

CV Date

26/06/2025

Part A. PERSONAL INFORMATION

First Name *	José Ernesto		
Family Name *	Jiménez Merino		
Sex *	Male	Date of Birth *	18/02/1965
ID number Social Security, Passport *	35058498N	Phone Number *	(0034) 910673628
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	Researcher ID	U-3429-2017	
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* Mandatory

A.1. Current position

Job Title	Catedrático de Universidad		
Starting date	2025		
Institution	Universidad Politécnica de Madrid		
Department / Centre	Departamento de Sistemas Informáticos / Escuela Técnica Superior de Ingeniería de Sistemas Informáticos		
Country	Spain	Phone Number	910673628
Keywords	120300 - Computer Sciences		

A.3. Education

Degree/Master/PhD	University / Country	Year
Doctor	Universidad Rey Juan Carlos	2004
Licenciado en Informática	Universidad Politécnica de Madrid	1995

A.4. General quality indicators of scientific production

I have 4 **periods of six years of research** recognized by the Spanish Government (4 sexenios de investigación), **2001-2006**, **2007-2012**, **2013-2018** and **2019-2024**. I also have **1 period of six years of knowledge transfer and innovation** recognized by the Spanish Government (1 sexenio de transferencia), **2010-2017**.

I have 40+ international publications. Among them, **23 publications are indexed in the JCR** (Journal Citation Reports), and the rest of them are almost all highly relevant conferences in their fields. Specifically, I have **17 JCR journals** of the **first or second quartile (Q1/Q2)**. Regarding the international conferences, **8 papers** are **ICORE A*** or **A**.

I have **participated or directed 40+ research projects** (11 European, 5 American, 20 National and 6 Regional).

My **H-index** is **14** with **500+ citations**, according to Google Scholar (<https://scholar.google.es/citations?user=SHmY8yYAAAAJ&hl=es>).

I have directed 3 doctoral thesis.

I have participated as reviewer of international journals and conferences (among them, PODC, ICDCS, Euro-Par and OPODIS). I have participated in the Organizing Committee of several international conferences (among them, ICDCS, DISC, EDCC and OPODIS), and in the Program Committee of multiple international conferences (among them, NCA, ISPA and ExtremeCom).

Part B. CV SUMMARY

My field of research is fault-tolerance in distributed systems. I have focused my work mainly in Broadcasting, Consensus, Failure Detectors and Distributed Shared Memory. I have obtained interesting results developing new algorithms, implementations and models to solve several gaps found in the literature about these topics, such as broadcast, agreement and leader election where the membership is unknown or the participants are anonymous. I have also gotten results studying the global consistency models where the distributed systems are heterogeneous. I have worked with people of Media Lab-MIT to research in blockchain for swarm of robots.

I have done research stays at top universities: Coimbra, Portugal (2022); Media Lab-MIT, USA (2017); Beijing Institute of Technology-BIT, China (2012); IRISA/INRIA, France (2006); Georgia Tech, USA (2005).

I have been awarded with 2 PROMETEO grants from Ecuador Government (2014-2015 and 2016-2017) to improve the R&D in the Ecuadorian Universities.

I publish regularly in top journals and conferences of Distributed Computing since 2001. I also participate in research projects regularly since 2001.

Part C. RELEVANT ACCOMPLISHMENTS

C.1. Publications

AC: corresponding author. (n° x / n° y): position / total authors. If applicable, indicate the number of citations

