

José Manuel Vila Fungueiriño

Postdoctoral researcher

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1. ACADEMIC EDUCATION

Degree	Center	Date	
<i>Chemistry</i>	<i>University of Santiago de Compostela</i>	<i>28/07/2008</i>	
<i>1st Cycle History</i>	<i>University of Santiago de Compostela</i>	<i>30/07/2010</i>	
Master	Center	Date	
<i>Materials Science and Technology</i>	<i>University of Santiago de Compostela</i>	<i>31/07/2013</i>	
Doctorate	Center	Date	
<i>Materials Science</i>	<i>University of de Santiago de Compostela</i>	<i>27/07/2016</i>	<i>Excellent Cum laude.</i>
<i>International mention.</i>			

2. PREVIOUS SCIENTIFIC ACTIVITIES

01/11/2016 – 31/12/2016	Postdoctoral researcher	UMR 5214 - Institut d'Electronique et des Systèmes (IES) Université de Montpellier
10/06/2016 – 04/07/2016	Predocctoral researcher	Dep. Chemistry-Physics, University of Santiago de Compostela
01/09/2011 – 31/08/2015	FPI fellow	Dep. Chemistry-Physics, University of Santiago de Compostela
16/02/2011 – 31/08/2011	Contracted under Project	Dep. Chemistry-Physics, University of Santiago de Compostela
18/03/2011 – 16/12/2011	Practices	Instituto de Estudios Gallegos Padre Sarmiento, CSIC

3. SCIENTIFIC PUBLICATIONS

4.1. Papers.

- 1.- Andrés Gómez, **José Manuel Vila-Funqueiriño**, Rahma Moalla, Guillaume Saint-Girons, Jaume Gázquez, María Varela, Romain Bachelet, Marti Gich, Francisco Rivadulla, Adrián Carretero-Genevriér*
Electric and mechanical switching of ferroelectric and resistive states in semiconducting BaTiO_{3-δ} films on silicon.
Small 2017, 77, 1701614.
DOI: 10.1002/sml.201701614
- 2.- Ana Sousa-Castillo, Óscar Ameneiro-Prieto, Miguel Comesaña-Hermo, Renwen Yu, **José Manuel Vila-Funqueiriño**, Moisés Pérez-Lorenzo, Francisco Rivadulla, F. Javier García de Abajo, Miguel A. Correa-Duarte*
Hybrid plasmonic nanoresonators as efficient solar heat shields.
Nano Energy 2017, 37, 118-125.
DOI: 10.1016/j.nanoen.2017.05.014
- 3.- **José Manuel Vila-Funqueiriño**, Cong Tinh Bui, Beatriz Rivas-Murias, E. Winkler, J. Milano, J. Santiso, Francisco Rivadulla*
Thermodynamic conditions during growth determine the magnetic anisotropy in epitaxial thin-films of La_{0.7}Sr_{0.3}MnO₃.
Journal of Physics D: Applied Physics 2016, 49, 315001.
DOI: 10.1088/0022-3727/49/31/315001
- 4.- Beatriz Rivas-Murias, **José Manuel Vila-Funqueiriño**, Francisco Rivadulla*
High quality thin films of thermoelectric misfit cobalt oxides prepared by a chemical solution method.
Scientific Reports 2015, 5, 11889
DOI: 10.1038/srep11889
- 5.- **José Manuel Vila-Funqueiriño**, Romain Bachelet, Guillaume Saint-Girons, Michel Gendry, Marti Gich, Jaume Gázquez, Etienne Ferain, Francisco Rivadulla, Juan Rodríguez-Carvajal, Narcís Mestres, Adrián Carretero-Genevriér*
Integration of functional complex oxide nanomaterials on silicon.
Frontiers in Physics 2015, 3, 38
DOI: 10.3389/fphy.2015.00038
- 6.- **José Manuel Vila-Funqueiriño**, Beatriz Rivas-Murias, Benito Rodríguez-González, O. Txoperena, D. Ciudad, Luis E. Hueso, Massimo Lazzari, Francisco Rivadulla*
Room-temperature ferromagnetism in thin films of LaMnO₃ deposited by a chemical method over large areas.
ACS Applied Materials & Interfaces 2015, 7(9), 5410-5414
DOI: 10.1021/am508941j
- 7.- Irene Lucas*, **José Manuel Vila-Funqueiriño**, Pilar Jiménez-Cavero, Beatriz Rivas-Murias, César Magén, Luis Morellón, Francisco Rivadulla
Tunnel conduction in epitaxial bilayers of ferromagnetic LaCoO₃/La_{2/3}Sr_{1/3}MnO₃ deposited by a chemical solution method.
ACS Applied Materials & Interfaces 2014, 6 (23), 21279-21285
DOI: 10.1021/am506259p
- 8.- **José Manuel Vila-Funqueiriño**, Beatriz Rivas-Murias, Benito Rodríguez-González, Francisco Rivadulla*
Interface magnetic coupling in epitaxial bilayers of La_{0.92}MnO₃/LaCoO₃ prepared by polymer-assisted deposition.
Chemistry of Materials 2014, 26 (3), 1480-1484
DOI: 10.1021/cm403868y
- 9.- **José Manuel Vila-Funqueiriño**, Beatriz Rivas-Murias*, Francisco Rivadulla
Strong interfacial magnetic coupling in epitaxial bilayers of LaCoO₃/LaMnO₃ prepared by chemical solution deposition.
Thin Solid Films 2014, 553, 81-84
DOI: 10.1016/j.tsf.2013.11.060
- 10.- P. L. Bach, **José Manuel Vila-Funqueiriño**, V. Leborán, Elías Ferreiro-Vila, B. Rodríguez-González, F. Rivadulla*
Strain-induced enhancement of the thermoelectric power in thin films of hole-doped La₂NiO_{4+δ}.
APL Materials 2013, 1, 021101-021106
DOI: 10.1063/1.4818356
- 11.- F. Rivadulla*, Z. Bi, E. Bauer, B. Rivas-Murias, **José Manuel Vila-Funqueiriño**, Q. Jia
Strain-induced ferromagnetism and magnetoresistance in epitaxial thin films of LaCoO₃ prepared by polymer-assisted deposition.
Chemistry of Materials 2013, 25 (1), 55-58
DOI: 10.1021/cm3031472
- 12.- **José Manuel Vila-Funqueiriño**, B. Rivas-Murias, F. Rivadulla*
Synthesis and magnetic properties of manganite thin films on Si by polymer assisted (PAD) and pulsed laser deposition (PLD).
MRS Proceedings 2012, 1449, bb07-02
DOI: 10.1557/opl.2012.1040

