



Santiago Martin Fernandez

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General quality indicators of scientific research

This section describes briefly the main quality indicators of scientific production (periods of research activity, experience in supervising doctoral theses, total citations, articles in journals of the first quartile, H index...). It also includes other important aspects or peculiarities.

Santiago Martín Fernández, PhD in Physics (Cum Laude), Nov. 2012, Universidad Nacional de Educación a Distancia (UNED), Madrid. The thesis was recognized with the Extraordinary Ph.D. Award.

Positions Abroad: Postdoctoral Researcher (2 years, Sept. 1, 2013 – Aug. 31, 2015). Department of Conversion Energy and Storage, Technical University of Denmark (Lyngby, Denmark).

Research Lines: Fuel Cells: Low Temperature PEMFCs (during his PhD at UNED) and High Temperature PEMFCs (Postdoc at Technical University of Denmark).

Research Experience: Growth of nanostructured catalyst deposits by Electrohydrodynamic spraying (Electrospray) with important achievements in high-performance Fuel Cells electrodes with ultra-low catalyst content.

Teaching Experience: Teaching Assistant (Department of Física Matemática y de Fluidos, UNED. Associate Teacher (MSc in Renewable Energy, Hydrogen and Fuel Cells, Universidad Internacional Menéndez Pelayo).

Research Projects: Participant in 6 state-funded projects and in a European project within the Fuel Cells and Hydrogen Joint Undertaken (FCH JU) program.

Main Research Achievements:

- 1 patent with transfer of knowledge to the private sector
- 15 scientific papers in peer-reviewed journals indexed to Journal Citation Report (JCR).
First author in 7 of these papers
11 of the papers published in journals within the top 25% of Impact factor (Q1)
6 of the papers in journals with Impact Factor between 5.2 and 8.3 (according to WOS)
- 3 book chapters
- 38 contributions to international (31) and national (7) conferences
- h-index: 11

Reviewer of the peer-reviewed journals:

Electrochimica Acta
International Journal of Hydrogen Energy
Electrochemistry communications
Chemical Engineering Science

Accredited by ANECA for the positions of Profesor Ayudante Doctor and Profesor Contratado Doctor in Spain.



Santiago Martin Fernandez

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Current professional situation

Employing entity: Universidad Nacional de Educación a Distancia
Department: Facultad de Ciencias
Professional category: Técnico Especialista de Laboratorio
Start date: 01/09/2015
Type of contract: Permanent employment contract

Previous positions and activities

	Employing entity	Professional category	Start date
1	Universidad Técnica de Dinamarca	Investigador Postdoctoral	01/09/2013
2	Universidad Nacional de Educación a Distancia	Técnico Especialista de Laboratorio	02/02/2009
3	Universidad Nacional de Educación a Distancia	Profesor Tutor	01/01/2008
4	Universidad Nacional de Educación a Distancia	Investigador	20/01/2007
5	Universidad Nacional de Educación a Distancia	Investigador	01/02/2006
6	Universidad Nacional de Educación a Distancia	Profesor Ayudante	01/02/2005

- 1** **Employing entity:** Universidad Técnica de Dinamarca
Department: Conversión de Energía y Almacenamiento. Sección de conductores protónicos, Facultad de Química
Professional category: Investigador Postdoctoral
Start-End date: 01/09/2013 - 31/08/2015
- 2** **Employing entity:** Universidad Nacional de Educación a Distancia
Department: Departamento de Física Matemática y de Fluidos, Facultad de Ciencias
Professional category: Técnico Especialista de Laboratorio
Start-End date: 02/02/2009 - 31/08/2013
Type of contract: Permanent employment contract



- 3** **Employing entity:** Universidad Nacional de Educación a Distancia
Department: Departamento de Física Matemática y de Fluidos, Facultad de Ciencias
Professional category: Profesor Tutor
Start-End date: 01/01/2008 - 31/12/2012
- 4** **Employing entity:** Universidad Nacional de Educación a Distancia
Department: Departamento de Física Matemática y de Fluidos, Facultad de Ciencias
Professional category: Investigador
Start-End date: 20/01/2007 - 01/02/2009
- 5** **Employing entity:** Universidad Nacional de Educación a Distancia
Department: Departamento de Física Matemática y de Fluidos, Facultad de Ciencias
Professional category: Investigador
Start-End date: 01/02/2006 - 31/01/2007
- 6** **Employing entity:** Universidad Nacional de Educación a Distancia
Department: Departamento de Física Matemática y de Fluidos, Facultad de Ciencias
Professional category: Profesor Ayudante
Start-End date: 01/02/2005 - 31/01/2006



Education

University education

1st and 2nd cycle studies and pre-Bologna degrees

Name of qualification: Licenciado en Ciencias Físicas
Degree awarding entity: Universidad Nacional de Educacion a Distancia
Date of qualification: 01/10/2002

Doctorates

Doctorate programme: Fisica de Fluidos y Sistemas Dinamicos
Degree awarding entity: Universidad Nacional de Educacion a Distancia
Date of degree: 29/11/2012
Thesis title: Desarrollo de electrodos para pilas de combustible PEM con carga ultrabaja de platino depositada por electrospray
Obtained qualification: Apto Cum Laude
Special doctorate award: Yes **Date of award:** 20/03/2015

Language skills

Language	Listening skills	Reading skills	Spoken interaction	Speaking skills	Writing skills
English		C1	C1	C1	C1

