Fecha del CVA	25/02/2019

Parte A. DATOS PERSONALES

Nombre y apellidos	CARLOS LEIVA FERNÁNDEZ		
DNI/NIE/pasaporte	52661851Q	Edad	43
Núm. identificación del investigador	Researcher ID		
	Código Orcid	0000-0001-7967-8102	

A.1. Situación profesional actual

Organismo	Universidad de Sevilla			
Dpto./Centro	Ingeniería Química y Ambiental			
Dirección	Sevilla, Andalucía, España			
Teléfono	954487269	Correo electrónico	cleiva@us.es	
Categoría profesional	Profesor titular		Fecha inicio	2001
Espec. cód. UNESCO	3303/3308/3312			
Palabras clave	Thermal analysis, porosity, cement, mortars, fire, acoustic, geopolymer, concrete, radiosiotopes, rare metal recovery			

A.2. Formación académica (título, institución, fecha)

Licenciatura/Grado/Doctorado	Universidad	Año
Doctor. DOCTOR POR LA UNIVERSIDAD DE SEVILLA		2006
Titulado superior. Ingeniería		2001

A.3. Indicadores generales de calidad de la producción científica *(véanse instrucciones)*

Indicador	Medida
Fecha del último sexenio	31/12/2013

Parte B. RESUMEN LIBRE DEL CURRÍCULUM

The number of granted “Sexenios” is 2 (last from 2013). Number of doctoral theses directed in the last 10 years is 1. Total appointments are 802, average of appointments / year during the last 6 years is 107 (including the current year). The H index is 17. I10 index is 23. The researcher has 53 publications in international journals collected in the Journal Citation Reports, so that 39 of them are in the first and second quartiles of their respective areas and another 14 in the third and fourth, also highlight the continuity over time. These publications, all the years of his research career have presented at least one publication, except the year 2006, year of defense of his doctoral thesis, so that in recent years, in his postdoctoral stage, the number of articles per year has been seen remarkably increased (39 of them are postdoctoral). Two more are included in SJR. Within Chapters of research books in prestigious specialized publishers and with ISBN, the author presents three book chapters, with ISBN and published by publishers such as CIEMAT and Springer.

I present 49 communications to congresses, international (46) and national (3) of special relevance in their field, which have included peer review and with an age and frequency that makes them a reference in their field of knowledge (World of coal Ash, 41st and 42nd Acoustics Congress, 12th Mediterranean Congress of Chemical Engineering, 19th International Congress of Chemical and Process Engineering, 15th European Biomass Conference, etc.). After ten projects working as a researcher in projects of different public calls (2), national (5), European (2) as well as private companies (1), the researcher has started in leadership activities within the works carried out by several authors, reflected in the direction, as principal investigator, both in research projects in contracts with companies (project RECIESCOR, LOD-EST, CALIZAMAR-1 and thermal study of granitic soils as a base for solar collectors). Regarding the transfer of results, the researcher has two national patents, which have passed the examination of the patent office, as well as the preparation of personnel specialized in environmental issues for companies such as Mina Cobre-Las Cruces and VEIASA through the program of Educational Cooperation between signed by these companies and the School of Engineers of Seville

Parte C. MÉRITOS MÁS RELEVANTES *(ordenados por tipología)*

C.1. Publicaciones

Publicación en Revista Leiva Fernández, Carlos, Luna Galiano, Yolanda, Garcia Arenas, Celia, Alonso Fariñas, Bernabé, Fernández Pereira, Constantino: A porous geopolymer based on aluminum-waste with acoustic properties. *En: Waste Management: international journal of integrated waste management, science and technology*. 2019. Vol. 95. Pag. 504-512. https://doi.org/10.1016/j.wasman.2019.06.042

Publicación en Revista Rios Jimenez, Jose David, Vahí, Adelardo, Leiva Fernández, Carlos, Martínez de la Concha, Antonio, Cifuentes Bulté, Héctor: Analysis of the Utilization of Air-Cooled Blast Furnace Slag as IndustrialWaste Aggregates in Self-Compacting Concrete. *En: Sustainability*. 2019. 10.3390/su11061702

Publicación en Revista Rodriguez Galan, Monica, Alonso Fariñas, Bernabé, Baena , Francisco Manuel, Leiva Fernández, Carlos, Navarrete Rubia, Benito, et. al.: Synthetic slag production method based on a solid waste mix vitrification for the manufacturing of slag-cement. *En: Materials*. 2019. Vol. 12. Núm. 208. doi:10.3390/ma12020208

