MINISTERIO DE CIENCIA E INNOVACIÓN

Cofinanciado por la Unión Europea

AGENCIA ESTATAL DE INVESTIGACIÓN

CURRICULUM VITAE (CVA)

CV date	22/06/2023

Part A. PERSONAL INFORMATION

First name	Laureano		
Family name	Jiménez Esteller		
Gender	Male	Birth date	
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Open Researcher and Contributor ID (ORCID)		0000-0002-3186-7235	

A.1. Current position

Position	Professor		
Initial date	28/09/1998		
Institution	University Rovira i Virgili		
Department/Center	Department Chemical Engineering/School of Chemical Engineering		
Country	Spain	Teleph. number	977558643
Key words	Process simulation; process systems engineering; mathematical programming; multiobjective optimization; life cycle assessment		

A.2. Previous positions (research activity interruptions, art. 14.2.b))

1998-2017: associate professor at University Rovira i Virgili and University of Barcelona.
1993-1997: PhD scholarships at University of Barcelona.

A.3. Education

PhD in Chemistry, University of Barcelona, Spain, 1997.
Bachelor in Chemistry, University of Barcelona, Spain, 1993.

Part B. CV SUMMARY

I work as professor at University Rovira i Virgili ("*Titular de Universidad*": 1998-2017), with 5 six-year research and transfer of knowledge accreditations ("*sexennial*", ANECA and AQU).

My research interests lie in the interface **between process engineering and environmental engineering**, with emphasis on the **combined use of mathematical programming techniques** and **environmental principles through life cycle assessment**. I've developed multiobjective optimization hybrid linear/non-linear models with continuous or integer variables as decision support tools to design and plan more sustainable processes. The topics cover input-output macroeconomic models (data envelopment analysis), supply chains (uncertainty), chemical and related processes (decomposition techniques, superstructures), unit operations (algorithms), energy efficiency (objective reduction) and biofuels (process integration).

My research is **versatility** and **flexible** and I follow a **multi, cross and inter-disciplinary approach to tackle problems that lie in different fields** (*e.g.*, heat exchange networks, supply chain, air separation, solar energy, insulation, bioethanol, biofuels, biorefineries, solar heating plants, integrated energy systems, electricity production, bio-based building materials, zero-energy buildings...).

I lead the SUSCAPE research group (quality group according to the regional R&D agency, GenCat). The group has 3 CU, 2 TU, 3 "*agregados*", 3 postdocs, 6 PhD, and 5 PAS.

Since 2012 I have published **101 papers in indexed journals** distributed in **38 journals from 20 different research areas** (*Scival*). According to their **impact factor, 82% of the papers are in Q1, 45% in the top decile** and **23% in the top 5%** of their respective areas. My h index is 38 (*Scopus.* 47 *Google Scholar*), while my h_{2018} is 13 (*Scival)* and 34 (*Google Scholar*). Since 2012 I have received 3920 citations (*Scopus*; 3417 *Google Scholar*). Since 2013 my articles are cited 130% more than the average of their area (*Field Weight Citation Impact, Scival*) and 11% are among the 10% most cited worldwide in their area (*Scival*).

Since 2013, my articles have been viewed 10303 times, which represents 312% more than the average in their area (*Field Weight Views Impact, Scival*).
My i_{10} index (publications with more than 10 citations) is 106 (Scopus; 129 *Google Scholar*). My g index is 54 (Scopus; 68 *Google Scholar*).
Since 2012, **87% of my papers have international cooperation**. I have **leadership indicators in 54% of my papers**.
Since 2012 **I have coordinated 4 national projects.** I have been **researcher** in **H2020** (SmartMEM) and **FP7** (CAP-IT) projects. **I coordinated 4 EU-funded projects** (EACEA/SEPIE): RRIL, TEEDE, LETAE and NESOR. I have been **PI in 7 EU-funded projects** (EACEA/SEPIE): 5P Competences, THE-MP, Aero.VET, DISCOII, EC2E2N, Aero.Net and EuPaCe.net.
Since 2012, **I have supervised 16 PhD thesis, including one industrial PhD** (and 5 under supervision). Around 40% of them follow their career in R&D or academia, while 60% develop in the private sector.
Since 2012 I have developed **models for chemical companies** and several training courses.
Since 2012 I have obtained several international awards in **popular science** (www.etseq.urv.es/wolframio, ≈80000 visits), and perform around 1000 conferences.
Since 2012 I have achieved **teaching innovation recognitions** at local (3), regional (3), national (1) and European (1) levels.

Part C. RELEVANT MERITS

C.1. Publications

Figure 1 indicates that **my research is versatile and the multi-, cross- and interdisciplinary approach is dominant**, with a large part of my **outputs belonging simultaneously to different areas**. Most outputs appear in the interface with other disciplines: chemical engineering (CENG), engineering (ENGI), energy (ENER) and environmental science (ENVI) account for 66% of the papers. Evidence of the social impact of my research are illustrated by the outputs in sociology (SOCI), agriculture (AGRI), decision sciences (DECI) or earth and planetary sciences (EART).