Teaching experience

General teaching experience

- Name of the course:** Electroquímica
University degree: Master en energías renovables, hidrógeno y pilas de combustible
Start date: 04/10/2015 **End date:** 30/07/2016
Entity: Universidad Internacional Menendez Pelayo
- Name of the course:** Electroquímica
University degree: Master en energías renovables, hidrógeno y pilas de combustible
Start date: 04/10/2011 **End date:** 30/07/2012
Entity: Universidad Internacional Menendez Pelayo
- Name of the course:** Energía y Medioambiente/3º
University degree: Ciencias Ambientales
Start date: 04/10/2008 **End date:** 30/07/2012



Entity: Universidad Nacional de Educación a Distancia

4 Name of the course: Ampliación de Física/2º

University degree: Ciencias Ambientales

Start date: 04/10/2005

End date: 30/07/2007

Entity: Universidad Nacional de Educación a Distancia

5 Name of the course: Física de Fluidos/5º

University degree: Ciencias Físicas

Start date: 04/10/2005

End date: 30/07/2007

Entity: Universidad Nacional de Educación a Distancia

Scientific and technological experience

Scientific or technological activities

R&D projects funded through competitive calls of public or private entities

1 Name of the project: Diseño y desarrollo de una pila PEM de bajo coste (LOWCOSTFC)

Entity where project took place: Universidad Nacional de Educación a Distancia

Nº of researchers: 11

Funding entity or bodies:

Ministerio de Economía y Competitividad (MINECO) y el Fondo Europeo de Desarrollo Regional (FEDER)

Code according to the funding entity: ENE2015-67635-R (MINECO/FEDER)

Start-End date: 01/01/2016 - 31/12/2018

Total amount: 96.800 €

2 Name of the project: Development of Auxiliary Power Unit for Recreational Yachts (PURE)

Entity where project took place: Technical University of Denmark

Nº of researchers: 21

Funding entity or bodies:

European Union

Code according to the funding entity: FCH-JU 303457

Start-End date: 01/01/2013 - 30/06/2016

Total amount: 1.665.796 €

3 Name of the project: Fluidodinámica de los procesos básicos en pilas de combustible

Entity where project took place: Universidad Nacional de Educación a Distancia

Nº of researchers: 5

Funding entity or bodies:

Ministerio de Ciencia e Innovación (MICINN)

Code according to the funding entity: ENE2008-06683-C03-01

Start-End date: 01/01/2009 - 31/12/2011

Total amount: 131.043 €



- 4** **Name of the project:** Caracterización de electrodos para pilas de combustible
Entity where project took place: Universidad Nacional de Educación a Distancia
N° of researchers: 4
Funding entity or bodies:
Yflow S.L.
Start-End date: 01/01/2007 - 31/12/2010
- 5** **Name of the project:** Seguimiento del tejido cardíaco en imágenes de resonancia magnética
Entity where project took place: Universidad Nacional de Educación a Distancia
N° of researchers: 5
Funding entity or bodies:
Universidad Nacional de Educación a Distancia **Type of entity:** University
Code according to the funding entity: UNED programa propio, Registro 97
Start-End date: 01/01/2007 - 31/12/2009
Total amount: 4.000 €
- 6** **Name of the project:** Comportamiento dinámico de aerosoles y estructura morfológica de depósitos formados a partir de aerosoles
Entity where project took place: Universidad Nacional de Educación a Distancia
N° of researchers: 7
Funding entity or bodies:
Ministerio de Ciencia y Tecnología
Code according to the funding entity: DPI2005-04601
Start-End date: 01/01/2006 - 31/12/2008
Total amount: 98.294 €
- 7** **Name of the project:** Laboratorio de medida avanzada por imagen
Entity where project took place: Universidad Nacional de Educación a Distancia
N° of researchers: 8
Funding entity or bodies:
Comunidad de Madrid, parcialmente con fondos FEDER
Start-End date: 01/01/2000 - 31/12/2004
Total amount: 205.720 €

Results

Industrial and intellectual property

Title registered industrial property: Procedimiento de depósito nano-estructurado uniforme de partículas catalíticas por electrospray

Inventors/authors/obtainers: Pedro Luis García Ybarra; Jose Luis Castillo Gimeno; Santiago Martin Fernández

Entity holder of rights: Universidad Nacional de Educación a Distancia

N° of application: PCT/ES2013/000070

Country of inscription: Spain, Community of Madrid

Date of register: 30/03/2012

N° of patent: ES2427647



Scientific and technological activities

Scientific production

Publications, scientific and technical documents

- Mercedes Iriarte; Antonio Hernanz; Jose Maria Gavira-Vallejo; Andoni Saenz de Buruaga; Santiago Martin. Micro-Raman spectroscopy of rock paintings from the Galb Budarga and Tuama Budarga rock shelters, Western Sahara. *Microchemical Journal*. 137, pp. 250 - 257. 2018. ISSN 0026-265X

Type of production: Scientific paper
Impact source: ISI
Impact index in year of publication: 3.034
Position of publication: 19

Format: Journal
Category: Analytical Chemistry
Journal in the top 25%: Yes
No. of journals in the cat.: 76
- J.L. Castillo; S. Martin; D. Rodriguez-Perez; F.J. Higuera; P.L. Garcia-Ybarra. Nanostructured porous coatings via electrospray atomization and deposition of nanoparticle suspensions. *Journal of Aerosol Science*. Accepted, 2018. ISSN 0021-8502

Type of production: Scientific paper
Impact source: ISI
Impact index in year of publication: 2.042
Position of publication: 39

Format: Journal
Category: Science Edition - ENGINEERING, MECHANICAL
Journal in the top 25%: No
No. of journals in the cat.: 130
- S. Martin; P.L. García-Ybarra; J.L. Castillo. Long-term operation of a proton exchange membrane fuel cell without external humidification. *Applied Energy*. 205, pp. 1012 - 1020. 2017. ISSN 0306-2619

Type of production: Scientific paper
Impact source: ISI
Impact index in year of publication: 7.182
Position of publication: 4