- 1 **Scientific paper.** Barroso-Fernández, Carlos; (2/5) Jiménez, Ernesto (AC); López-Presa, José Luis; Moreno-Cuesta, Marta; Xulvi-Brunet, Ramon. 2024. Optimizing Gossiping for Asynchronous Fault-Prone IoT Networks With Memory and Battery Constraints. IEEE Access. IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC. 12, pp.4701-4715. ISSN 2169-3536.
- 2 **Scientific paper.** Gil-Borrás, Sergio; G. Pardo, Eduardo; (3/4) Jiménez, Ernesto; Sörensen, Kenneth. 2024. The time-window strategy in the Online Order Batching Problem. International Journal of Production Research. Taylor & Francis Editorial. 62-12, pp.4446-4469. ISSN 0020-7543.
- 3 **Scientific paper.** (1/3) Jiménez, Ernesto (AC); Luis López-Presa, José; Patiño-Martínez, Marta. 2023. Uniform atomic broadcast and consensus in fully anonymous synchronous systems with crash failures. Computing. SPRINGER. 105-6, pp.1165-1187. ISSN 0010-485X.
- 4 **Scientific paper.** Castelló Ferré, Eduardo; (2/4) Jiménez, Ernesto; López-Presa, José Luis; Martín-Rueda, Javier. 2022. Following Leaders in Byzantine Multirobot Systems by Using Blockchain Technology. IEEE Transactions on Robotics. IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC. 38-2, pp.1101-1117. ISSN 1552-3098.
- 5 **Scientific paper.** Jiménez, Ernesto; López-Presa, José Luis; Patiño-Martínez, Marta. 2021. Consensus in anonymous asynchronous systems with crash-recovery and omission failures. Computing. Springer. 103-12, pp.2811-2837. ISSN 0010-485X.
- 6 **Scientific paper.** (1/3) Jiménez, Ernesto (AC); López-Presa, José Luis; Martín-Rueda, Javier. 2020. Consensus using Omega in Asynchronous Systems with Unknown Membership and Degenerative Byzantine Failures. Journal of Computer and System Sciences (JCSS). Elsevier Science. 107, pp.54-71. ISSN 0022-0000.
- 7 **Scientific paper.** Tang, Jian; Larrea, Mikel; Arévalo, Sergio; Jiménez, Ernesto. 2020. Uniform reliable broadcast in anonymous distributed systems with fair lossy channels. Computing. Springer. 102-9, pp.1967-1999. ISSN 0010-485X.
- 8 **Scientific paper.** (1/3) Jiménez, Ernesto (AC); López-Presa, José Luis; Martín-Rueda, Javier. 2019. Hybrid binary consensus in anonymous asynchronous systems using coins and failure detectors. Journal of Supercomputing. Springer. 75-12, pp.8262-8292. ISSN 0920-8542.

- 9 **Scientific paper.** Tang, Jian; Larrea, Mikel; Arévalo, Sergio; Jiménez, Ernesto. 2017. Reliable broadcast in anonymous distributed systems with fair lossy channels. Int. J. High Performance Computing and Networking (IJHPCN). Inderscience Enterprises Ltd. 10-4/5, pp.289-297. ISSN 17400562.
- 10 **Scientific paper.** Fernández Anta, Antonio; Gramoli, Vincent; (3/5) Jiménez, Ernesto; Kermarrec, Anne-Marie; Raynal, Michel. 2016. Distributed Slicing in Dynamic Systems. IEEE Transactions on Parallel and Distributed Systems (TPDS).IEEE Computer Society. 27-4, pp.1030-1043. ISSN 1045-9219.
- 11 **Scientific paper.** Jiménez, Ernesto; Arévalo, Sergio; Herrera, Carlos; Tang, Jian. 2015. Eventual election of multiple leaders for solving consensus in anonymous systems. Journal of Supercomputing. Springer. 71-10, pp.3726-3743. ISSN 0920-8542.
- 12 **Scientific paper.** Arévalo, Sergio; Fernández Anta, Antonio; Imbs, Damien; (4/5) Jiménez, Ernesto (AC); Raynal, Michel. 2015. Failure detectors in homonymous distributed systems (with an application to consensus). Journal of Parallel and Distributed Computing (JPDC).Elsevier (Academic Press). 83-9, pp.83-95. ISSN 0743-7315.
- 13 **Scientific paper.** (1/3) Jiménez, Ernesto (AC); Arévalo, Sergio; Tang, Jian. 2015. Fault-tolerant broadcast in anonymous systems. Journal of Supercomputing. Springer. 71-11, pp.4172-4191. ISSN 0920-8542.
- 14 **Scientific paper.** Arévalo, Sergio; (2/4) Jiménez, Ernesto (AC); Tang, Jian; Torres, Rommel. 2015. Set agreement and the loneliness failure detector in crash-recovery systems. Computer Systems Science and Engineering. CRL Publishing Ltd. 30-3, pp.243-251. ISSN 0267-6192.
- 15 **Scientific book or monograph.** Fatourou, Panagiota; Jiménez, E.; Pedone, Fernando. 2017. Co-editor. 20th International Conference on Principles of Distributed Systems, OPODIS 2016. Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik. 70. ISBN 978-3-95977-031-6.

