CURRICULUM VITAE (CVA)

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

CV date	30/10/2024

Part A. PERSONAL INFORMATION

First name	Antonio		
Family name	Sánchez Ferrer		
Gender (*)	Male	Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number	40985998K	21/10/1970	
e-mail	antoni.sanchez@uab.cat	URL Web https://scholar.google.com/citations?user=f2hh0z8AAAAJ&hl=ca	
Open Research and Contributor ID (ORCID)(*)		0000-0003-4254-8528	

(*) Mandatory

A.1. Current position

Position	Full Professor		
Initial date	29/7/2020		
Institution	Universitat Autònoma de Barcelona (UAB)		
Department/Center	Department of Chemical, Biological and Environmental Engineering		
Country	Spain	Teleph. number	935811019
Key words	Anaerobic digestion, composting, nanotechnology, organic waste		

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

Period	Position/Institution/Country/Interruption cause
1998-2005	Professor of University School (Spain), Mollet del Vallès (Barcelona)
2005-2020	Associate Professor, Universitat Autònoma de Barcelona (Spain)

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Graduate in Chemistry	Universitat Autònoma de Barcelona	1993
Màster in Biotechnology	Universitat Autònoma de Barcelona	1996
PhD in Biotechnology	Universitat Autònoma de Barcelona	1998

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

I did my doctoral thesis in the Department of Chemical Engineering at the UAB between 1995 and 1998 under the supervision of F. Valero and J. Lafuente, for which I obtained the Extraordinary Doctorate Award and a FI scholarship from Generalitat de Catalunya. After that, I started a new line of research based on the composting of organic waste, which is currently fully active (https://webs.uab.cat/gicom/).
In 2005, I joined the Department of Chemical Engineering at the UAB, as Associate Professor and, three years ago, as a Full University Professor, which is my current position. In addition, I have been the Secretary of the Department since 2005.
Regarding research, I have been the Principal Investigator of 7 consecutive projects of 3 years (2000-present) of the successive Spanish National R & D & i Plans, together with European and international projects, constituting a consolidated Research Group, recognized by the *Generalitat de Catalunya* consisting of 6 permanent professors, 4 postdoctoral researchers and 15 predoctoral researchers (including industrial doctorates). The group also includes 5-10 people who stay for less than a year (undergraduate and master students, stages from abroad, etc.). Personally, I have been the supervisor of 17 PhD students already finished. At present, I am supervising 4 PhD students.
I am currently the Editor-in-Chief of the newly created journals Frontiers in Environmental Chemical Engineering and Waste Management Bulletin and I am the Associate Editor of Waste Management and Bioresource Technology, as well as member of the Editorial Board of Waste Management and Research. Sustainability and Processes. I also act as a regular reviewer in other journals, with a total of more than 700 reviews. I have evaluated research projects for different institutions, such as the CYTED Program (Iberoamerican Program of Science and Technology for Development), the Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR, Generalitat de Catalunya), the Agencia Nacional de Evaluación and Prospective (ANEP, Spain), CSIC General Foundation, University of Milan, National Agency for the Promotion of Science and Technology (Argentina), National Research Council of Romania, Natural Sciences and Engineering Research Council of Canada, Israel Science Foundation and the Swiss National Science Foundation.
I have published more than 200 peer reviewed international papers. More details can be found at: https://scholar.google.com/citations?user=f2hh0z8AAAAJ&hl=ca
(Citations 18223, h index 74).

Part C. RELEVANT MERITS *(sorted by typology)*

C.1. Publications *(selection of the last years)*

Determination of the energy and environmental burdens associated to the biological treatment of source-separated Municipal Solid Wastes. Colón, J., Cadena, E., Pognani, M, Barrena, R., Sánchez, A., Font, X., Artola, A. Energy & Environmental Science. 5, 2, 5731-5741 (2012). Impact factor: 38.532.

Programmed Iron Oxide Nanoparticles Disintegration in Anaerobic Digesters Boost Methane Production. Casals, E., García, A., González, E., Delgado, L., Font, X., Arbiol, J., Glatzel, P., Kvashina, K., Sánchez, A., Puntes, V. Small. 14, 10, 2801–2808 (2014). Impact factor: 13.281.

