MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES

Cofinanciado por la Unión Europea

AGENCIA ESTATAL DE INVESTIGACIÓN

CURRICULUM VITAE (CVA)

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

CV date	18/01/2024

Part A. PERSONAL INFORMATION

First name	ISABEL		
Family name	SUELVES LAIGLESIA		
Gender (*)	FEMALE	Birth date	02/01/1970
ID number	18029243A		
e-mail	isuelves@icb.csic.es	www.icb.csic.es	
Open Research and Contributor ID (ORCID)(*)		0000-0001-8437-2204	

A.1. Current position

Position	SCIENTIFIC RESEARCHER		
Initial date	09/06/2009		
Institution	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS		
Departament/Center	INSTITUTO DE CARBOQUIMICA		
Country	SPAIN	Teleph. number	976733977
Key words	Catalytic Decomposition, Biogas, Nanostructured carbon materials, Biorefinery, Biofuel, Advanced catalytic systems		

A.2. Previous positions (research activity interruptions, art. 45.2.c))

Period	Position/Institution/Country/Interruption cause
06/2005-06/2009	Tenured Researcher/ICB-CSIC/Spain
06/2005-12/2001	Ramon y Cajal Researcher/ICB-CSIC/Spain
03/2001-11/2001	Aragon Goverment Postdoctoral Resarcher/ ICB-CSIC/Spain
01/1999-12/2001	Marie Curie Fellowship/Imperial College/United Kingdom
07/1998-12/1998	Postdoctoral Researcher/ ICB-CSIC/Spain
07/1993-07/1998	Predoctoral Researcher/ ICB-CSIC/Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD Chemical Science	Zaragoza University	1998
Licensed Chemical Science	Zaragoza University	1993

Part B. CV SUMMARY *(max. 5000 characters, including spaces)*

Dr. Isabel Suelves got her Ph.D. in Chemistry from Zaragoza University (Spain) in 1998, on the subject of co-pyrolysis of coal and petroleum residues. After that, she spent two years at Imperial College of Science, Technology and Medicine (London University) as a post-doctoral researcher funded by two Marie Curie Research Training Grants (Non-nuclear Energy and Energy, Environment and Sustainable Development Programs), working on the advanced characterization of liquids derived from coal, petroleum and waste lubricating oils. In 2001, she returned to the ICB-CSIC with a contract from the Aragon Government and later with a contract of the Ramon y Cajal Program. In 2005, she obtained the position of Tenure Researcher of CSIC and currently she is Scientific Researcher, being responsible researcher of the "Fuels Conversion Group" of the Department of Energy and Environment. From December 2014 to January 2019 se was Vicedirector of ICB-CSIC and from February 2019 to June 2023 she was the Director.

She has participated in 52 research projects and contracts (funded by the European Commission, the Spanish Government, the Aragon Government and private entities). She has been responsible researcher of 28 of them, managing more than 2.3M€ in the past ten years.

She has published 155 articles in international journals (143 of them included in SCI), with over 5000 citations (index h: 41), and she has submitted more than 220 communications to national and international congresses. More than 40% of her publications from the last years are result of the collaboration with international research institutions from different countries (United Kingdom, Portugal, Netherlands, Mexico...). Regarding her teaching activities, she has tutored 4 JdC postdoctoral researchers and has supervised 9 Doctoral Theses (3 of them in progress) in the fields of energy conversion, hydrogen generation and biofuels upgrading and 24 Master's Thesis/Final Master's Projects in Chemistry and Chemical Engineering. She has also participated as teacher and director in several post-graduated, doctoral and master courses along her career and now, she is the director of the course “El reto de la energía hacia los objetivos de desarrollo sostenible” summer course organized by Zaragoza University. She actively participates in dissemination activities to explain society the importance of sustainable energy generation: Scientific Week CSIC Aragón, Open Days at ICB-CSIC,…She is co-author of 2 national and 1 international patent and she was founding partner of the technological company NANOGRAPHITE S.L., whose main mission was the commercialization of carbon and graphite nanofibers with good electrical, thermal and mechanical properties obtained from biogas. Besides, during his research career, Dra. Suelves has collaborated with different technological centers and private companies among which, the current collaboration with CEPSA, FERTINAGRO BIOTECH, TOLSA, and HYCAMITE are worth mentioning.