4.2. Books, monographs and collective volumes.

- 1.- A. Carretero-Genevrier, R. Bachelet, G. Saint-Girons, R. Moalla, **J. M. Vila-Funqueiriño**, B. Rivas-Murias, F. Rivadulla, J. Rodriguez-Carvajal, A. Gomez, J. Gazquez, M. Gich, N. Mestres
Development of epitaxial oxide ceramics nanomaterials based on chemical strategies on semiconductor platforms, in *Advanced Ceramic Materials*, edited by A. Tiwari, R. A. Gerhardt, and M. Szutkowska, John Wiley & Sons, Inc., Hoboken, NJ, USA, 2016.
DOI:10.1002/9781119242598.ch1

4. PROJECTS AND PROGRAMS, CONTRACTS OR AGREEMENTS UNDER WHICH IT HAS ENTERED OR DIRECTED

- 1.- Quartz-based Nanomaterials On Silicon for a Sensorized world (QNOSS).
Financing entity: Agence National de la Recherche (ANR), France.
Participating institution: Centre National de la Recherche Scientifique (CNRS), France.
Duration from 01/01/2017 until 31/01/2019
Principal researcher: Adrián Carretero-Genevrier (CNRS)
Amount: 262.254,00 €
- 2.- New topological insulators based on oxide nanostructures.
Financing entity: Xunta de Galicia (EM2013/037), Galicia, Spain.
Participating institution: University of Santiago de Compostela, Galicia, Spain.
Duration from 08/08/2013 until 07/08/2016
Principal researcher: Víctor Pardo Castro (USC)
Amount: 99.000,00 €
- 3.- Dispositivos termoelectricos basados en nanoestructuras de sistemas electronicos altamente correlacionados.
Financing entity: Ministerio de Ciencia e Innovación (MAT2010-16157), Spain.
Participating institution: University of Santiago de Compostela, Galicia, Spain.
Duration from 2011 until 2013
Principal researcher: J. Francisco Rivadulla Fernández (USC)
Amount: 110.000,00 €
- 4.- Métodos de control de la conductividad en películas de nanotubos de carbono para utilización en transistores de efecto campo.
Financing entity: Xunta de Galicia (2009/PX092-1), Galicia, Spain.
Participating institution: University of Santiago de Compostela, Galicia, Spain.
Duration from 2/12/2009 until 1/12/2012
Principal researcher: J. Francisco Rivadulla Fernández (USC)
Amount: 81.316,00 €