Technology Overview of Biogas production in anaerobic digestion plants: A European Evaluation of Research and Development. Lora Granado, R., Souza Antune, A.D., Valéria da Fonseca, F., Sánchez, A., Barrena, R., Font, X. Renewable & Sustainable Energy Reviews. 80, 44-53 (2017). Impact factor: 14.982.

Core-shell Au/CeO2 nanoparticles supported in UiO-66 beads exhibiting full CO conversion at 100˚C. A. Yazdi, A.M.A. Abo Markeb, L. Garzón-Tovar, J. Patarroyo, J. Moral-Vico, A.

Alonso, T. Gea, A. Sánchez, N. Bastus, I. Imaz, X. Font, V. Puntes, D. Maspoch. Journal of Materials Chemistry A. 5, 13966-13970 (2017). Impact factor: 12.732.

González, D., Colón, J., Sánchez, A., Gabriel, D. A systematic study on the VOCs characterization and odour emissions in a full-scale sewage sludge composting plant. Journal of Hazardous Materials. 373, 733-740 (2019). Impact factor: 10.588.

The use of magnetic iron oxide based nanoparticles to improve microalgae harvesting in real wastewater. Abo Markeb, A., Llimós-Turet, J., Ferrer, I., Blánquez, P., Alonso, A., Sánchez, A., Moral Vico, J., Font, X. Water Research. 159, 490-500 (2019). Impact factor: 11.236.

Sustained effect of zero-valent iron nanoparticles under semi-continuous anaerobic digestion of sewage sludge: evolution of nanoparticles and microbial community dynamics. Barrena, R., Vargas-García, M.C., Capell, G., Barańska, M., Puntes, V., Moral-Vico, J., Sánchez, A., Font, X. The Science of the Total Environment. 777, 145969 (2021). Impact factor: 7.963.

In-situ methane enrichment in continuous anaerobic digestion of pig slurry by zero-valent iron nanoparticles addition under mesophilic and thermophilic conditions. Cerrillo, M., Burgos, L., Ruiz, B., Barrena, R., Moral-Vico, J. Font, F., Sánchez, A., Bonmatí, A. Renewable Energy. 180, 372-382 (2021). Impact factor: 8.001.

Fungal biopesticide production: process scale-up and sequential batch mode operation with *Trichoderma harzianum* using agro-industrial solid wastes of different biodegradability. Sala, A., Barrena, R., Sánchez, A., Artola, A. Chemical Engineering Journal. 425, 131620 (2021). Impact factor: 13.273.

Magnetite-based nanoparticles and nanocomposites for recovery of overloaded anaerobic digesters. Barrena, R., Vargas-García, M.C., Catacora-Padilla, P., Gea T., Markeb, A.A., Moral-Vico, J., Sánchez, A., Font, X., Aspray, T.J. Bioresource Technology. 2023, 372, 128632. Impact factor: 11.401.

C.2. Patents

Biogas production.
Puntes, V., González, E., Casals, E., García, A., Delgado, L., Font, X., Sánchez, A.
European Patent WO Patent 2,012,123,331, 2012.

Biogas production.
Puntes, V., González, E., Casals, E., García, A., Delgado, L., Font, X., Sánchez, A.
US American patent US9416373B2, 2016.

Scale-up process for producing biopesticides.
Artola, A., Barrena, R., Cerda, A., Font. X., Gea, T. Mejçias, L., Rodríguez, P., Sánchez, A.
European Patent WO2021063988A1, 2021.

C.3. Research projects

*Spanish Plan Nacional (as PI)***:**

Cierre de ciclos hacia la sostenibilidad local en la agricultura: producción de biofertilizantes enriquecidos en nutrientes y enmiendas orgánicas con propiedades biopesticidas y bioestimulantes (FertiLab / PLEC2022-009252).Proyectos de I+D+i en líneas estratégicas 2022. Ministerio de Ciencia e Innovación. Participants: Universitat Autònoma de Barcelona, Universidad Miguel Hernández, Universitat Politècnica de Catalunya, Institut de Recerca i Tecnologia Agroalimentàries, Basque Centre for Climate Change. Fomento Agrícola Castellonense i FACSA S.A. Duration: 1/12/2022-1/12/2024.643.662,00 €.