She is member of the Spanish Carbon Group Board acting as treasurer from 2015 to 2023 and was part of the editorial team of its Newsletter from 2011 to 2017. She has been part of the organizing and scientific committee of numerous national and international congresses during the past ten years. She belongs to CSIC Interdisciplinary Thematic Platforms Mobility2030 and PTI+ TRANSENER and participates as invited member in the Academic Commission of the Chemical and Environmental Engineering Doctorate Program at Zaragoza University.

During the last years, her research has been focused on the simultaneous production of hydrogen and nanostructured carbon by catalytic decomposition of hydrocarbons, studying aspects like the development of catalysts, the optimization of the conditions of the process and the development of the most suitable technology for its scaling up. Additionally, she has opened new research lines addressing the search of applications for the carbon materials, especially those related to the development of components for energy conversion and storage devices (Li ion batteries and fuel cells) and more recently, the development of catalytic systems for sustainable conversion processes of renewable resources (biomass) into fuels and chemicals, such as: (i) hydrodeoxygenation of pyrolysis liquids, (ii) hydrolytic hydrogenation of cellulose, (iii) hydrothermal liquefaction of lignin and residues (iv) transformation of fatty acids from oleaginous biomass, (v) catalytic hydrotreatment of animal fats and waste oils and (vi) Fisher-Tropsch syncrude upgrading.

Part C. RELEVANT MERITS

C.1. Publications

1. Frecha, E., Torres, D., Remón, J., Gammons, R., Matharu, A. S., Suelves, I., & Pinilla, J. L. (2023). Catalytic hydrolysis of cellulose to glucose: on the influence of graphene oxide morphology under microwave radiation. Journal of Environmental Chemical Engineering, 109290. IF: 7.7 (2022). 16/142 in Chemical Engineering (Q1).
2. Remón, J., Sevilla-Gasca, R., Frecha, E., Pinilla, J. L., & Suelves, I. (2022). Direct conversion of almond waste into value-added liquids using carbon-neutral catalysts: Hydrothermal hydrogenation of almond hulls over a Ru/CNF catalyst. Science of the Total Environment, 825, 154044. IF: 9.8 (2022). 26/275 in Environmental Sciences (Q1).
3. Remón, J., Zapata, G., Oriol, L., Pinilla, J. L., & Suelves, I. (2022). A novel ‘sea-thermal’, synergistic co-valorisation approach for biofuels production from unavoidable food waste

