



Part A. PERSONAL INFORMATION		CV date		10/10/2019	
First and Family name	Enrique Herrero Rodríguez				
Social Security, Passport, ID number		Age	52		
Researcher numbers	Researcher ID	B-1788-2010			
	Author ID	7102811611			
	ORCID code	0000-0002-4509-9716			

A.1. Current position

Name of University/Institution	Universidad de Alicante				
Department	Dpto. Química Física/ Instituto de Electroquímica				
Address and Country	Apdo. 99, E-03080, Alicante, Spain				
Phone number	965909814	E-mail	herrero@ua.es		
Current position	Full Professor		From	13/11/2009	
UNESCO code	2210.05				
Key words	Electrochemistry, electrocatalysis, fuel cell				

A.2. Education

Degree/PhD	University	Year
Bachelor degree in Chemistry	Alicante	1990
PhD in Chemistry	Alicante	1995

A.3. JCR articles, h Index, thesis supervised...

4 accredited six-year periods of research positively evaluated (1991-1996; 1997-2002; 2003-2008 y 2009-2014)

5 PhD thesis completed defended after 2019, and 3 under supervision.

205 research articles in the Web of Science, with 140 in publication in the first quartile. H index: 54. Sum of Times Cited 8970; Average citations/year in the period 2014/2018/: 668. Average citation per article: 44.00

Part B. CV SUMMARY (max. 3500 characters, including spaces)

Research interests:

- Electrochemistry on well-defined surfaces: relationship between surface structure/composition and reactivity
- Electrocatalysis on nanoparticles: understanding the behavior of electrochemical nanoparticles.

My work has focus mainly in untangle the reaction mechanism of reactions associated to fuel cell technology. For that purpose, several studies have been devoted to study the behavior of these reactions (CO, formic acid, methanol and ethanol oxidation and oxygen reduction reaction) on single crystal electrodes, since the use of well-defined surfaces helps to comprehend the basic processes taking place in the electrode surface. Recent works have been also extended to nanoparticles to understand how the surface structure of these electrodes affect their reactivity.

Part C. RELEVANT MERITS

C.1. Publications (including books)

1. : Buso-Rogero, C.; Ferre-Vilaplana, A.; Herrero, E., Feliu, J.M., The role of formic acid/formate equilibria in the oxidation of formic acid on Pt (111), *Electrochem. Commun.*, **2019**, 98, 10-14
2. Briega-Martos, V.; Ferre-Vilaplana, A.; de la Peña, A.; Segura, J. L.; Zamora, F.; Feliu, J. M.; Herrero, E., An Aza-Fused II-Conjugated Microporous Framework Catalyzes the Production of Hydrogen Peroxide. *ACS Catal.* **2017**, 7, 1015-1024.



3. Perales-Rondón, J. V.; Solla-Gullón, J.; Herrero, E.; Sánchez-Sánchez, C. M., Enhanced Catalytic Activity and Stability for the Electrooxidation of Formic Acid on Lead Modified Shape Controlled Platinum Nanoparticles. *Appl Catal B-Environ* **2017**, *201*, 48-57.
4. Ferre-Vilaplana, A.; Perales-Rondon, J. V.; Feliu, J. M.; Herrero, E., Understanding the Effect of the Adatoms in the Formic Acid Oxidation Mechanism on Pt(111) Electrodes. *ACS Catal.* **2015**, *5*, 645-654.
5. Arán-Ais, R. M.; Yu, Y.; Hovden, R.; Solla-Gullón, J.; Herrero, E.; Feliu, J. M.; Abruña, H. D., Identical Location Transmission Electron Microscopy Imaging of Site-Selective Pt Nanocatalysts: Electrochemical Activation and Surface Disorder. *J. Am. Chem. Soc.* **2015**, *137*, 14992-14998.
6. Arán-Ais, R. M.; Dionigi, F.; Merzdorf, T.; Gocyla, M.; Heggen, M.; Dunin-Borkowski, R. E.; Gliuch, M.; Solla-Gullón, J.; Herrero, E.; Feliu, J. M.; Strasser, P., Elemental Anisotropic Growth and Atomic-Scale Structure of Shape-Controlled Octahedral Pt–Ni–Co Alloy Nanocatalysts. *Nano Lett.* **2015**, *15*, 7473-7480.
7. Perales-Rondon, J. V.; Ferre-Vilaplana, A.; Feliu, J. M.; Herrero, E., Oxidation Mechanism of Formic Acid on the Bismuth Adatom-Modified Pt(111) Surface. *J. Am. Chem. Soc.* **2014**, *136*, 13110-13113.
8. Hanc-Scherer, F. A.; Sánchez-Sánchez, C. M.; Ilea, P.; Herrero, E., Surface-Sensitive Electrooxidation of Carbon Monoxide in Room Temperature Ionic Liquids. *ACS Catal.* **2013**, *3*, 2935-2938.
9. Vidal-Iglesias, F. J.; Arán-Ais, R. M.; Solla-Gullon, J.; Herrero, E.; Feliu, J. M., Electrochemical Characterization of Shape-Controlled Pt Nanoparticles in Different Supporting Electrolytes. *ACS Catal.* **2012**, *2*, 901-910.
10. Vidal-Iglesias, F. J.; Solla-Gullon, J.; Herrero, E.; Aldaz, A.; Feliu, J. M., Pd Adatom Decorated (100) Preferentially Oriented Pt Nanoparticles for Formic Acid Electrooxidation. *Angew. Chem. Int. Ed.* **2010**, *49*, 6998-7001.

