

Part A. PERSONAL INFORMATION
CV date

26/02/2020

First and Family name	IGNACIO SIRÉS SADORNIL		
Social Security, Passport, ID number	-	Age	39
Researcher codes	WoS Researcher ID (*)	C-7054-2013	
	SCOPUS Author ID(*)	6508022819	
	Open Researcher and Contributor ID (ORCID) **	0000-0001-5508-1774	

A.1. Current position

Name of University/Institution	UNIVERSIDAD DE BARCELONA		
Department	DEPARTAMENTO DE CIENCIA DE MATERIALES Y QUÍMICA FÍSICA – FACULTAD DE QUÍMICA		
Address and Country	C/ Martí i Franquès 1-11, 08028 BARCELONA (SPAIN)		
Phone number	+34934039240	E-mail	i.sires@ub.edu
Current position	PROFESOR AGREGADO (i.e., PROFESOR CONTRATADO DOCTOR)	From	15/09/2014
Key words	ELECTROCHEMISTRY, ELECTROCATALYSIS, ELECTROCHEMICAL ADVANCED OXIDATION PROCESSES, ENVIRONMENTAL TECHNOLOGY		

A.2. Education

PhD	University	Year
Materials Engineering Degree	UNIVERSIDAD POLITÉCNICA DE CATALUÑA / UNIVERSIDAD DE BARCELONA	2011
PhD in Chemistry	UNIVERSIDAD DE BARCELONA	2007
Bachelor in Chemistry	UNIVERSIDAD DE BARCELONA	2002

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

- 2 Six-year research (2003-2008, 2009-2014).
- 4 Doctoral thesis supervised in the last 10 years, and other 3 in progress.
- 133 publications indexed (WoS) and 143 in Scopus; 120 publications in the first quartile (Q1).
- 1 Books and 8 book chapters; 3 special issues as Guest Editor.
- 8081 Citations in total (WoS, 10/10/2019) and 9059 in Scopus. 5548 citations in 2015-2019 (1120 citations/year).
- *h*-Index: 40 (Web of Science) and 43 in Scopus.
- 148 Communications in congresses, and 29 invited conferences or plenary lectures.
- 2 National research projects and 2 international research projects as PI.
- Participation in other 14 national and 13 international research projects.
- 9 R+D+i contracts with companies as PI.
- 2 Patents

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

Ignacio Sirés has a high and continuous scientific production. According to Scopus, he already has more than 140 indexed publications. At present, he has got more than 9000 citations, yielding an *h*-index of 43 (Scopus), a value that clearly demonstrates the high world impact of his research. His yearly citation number within the last 5 years is higher than 1000, already up to 1500 in 2018 and 2019. In addition, 80% of the publications belong to 1st-rank journals, more than 50% of his production shows him as the corresponding author, and he has got 20 top-cited articles (> 100 citations each). Dr. Sirés joined the LEMMA group (Faculty of Chemistry, UB) in 2002, when he began to work on the treatment of organic pollutants in water by means



of electrochemical advanced oxidation processes. During his PhD, initiated in 2003, he pursued a very intense career at the LEMMA, also doing short stays at the École d'Ingénieurs de Sfax (Tunisia) and the Université Paris-Est Marne-la-Vallée (UPEMLV, France). In January 2007, he obtained his PhD Diploma with European's Mention. Thereafter, Dr. Sirés did several post-doctoral stays to focus on electrochemical engineering, at the Università degli Studi di Genova, the University of Southampton, and the Universidad de Guanajuato. He was also contracted by the UPEMLV as professor-researcher. Then, he joined the UB in September 2009 as a Lecturer, widening his network of collaborators through stays at the Plataforma Solar de Almería, Università di Palermo (PI of an international project), Nankai University in Tianjin (National Natural Science Foundation of China (NSFC)) and the Universidad Nacional de Ingeniería (Peru). He has been an Invited Professor in several universities in Chile, France and China. He has given 29 invited talks, lectures and conferences, as well as courses and workshops in Peru, Mexico and China. He has organized various international events, like the 'Emerging Electrochemical Water Remediation Technologies Symposium' within the 250th ACS National Meeting & Exposition (Boston, 2015) and has been Guest Editor of 4 Special Issues derived from international meetings. Regarding the transfer of technology, he is Scientific-Technical Advisor at CETaqua (Water Technological Center, Suez Group, Barcelona) in charge of the industrial development of electrochemical methodologies within the integral water cycle since 2014. He is co-author of 2 patents. As a result of his work, he has obtained 6 national and international awards, being the most relevant the 'Carl Wagner Medal of Excellence in Electrochemical Engineering 2014' (WPEE, European Federation of Chemical Engineering). Dr. Sirés is member and the secretary of the E3TECH Excellence Network on 'Environmental and energy applications of electrochemical technology' since 2016, and he currently is the Spanish representative at the Iberoamerican Society of Electrochemistry (SIBAE) and the Treasurer of the Electrochemistry Group of the RSEQ. He participates as an expert in the International Energy Agency.