(almond hulls) and plastic residues (disposable face masks). Chemical Engineering Journal, 449, 137810. IF: 15.1 (2022). 5/142 in Chemical Engineering (Q1).
4. Ochoa, E., Henao, W., Fuertes, S., & Pinilla, J. L. (C.A.) (2020). 8/9. Synthesis and characterization of a supported Pd complex on carbon nanofibers for the selective decarbonylation of stearic acid to 1-heptadecene: the importance of subnanometric Pd dispersion. Catalysis Science & Technology, 10(9), 2970-2985. IF: 6.119 (2020). 44/162 in Physical Chemistry (Q2).
5. Frecha, E., Torres, D., Pueyo, A., Suelves, I., & Pinilla, J. L. (2019). Scanning different Ni-noble metal (Pt, Pd, Ru) bimetallic nanoparticles supported on carbon nanofibers for one-pot cellobiose conversion. Applied Catalysis A: General, 585, 117182. IF: 5.006 (2019). 41/265 in Environmental Sciences (Q1)
6. Ochoa, E., Torres, D., Moreira, R., Pinilla, J. L., & Suelves, I. (2018). Carbon nanofiber supported Mo_2C catalysts for hydrodeoxygenation of guaiacol: The importance of the carburization process. Applied catalysis B: environmental, 239, 463-474. IF: 14.229 (2018). 3/138 in Chemical Engineering (Q1).
7. Cardoso, A., Reina, T. R., Suelves, I., Pinilla, J. L., Millan, M., & Hellgardt, K. (2018). Effect of carbon-based materials and CeO 2 on Ni catalysts for Kraft lignin liquefaction in supercritical water. Green Chemistry, 20(18), 4308-4318. IF: 9.405 (2018). 2/35 in Green & Sustainable Science & Technology (Q1).
8. Torres, D., Pinilla, J. L., & Suelves, I. (2018). Screening of Ni-Cu bimetallic catalysts for hydrogen and carbon nanofilaments production via catalytic decomposition of methane. Applied Catalysis A: General, 559, 10-19. IF: 4.630 (2018). 41/251 in Environmental Sciences (Q1).
9. Pinilla, J. L., De Llobet, S., Moliner, R., & Suelves, I. (2017). Ni-Co bimetallic catalysts for the simultaneous production of carbon nanofibres and syngas through biogas decomposition. Applied Catalysis B: Environmental, 200, 255-264. IF: 11.698 (2017). 3/137 in Chemical Engineering (Q1).
10. Torres, D., Pinilla, J. L., Moliner, R., & Suelves, I. (2015). On the oxidation degree of few-layer graphene oxide sheets obtained from chemically oxidized multiwall carbon nanotubes. Carbon, 81, 405-417. IF: 6.198 (2015). 27/271 in Materials Science, Multidisciplinary (Q1).

C.2. Congress

1. Desarrollo de catalizadores basados en carburo de Molibdeno soportados en nanofibras de carbono para la HDO de bioaceites. Pinilla Ibarz, José Luis; Gracia, Jesús; Ochoa, Elba; Torres, Daniel; Remón, Javier; Suelves, Isabel Reunión Bienal de la Sociedad Española de Catálisis (SECAT 2021), Valencia,18-20/10/2021. Oral communication
2. Óxidos de grafeno en la hidrólisis de celulosa: de estructuras nanométricas a puntos cuánticos. Esther Frecha, Daniel Torres, José Luis Pinilla, Isabel Suelves. XXVII Congreso Iberoamericano de Catálisis (CICAT2020). México, 26-28/10/2020. Oral communication
3. Obtención de materiales de grafeno a partir de nanofilamentos de carbono. D. Torres, I. Suelves, J.L.Pinilla. XIV Reunión del GEC. Málaga, 22-25/10/2017. Oral communication.
4. One-pot cellulose catalytic conversion into valuable products using nickel supported on carbon nanofibers. E. Frecha, I. Suelves, J.L.Pinilla. EUROPACAT2017. Florencia, Italia, 27-31/08/2017. Oral communication.
5. Synthesis and applications of Nanostructured Carbon Materials Produced by Catalytic Decomposition of Hydrocarbons for Application in Energy Conversion and Storage Processes. I. Suelves. 6th Int. Conference on Advanced Nanomaterials (ANM2015). Aveiro, Portugal 20-22/07/2015. Keynote.

C.3. Research projects

1. Producción sostenible de biocombustibles para aviación mediante procesos catalíticos. Responsible researchers: Isabel Suelves, J.L. Pinilla. Proyectos de Transición Ecológica y Transición Digital. Duration: 01/12/2022 - 31/11/2024. Funding: 158.170 €