Participation in 4 projects (552.570 €)

5. PERFORMED TEACHING ACTIVITY

- University of Santiago de Compostela. Department of Chemistry-Physics. Chemistry Physics IV. 60 hours (2013-14)
- University of Santiago de Compostela. Department of Chemistry-Physics. Chemistry Physics IV. 60 hours (2014-15)

6. RESEARCH STAYS

European Synchrotron Radiation Facility (ESRF).

Grenoble, France, 2016, 1 week.

Study of the crystallization process and accommodation of epitaxial strain in thin films of $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$ synthesized by a chemical solution method.

Institut des Nanotechnologies de Lyon (INL), UMR CNRS 5270.

Ecully, France, 2014, 13 weeks.

Integration of functional nanostructures oxides on silicon substrates by chemical solution deposition.

Institut Català de Nanociència i Nanotecnologia (ICN2), Centro de Excelencia Severo Ochoa. Agencia Estatal Consejo Superior de Investigaciones Científicas (CSIC).

Bellaterra, Barcelona, Spain, 2014, 17 weeks.

Structural characterization of $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$ thin films.

International Iberian Nanotechnology Laboratory (INL).

Braga, Portugal, 2014, 1 week.

Study of the influence of viscosity of solutions in the synthesis of thin films.

7. CONFERENCES

2017

Symposium on Epitaxy of Complex Oxides, Santa Fe, New Mexico, United States, 30 July-4 August 2017.

Chemical solution synthesis of epitaxial thin-films oxides

José M. Vila Fungueiriño, B. Rivas-Murias, Andrés Gómez, Jaume Gázquez, Martí Gich, A. Carretero-Genevrièr, F. Rivadulla (Oral invited)

1st Transpyrenean Encounter on Advanced Materials (TEAM 1), Sète, France, 4-6 July 2017.

Epitaxial growth of nanostructured functional oxide thin-films by solution chemistry

José M. Vila Fungueiriño, Andrés Gómez, R. Moalla, G. Saint-Girons, C. Magén, Jaume Gázquez, R. Bachelet, Martí Gich, F. Rivadulla, A. Carretero-Genevrièr (Oral)

E-MRS 2017 Spring Meeting, Symposium Q: Nano-engineering coatings and thin films, Strasbourg, France, 22-26 May 2017.

Epitaxial growth of functional oxide nanostructured thin films on technological substrates based on chemical strategies

José M. Vila Fungueiriño, R. Moalla, R. Bachelet, G. Saint-Girons, J. Rodríguez-Carvajal, A. Gómez, J. Gázquez, N. Mestres, F. Rivadulla, M. Gich, A. Carretero-Genevrièr (Oral invited)

E-MRS 2017 Spring Meeting, Symposium T: Synthesis, processing and characterization of nanoscale multi functional oxide films VI, Strasbourg, France, 22-26 May 2017.

Epitaxial growth of nanostructured functional oxides on silicon by solution chemistry

José M. Vila Fungueiriño, Andrés Gómez, R. Moalla, G. Saint-Girons, C. Magén, Jaume Gázquez, R. Bachelet, Martí Gich, F. Rivadulla, A. Carretero-Genevrièr (Oral)

New Strategies to Integrate Functional Oxide Nanowire Thin Films on Si

José M. Vila Fungueiriño, Marijn van de Putte, Raquel Aymerich, Andrés Gómez, César Magén, Jaume Gázquez, Juan Rodríguez-Carvajal, A. Carretero-Genevrièr, Narcís Mestres (Oral)

2016

E-MRS 2016 Spring Meeting, Symposium AA: Solution processing and properties of functional oxide thin films and nanostructures II, Lille, France, 2-6 May 2016.