Publicación en Revista Rios Jimenez, Jose David, Cifuentes Bulté, Héctor, Leiva Fernández, Carlos, Seitl, Stanislav:Analysis of the mechanical and fracture behavior of heated ultra-high-performance fiber-reinforced concrete by X-ray computed tomography. *En: Cement and Concrete Research*. 2019. Vol. 119. Pag. 77-88. 10.1016/j.cemconres.2019.02.01

Publicación en Revista Peceño, Begoña, Garcia Arenas, Celia, Alonso Fariñas, Bernabé, Leiva Fernández, Carlos:Substitution of Coarse Aggregates with Mollusk-Shell Waste in Acoustic-Absorbing Concrete. *En: Journal of Materials in Civil Engineering*. 2019. Vol. 31. Núm. 6. https://doi.org/10.1061/(ASCE)MT.1943-5533.0002719

Publicación en Revista: Ríos, J.D., Leiva, C., Ariza, M.P., Seitl, S., Cifuentes, H. Analysis of the tensile fracture properties of ultra-high-strength fiber-reinforced concrete with different types of steel fibers by X-ray tomography. Materials and Design, 165,107582

Publicación en Revista. Arroyo-Torralvo, Fátima; Leiva-Fernández, Carlos; Fernández-Pereira, Constantino; Luna-Galiano, Yolanda; Villegas-Sánchez, Rosario; Vilches-Arenas, Luis Francisco; Garcia-Arenas, Celia. 2018. Reusing leached fly ash as a cement replacement. Institution of Civil Engineers. Proceedings. Engineering Sustainability. 171, pp. 286-295.

Publicación en Revista. Luna-Galiano, Yolanda; Leiva-Fernández, Carlos; Villegas-Sánchez, Rosario; Arroyo-Torralvo, Fátima; Vilches-Arenas, Luis Francisco; Fernández-Pereira, Constantino. 2018. Carbon fiber waste incorporation in blast furnace slag geopolymer-composites. Materials Letters. 233, pp. 1-3.

Publicación en Revista. Fernández-Pereira, Constantino; Luna-Galiano, Yolanda; Leiva-Fernández, Carlos; Arroyo-Torralvo, Fátima; Villegas-Sánchez, Rosario; Vilches-Arenas, Luis Francisco. 2018. Immobilization of heavy metals (Cd, Ni or Pb) using aluminate geopolymers. Materials Letters. 227, pp. 184-186.

Publicación en Revista. Leiva-Fernández, Carlos; Rodriguez-Galan, Monica; Garcia-Arenas, Celia; Alonso-Fariñas, Bernabé; Peceño, Begoña. 2018. A mechanical, leaching and radiological assessment of fired bricks with a high content of fly ash. Ceramics International. 44, pp. 13319-13319.

Publicación en Revista. Luna-Galiano, Yolanda; Leiva-Fernández, Carlos; Garcia-Arenas, Celia; Fernández-Pereira, Constantino. 2018. Fly ash based geopolymeric foams using silica

fume as pore generation agent. Physical, mechanical and acoustic properties. Journal of Non-Crystalline Solids. 500, pp. 196-204.

Publicación en Revista. Arroyo-Torralvo, Fátima; Fernández-Pereira, Constantino; Luna-Galiano, Yolanda; Leiva-Fernández, Carlos; Vilches-Arenas, Luis Francisco; Villegas-Sánchez, Rosario. 2018. Low environmental impact process for germanium recovery from anindustrial residue. Minerals Engineering. 120, pp. 106-114.

Publicación en Revista. Rios Jimenez, Jose David; Cifuentes-Bulté, Héctor; Leiva-Fernández, Carlos; Garcia-Arenas, Celia; Alba-Carranza, Maria Dolores. 2018. Behavior of High-Strength Polypropylene Fiber-Reinforced Self-Compacting Concrete Exposed to High Temperatures. Journal of Materials in Civil Engineering. 30, pp. 04018271-1-04018271-13.

Publicación en Revista. Leiva-Fernández, Carlos; Garcia-Arenas, Celia; Vilches-Arenas, Luis Francisco; Arroyo-Torralvo, Fátima; Luna-Galiano, Yolanda; Villegas-Sánchez, Rosario; Fernández-Pereira, Constantino. 2018. Use of zeolitized coal fly ash as main component in panels with high fire resistance. ACI materials journal. 115, pp. 393-400.