C.3. Research projects and contracts

- 1 **Project.** PID2020-119461GB-I00, QoSData: Resource Aware Data Management for Distributed Small Devices. Ministerio de Ciencia e Innovación. J. Ernesto Jiménez Merino. (Universidad Politécnica de Madrid). 01/09/2021-31/08/2024. 152.944 €. Principal investigator.
- 2 **Project.** P2018/TCS-4499, EDGEDATA: Una Infraestructura para Sistemas Híbridos Altamente Descentralizados [P2018/TCS-4499]. Comunidad de Madrid. Marta Patiño Martínez. (Universidad Politécnica de Madrid). 01/01/2019-31/12/2022. 313.950 €. Team member.
- 3 **Project.** BLOCKSWARM. Massachusetts Institute of Technology-SPAIN - Universidad Politécnica de Madrid SEED FUND. J. Ernesto Jiménez Merino. (MIT Media Lab). 01/01/2019-31/08/2021. 25.000 €.
- 4 **Project.** H2020-779747, BigDataStack: High-performance data-centric stack for big data applications and operations [H2020-779747]. Comisión Europea - H2020. Marta Patiño Martínez. (Universidad Politécnica de Madrid). 01/01/2018-31/12/2020. 288.500 €. Team member.
- 5 **Project.** TIN2016-80350-P, CloudDB: Una base de datos ultraescalable, eficiente y altamente disponible [TIN2016-80350-P]. Ministerio de Economía y Competitividad. Marta Patiño Martínez. (Universidad Politécnica de Madrid). 30/12/2016-31/12/2020. 173.030 €. Team member.
- 6 **Project.** H2020-732051, European Cloud In-Memory Database Appliance with Predictable Performance for Critical Applications [H2020-732051]. Comisión Europea - H2020. Marta Patiño Martínez. (Universidad Politécnica de Madrid). 01/12/2016-30/11/2019. 502.625 €. Team member.
- 7 **Project.** CLOUD4BIGDATA: Efficient Cloud and BigData Infrastructure [S2013/ICE-2894]. Comunidad de Madrid. Ricardo Jiménez Peris. (Universidad Politécnica de Madrid). 2014-2018. 500.020 €.

- 8 Project.** TIN2013- 46883-P, BigDataPaaS: Una plataforma como servicio para BigData [TIN2013- 46883-P]. Ministerio de Economía y Competitividad. Marta Patiño Martínez. (Universidad Politécnica de Madrid). 01/01/2014-31/03/2017. 63.404 €. Team member.
- 9 Project.** FP7-619606, LeanBigData: Ultra-Scalable and Ultra-Efficient Integrated and Visual Big Data Analytics [FP7-619606]. Comisión Europea - FP7. Marta Patiño Martínez. (Universidad Politécnica de Madrid). 01/02/2014-31/01/2017. 384.325 €. Team member.
- 10 Project.** Sistema de comunicación fiable con caídas y recuperaciones de equipos con una seguridad mediante identificación anónima [CEPRA X-2016-01]. Consorcio Ecuatoriano para el Desarrollo de Internet Avanzado (CEDIA). David Guevara Aulestia. (EPN-UPS-UTA). 2016-2017. 99.174 €.
- 11 Project.** Herramienta para la Generación Automática de Infraestructura de Seguridad en Comunicaciones usando Java (CEPRA IX-2015-03). Consorcio Ecuatoriano para el Desarrollo de Internet Avanzado (CEDIA). Franklin Sánchez Catota. (EPN-UPS-UTA). 2015-2016. 60.000 €.
- 12 Project.** Middleware en tiempo real basado en el modelo Publicación/Suscripción [CEPRAVIII-2014-06]. Consorcio Ecuatoriano para el Desarrollo de Internet Avanzado (CEDIA). José Ernesto Jiménez Merino. (EPN-UPS-UTA). 2014-2015. 58.000 €.
- 13 Project.** Servicios de coordinación en la nube cuando los elementos intervinientes son anónimos) [CEPRAVII-2013-05]. Consorcio Ecuatoriano para el Desarrollo de Internet Avanzado (CEDIA). Rommel Torres Tandazo. (EPN-UTA-UTPL). 2014-2015. 88.000 €.
- 14 Project.** Servicios de coordinación en sistemas distribuidos tolerantes a fallos cuando los usuarios son anónimos u homónimos [AL14-PID-30]. Universidad Politécnica de Madrid. José Ernesto Jiménez Merino. (UPM y UTPL). 2014-2015. 3.600 €.

C.5. Stays in public or private R&D centres

- 1** Universidad Jaime I. Spain. Castellón. 21/03/2024-20/05/2024. 2 months. Post-doctoral.
- 2** PROMETEO. Facultad de Ingeniería Eléctrica y Electrónica de la Escuela Politécnica Nacional. Ecuador. Quito. 01/01/2016-23/07/2017. 1 year. Post-doctoral.
- 3** Massachusetts Institute of Technology (MIT). Media Lab. United States of America. Cambridge, MA. 31/05/2017-07/06/2017. 7 days. Post-doctoral.
- 4** Beijing Institute of Technology (BIT). Facultad de Ciencias de la Computación y Tecnología. China. Beijing. 25/09/2012-11/12/2012. 2 months - 15 days. Post-doctoral.
- 5** IRISA/INRIA. France. Rennes. 06/07/2006-16/08/2006. 1 month - 10 days. Post-doctoral.
- 6** Georgia Institute of Technology (Georgia Tech). United States of America. Atlanta, Georgia. 17/03/2005-31/08/2005. 5 months - 15 days. Post-doctoral.