Figure 1. Research area of papers (*Scival*$_{2012\text{-}2021}$). Bubble sizes depend on research outputs, while bubble position is based on dominant all science journal categories (ASJC, *Scopus*).

Figure 2. Journal, impact factor, position (quartile [Q], decile [D] or top 5% [T5%]) and research area of papers. Quality journal indicator refers to the last publication (*ISI WoK*$_{2012}$).

Figure 3. Annual citations received after 2012 (*Scopus & Google scholar*).

Figure 2 depicts the publication portfolio since 2012. Most publications (46%) focus on core chemical engineering aspects, environmental sciences (28%) and energy (6%), while there is a big share of papers distributed among a wide range of other related domains (civil engineering, thermodynamics, agricultural engineering…). Figure 3 shows that I have reached the maturity in my research, as the number of citations achieved a *plateau*.

The **five most relevant publications are**:

1. R. Salcedo, E. Antipova, D. Boer, L. Jiménez, G. Guillén-Gosálbez, *Desalination*, 286, 358-371 (2012). 105 citations (*Scopus*. 120 *Google Scholar*). Top 5% in water resources.
2. V. Tulus, V., D. Boer, D., L. F. Cabeza, L. Jiménez, G. Guillén-Gosálbez, G. *Appl. Energy*, 181, 549-561 (2016). 74 citations (*Scopus*. 92 *Google Scholar*). Top 5% in chemical engineering.
3. C. M. Torres, S. D. Ríos, C. Torras, J. Salvadó, J. M. Mateo-Sanz, L. Jiménez. *Bioresource Technol.*, 136, 617-625 (2013). 50 citations (*Scopus*. 78 *Google Scholar*). 1st journal in agricultural engineering.

4. A. M. Kostin, G. Guillén-Gosálbez, F. D. Mele, M. J. Bagajewicz, L. Jiménez. Chem. Eng. Res. & Des., 90 (3), 359-376 (2012). 81 citations (*Scopus*. 121 *Google Scholar*).
5. E. Antipova, D. Boer, G. Guillén-Gosálbez, L. F. Cabeza, L. Jiménez. *Energy & Buildings*, 82, 92-99 (2014). 73 citations (*Scopus*. 105 *Google Scholar*). Top 5% in civil engineering.

C.2. Congress

Since 2012, I highlight the 19 book chapters published in "Computer Aided Chemical Engineering series. Among the **invited/plenary talks**, I highlight the "*3r encuentro red sustentabilidad energética, medio ambiente y sociedad*"(Cuernavaca, México, 2017), "*Factor Sinergia*" (San Juan del Río, México, 2015), "*ANQUE-ICCE International Congress of Chemical Engineering*" (Seville, 2012) and "*III Congresso Brasileiro em Gestão do Ciclo de Vida da dos Produtos e Servicios*" (Maringá, Brazil, 2012).

C.3. Research projects

Coordinator of 4 EU-funded projects (EACEA/SEPIE): RRIL, TEEDE, LETAE and NESOR.

The **five most relevant projects in chemical engineering** are:

1. *Enfoque sistemático de herramientas de evaluación energética y ambiental: inclusión de aspectos ambientales y sociales*. MICINN, PID2021-124139NB-C22, 141.000 €, 2022-2025. PI: L. Jiménez.
2. *Sistema integrado de gestión de procesos químicos y afines: intensificación de procesos, mejora de la eficiencia energética y sostenibilidad*. MEyC, CTQ2012-37039-C02-01 (+ FPU), 103.000 €, 2013-2015. Coordinator: L. Jiménez.
3. *Desarrollo de métodos sistemáticos para el diseño de procesos químicos sostenibles*. MEyC, CTQ2009-14420-C02-01 (+ FPU), 136.600 €, 2010-2012. Coordinator: L. Jiménez.
4. Advanced encapsulation technology for sustainable detergency. Marie Curie (FP7), 251298, 204.387 €, 2010-2014. Researcher: L. Jiménez.

Figure 4 illustrates the diversification of my research, and my multidisciplinary activity, including a **strong emphasis on social aspects related with higher education**. Figure 5 explains the **budget and funding agency** of the research projects I have been involved since 2012.

C.4. Contracts, technological or transfer merits

Accredited by ANECA and AQU with **1 six-year technology transfer** ("*sexennial*").

Since 2012 **I've developed mathematical models** and **training courses** for different companies: EXXON, REPSOL, Messer, Maystar, ITPSA, Sekisui, JRC...

C5. Other recognitions and awards

Since 2012 I've been **PI in 3 popular science** FECYT projects, **3 international awards**, selected in 18 science (inter)national film festivals (≈78.000 views, www.etseq.urv.es/wolframio).

More than 800 outreach conferences in all type of events to all type of audiences.

***Pesquisador Visitante Especial* from CNPq** (313562/2013/0, Brazil).

Since 2012, I have received **teaching innovation awards** at local (URV: 2), regional (Catalan Government: 2), national (CODDIQ, 1) and European (Aurora network: 1) levels.

Figure 4. Research activities by topic, including the budget (global and as coordinator/PI) since 2012.

Figure 5. Funds managed as coordinator/PI classified by funding agency since 2012.