Format: Journal
Category: Science Edition - ENGINEERING, CHEMICAL
Journal in the top 25%: Yes
No. of journals in the cat.: 135
- Yang Hu; Jens Oluf Jensen; Wei Zhang; Santiago Martin; Regis Chenitz; Chao Pan; Wei Xing; Niels J. Bjerrum; Qingfeng Li. Fe₃C-based oxygen reduction catalysts: synthesis, hollow spherical structures and applications in fuel cells. *Journal of Materials Chemistry A*. 3, pp. 1752 - 1760. 2015. ISSN 0378-7753

Type of production: Scientific paper
Impact source: ISI
Impact index in year of publication: 8.262
Position of publication: 4

Format: Journal
Category: Science Edition - ENERGY & FUELS
Journal in the top 25%: Yes
No. of journals in the cat.: 88

Source of citations: WOS
Citations: 43

Source of citations: SCOPUS
Citations: 40
- S. Martin; Q. Li; J.O. Jensen. Lowering the platinum loading of high temperature polymer electrolyte membrane fuel cells with acid doped polybenzimidazole membranes. *Journal of Power Sources*. 293, pp. 51 - 56. 2015. ISSN 0378-7753

Type of production: Scientific paper
Format: Journal



Impact source: ISI
Impact index in year of publication: 6.333
Position of publication: 2
Source of citations: WOS
Source of citations: SCOPUS

Category: Science Edition - ELECTROCHEMISTRY
Journal in the top 25%: Yes
No. of journals in the cat.: 27
Citations: 7
Citations: 9

- 6** Wei Li; XiaoXia Guo; David Aili; Santiago Martin; Qingfeng Li; Jianhua Fang. Sulfonated copolyimide membranes derived from a novel diamine monomer with pendant benzimidazole groups for fuel cells. *Journal of Membrane Science*. 481, pp. 44 - 53. 2015. ISSN 0376-7388

Type of production: Scientific paper
Impact source: ISI
Impact index in year of publication: 5.557
Position of publication: 7
Source of citations: WOS
Source of citations: SCOPUS

Format: Journal
Category: Science Edition - ENGINEERING, CHEMICAL
Journal in the top 25%: Yes
No. of journals in the cat.: 135
Citations: 11
Citations: 11

- 7** S. Martin; Q. Li; T. Steenberg; J.O. Jensen. Binderless electrodes for high-temperature polymer electrolyte membrane fuel cells. *Journal of Power Sources*. 272, pp. 559 - 566. 2014. ISSN 0378-7753

Type of production: Scientific paper
Impact source: ISI
Impact index in year of publication: 6.217
Position of publication: 2
Source of citations: WOS
Source of citations: SCOPUS

Format: Journal
Category: Science Edition - ELECTROCHEMISTRY
Journal in the top 25%: Yes
No. of journals in the cat.: 28
Citations: 13
Citations: 16

- 8** Jose L. Castillo; Santiago Martin; Daniel Rodriguez-Perez; Alvaro Perea; Pedro L. Garcia-Ybarra. Morphology and Nanostructure of Granular Materials Built from Nanoparticles. *KONA Powder and Particle Journal*. 31, pp. 214 - 233. 2014. ISSN 0288-4534

Type of production: Scientific paper
Impact source: ISI
Impact index in year of publication: 1.182
Position of publication: 74
Source of citations: WOS
Source of citations: SCOPUS

Format: Journal
Category: Science Edition - ENGINEERING, CHEMICAL
Journal in the top 25%: No
No. of journals in the cat.: 134
Citations: 8
Citations: 12

- 9** S. Martin; B. Martinez-Vazquez; P.L. Garcia-Ybarra; J.L. Castillo. Peak utilization of catalyst with ultra-low Pt loaded PEM fuel cell electrodes prepared by the electrospray method. *Journal of Power Sources*. 229, pp. 179 - 184. 2013. ISSN 0378-7753

Type of production: Scientific paper
Impact source: ISI
Impact index in year of publication: 5.211
Position of publication: 2
Source of citations: WOS

Format: Journal
Category: Science Edition - ELECTROCHEMISTRY
Journal in the top 25%: Yes
No. of journals in the cat.: 27
Citations: 24

**Source of citations:** SCOPUS**Citations:** 26

- 10** Mercedes Iriarte; Antonio Hernanz; Juan F. Ruiz-López; Santiago Martin. μ -Raman spectroscopy of prehistoric paintings from the Abrigo Remacha rock shelter (Villaseca, Segovia, Spain). *Journal of Raman Spectroscopy*. 44 - 11, pp. 1557 - 1562. 2013. ISSN 0377-0486
- Type of production:** Scientific paper
Impact source: ISI
Impact index in year of publication: 2.519
Position of publication: 14
- Source of citations:** WOS
Source of citations: SCOPUS
- Format:** Journal
Category: Science Edition - SPECTROSCOPY
Journal in the top 25%: No
No. of journals in the cat.: 44
- Citations:** 11
Citations: 12
- 11** Santiago Martin; Alvaro Perea; Pedro L. Garcia-Ybarra; Jose L. Castillo. Effect of the collector voltage on the stability of the cone-jet mode in electrohydrodynamic spraying. *Journal of Aerosol Science*. 46, pp. 53 - 63. 2012. ISSN 0021-8502
- Type of production:** Scientific paper
Impact source: ISI
- Impact index in year of publication:** 2.686
Position of publication: 20
- Source of citations:** WOS
Source of citations: SCOPUS
- Format:** Journal
Category: Science Edition - ENGINEERING, CHEMICAL
Journal in the top 25%: Yes
No. of journals in the cat.: 133
- Citations:** 15
Citations: 17
- 12** Antonio Hernanz; Jose M. Gavira-Vallejo; Juan F. Ruiz-López; Santiago Martin; Ángel Maroto-Valiente; Rodrigo de Balbín-Behrmann; Mario Menéndez; José J. Alcolea-González. Spectroscopy of Palaeolithic rock paintings from the Tito Bustillo and El Buxu Caves, Asturias, Spain. *Journal of Raman Spectroscopy*. 43, pp. 1644 - 1650. 2012. ISSN 0377-0486
- Type of production:** Scientific paper
Impact source: ISI
Impact index in year of publication: 2.679
Position of publication: 11
- Source of citations:** WOS
Source of citations: SCOPUS
- Format:** Journal
Category: Science Edition - SPECTROSCOPY
Journal in the top 25%: No
No. of journals in the cat.: 43
- Citations:** 30
Citations: 33
- 13** S. Martin; P.L. García-Ybarra; J.L. Castillo. Electro spray deposition of catalyst layers with ultra-low Pt loadings for PEM fuel cells cathodes. *Journal of Power Sources*. 195, pp. 2443 - 2449. 2010. ISSN 0378-7753
- Type of production:** Scientific paper
Impact source: ISI
Impact index in year of publication: 4.290
Position of publication: 2
- Source of citations:** WOS
Source of citations: SCOPUS
- Format:** Journal
Category: Science Edition - ELECTROCHEMISTRY
Journal in the top 25%: Yes
No. of journals in the cat.: 26
- Citations:** 47
Citations: 48