Estrategias de optimización de procesos de obtencion de bioproductos a partir de residuos orgánicos mediante fermentación en estado sólido (BIOPRO, CTM2015-69513-R). A. Sánchez (UAB), 2016-2020, 178000 €.

Del residuo al producto: aplicación de la fermentación en estado sólido para la obtención de enzimas de interés (lipolíticas, proteolícas y lignocelulósicas) a partir de residuos industriales orgánicos (WA2PRO). (Ref. CTM2012-33663). A. Sánchez (UAB), 2012-2015, 117000 €.

Estudio de las emisiones de procesos de compostaje de distintos residuos orgánicos. Dinámicas de carbono y nitrógeno e influencia en la estabilidad del producto final y en la optimización del proceso. (REF. CTM2009-14073-C02-01). A. Sánchez (UAB), 2009-2011, 163000 €.

Desarrollo de índices para el seguimiento de la materia orgánica biodegradable en residuos sólidos. Aplicación a plantas de tratamiento de FORM y RSU (REF. CTM2006-00315/TECNO). A. Sánchez (UAB), 2006-2009, 85000 €.

Estudio integral del compostaje de fangos de origen industrial. Acondicionamiento de la mezcla inicial, evaluación de la co-compostabilidad y tratamiento de los gases (REF. REN2003-00823/TECNO). A. Sánchez (UAB), 2003-2006, 85000 €.

Estudio de las condiciones de operación en el proceso de compostaje de residuos sólidos urbanos. Evaluación de la viabilidad del proceso en el tratamiento de residuos industriales agroalimentarios y fangos de depuradoras (REF. 2000/074). A. Sánchez (UAB), 2000-2003, 27783000 ptas.

Europe and international:

Increasing the production of biogas from sludge and other organic solid wastes using low cost iron oxide biocompatible nanoparticles (FeNps) and the simultaneous production of a high quality sanitized compost. Grand Challenges Explorations, Bill & Melinda Gates Foundation. Antoni Sánchez, 2011-2013, 100000 €.

DECISIVE-A decentralised management scheme for innovative valorization of urban biowaste. Call: Horizon 2020 (2016-2021). IP: Irstea (France). Antoni Sánchez (UAB workpackage coordinator), 8819104 €.

C.4. Contracts, technological or transfer merits *(selection of the last 10 years)*

General assessment of the anaerobic digestion process performance using nanoparticles. Company: Cetaqua-Agbar-Suez. Antoni Sánchez (UAB), 2016-2018, 30000 €.

Diseño, construcción y puesta en marcha de un respirómetro dinámico para la determinación del IRD y AT_4 en las instalaciones del Ecoparc de Barcelona S.A. Company: Ecoparc 1 de Barcelona. Antonio Sánchez (UAB), 2012-2014, 41190 €.

Optimización de Compostaje, Biosecado y Olores (“COMPOBIOL”). Company: Urbaser S.A. Antonio Sánchez (UAB), 2013-2015, 316076 €.

Determination of fugitive methane emissions in municipal landfills. Company: Agència de Residus de Catalunya. Antonio Sánchez (UAB), 2020-2023, 30000 €.

Study on the effects of biochar in the composting of source-selected organic fraction of municipal solid waste. Company: Shell Int. Antonio Sánchez (UAB), 2022-2024, 211500 €.

Study on the effects of biochar in the anaerobic digestion of source-selected organic fraction of municipal solid waste. Company: Shell Int. Antonio Sánchez (UAB), 2022-2024, 161000 €.

Guia per a la selecció de mecanismes de mitigació d'emissions en el compostatge en granja: estratègies físiques, químiques i biològiques. ACC_2023_EXP_SIA002_40_0001506. Projectes demostratius de transferència de coneixements (intervenció 7201, PAC 2023-2027), DARPA-Generalitat de Catalunya (2023).
Antonio Sánchez (UAB), 2024-2025, 50000 €.