Dolores Veiga-Ochoa; Juan Rubio; (AC). (8/8). 2020. Amino Functionalized Micro-Mesoporous Hybrid Particles for the Sustained Release of the Antiretroviral Drug Tenofovir Materials. MDPI. 13-16, pp.3494. <https://doi.org/10.3390/ma13163494>
- 6 **Scientific paper.** A. Tamayo; E. Casado; B. Garcia (AC). (3/3). 2020. Synthesis and characterization of Ce/SiOC nanocomposites through the polymer derived ceramic method and evaluation of their catalytic activity Ceramics International. Elsevier. 46-2, pp.1362-1373. <https://doi.org/10.1016/j.ceramint.2019.09.099>
- 7 **Scientific paper.** A. Tamayo (AC); M.A. Mazo; M.D. Veiga; R. Ruiz-Caro; F. Notario-Perez; J. Rubio. (1/6). 2017. Drug kinetics release from Eudragit – Tenofovir@SiOC tablets Materials Science & Engineering C. Materials for Biological Applications. <https://doi.org/10.1016/j.msec.2017.03.016>
- 8 **Scientific paper.** M.A. Mazo; M.T. Colomer; A. Tamayo; J. Rubio. (3/4). 2022. Hierarchical porous fluorine-doped silicon oxycarbide derived materials: Physicochemical characterization and electrochemical behavior Microporous and Mesoporous Materials. Elsevier. 330, pp.111604. <https://doi.org/10.1016/j.micromeso.2021.111604>
- 9 **Scientific paper.** M.A. Mazo; T. Colomer; A. Tamayo; J. Rubio. (3/4). 2021. Microstructure-Electrochemical behavior relationships of hierarchically micro-mesoporous silicon oxycarbide derived materials obtained by the pyrolysis of triethoxysilane/dimethyldiphenylsiloxane hybrids Journal of Alloys and Compounds. Elsevier. 870, pp.159427. ISSN 09258388. <https://doi.org/10.1016/j.jallcom.2021.159427>
- 10 **Scientific paper.** A. Tamayo (AC); J. Rubio; F. Rubio; M^aA. Rodriguez. (1/4). 2021. Insights into the microstructural evolution occurring during pyrolysis of metal-modified ceramers studied through selective SiO₂ removal Materials. MDPI. 14-12, pp.3276. <https://doi.org/10.3390/ma14123276>

C.2. Conferences and meetings

- 1 Aitana Tamayo; Araceli Martín; Raul Cazorla; Fernando Notario; Juan Rubio; Maria Dolores Veiga. Surface functionalization of highly porous ceramers with high loading and releasing capabilities of antiviral drugs to obtain a smart response in vaginal media. 8th International Congress on Ceramics. Korean Ceramic Society. 2021. Republic of Korea.
- 2 Aitana Tamayo; Berta Perez; Fausto Rubio; M^aAngeles Rodriguez; Juan Rubio. Micro-Mesoporous carbide derived carbon as electrodes in sweat-based supercapacitors for electronic textiles. 45th International Conference and Exposition on Advanced Ceramics and Composites. The American Ceramic Society. 2021. United States of America.

- 3 Aitana Tamayo; M^aAngeles Rodriguez; María Alejandra Mazo; Fausto Rubio; Juan Rubio. Sustained release of antiviral drugs in surface functionalized organic-inorganic hybrid particles. 44th International Conference and Exposition on Advanced Ceramics and Composites. The American Ceramic Society. 2020. United States of America.
- 4 A. Tamayo; J. Rubio; M.A. Mazo; F. Rubio. Sol-gel oxycarbide derived carbons developed through chemical and chlorine etching and their electrochemical characteristics. 2nd Global fórum on Advanced Materials and Technologies for Sustainable Development. The American Ceramic Society. 2019. Canada. Participatory - oral communication. Conference.
- 5 Aitana Tamayo; Fausto Rubio; Alejandra Mazo; Juan Rubio. Revealing interface characteristics of sol-gel derived SiOC glasses through bulk and surface characterization. 43rd International Conference and Exposition on Advanced Ceramics and Composites (ICACC 2019). American Ceramic Society. 2019. United States of America. Participatory - invited/keynote talk. Conference.