- 14** S. Martin; P.L. Garcia-Ybarra; J.L. Castillo. High platinum utilization in ultra-low Pt loaded PEM fuel cell cathodes prepared by electrospraying. International Journal of Hydrogen Energy. 35, pp. 10446 - 10451. 2010. ISSN 0360-3199
Type of production: Scientific paper **Format:** Journal
Impact source: ISI **Category:** Science Edition - ELECTROCHEMISTRY
Impact index in year of publication: 4.057 **Journal in the top 25%:** Yes
Position of publication: 4 **No. of journals in the cat.:** 26
Source of citations: WOS **Citations:** 49
Source of citations: SCOPUS **Citations:** 52
- 15** Antonio Hernanz; Juan F. Ruiz-López; José M. Gavira-Vallejo; Santiago Martin; Egor Gavrilenko. Raman microscopy of prehistoric rock paintings from the Hoz de Vicente, Minglanilla, Cuenca, Spain. Journal of Raman Spectroscopy. 41, pp. 1104 - 1109. 2010. ISSN 0377-0486
Type of production: Scientific paper **Format:** Journal
Impact source: ISI **Category:** Science Edition - SPECTROSCOPY
Impact index in year of publication: 3.137 **Journal in the top 25%:** Yes
Position of publication: 9 **No. of journals in the cat.:** 42
Source of citations: WOS **Citations:** 23
Source of citations: SCOPUS **Citations:** 21
- 16** A. Hernanz; J.M. Gavira-Vallejo; M.C. Álvarez; S. Martin; S. Montero; E.A. Carter; E. Gavrilenko; H.G.M. Edwards. Spectroscopy of Historic Textiles: a Unique 17th Century Bodice. Analytical Archaeometry. pp. 468 - 480. RSC Publishing, 2012. ISBN 978-1-84973-172-1
Type of production: Book chapter **Format:** Book
- 17** Antonio Hernanz; Juan F. Ruiz-López; Jose M. Gavira-Vallejo; Egor Gavrilenko; Santiago Martin Fernandez. Raman, Ir, Optical and SEM/EDX Microscopy of Prehistoric Rock Paintings. Rock Chemistry. pp. 81 - 102. Nova Science Publishers, inc, 2010. ISBN 978-1-60876-563-8
Type of production: Book chapter **Format:** Book
- 18** J.L. Castillo; D. Rodríguez-Pérez; S. Martin; A. Perea; P.L. García-Ybarra. Structure of Granular Deposits Formed by Aerosol Particles Conveyed by Fluid Streams. Mathematics in industry. Progress in industrial mathematics at ECMI2008. pp. 455 - 461. Springer-Verlag, 2010. ISBN 978-3-642-12109-8
Type of production: Book chapter **Format:** Book

Works submitted to national or international conferences

- 1** **Title of the work:** Ensayos de larga duración de una pila PEM de alta temperatura en régimen de auto-humidificación
Name of the conference: Congreso Iberoamericano de Hidrógeno y Pilas de Combustible (IBERCONAPPICE 2017)
Type of event: Conference **Geographical area:** European Union
Type of participation: Participatory - oral communication
City of event: Huesca, Spain
Date of event: 17/10/2017
End date: 20/10/2017
Organising entity: Asociación Española de Pilas de Combustible (APPICE)
Publication in conference proceedings: Yes



S. Martin; J.L. Castillo; P.L. Garcia-Ybarra. En: Libro de comunicaciones del Congreso Iberoamericano de Hidrógeno y Pilas de Combustible IBERCONAPPICE 2017. pp. 81 - 83. ISBN 978-84-697-6342-1

2 Title of the work: Operación de larga duración de una pila PEM en régimen de autohumidificación

Name of the conference: Congreso Iberoamericano de Hidrógeno y Pilas de Combustible (IBERCONAPPICE 2017)

Type of event: Conference

Geographical area: European Union

Type of participation: Participatory - oral communication

City of event: Huesca, Spain

Date of event: 17/10/2017

End date: 20/10/2017

Organising entity: Asociacion Española de Pilas de Combustible (APPICE)

Publication in conference proceedings: Yes

S. Martin; J.L. Castillo; P.L. Garcia-Ybarra. En: Libro de comunicaciones del Congreso Iberoamericano de Hidrógeno y Pilas de Combustible IBERCONAPPICE 2017. pp. 57 - 60. ISBN 978-84-697-6342-1