Fabrication of high-quality epitaxial thin-films of functional oxides by a chemical solution method

José M. Vila Fungueiriño, B. Rivas-Murias, Andrés Gómez, Martí Gich, Jaume Gázquez, R. Bachelet, A. Carretero-Genevrièr, F. Rivadulla (Oral invited)

Chemical route to epitaxial integration of functional oxide nanowire thin films on silicon

Can Fu, José M. Vila Fungueiriño, E. Ferain, F. Rivadulla, N. Mestres, A. Carretero-Genevrièr (Poster)

20th International Conference on Solid Compounds of Transition Elements (SCTS 2016), Zaragoza, Spain, 11-15 April 2016.

High quality magnetic heterostructures deposited by a chemical solution method

I. Lucas, B. Rivas-Murias, P. Jiménez-Cavero, José M. Vila Fungueiriño, C. Magén, F. Rivadulla, L. Morellón (Oral)

TO-BE Spring Meeting 2016, Warwick, United Kingdom, 6-8 April 2016.

Role of ferromagnetic LaCoO_3 as tunnel barrier in epitaxial bilayers deposited by a chemical solution method

I. Lucas, B. Rivas-Murias, P. Jiménez-Cavero, José M. Vila Fungueiriño, C. Magén, F. Rivadulla, L. Morellón (Oral)

2015

E-MRS 2015 Fall Meeting, Symposium O: Alternative semiconductor integration in Si microelectronics: materials, techniques and applications, Warsaw, Poland, 15-18 September 2015.

Chemical solution deposition to epitaxial functional oxide thin films on silicon

José M. Vila Fungueiriño, R. Bachelet, G. Saint-Girons, R. Moalla, B. Rivas-Murias, M. Gich, J. Gazquez, G. L. Drisko, C. Sanchez, J. Rodríguez-Carvajal, F. Rivadulla, A. Carretero-Genevrièr (Oral)

NanoNano 2015, Workshop Lyonnais sur les Nanosciences et les Nanotechnologies, Lyon, France, 15-16 June 2015.

Chemical solution deposition of functional oxide thin films and nanostructures on silicon

José M. Vila Fungueiriño, R. Bachelet, G. Saint-Girons, M. Gendry, M. Gich, J. Gazquez, E. Ferain, B. Rivas-Murias, F. Rivadulla, J. Rodríguez-Carvajal, N. Mestres, A. Carretero-Genevrièr (Poster)

E-MRS 2015 Spring Meeting, Symposium N: Synthesis, processing and characterization of nanoscale multi functional

oxide films, Lille, France, 11-15 May 2015.

Thermal energy harvesting through epitaxial pyroelectric oxide films integrated on silicon

R. Moalla, Q. Liu, José M. Vila Fungueiriño, A. Carretero-Genevri, B. Rivas-Murias, G. Saint-Girons, B. Vilquin, N. Baboux, G. Sebald, C. Dubourdieu, R. Bachelet (Oral)

MRS 2015 Spring Meeting, Symposium RR: Solution Syntheses of Inorganic Functional/Multifunctional Materials, San Francisco, United States, 7-10 April 2015.

Chemical solution deposition to epitaxial functional complex oxide nanostructures and thin films

Adrián Carretero-Genevri, Martí Gich, Romain Bachelet, Guillaume Saint-Girons, José M. Vila Fungueiriño, B. Rivas-Murias, Jaume Gazquez, Glenna Drisko, Judith Oro-Sole, Etienne Ferain, Teresa Puig, Xavier Obradors, F. Rivadulla, Juan Rodriguez-Carvajal, Clement Sanchez, Narcis Mestres (Oral)

Monolithic integration of functional oxides on silicon by chemical solution deposition

Adrián Carretero-Genevri, Martí Gich, José M. Vila Fungueiriño, Glenna Drisko, Laura Picas, Jaume Gazquez, B. Rivas-Murias, Romain Bachelet, Guillaume Saint-Girons, Juan Rodriguez-Carvajal, F. Rivadulla, Clement Sanchez (Oral)

TO-BE Spring Meeting 2015, Aveiro, Portugal, 30 March-2 April 2015.

Room temperature ferromagnetism in films of LaMnO₃ deposited by a chemical method over large areas

José M. Vila Fungueiriño, B. Rivas-Murias, F. Rivadulla (Oral)

III Encontro Mocidade Investigadora, Santiago de Compostela, Spain, 25-26 March 2015.