C.2. Research projects and grants

Title of the project: Estructura interfacial y reactividad electroquímica (CTQ2016-76221-P)

Funding body: Ministerio de Economía y Competitividad

Participants: Universidad de Alicante

From:30/12/2016 until: 29/06/2020

Leading researcher: FELIU MARTINEZ, JUAN MIGUEL, HERRERO RODRÍGUEZ, ENRIQUE

Total number of researchers involved:5 Total amount:246.840,00 €

Title of the project: Estudios avanzados sobre la reacción de reducción de oxígeno (CTQ2013-44083-P)

Funding body: Ministerio de Economía y Competitividad

Participants: Universidad de Alicante

From:01/01/2014 until: 31/12/2016

Leading researcher: FELIU MARTINEZ, JUAN MIGUEL

Total number of researchers involved:7 Total amount:223.850,00 €

Title of the project: Reactividad superficial en la electrooxidación del etanol: buscando condiciones operativas. (PROMETEOII/2014/013)

Funding body: Conselleria de Educación, Cultura y Deporte

Participants: Universidad de Alicante

From:01/01/2014 until: 31/12/2017

Leading researcher: FELIU MARTINEZ, JUAN MIGUEL

Total number of researchers involved:5 Total amount:201.680,00 €

Title of the project: Conversión electrocatalítica de CO₂ en electrodos monocristalinos y nanopartículas mono- y bi-metálicos (PCIN-2013-046)

Funding body: Ministerio de Economía y Competitividad



Participants: Universidad de Alicante
From: 01/02/2013 until: 01/02/2015
Leading researcher: FELIU MARTINEZ, JUAN MIGUEL
Total number of researchers involved: 3 Total amount: 45.000,00 €

Title of the project: Surface electrochemical reactivity in electrocatalysis: a combined theoretical and experimental approach (ELCAT)
Funding body: EUROPEAN COMMISSION
Participants: Universidad de Alicante
From: 01/09/2008 until: 31/08/2012
Leading researcher: FELIU MARTINEZ, JUAN MIGUEL
Total number of researchers involved: 2 Total amount: 436.622,20 €

Title of the project: Electroquímica de superficies y combustibles sostenibles. (CTQ2010-16271)
Funding body: Ministerio de Ciencia e Innovación
Participants: Universidad de Alicante
From: 01/01/2011 until: 30/06/2014
Leading researcher: FELIU MARTINEZ, JUAN MIGUEL
Total number of researchers involved: 7 Total amount: 261.360,00 €

Title of the project: Electroquímica de superficies (PROMETEO/2009/045)
Funding body: Consellería de Educación
Participants: Universidad de Alicante
From: 01/01/2009 until: 31/12/2013
Leading researcher: FELIU MARTINEZ, JUAN MIGUEL
Total number of researchers involved: 5 Total amount: 320.350,00 €

Title of the project: Novel nanostructured catalysts for the high-temperature electro-oxidation of small organic molecules (EUI2009-04176)
Funding body: Ministerio de Ciencia e Innovación
Participants: Universidad de Alicante
From: 01/04/2010 until: 31/03/2013
Leading researcher: FELIU MARTINEZ, JUAN MIGUEL
Total number of researchers involved: 2 Total amount: 108.000,00 €

C.3. Contracts

Title of the project: THE ELECTROCATALYTIC REDUCTION OF CO₂
Participants: Universidad de Alicante
Leading researcher: ENRIQUE HERRERO RODRIGUEZ
Total number of researchers involved: 3
Funding body: TOYOTA MOTOR EUROPE
From: 01/07/2010 until 31/10/2010
Total amount: 20.750 €

Title of the project: THE ELECTRONIC CATALYTIC REDUCTION OF CO₂
Participants: Universidad de Alicante
Leading researcher: ENRIQUE HERRERO RODRIGUEZ
Total number of researchers involved: 3
Funding body: TOYOTA MOTOR EUROPE
From: 01/07/2009 until 01/07/2010 año
Total amount: 99.600 €



C.4. Patents

C.5. Others

Postdoctoral education:

Cornell University under the supervision of Prof. Abruña, 1996-1997.

Editorial boards of journals.

J. Electroanalysis: 2013-2018

Electrochimica Acta: 2014-2016

ChemPhysChem: 2015-

Administrative experience

- Vice-chair of the division 7 of ISE (International Society of Electrochemistry) 2007-2008.
- Regional representative of Spain of the ISE: 2014-2019
- Director of the Research Office of the Universidad de Alicante from June 2013 to December 2014
- Dean of the Doctoral School of the Universidad de Alicante from December 2014 to May 2016.
- Vice-President for Studies Planning and Training Actions of the Universidad de Alicante from May 2016

Organization of conferences:

- Member of 5 Organizing Committees, among them "1st spring meeting of the ISE" (2003) and "15th Topical Meeting of the ISE" (2014).
- Member of 2 Scientific Committees: symposium 2 of "59th Meeting of the ISE" (2008) and Symposium 13 of "62nd Meeting of the ISE" (2011).
- Co-Chair of the "23th Topical Meeting of the ISE" (2019).

Prizes.

- Prize CIDETEC 2010 in Research to the best published article in Electrochemistry.