Publicación en Revista. Leiva-Fernández, Carlos; Garcia-Arenas, Celia; Alonso-Fariñas, Bernabé; Vilches-Arenas, Luis Francisco; Peceño, Begoña; Luna-Galiano, Yolanda; Rodriguez-Galan, Monica. 2018. Fire-resistant panels composed only of combustion by-products. Institution of Civil Engineers. Proceedings. Construction Materials. 171, pp. 36-44.

Publicación en Revista. Garcia-Arenas, Celia; Leiva-Fernández, Carlos; Vilches-Arenas, Luis Francisco; Ganso, Jose Antonio. 2017. Approaching a methodology for the development of a multilayer sound absorbing device recycling coal bottom ash . Applied Acoustics. 115, pp. 81-87.

Publicación en Revista. Garcia-Arenas, Celia; Luna-Galiano, Yolanda; Leiva-Fernández, Carlos; Vilches-Arenas, Luis Francisco; Arroyo-Torralvo, Fátima; Villegas-Sánchez, Rosario; Fernández-Pereira, Constantino. 2017. Development of a fly ash-based geopolymeric concrete with construction and demolition wastes as aggregates in acoustic barriers. Construction and Building Materials. 134, pp. 433-442.

Publicación en Revista. Luna-Galiano, Yolanda; Leiva-Fernández, Carlos; Garcia-Arenas, Celia; Arroyo-Torralvo, Fátima; Vilches-Arenas, Luis Francisco; Fernández-Pereira, Constantino; Villegas-Sánchez, Rosario. 2017. Behaviour of fly ash-based geopolymer panels under fire. Waste and Biomass Valorization. 8, pp. 2485-2494.

Publicación en Revista. Arroyo-Torralvo, Fátima; Luna-Galiano, Yolanda; Leiva-Fernández, Carlos; Vilches-Arenas, Luis Francisco; Moreno-bermejo, Natalia; Alvarez-martin, Francisco. 2017. Effluent valorization in copper hydrometallurgy plant. International Journal of Mineral Processing. 169, pp. 70-78.

Publicación en Revista. Leiva-Fernández, Carlos; Garcia-Arenas, Celia; Cifuentes-Bulté, Héctor; Vilches-Arenas, Luis Francisco; Rios Jimenez, Jose David. 2017. Radiological, Leaching, and Mechanical Properties of Cocombustion Fly Ash in Cements . Journal of Hazardous, Toxic, and Radioactive Waste. 21,

Publicación en Revista. Garcia-Arenas, Celia; Vilches-Arenas, Luis Francisco; Leiva-Fernández, Carlos; Alonso-Fariñas, Bernabé; Rodriguez-Galan, Monica. 2016. Recycling ceramic industry wastes in sound absorbing materials. Materiales de Construcción. 66,

Publicación en Revista. Leiva-Fernández, Carlos; Garcia-Arenas, Celia; Vilches-Arenas, Luis Francisco; Rodriguez-Galan, Monica; Alonso-Fariñas, Bernabé. 2015. Development of fly ash boards with thermal, acoustic and fire insulation properties. Waste Management. 46, pp. 298-303.

Publicación en Revista. Garcia-Arenas, Celia; Leiva-Fernández, Carlos; Vilches-Arenas, Luis Francisco; Cifuentes-Bulté, Héctor; Rodriguez-Galan, Monica. 2015. Technical specifications for highway noise barriers made of coal bottom ash-based sound absorbing concrete. Construction and Building Materials. 95, pp. 585-591.

Publicación en Revista. Ling, Ji; Zhuang, X; Leiva-Fernández, Carlos; Cornejo-fernandez-gao, Ana; Garcia-Arenas, Celia; Fernández-Pereira, Constantino. 2015. Potential utilization of FGD gypsum and fly ash from a Chinese power plant for manufacturing fire-resistant panels. Construction and Building Materials. 95, pp. 910-921.