2. Demostración Biorrefinería Residuos Agrícolas. Unidad 9. Refinado ("up-grading") del syncrude Responsible researchers ICB: Isabel Suelves, J.L. Pinilla. Mecanismo de Recuperación y Resiliencia (Next Generation EU): Alta Tecnología Clave en la Transición en el Ciclo Energético y Planes Complementarios de las CCAA (Programa Energía e Hidrógeno Verde) PTI+ TRASENER. Duration: 18/11/2021 - 17/11/2024. Funding ICB: 1.290.000 €.
3. Producción de biocombustibles a partir de aceites y grasas residuales mediante procesos catalíticos avanzados. Responsible researchers: I. Suelves, J.L.Pinilla. Proyectos I+D+i 2020, PID2020-115503RB-I00. Duration: 01/09/2021 - 31/12/2024.Funding: 217.800 €.
4. Desarrollo de procesos catalíticos en biorrefinería basados en nanomateriales de carbono de origen renovable para la obtención de biocombustibles. Responsible Researchers: José Luis Pinilla Ibarz, Isabel Suelves. MINECO Plan Nacional 2013-2016. Duration: 01/01/2018-31/12/2020. Funding: 189.244€.
5. ECO COM'BAT Ecological Composites for High-Efficient Li-Ion Batteries.EIT Raw Materials. KAVA-Upscaling project. Responsible Researchers: Andreas Bittner, Isabel Suelves (ICB). Duration:01/03/2016-31/10/2018. Funding: 2,3M€ (ICB:105.000€).
6. MiRaCLE: Mineral Raw materials replacement with nanoComposites by renewabLe Resources Exploitation. EIT Raw Materials. KAVA-Network of Infrastructures Responsible Researchers: Paolo Dambruoso, Isabel Suelves. Fecha: 01/03/2016-28/02/2018. Funding: 193.430€ (ICB:19.638€).
7. Obtención de biocombustibles con propiedades mejoradas mediante la utilización de sistemas catalíticos avanzados basados en nanomateriales de carbono (ENE2014-52189-C2-1-R). Responsible Researchers: Isabel Suelves/Jose Luis Pinilla (Coordinators). Ministerio de Economia y Competitividad. Plan Nacional 2008-2011. Duration: 1/01/2015-3/06/2018. Funding: 158.510€.
8. Descomposición catalítica de biogás para producir gases ricos en hidrógeno aptos para motores de encendido por chispa y materiales de carbono para almacenamiento de energía (ENE2011-28318-C03-01). Responsible Researcher: Isabel Suelves (Coordinator). Ministerio de Economia y Competitividad. Plan Nacional 2008-2011. Duration:: 01/01/2012-30/06/2015. Funding: 142.780€.

C.4. Contracts, technological or transfer merits

1. Comparative study of the perfomance of catalytic materials in the methane cracking. Responsible Researchers: Isabel Suelves, José Luis Pinilla. HYCAMITE TCD TECHNOLOGIES OY. Duration: 12/10/2023-26/06/2024. Funding: 65.000€.
2. Caracterización de soportes y catalizadores y su evaluación en reacciones de interés industrial. Researchers: Isabel Suelves, José Luis Pinilla. TOLSA S.A.Duration: 27/10/2023-26/06/2024 Funding: 35.864€.
3. Evaluación de catalizadores soportados en nanofibras de carbono en la síntesis de alfa olefinas. R&D Project. Responsible Researchers: Isabel Suelves, José Luis Pinilla. Compañía Española de Petróleos, S.A. Duration: 01/07/2023-30/06/2024. Fundig:112.530 €.
4. Análisis de procesos catalíticos de síntesis y descomposición de amoniaco. Technical Support contract. Responsible Researchers: Isabel Suelves, José Luis Pinilla. FERTINAGRO BIOTECH S.L.. Duration: 11/10/2023-10/011/2023. Funding: 9.922 €.
5. Evaluación de nanofibras de carbono en procesos catalíticos. R&D Project. Responsible Researchers: Isabel Suelves, José Luis Pinilla. Compañía Española de Petróleos, S.A. Duration: 01/06/2021-28/02/2022. Fundig:82.280 €.
6. Preparación de nanofibras de carbono y nanofibras de grafito. Materials Transfer Agreement. Responsible Researchers:Isabel Suelves, José Luis Pinilla. Compañía Española de Petróleos, S.A. Duration: 16/05/2020-15/05/2021. Fundig: 24.042,7 €.
7. Method for preparing graphite nanofibers from biogás. Inventores: I. Camean, N. Cuesta, S. de Llobet, A.B. García-Suarez, R. Moliner, J.L. Pinilla, A. Ramos, I. Suelves. Consejo Superior de Investigaciones Científicas (PCT/ES2014/070509). Patent Number: WO2015/004295A1. Date: 15/01/2015.