C.3. Research projects and contracts

- 1 **Project.** New hybrid supercapacitors based on (oxy)carbide-derived carbon/graphene electrodes (Original title in spanish: Nuevos supercondensadores híbridos basados en electrodos de nanocomposites de carbon/grafeno derivados de (oxi)carburos). Ministerio de Economía y Competitividad. Fausto Rubio. (Instituto de Cerámica y Vidrio). 01/01/2017-31/12/2019. 200.000 €. Team member. Due to incompatibilities as a head researcher in other project, my participation here is only as a member of the group but I tightly collaborate with the two head researchers of the project. The proj...
- 2 **Project.** Thermocatalytic nanocomposites for green fuels generation using solar energy. FUNDACION GENERAL CSIC. Aitana Tamayo. (Instituto de Cerámica y Vidrio). 01/09/2015-31/08/2018. 150.000 €. Principal investigator. One of the most challenging tasks of the project is to start a new research line focused on the development of catalytic supports. As project leader and concept deviser, I am the responsible of the def...
- 3 **Project.** New fertilizers based on glass to apply in tomato crops for reducing the environmental impact. Centro para el Desarrollo Tecnológico Industrial. Juan Rubio. (Instituto de Cerámica y Vidrio). 01/09/2014-31/08/2016. Others. The aim of the project is to develop environmentally friendly fertilizers for tomato crops by using glasses of a composition similar to conventional NPK fertilizers. These glasses must proceed to a g...
- 4 **Project.** MAT2012-34552, Mucoadhesive formulations for controlled drug delivery systems designed for vaginal application to prevent sexually transmitted diseases (Original title in spanish: formulaciones mucoadhesivas de liberación sostenida de fármacos microbicidas de aplicación vaginal para la prevención de enfermedades de transmisión sexual). Ministerio de Economía y Competitividad. Maria Dolores Veiga Ochoa. (Instituto de Cerámica y Vidrio). 01/01/2013-31/12/2015. Others. The objective is the designing of new pharmacological formulations that provide a controlled release of antiretroviral drugs. In this project, the main tasks I'm carrying out are the synthesis and c...
- 5 **Contract.** Finish optimization in continuous carbon fibres for their use in long-fibre thermoplastic composites (Original title in Spanish: Mejora del ensimaje de fibras continuas de carbono para su uso en composites termoplásticos de fibra continua LFT (FIBRA CARBONO)) AIMPLAS Instituto Tecnológico del Plástico. 01/12/2019-01/06/2020. 14.663 €.
- 6 **Contract.** Finish optimization in recycled fibres for their use in composites produced with recycled polyester resin (Original title in spanish: Mejora del ensimaje de fibras recicladas para su uso en composites fabricados con resinas de poliéster recicladas (FIBRA LARGA)) AIMPLAS Instituto Tecnológico del Plástico. 01/12/2019-01/06/2020. 14.890 €.
- 7 **Contract.** Research in new Materials (composite, graphenic and ceramic) and Textils for profesional clothing protection against projectiles, environment, fire and biological risks (MATEX) Grupo Antolin-Irausa, S.A.. J. Rubio. 01/12/2019-01/12/2022. 40.000 €.
- 8 **Contract.** Research in new Materials (composite, graphenic and ceramic) and Textils for profesional clothing protection against projectiles, environment, fire and biological risks (MATEX) SIFAXTD, S.A.. J. Rubio. 01/12/2019-01/12/2022. 98.000 €.

- 9 Contract.** Development of household textiles through digital printing of hybrid inks (Original title in Spanish: Desarrollo de Textiles para el hogar mediante impresión digital de tintas híbridas (HYTEX)) Torrecid, S.A.. J. Rubio. 01/06/2019-01/06/2021. 44.000 €.
- 10 Contract.** Use of ELT rubber in brake disks (Utilización de caucho de NFVU en pastillas de freno (BRAKETYRE)) Signus, S.A.. J. Rubio. 01/02/2019-01/08/2019. 20.000 €.
- 11 Contract.** INVESTIGACIÓN AVANZADA PARA DAR RESPUESTA A LOS RETOS DE LA DETERGENCIA DEL FUTURO Centro para el Desarrollo Tecnológico Industrial. J. Rubio. 01/01/2018-01/01/2021. 45.000 €.
- 12 Contract.** Solid state devices for thermionic conversion Centro para el Desarrollo Tecnológico Industrial. J. Rubio. 01/10/2017-01/10/2018. 45.000 €.