Part C. RELEVANT MERITS

C.1. Publications (10 relevant in the last 10 years)

1. Ye, Z.; Padilla, J.A.; Xuriguera, E.; Brillas, E.; **Sirés, I.**, Magnetic MIL(Fe)-type MOF-derived N-doped nano-ZVI@C rods as heterogeneous catalyst for the electro-Fenton degradation of gemfibrozil in a complex aqueous matrix, *Applied Catalysis B: Environmental* 266 (2020) 118604. IF:14.229, Q1. 1 citation.
2. Ye, Z.; Brillas, E.; Centellas, F.; Cabot, P.L.; **Sirés, I.**, Electro-Fenton process at mild pH using Fe(III)-EDDS as soluble catalyst and carbon felt as cathode, *Applied Catalysis B: Environmental* 257 (2019) 117907. IF:14.229, Q1. 2 citations.
3. Ye, Z.; Guelfi, D.R.V. Álvarez, G.; Alcaide, F.; Brillas, E.; **Sirés, I.**, Enhanced electrocatalytic production of H₂O₂ at Co-based air-diffusion cathodes for the photoelectro-Fenton treatment of bronopol, *Applied Catalysis B: Environmental* 247 (2019) 191-199. IF:14.229, Q1. 4 citations.
4. Salmerón, I.; Plakas, K.V.; **Sirés, I.**; Oller, I.; Maldonado, M.I.; Karabelas, A.J.; Malato, S., Optimization of electrocatalytic H₂O₂ production at pilot plant scale for solar-assisted water treatment, *Applied Catalysis B: Environmental* 242 (2019) 327-336. IF: 14.229, Q1. 12 citations.
5. Steter, J.R.; Brillas, E.; **Sirés, I.**, Solar photoelectro-Fenton treatment of a mixture of parabens spiked into secondary treated wastewater effluent at low input current, *Applied Catalysis B: Environmental* 224 (2018) 410-418. FI: 14.229, Q1. 37 citations.
6. Aguilar, Z.G.; Brillas, E.; Salazar, M.; Nava, J.L.; **Sirés, I.**, Evidence of Fenton-like reaction with active chlorine during the electrocatalytic oxidation of Acid Yellow 36 azo dye with Ir-Sn-Sb oxide anode in the presence of iron ion, *Applied Catalysis B: Environmental* 206 (2017) 44-52, Año: 2017. IF: 11.698, Q1. 41 citations.
7. Salazar, C.; Ridruejo, C.; Brillas, E.; Yáñez, J.; Mansilla, H.D.; **Sirés, I.**, Abatement of the fluorinated antidepressant fluoxetine (Prozac) and its reaction by-products by electrochemical



advanced methods. Applied Catalysis B: Environmental 203 (2017) 189-198. IF: 11.698, Q1. 28 citations.

8. Bocos, E.; Brillas, E.; Sanromán, M.A.; **Sirés, I.**, Electrocoagulation: Simply a phase separation technology? The case of bronopol compared to its treatment by EAOPs, Environmental Science and Technology 50 (2016) 7679-7686. IF: 7.149, Q1. 29 citations.

9. Martínez-Huitle, C.A.; Rodrigo, M.A.; **Sirés, I.**; Scialdone, O., Single and coupled electrochemical processes and reactors for the abatement of organic water pollutants: A critical review, Chemical Reviews 115 (2015) 13362-13407. IF: 54.301, Q1. 498 citations.

10. Brillas, E.; **Sirés, I.**; Oturan, M.A., Electro-Fenton process and related electrochemical technologies based on Fenton's reaction chemistry, Chemical Reviews 109 (2009) 6570-6631. IF: 24.62, Q1. 1530 citations.

C.2. Research projects and grants (7 relevant in the last 10 years)

1. Project: Study of natural iron oxide minerals for the development of water treatment technologies to remove arsenic and/or POPs by solar photo-Fenton-like process.

Entity: Universidad Nacional de Ingeniería, Peru.

Funding entity: FONDECYT (Peru); Duration: 2018-2021. Project number: 078-2018-FONDECYT-BM-IADT-AV R.

Number of participants: 4.

2. Project: Electrochemical advanced oxidation processes for the removal of emerging pollutants: use of natural mineral as sustainable catalyst.

Entity: Universidad Tecnológica Metropolitana, Chile.

Funding entity: FONDECYT (Chile); Duration: 2017-2020. Project number: 11170882.