3 Title of the work: Optimización de la composición de Pt/C y de Nafion/C en electrodos PEMFCs con baja carga de platino

Name of the conference: Congreso Iberoamericano de Hidrógeno y Pilas de Combustible (IBERCONAPPICE 2017)

Type of event: Conference

Geographical area: European Union

Type of participation: Participatory - oral communication

City of event: Huesca, Spain

Date of event: 17/10/2017

End date: 20/10/2017

Organising entity: Asociacion Española de Pilas de Combustible (APPICE)

Publication in conference proceedings: Yes

L. Gonzalez; S. Martin; R. Campana; G. Sevilla; N. Rojas; M. Sanchez-Molina. En: Libro de comunicaciones del Congreso Iberoamericano de Hidrógeno y Pilas de Combustible IBERCONAPPICE 2017. pp. 35 - 40. ISBN 978-84-697-6342-1

4 Title of the work: Aerosol deposits from electrospraying liquid suspensions

Name of the conference: European Aerosol Conference (EAC 2017)

Type of event: Conference

Geographical area: European Union

Type of participation: Participatory - oral communication

City of event: Zurich, Switzerland

Date of event: 27/08/2017

End date: 01/09/2017

Organising entity: Association for Aerosol Research (GAEF)

Publication in conference proceedings: No

S. Martin; D. Rodriguez-Perez; P.L. Garcia-Ybarra; J.L. Castillo.

5 Title of the work: Morphology of deposits formed from electrospraying suspensions

Name of the conference: European Aerosol Conference (EAC 2016)

Type of event: Conference

Geographical area: European Union

Type of participation: Participatory - oral communication

City of event: Tours, France

Date of event: 04/09/2016

End date: 09/09/2016

Organising entity: French Society for Aerosol Research (ASFERA)

Publication in conference proceedings: No



S. Martin; P.L. Garcia-Ybarra; J.L. Castillo.

- 6** **Title of the work:** Structure of granular deposits from electrosprayed catalytic inks
Name of the conference: 5th Iberian Meeting on Aerosol Science and Technology (RICTA 2017)
Type of event: Conference **Geographical area:** European Union
Type of participation: Participatory - oral communication
City of event: Barcelona, Spain
Date of event: 03/07/2016
End date: 06/07/2017
Organising entity: Institute of Environmental Assessment and Water Research (IDAEA)/Spanish Research Council (CSIC)
Publication in conference proceedings: No
S. Martin; D. Rodriguez-Perez; P.L. Garcia-Ybarra; J.L. Castillo.
- 7** **Title of the work:** Aerosol route to prepare nanostructured materials
Name of the conference: 4th Iberian Meeting on Aerosol Science and Technology (RICTA 2016)
Type of event: Conference **Geographical area:** European Union
Type of participation: Participatory - oral communication
City of event: Aveiro, Portugal
Date of event: 29/06/2016
End date: 01/07/2016
Organising entity: University of Aveiro
Publication in conference proceedings: No
S. Martin; P.L. Garcia-Ybarra; J.L. Castillo.
- 8** **Title of the work:** Pt-loading optimization of a PEMFC catalytic layer prepared by electrospray: Reaction-diffusion model
Name of the conference: World Hydrogen Energy Conference (WHEC 2016)
Type of event: Conference **Geographical area:** Non EU International
Type of participation: Participatory - oral communication
City of event: Zaragoza, Spain
Date of event: 13/06/2016
End date: 16/06/2016
Organising entity: Asociación española del hidrógeno
Publication in conference proceedings: No
B. Martinez-Vazquez; S. Martin; J.L. Castillo; P.L. Garcia-Ybarra.
- 9** **Title of the work:** Characterization of Ultra-Low Pt Loading Meas Prepared By Electrospray
Name of the conference: 229th ECS Meeting
Type of event: Conference **Geographical area:** Non EU International
Type of participation: Participatory - oral communication
City of event: San Diego, United States of America
Date of event: 29/05/2016
End date: 02/06/2016
Publication in conference proceedings: Yes
B. Martinez-Vazquez; D.G. Sanchez; S. Martin; J.L. Castillo; P.L. Garcia-Ybarra; K.A. Friedrich.
- 10** **Title of the work:** Long-term self-humidifying operation of atmospheric H₂/air PEMFC with MEAs prepared by electrospray
Name of the conference: Congreso Iberoamericano de Hidrógeno y Pilas de Combustible (IBERCONAPPICE 2016)



Type of event: Conference

Geographical area: European Union

Type of participation: Participatory - oral communication

City of event: Torremolinos, Spain

Date of event: 20/04/2016

End date: 22/04/2016

Organising entity: Asociacion Española de Pilas de Combustible (APPICE)

Publication in conference proceedings: Yes

S. Martin; J.L. Castillo; P.L. Garcia-Ybarra. En: Libro de comunicaciones del Congreso Iberoamericano de Hidrógeno y Pilas de Combustible IBERCONAPPICE 2016. pp. 89 - 91. ISBN 978-84-608-6614-5

11 Title of the work: Iron carbide nanoparticles encapsulated by graphitic layers as ORR catalysts

Name of the conference: 2015 MRS Spring Meeting & Exhibit

Type of event: Conference

Geographical area: Non EU International

Type of participation: Participatory - oral communication

City of event: San Francisco, United States of America

Date of event: 06/04/2015

End date: 10/04/2015

Organising entity: Materials Research Society (MRS)