Síntese mediante disolución química de películas finas de óxidos funcionais epitaxiais

José M. Vila Fungueiriño, B. Rivas-Murias, F. Rivadulla (Oral)

2014

16th International Conference on Thin Films, Oxide Thin Films, Dubrovnik, Croatia, 13-16 October 2014.

Polymer Assisted Deposition of Boron Oxide thin films on quartz and metallic surfaces.

A. R. Ananda Sagari, Goedele Sibbens, José M. Vila Fungueiriño, Thomas Prohaska, F. Rivadulla, Yetunde Aregbe (Oral)

NANOSELECT Annual Meeting: Advanced materials and Nanotechnologies for innovative electrical, electronic and magnetoelectronic devices. Sant Feliu de Guixols, Girona, Spain, 25-27 June 2014.

Polymer Assisted Deposition of epitaxial thin films and multilayers

José M. Vila Fungueiriño, B. Rivas-Murias, F. Rivadulla (Oral invited)

13th International Ceramics Congress, CIMTEC, Symposium CK: Functional Magnetic Oxides, Montecatini Terme, Italia, 8-13 June 2014.

Synthesis of epitaxial ultrathin films prepared by Polymer-Assisted Deposition

José M. Vila Fungueiriño, B. Rivas-Murias, F. Rivadulla (Oral invited)

E-MRS 2014 Spring Meeting, Symposium I: Solution processing and properties of functional oxide thin films and nanostructures, Lille, France, 26-30 May 2014.

Synthesis of ferromagnetic and ferroelectric thin films over large areas by Polymer Assisted Deposition

José M. Vila Fungueiriño, B. Rivas-Murias, F. Rivadulla (Oral)

MRS 2014 Spring Meeting, Symposium J: Physics of Oxide Thin Films and Heterostructures, San Francisco, United States, 21-25 April 2014.

Electrical and magnetic properties of ultrathin epitaxial films and multilayers prepared by Polymer-Assisted Deposition

José M. Vila Fungueiriño, B. Rivas-Murias, B. Rodríguez-González, F. Rivadulla (Oral invited)

II Encontro Mocidade Investigadora, Santiago de Compostela, Spain, 29-31 January 2014.

Síntese e caracterización de películas ultrafinas mediante deposición asistida por polímero

José M. Vila Fungueiriño, B. Rivas-Murias, F. Rivadulla (Poster)

2013

11th European Conference on Thermoelectrics, Noordwijk, The Netherlands, 18-20 November 2013.

Transport properties of misfit layered cobaltite thin films synthesized by Polymer Assisted Deposition

B. Rivas-Murias, José M. Vila Fungueiriño, F. Rivadulla (Oral)

E-MRS 2013 Spring Meeting, Symposium O: Synthesis, processing and characterization of nanoscale multi functional oxide films IV, Strasbourg, France, 27-31 May 2013.

Synthesis of high quality epitaxial thin films and bilayers by Polymer Assisted Deposition

José M. Vila Fungueiriño, B. Rivas-Murias, F. Rivadulla (Poster)

2012

Current Topics in Condensed Matter Physics and Chemistry, Santiago de Compostela, Spain, 9-12 July 2012.

Preparation of thin films by Polymer Assisted Deposition (PAD)

José M. Vila Fungueiriño, B. Rivas-Murias, F. Rivadulla (Oral)

MRS 2012 Spring Meeting, Symposium BB: Solution Synthesis of Inorganic Films and Nanostructured Materials, San Francisco, United States, 9-13 April 2012.

Magnetic and thermoelectric properties of manganites thin films deposited on Si by Polymer Assisted and Pulsed Laser Deposition

José M. Vila Fungueiriño, B. Rivas-Murias, F. Rivadulla (Oral)

2011

The New Generation in Strongly Correlated Electron Systems 2011, Santiago de Compostela, Spain, 4-8 July 2011.

Assistance

2010

IV Congreso Internacional Historia a Debate, Santiago de Compostela, Spain, 15-19 December 2010.

Assistance

O Século de Xelmírez, Santiago de Compostela, Spain, 18-20 November 2010.

Assistance

I Congreso Internacional sobre enseñanza de la Historia. Pensar históricamente en tiempos de globalización, Santiago de Compostela, Spain, 30 June – 2 July 2010.

Assistance