Number of participants: 3.

3. Project: Scale-up of electrochemical technology for the treatment of industrial wastewater and integral study of reaction products by means of advanced analytical techniques.

Entity: Universidad de Barcelona

Funding entity: Ministerio de Economía y Competitividad; Duration: 2017-2020. Project number: CTQ2016-78616-R.

PI: **IGNACIO SIRÉS SADORNIL**, Number of participants: 5.

4. Project: Descontaminación y desinfección de aguas residuales urbanas e industriales con nuevos sistemas electroquímicos integrados de oxidación avanzada.

Entity: Universidad de Barcelona. Funding entity: Ministerio de Economía y Competitividad.

Duration: 2014-2016. Project number: CTQ2013-48897-C2-1-R.

PI: ENRIQUE BRILLAS COSO, Number of participants: 8.

5. Project: Development and application of integrated electrochemical advanced oxidation technologies to enhance the remediation of waters contaminated with organic pollutants.

Entity: Nankai University. Funding entity: National Natural Science Foundation (NSFC, China).

Duration: 2013-2013. Project number: 21250110515.

PI: **IGNACIO SIRÉS SADORNIL**.

6. Project: Electrochemical advanced oxidation processes for the decolorization and degradation of azo dyes in aqueous medium under the action of UVA and solar light.

Entity: Universidad de Barcelona. Funding entity: Ministerio de Ciencia e Innovación.

Duration: 2011-2013. Project number: CTQ2010-16164.

PI: ENRIQUE BRILLAS COSO, Number of participants: 7.

7. Project: Electrochemical advanced oxidation processes for the destruction of pharmaceutical from wastewaters.

Entity: Universitat de Barcelona. Funding entity: Ministerio de Educación y Ciencia.

Duration: 2008-2010. Project number: CTQ2007-60708/BQU.

PI: ENRIQUE BRILLAS COSO, Number of participants: 6.

C.3. Contracts (5 relevant in the last 10 years)



1. Contract: Electrochemical treatment of aqueous samples with enzymatic components.
Entity: Universitat de Barcelona. Funding company: TU Bergakademie Freiberg. Duration: 01/10/2019-30/09/2021. PI: **IGNACIO SIRÉS SADORNIL**.
2. Contract: Setup of a plant for agri-food wastewater treatment at a cheese production company.
Entity: Universitat de Barcelona. Funding company: Farming cooperative. Duration: 01/04/2018-30/09/2018. PI: **IGNACIO SIRÉS SADORNIL**.
3. Contract: Industrial development of electro-oxidation methodologies for water treatment.
Entity: Universitat de Barcelona. Funding company: Suez Environment. Duration: 15/09/2014-14/09/2021. PI: **IGNACIO SIRÉS SADORNIL**.

C.4. Patents

1. Inventors: Boye, B.; Boye, B.A.E.B.; Brillas, E.; **Sirés, I.**
Title: System for the integral treatment and recycling of swine wastewater and agri-food effluents.
Publication number: ES1227080. Priority country: Spain. Priority date: 10/06/2019.
Owner: MBI CONSULTING & E-ENGINEERING WORLDWIDE.
2. Inventors: Xu, A.; Han, W.; Brillas, E.; **Sirés, I.**
Title: An electrochemical water-processing reactor. European Patent Office application.

C.5. Institutional responsibilities

3. Member of the International School on Advanced Oxidation Processes since 2019.
2. Spanish secretary at the Iberoamerican Society of Electrochemistry (SIBAE) since 2018.
1. Treasurer of the Spanish Electrochemistry Group of the RSEQ since 2016.

C.6. Research awards

5. 'Spanish Electrochemistry Group of the RSEQ - *CIC Energigune 2019 Award*' to the best scientific research in electrochemistry within the period 01/01/2015 – 31/12/2018 thanks to the research line entitled 'Decontamination and disinfection of urban and industrial wastewater by electrochemical advanced oxidation processes'.
4. '1st Prize "Dr. Alejandro J. Arvia" for Young Researchers in Electrochemistry' to the best under-40 researcher in electrochemistry by the SIBAE. June **2018**.
3. 'Carl Wagner Medal of Excellence in Electrochemical Engineering **2014**'. Working Party on Electrochemical Engineering - European Federation of Chemical Engineering (EFCE).
2. 'CIDETEC **2011** Prize for Young Researchers in Electrochemistry' to the best Spanish under-35 researcher in electrochemistry by the Spanish Electrochemistry Group of the RSEQ.
1. '**2010** Oronzio and Niccolò De Nora Foundation Prize of ISE on Environmental Electrochemistry' awarded by the International Society of Electrochemistry (ISE).