Publication in conference proceedings: Yes

Q. Li; Y. Hu; S. Martin; L.N. Cleemann; J.O. Jensen.

12 Title of the work: High temperature composite membranes for fuel cells

Name of the conference: Advances in Polymers for Fuel Cells and Energy Devices

Type of event: Conference

Geographical area: Non EU International

Type of participation: Participatory - oral communication

City of event: California, United States of America

Date of event: 08/02/2015

End date: 11/02/2015

Organising entity: Asilomar Conference Grounds

Publication in conference proceedings: Yes

Q. Li; J.O. Jensen; S. Martin; D. Aili; L.N. Cleemann.

13 Title of the work: What is the ideal working temperature for proton conductors?

Name of the conference: Solid state protonic conductors-17 (SSPC-17)

Type of event: Conference

Geographical area: Non EU International

Type of participation: Participatory - oral communication

City of event: Seoul, Democratic People's Republic of Korea

Date of event: 14/09/2014

End date: 19/09/2014

Organising entity: Korea Institute of Science and Technology (KIST)

Publication in conference proceedings: Yes

J.O. Jensen; S. Martin; Q. Li.

14 Title of the work: Electrospayed Aerosols Forming Granular Materials from Nanoparticles

Name of the conference: International Aerosol Conference (IAC 2014)

Type of event: Conference

Geographical area: Non EU International

Type of participation: Participatory - oral communication

City of event: Busan, Republic of Korea

Date of event: 28/08/2014

End date: 02/09/2014

Organising entity: Korean association for particle and aerosol research



Publication in conference proceedings: Yes

J.L. Castillo; S. Martin; B. Martinez-Vazquez; P.L. Garcia-Ybarra.

- 15** **Title of the work:** Capture of charged aerosols by a repelling plate in a bipolar electrospray configuration
Name of the conference: 2nd Iberian Meeting on Aerosol Science and Technology (RICTA 2014)
Type of event: Conference **Geographical area:** European Union
Type of participation: 'Participatory - poster
City of event: Tarragona, Spain
Date of event: 07/07/2014
End date: 09/07/2014
Organising entity: Universitat Rovira i Virgili **Type of entity:** University
Publication in conference proceedings: Yes
P.L. Garcia-Ybarra; S. Martin; B. Martinez-Vazquez; J.L. Castillo. En: 2nd Iberian Meeting on Aerosol Science and Technology - Proceedings Book. pp. 171. ISBN 978-84-695-9978-5
- 16** **Title of the work:** Electrohydrodynamic atomization of liquid suspensions for preparation of catalytic materials
Name of the conference: 2nd Iberian Meeting on Aerosol Science and Technology (RICTA 2014)
Type of event: Conference **Geographical area:** European Union
Type of participation: Participatory - oral communication
City of event: Tarragona, Spain
Date of event: 07/07/2014
End date: 09/07/2014
Organising entity: Universitat Rovira i Virgili **Type of entity:** University
Publication in conference proceedings: Yes
P.L. Garcia-Ybarra; S. Martin; B. Martinez-Vazquez; J.L. Castillo. En: 2nd Iberian Meeting on Aerosol Science and Technology - Proceedings Book. pp. 150. ISBN 978-84-695-9978-5
- 17** **Title of the work:** Dry deposition of electrosprayed liquid suspensions
Name of the conference: European Aerosol Conference (EAC 2013)
Type of event: Conference **Geographical area:** European Union
Type of participation: Participatory - oral communication
City of event: Praga, Czech Republic
Date of event: 01/09/2013
End date: 06/09/2013
Organising entity: Czech aerosol society
Publication in conference proceedings: Yes
S. Martin; B. Martinez-Vazquez; P.L. Garcia-Ybarra; J.L. Castillo.
- 18** **Title of the work:** Nanostructured deposits formed by electrospray deposition of liquid suspensions
Name of the conference: 1st Iberian Meeting on Aerosol Science and Technology (RICTA 2013)
Type of event: Conference **Geographical area:** European Union
Type of participation: Participatory - oral communication
City of event: Evora, Portugal
Date of event: 01/07/2013
End date: 03/07/2013
Organising entity: Universidad de Evora
Publication in conference proceedings: Yes
S. Martin; B. Martinez-Vazquez; P.L. Garcia-Ybarra; J.L. Castillo.



- 19** **Title of the work:** Metodo de deposicion de cargas ultrabajas de platino mediante electrospray para electrodos PEMFC
Name of the conference: Congreso Nacional de Pilas de Combustible (CONAPPICE2012)
Type of event: Conference **Geographical area:** National
Type of participation: Participatory - oral communication
City of event: Madrid, Spain
Date of event: 21/11/2012
End date: 23/11/2012
Organising entity: Asociacion Española de Pilas de Combustible (APPICE)
Publication in conference proceedings: Yes
S. Martin; B. Martinez-Vazquez; P.L. Garcia-Ybarra; J.L. Castillo.
- 20** **Title of the work:** Nanostructured catalytic layers for fuel cell electrodes prepared by electrospray
Name of the conference: European Aerosol Conference (EAC 2012)
Type of event: Conference **Geographical area:** European Union
Type of participation: Participatory - oral communication
City of event: Granada, Spain
Date of event: 02/09/2012
End date: 07/09/2012
Organising entity: Asociacion Española de Ciencia y Tecnologia de Aerosoles (AECTA)
Publication in conference proceedings: Yes
S. Martin; B. Martinez-Vazquez; P.L. Garcia-Ybarra; J.L. Castillo.
- 21** **Title of the work:** Stability of the cone-jet mode in electrohydrodynamic spraying
Name of the conference: European Aerosol Conference (EAC 2012)
Type of event: Conference **Geographical area:** European Union
Type of participation: Participatory - oral communication
City of event: Granada, Spain
Date of event: 02/09/2012
End date: 07/09/2012
Organising entity: Asociacion Española de Ciencia y Tecnologia de Aerosoles (AECTA)
Publication in conference proceedings: Yes
J.L. Castillo; S. Martin; A. Perea; P.L. Garcia-Ybarra.
- 22** **Title of the work:** Substantial enhancement of Pt-utilization by electrospraying ultra-low catalyst loads on PEMFC coated with a carbon micro-porous layer
Name of the conference: Fuel Cells Science & Technology 2012
Type of event: Conference **Geographical area:** European Union
Type of participation: Participatory - poster
City of event: Berlin, Germany
Date of event: 11/04/2012
End date: 12/04/2012
Organising entity: Elsevier and Grove fuel cell events
Publication in conference proceedings: Yes
S. Martin; B. Martinez-Vazquez; P.L. Garcia-Ybarra; J.L. Castillo.
- 23** **Title of the work:** Micro-Raman spectroscopy of prehistoric paintings from Remacha rock shelter (Sepulveda, Segovia, Spain)
Name of the conference: International Congress on the Application of Raman Spectroscopy in Art and Archaeology (RAA2011)
Type of event: Conference **Geographical area:** Non EU International