Publicación en Revista. Luna -galiano, Yolanda ; Cornejo-fernandez-gao, Ana; Leiva-Fernández, Carlos; Vilches-arenas, Luis Francisco ; Fernández-Pereira, Constantino. 2015. Properties of fly ash and metakaolín based geopolymer panels under fire resistance tests. 65,

Publicación en Revista. Garcia-Arenas, Celia; Leiva-Fernández, Carlos; Vilches-Arenas, Luis Francisco; Fernández-Pereira, Constantino. 2014. Recycling by-products from coal-fired power stations into different construction materials. 5, pp. 387-397.

Publicación en Revista. Leiva-Fernández, Carlos; Solís-Guzmán, Jaime; Marrero-Meléndez, Madelyn; Garcia-Arenas, Celia. 2013. RECYCLED BLOCKS WITH IMPROVED SOUND AND FIRE INSULATION CONTAINING CONSTRUCTION AND DEMOLITION WASTE. Waste Management. 33, pp. 663-671.

Publicación en Revista. Garcia-Arenas, Celia; Leiva-Fernández, Carlos; Vilches-Arenas, Luis Francisco; Cifuentes-Bulté, Héctor. 2013. use of co-combustion bottom ash to design an acoustic absorbing material for highway noise barriers. Waste Management. 33, pp. 2316-2321.

C.2. Proyectos

Fractura y Fatiga Termo-Mecánica en Hormigones de Altas Prestaciones Reforzados con Fibras: Análisis del Daño por Choque Térmico. Tipo de Proyecto/Ayuda: Plan Estatal 2013-2016 Retos - Proyectos I+D+i. Referencia: BIA2016-75431-R. Fecha de Inicio: 30-12-2016. Fecha de Finalización: 29-12-2019 Investigador.

NUEVAS APLICACIONES DE GEOPOLÍMEROS BASADOS EN CENIZAS VOLANTES Y ESCORIAS. MINISTERIO DE CIENCIA Y TECNOLOGÍA. Fernández-Pereira, Constantino. 2011-2013. 102850 EUR. Investigador

C.3. Contratos, méritos tecnológicos o de transferencia

Tratamiento de concentrados acuosos salinos mediante ósmosis directa para su aplicación en plantas de ZLD. Vilches-Arenas, Luis Francisco (Universidad de Sevilla). 2016-2017. 46797,96 EUR.

Análisis de Tecnologías para la Valorización Energética de RSU. Vidal-Barrero, J. Fernando (Universidad de Sevilla). 2016-2017. 31056,67 EUR.

ANÁLISIS COMPARATIVO DE LA RETENCIÓN DE CESIO E IODO POR BARRERAS REACTIVAS DE ARCILLAS: ESCALA PREPILOTO. Castro-Arroyo, Miguel Angel (Universidad de Sevilla). 2015-2017. 169950 EUR.

Estudio de propiedades mecánicas de suelos sometidos a cargas térmicas y físicas. Leiva-Fernández, Carlos (Universidad de Sevilla). 2015-2016. 500 EUR.

Estudio térmico de suelos graníticos como base de colectores solares. Vilches-Arenas, Luis Francisco (Universidad de Sevilla). 2014-2015. 900 EUR.

LOD-EST: Estudio de caracterización fisico-química de lodos procedentes de minas y su empleo como material de relleno. Vilches-Arenas, Luis Francisco (Universidad de Sevilla). 2012-2012. 1300 EUR.

MAVIT: MAteriales VITreos cementantes de alta eficiencia erngética y bajo impacto ambientalProyecto FEDER-INNTERCONECTA. CORTÉS - GALEANO, VICENTE. 2012-2014. 450360 EUR.

RECIESCOR: Reciclado de escorias procedentes de centrales térmicas en materiales con aplicaciones en el sector de la construcción. Leiva-Fernández, Carlos (Universidad de Sevilla). 2011-2012. 47620 EUR.

C.4. Patentes

Rodriguez-Galan, Monica; Navarrete-Rubia, Benito; Vilches-Arenas, Luis Francisco; Leiva-Fernández, Carlos; Picón-bolaños, Juan Manuel; Díaz-bautista, Maria Arantzazu. MATERIAL CEMENTANTE A PARTIR DE MEZCLAS DE RESIDUOS Y/ O SUBPRODUCTOS INDUSTRIALES Y PROCEDIMIENTO DE FABRICACIÓN. 2017. Cementos Portland Valderribas S.A. Cementos Portland Valderribas.

C.6. Tesis Doctoral

Recycling coal bottom ash in construction materials. Technical specifications of bottom ash-based sound absorbing porous concrete applied in highway noise barriers.