

Parte A. DATOS PERSONALES		Fecha del CVA		23/9/2014
Nombre y apellidos	Carlos León Yebra			
DNI/NIE/pasaporte	11809668L	Edad	46	
Núm. identificación del investigador	Researcher ID	A-5587-2008		
	Código Orcid			

A.1. Situación profesional actual

Organismo	Universidad Complutense de Madrid			
Dpto./Centro	Física Aplicada III			
Dirección	Facultad de Física. Avda Complutense s/n . 28040 Madrid			
Teléfono	+34913944435	correo electrónico	carlos.leon@fis.ucm.es	
Categoría profesional	Profesor Titular de Universidad	Fecha inicio	Diciembre 2005	
Espec. cód. UNESCO				
Palabras clave	Materiales. Materia Condensada. Óxidos Complejos. Películas delgadas. Interfases . Magnetismo. Relajación dieléctrica. Transición vítrea. Transporte iónico.			

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

Licenciatura/Grado/Doctorado	Universidad	Año
Licenciatura	U. Complutense	1991
Doctorado	U. Complutense	1997

A.3. Indicadores generales de calidad de la producción científica

número de sexenios de investigación (**3**) y la fecha del último concedido (**2010**), número de tesis doctorales dirigidas en los últimos 10 años (**5**), citas totales (**3400**), promedio de citas/año durante los últimos 5 años (**300**), publicaciones totales en primer cuartil (**140**), índice h (**31**).

Total de **5 tesis dirigidas** y 1 en curso. Más de **150 publicaciones**. 2 Science (1 reply to comment), 1 Nature Physics, 2 Nature Communications, 4 Advanced Materials, 10 Phys. Rev. Lett., 39 Phys. Rev. B. **13 invited talks** at prestigious international conferences (including APS Meeting, MRS Meeting , MMM, etc.). More than **10 invited seminars and colloquia**.

Parte B. RESUMEN LIBRE DEL CURRÍCULUM

Carlos Leon is an Associate Professor with Habilitation to Full Professor at the Physics Faculty of the University Complutense de Madrid. He obtained his Ph. D in 1997 at UCM and was post doc at the Naval research Laboratory in Washington DC. He has coauthored more than 150 papers with 2 Science, 1 Nature Physics, 2 Nature Communications, 4 Advanced Materials, 10 Phys. Rev. Lett., 39 Phys Rev. B, 3 Chem. Matter, and 10 Appl. Phys. Lett. He has more than 3400 citations and an h index of 31 and has been invited to international conferences 30 times. His areas of interest are ionic transport and nanoionics for energy applications, and correlated transition metal oxides with special emphasis on nanofabrication and magnetotransport measurements.

Parte C. MÉRITOS MÁS RELEVANTES (ordenados por tipología)

C.1. Publicaciones (>150)

1) M. Castro, A. Rivera, J. García-Barriocanal, F. Domínguez-Adame, A. G. Belous, J. Santamaría y C. León. "Effects of reduced dimensionality in the relaxation dynamics of ionic conductors", Europhys. Lett. **69**, 770 (2005).

- 2) K. J. Moreno, A. Fernández-Fuentes, M. Maczka, J. Hanuza, U. Amador, J. Santamaría y C. León, “*Influence of thermally induced oxygen order on mobile ion dynamics in $Gd_2(Ti_{0.65}Zr_{0.35})_2O_7$* ”, Phys. Rev. B **75**, 184303 (2007).
- 3) J. Garcia-Barriocanal, A. Rivera-Calzada, M. Varela, Z. Sefrioui, E. Iborra, C. Leon, S. J. Pennycook, y J. Santamaria “*Colossal Ionic Conductivity at Interfaces of Epitaxial $ZrO_2:Y_2O_3/SrTiO_3$ Heterostructures*” Science **321**, 676 (2008).
- 4) M. R. Diaz-Guillen, K. J. Moreno, J. A. Diaz-Guillen, A. F. Fuentes, K. L. Ngai, J. García-Barriocanal, J. Santamaria, y C. León “*Cation size effects in oxygen ion dynamics of highly disordered pyrochlore-type ionic conductors*” Physical Review B **78**, 104304 (2008).
- 5) M. Paluch, S. Haracz, A. Grzybowski, M. Mierzwa, J. Pionteck, A. Rivera-Calzada, C. Leon, “*A Relationship between Intermolecular Potential, Thermodynamics, and Dynamic Scaling for a Supercooled Ionic Liquid*”. J. Phys. Chem. Lett. **1**, 987 (2010).
- 6) O. J. Durá, M. A. López de la Torre, L. Vázquez, J. Chaboy, R. Boada, A. Rivera-Calzada, J. Santamaria y C. Leon, “*Ionic conductivity of nanocrystalline yttria stabilized zirconia: grain boundary and size effects*”. Phys. Rev. B **81**, 184301 (2010).
- 7) J. Garcia-Barriocanal, J. C. Cezar, F. Y. Bruno, P. Thakur, N. B. Brookes, C. Utfeld, A. Rivera-Calzada, S. R. Giblin, J. W. Taylor, J. A. Duffy, S. B. Dugdale, T. Nakamura, K. Kodama, C. Leon, S. Okamoto, J. Santamaria. “*Spin and orbital Ti magnetism at $LaMnO_3/SrTiO_3$ interfaces*”, Nature Commun. **1**:82 doi: 10.1038/ncomms1080 (2010).
- 8) F. A. Cuellar, G. Sanchez-Santolino, M. Varela, M. Clement, E. Iborra, Z. Sefrioui, J. Santamaria C. Leon, “*Thermally assisted tunnelling transport in $La_{0.7}Ca_{0.3}MnO_3/SrTiO_3:Nb$ Schottky-like heterojunctions*”, Phys. Rev. B **85** 245122 (2012).
- 9) Carlos Leon, Jacobo Santamaria, Bernard A. Boukamp, “*Oxide interfaces with enhanced ion conductivity*”, MRS Bulletin **38** 1056 (2013).
- 10) Mirko Rocci, Javier Tornos, Alberto Rivera-Calzada, Zouhair Sefrioui, Marta Clement, Enrique Iborra, Carlos Leon, Jacobo Santamaria, “*Resistive switching in manganite/graphene hybrid planar nanostructures*”, Appl. Phys. Lett. **104**, 102408 (2014).