Type of participation: 'Participatory - poster

City of event: Parma, Italy

Date of event: 05/09/2011

End date: 08/09/2011

Organising entity: Universidad de Parma

Publication in conference proceedings: Yes

M. Iriarte; A. Hernanz; J.M. Gavira-Vallejo; J.F. Ruiz-Lopez; S. Martin. En: 6th International Congress on the Application of Raman Spectroscopy in Art and Archaeology-Book of abstracts. pp. 163 - 164. ISBN 978-88-97162-20-9

24 Title of the work: Spectroscopy of palaeolithic rock paintings from Tito Bustillo and El Buxu caves, Asturias, Spain

Name of the conference: International Congress on the Application of Raman Spectroscopy in Art and Archaeology (RAA2011)

Type of event: Conference

Geographical area: Non EU International

Type of participation: Participatory - oral communication

City of event: Parma, Italy

Date of event: 05/09/2011

End date: 08/09/2011

Organising entity: Universidad de Parma

Publication in conference proceedings: Yes

A. Hernanz; J.M. Gavira-Vallejo; J.F. Ruiz-Lopez; S. Martin; A. Maroto-Valiente; R. Balbin-Behrmann; M. Menendez-Fernandez. En: 6th International Congress on the Application of Raman Spectroscopy in Art and Archaeology-Book of abstracts. pp. 157 - 158. ISBN 978-88-97162-20-9

25 Title of the work: Morphology of catalyst layers deposited by electrospray

Name of the conference: European Aerosol Conference (EAC 2011)

Type of event: Conference

Geographical area: European Union

Type of participation: 'Participatory - poster

City of event: Manchester, United Kingdom

Date of event: 04/09/2011

End date: 09/09/2011

Organising entity: Aerosol Society of the United Kingdom and Ireland

Publication in conference proceedings: Yes

S. Martin; P.L. Garcia-Ybarra; J.L. Castillo.

26 Title of the work: Electro sprayed catalytic layers for PEMFC with ultra-low Pt loadings and high Pt utilization

Name of the conference: Iberian Symposium on Hydrogen, Fuel Cells and Advances Batteries (HYCELTEC 2011)

Type of event: Conference

Geographical area: European Union

Type of participation: 'Participatory - poster

City of event: Zaragoza, Spain

Date of event: 27/06/2011

End date: 30/06/2011

Organising entity: Laboratorio de Investigación en Tecnología de la Combustión (LITEC)

Publication in conference proceedings: Yes

S. Martin; P.L. Garcia-Ybarra; J.L. Castillo. En: Proceedings book of the III Iberian Symposium on Hydrogen, Fuel Cells and Advanced Batteries. pp. 474. ISBN 978-84-938668-8-4



- 27** **Title of the work:** Experimental study on the structure of granular deposits growing from aerosols
Name of the conference: Reunion Española de Ciencia y Tecnología de Aerosoles (RECTA 2011)
Type of event: Conference **Geographical area:** National
Type of participation: 'Participatory - poster
City of event: Madrid, Spain
Date of event: 27/06/2011
End date: 29/06/2011
Organising entity: Asociación española de ciencia y tecnología de aerosoles (AECTA)
Publication in conference proceedings: Yes
S. Martín; P.L. García-Ybarra; J.L. Castillo.
- 28** **Title of the work:** Surface morphology of materials growth from an electrosprayed liquid suspension
Name of the conference: International Aerosol Conference (IAC 2010)
Type of event: Conference **Geographical area:** European Union
Type of participation: Participatory - oral communication
City of event: Helsinki, Finland
Date of event: 29/08/2010
End date: 03/09/2010
Organising entity: Finnish Association for Aerosol Research (FAAR)
Publication in conference proceedings: Yes
A. Perea; S. Martín; P.L. García-Ybarra; J.L. Castillo.
- 29** **Title of the work:** Characterization of materials growth from an electrosprayed liquid suspension
Name of the conference: Reunion Española de Ciencia y Tecnología de Aerosoles (RECTA 2010)
Type of event: Conference **Geographical area:** National
Type of participation: 'Participatory - poster
City of event: Granada, Spain
Date of event: 28/06/2010
End date: 30/06/2010
Organising entity: Asociación española de ciencia y tecnología de aerosoles (AECTA)
Publication in conference proceedings: Yes
A. Perea; S. Martín; P.L. García-Ybarra; J.L. Castillo.
- 30** **Title of the work:** Funcionamiento de una pila de combustible PEM en régimen de auto-humidificación
Name of the conference: Congreso Nacional de Pilas de Combustible (CONAPPICE2010)
Type of event: Conference **Geographical area:** National
Type of participation: 'Participatory - poster
City of event: Sevilla, Spain
Date of event: 16/06/2010
End date: 18/06/2010
Organising entity: Asociación Española de Pilas de Combustible
Publication in conference proceedings: Yes
S. Martín; A. Perea; J.L. Castillo; P.L. García-Ybarra. En: Libro de comunicaciones del IV congreso nacional de pilas de combustible CONAPPICE 2010. pp. 201 - 204. ISBN 978-84-693-2330-4
- 31** **Title of the work:** Introduction to Raman Microscopy of Prehistoric Rock Paintings from the Hoz de Vicente, Minglanilla, Cuenca, Spain
Name of the conference: International Congress on the Application of Raman Spectroscopy in Art and Archaeology (RAA2009)
Type of event: Conference **Geographical area:** Non EU International
Type of participation: Participatory - oral communication



City of event: Bilbao, Spain

Date of event: 14/09/2009

End date: 18/09/2009

Organising entity: Universidad del País Vasco

Type of entity: University

Publication in conference proceedings: Yes

A. Hernanz; J.F. Ruiz-Lopez; J.M. Gavira-Vallejo; S. Martin. En: 5º International Congress on the Application of Raman Spectroscopy in Art and Archaeology. pp. 196 - 197. ISBN 978-84-9860-273-9

32 Title of the work: Electro spraying method to prepare ultra-low Pt loading cathodes for PEM fuel cells

Name of the conference: European Aerosol Conference (EAC 2009)

Type of event: Conference

Geographical area: European Union

Type of participation: 'Participatory - poster

City of event: Karlsruhe, Germany

Date of event: 06/09/2009

End date: 11/09/2009

Organising entity: Association for Aerosol Research (GAEF)

Publication in conference proceedings: Yes

S. Martin; P.L. Garcia-Ybarra; J.L. Castillo.

33 Title of the work: Ultra-low platinum loading of PEM fuel cell cathodes prepared by the electro spray method

Name of the conference: Reunion Española de Ciencia y Tecnología de Aerosoles (RECTA 2009)

Type of event: Conference

Geographical area: National

Type of participation: 'Participatory - poster

City of event: Bilbao, Spain

Date of event: 24/06/2009

End date: 26/06/2009

Organising entity: Asociación española de ciencia y tecnología de aerosoles (AECTA)

Publication in conference proceedings: Yes

S. Martin; P.L. Garcia-Ybarra; J.L. Castillo.

34 Title of the work: Experimental determination of aerosol dynamics effects in EHDA deposition

Name of the conference: European Aerosol Conference (EAC 2008)

Type of event: Conference

Geographical area: European Union

Type of participation: Participatory - oral communication

City of event: Salonica, Greece

Date of event: 24/08/2008

End date: 29/08/2008

Organising entity: Hellenic association for aerosol research (HAAR)

Publication in conference proceedings: Yes

A. Perea; S. Martin; D. Rodriguez-Perez; D. Galan.

35 Title of the work: Factors influencing surface morphology of EHDA generated deposits

Name of the conference: Reunion Española de Ciencia y Tecnología de Aerosoles (RECTA 2008)

Type of event: Conference

Geographical area: National

Type of participation: Participatory - oral communication

City of event: Torremolinos, Spain

Date of event: 30/06/2008

End date: 01/07/2008

Organising entity: Asociación española de ciencia y tecnología de aerosoles (AECTA)

Publication in conference proceedings: Yes

A. Perea; S. Martin; D. Rodriguez-Perez; D. Galan.



- 36** **Title of the work:** Ignition-Extinction events in fuel cells
Name of the conference: European Combustion Meeting (ECM2007)
Type of event: Conference **Geographical area:** European Union
Type of participation: Participatory - oral communication
City of event: Creta, Greece
Date of event: 11/04/2007
End date: 13/04/2007
Organising entity: Seccion griega del instituto de combustion
Publication in conference proceedings: Yes
S. Martin; F.J. Higuera; J.C. Antoranz; J.L. Castillo; P.L. Garcia-Ybarra.
- 37** **Title of the work:** Biestabilidad térmica de una pila de combustible PEM en condiciones cuasi-adiabaticas
Name of the conference: Congreso Nacional de Pilas de Combustible (CONAPPICE2006)
Type of event: Conference **Geographical area:** National
Type of participation: Participatory - oral communication
City of event: Madrid, Spain
Date of event: 18/10/2006
End date: 20/10/2006
Organising entity: Asociacion Española de Pilas de Combustible (APPICE)
Publication in conference proceedings: Yes
S. Martin; P.L. Garcia-Ybarra; J.L. Castillo. En: Libro de comunicaciones del II congreso nacional de pilas de combustible CONAPPICE 2006. pp. 215 - 218. ISBN 84-690-1309-2
- 38** **Title of the work:** Characterization of nanostructured electrosprayed deposits
Name of the conference: European Aerosol Conference (EAC2005)
Type of event: Conference **Geographical area:** European Union
Type of participation: Participatory - poster
City of event: Gante, Belgium
Date of event: 28/08/2005
End date: 02/09/2005
Organising entity: Universidad de Gante **Type of entity:** University
Publication in conference proceedings: Yes
S. Martin; D. Galan; D. Rodriguez-Perez; I.G. Loscertales. En: European Aerosol Conference EAC 2005-Proceedings book. pp. 637. ISBN 9-08091-593-9

Other achievements

Stays in public or private R&D centres

Entity: Technical University of Denmark
City of entity: Kongens Lyngby, Denmark
Start-End date: 01/09/2013 - 31/08/2015 **Duration:** 2 years
Goals of the stay: Post-doctoral
Provable tasks: Investigación en pilas de combustible de alta temperatura (HT-PEMFC)