C.2. Proyectos (>30)

- 1) “*Broadband Dielectric Spectroscopy*” Principal Investigator: Carlos Leon. Program on Scientific Infrastructure (2006). Ministry for Science and Innovation-EU structural funds. 180.000 EUR.
- 2) “*New materials and processing for spin dependent transport*”. Ministry for Science and Innovation MAT 2005-06024 C02-01. PI: Zouhair Sefrioui . 200.000 EUR.
- 3) “*Electronics based on nanoscale oxides: interface engineering for magnetoelectronic devices.*” Spanish Ministry for Science and Innovation MAT2008- 6517. 210.000 Eu..
- 4) “*Advanced Hybrid Materials for Photonic Applications (Ref. S2009/Mat-1756. Acronym: PHAMA)* Regional Government of Madrid. Programmes of Research and Development in Technologies 2009- 2013. 180.000 Euros (PI: Jacobo Santamaria).
- 5) “*Materials Science Down To The Sub Angström Scale*” CSD2009-00013 Ministry for Science and Innovation MICINN. Programme Consolider-Ingenio 2010- 2015. PI: Jacobo Santamaria. 410.000 EUR.

- 6) “*Complex oxide interfaces in spintronics*”. MAT 2011 27474 C02. Ministry for Science and Innovation 2011- 2013. PI: Jacobo Santamaria. 508.000 EUR.

C.3. Conferencias Invitadas en Congresos Internacionales de especial relevancia (>30)

- 1) 5th International Discussion Meeting on Relaxation in Complex Systems. 7 – 13 July, 2005. Lille, France. Title: “Tailoring correlations in the hopping dynamics of mobile ions”
- 2) IV Edition of the Workshop on Non-Equilibrium Phenomena in Supercooled Fluids, Glasses and Amorphous Materials, (Ngai Fest satellite meeting), 16 – 22 sept, 2006. Pisa, Italy. Title: “A Coupling Model approach to the nearly constant loss in ionic conductors”
- 3) 6th International Discussion Meeting on Relaxation in Complex Systems. 31 aug – 4 sept, 2009. Rome, Italy. Title: “Oxygen ion dynamics and nearly constant loss in highly disordered pyrochlore-type ionic conductors”
- 4) 7th International Discussion Meeting on Relaxation in Complex Systems. 21 jul – 26 jul, 2013. Barcelona, Spain. Title: “Understanding ion transport across grain boundaries”
- 5) III Workshop on the Physics of Complex Oxides. 19 may – 23 may, 2014. Protaras, Cyprus. Title: “Oxide ion transport across grain boundaries”

C.4. Organización de eventos (selección)

- 6th International Discussion Meeting on Relaxation in Complex Systems. 31 aug – 4 sept, 2009. Rome, Italy. Co-organizer of the Symposium on Ionics.
- Member of the Organizing Committee of “6th International Conference on Broadband Dielectric Spectroscopy and Its Applications”, Madrid , 7-10 sept 2010.
- II International Workshop on Complex Oxides. 2- 5 October 2012. Mallorca. Member of the Local Organizing Committee
- 7th International Discussion Meeting on Relaxation in Complex Systems. 21 jul – 26 jul, 2013. Barcelona, España. Co-organizer of the Symposium on Ionics.

C.5 Servicio Profesional

- National Contact Point (NCP) for in H2020 for Nanotechnology, Materials, and Advanced Processing. (October 2013 -)
- Member of the Executive Committee of the Topical Group on Solid State Physics of the Spanish Royal Physical Society, 2014-.
- Reviewer for the following Agencies: ANEP (Spain), COLCIENCIAS (Colombia), CONICET (Argentina)
- Referee for the journals: Physical Review Letters, Physical Review B, Journal Applied Physics, Solid State Ionics, Journal of Non Crystalline Solids, Journal of Physical Chemistry.