MINISTERIO DE CIENCIA E INNOVACIÓN

CURRICULUM VITAE (maximum 4 pages)

AGENCIA ESTATAL DE INVESTIGACIÓN

Part A. PERSONAL INFORMATION

CV date	29/09/2021

First and Family name	José María Maestre Torreblanca		
Researcher codes	Open Researcher and Contributor ID (ORCID**)	0000-0002-4968-6811	
	SCOPUS Author ID (*)	7006524767	
	WoS Researcher ID (*)	B-5886-2016	

(*) Optional
(**) Mandatory

A.1. Current position

Name of University/Institution	Universidad de Sevilla		
Department	Ingeniería de Sistemas y Automática		
Address and Country	Camino de los Descubrimientos sn., 41092, Sevilla		
		E-mail	pepemaestre@us.es
Current position	Full profesor	From	2/12/2020
Key words	Predictive Control, Distributed Control, Heterogeneus systems		

A.2. Education

PhD, Licensed, Graduate	University	Year
Telecom. Engineer, BSc.+MSc.	Universidad de Sevilla	2005
Domotics, MSc.	Universidad Politécnica de Madrid	2006
Telecom. Economics, MSc.	Universidad Nacional de Educación a Distancia	2010
Automation and Robotics, PhD.	Universidad de Sevilla	2010
Economics and Development, MSc.	Universidad de Sevilla	2016
Model-based Drug Development, MSc.	University of Manchester	2020

A.3. General indicators of quality of scientific production *(see instructions)*

Research periods	**2** (2006 – 2011, 2012-2018)		
H-index	*Web of Science* **19**	*Scopus* **22**	*Google Scholar* **27**
Citations	**1498**	**1915**	**3256**
Supervised thesis	**6**		
Q1-journals	**40**		
International journals	**80**		
International books	**2**	Libros nacionales	**4**
Capítulos de libros internacionales	**6**	National books	**4**
International conferences	**70**	National conferences	**15**
Principal Investigator R+D projects	**5** (1 international, 2 national, 2 regional)		
R+D projects participated	**23** (12 international, 6 national, 5 regional)		
National journal publications	**4**	Prizes	**5**

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

PhD on automation and robotics by the University of Seville, where he works as full professor. Currently, he is also guest professor at Keio University. In this regard, at the age of 38 he became one of the ten youngest full professors in the Spanish University System and the youngest one in the University of Seville. He has also worked in TU Delft (postdoc), University of Pavia (visiting professor), University of Keio (guest professor), and Tokyo Institute of Technology (overseas researcher). Besides his PhD, which was awarded with the extraordinary prize of the University of Seville, he has master degrees on Smart Homes and Intelligent Buildings (Technical University of Madrid), Telecommunications Economics (National Distance Education University), Economics and Development (University of Seville), and Model-based Drug Development (University of Manchester). His main research interest is the control of distributed systems with heterogeneous elements such as humans and robots. He has authored and coauthored more than one hundred fifty journal and conference papers regarding these topics, including 77 articles in JCR journals. Also he has (co)edited the books Service robotics within the Digital Home: Applications and Future Prospects (Springer, 2011), Distributed Model Predictive Control Made Easy (Springer, 2014) and Domótica para Ingenieros (Paraninfo, 2015), and he has (co)authored several books, including A Programar se Aprende Jugando (Paraninfo, 2017) and Sistemas de Medida y Regulación (Paraninfo, 2018). Likewise, he has led five research projects (two ongoing) at regional, national and international level, and he has supervised 12 PhD thesis (6 ongoing). Finally, he has been involved in the development of several technological firms such as Idener and Mobile Water Management. More information at: jmmaestre.net

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

C.1. **Publications** *(see instructions)*

Some relevant publications (Q1 in the last 3 years)

1. M. I. Fernández, P. Chanfreut, I. Jurado, **J. M. Maestre**. A Data-based Model Predictive Decision Support System for Inventory Management in Hospitals *IEEE Journal of Biomedical and Health Informatics, 2020.*
2. P. Chanfreut, **J. M. Maestre**, E. F. Camacho. Coalitional Model Predictive Control on Freeways Traffic Networks *IEEE Transactions on Intelligent Transportation Systems, 2020.*
3. M. Yaltaghian, S.M. Hashamy, **J. M. Maestre**, R.Stepanian, I.Mallakpour. Potential Assessment of Non-Automatic and Automatic Modernization Alternatives for the Improvement of Water Distribution Supplied By Surface-Water Resources: a Case Study in Iran. Agricultural Water Management , 2020, vol. 230, p. 105964.
4. Hassani, Y., Shahdany, S. M. H., **J.M. Maestre**., Zahraie, B., Ghorbani, M., Henneberry, S. R., & Kulshreshtha, S. N. (2019). An economic-operational framework for optimum agricultural water distribution in irrigation districts without water marketing. *Agricultural Water Management*, *221*, 348-361.
5. L. A. Fletscher, J. Barreiro, C. Ocampo, C. Valencia, **J. M. Maestre**. Atomicity and Non-Anonymity in Population-Like Games for the Energy Efficiency of Hybrid-Power HetNets. IEEE Transactions on Network and Service Management 15, 2018. Q1 Computer Science, Information Systems
6. S. M. Hashemy, S. Taghvaeian, **J. M. Maestre**, A. R. Firoozfar. Developing a centralized automatic control system to increase flexibility of water delivery within predictable and unpredictable irrigation water demands. Computers and Electronics in Agriculture 163. Q1 Multidisciplinary Agriculture.
7. X. Tian, Y. Guo, R. Negenborn, L. Wei, N. M. Lin, **J. M. Maestre**. Multi-Scenario Model Predictive Control Based on Genetic Algorithms for Level Regulation of Open Water Systems under Ensemble Forecasts. Water Resources Management 33(9). Q1 Civil Engineering
8. M. Hashemy, S. Kulshreshtha, S. R. Hennebery, B. Zahraie, M. Ghorbani, Y, Hassani, **J. M. Maestre**. An Economic-Operational Framework for Optimum Agricultural Water

Distribution in Irrigation Districts without Water Marketing. Agricultural Water Management. Q1 Water Resources.

9. P. Velarde, X. Tian, A. Sadowska, **J. M. Maestre**. Scenario-based Hierarchical and Distributed MPC for Water Resources Management with Dynamical Uncertainty. Accepted in Water Resources Management. (JCR IF (2017) 2.644, 21/90 Q1 Water Resources, 23/128 Q1 Civil Engineering).
10. L. A. Fletscher, L. A. Suárez, D. Grace, C. Valencia, **J. M. Maestre**. Energy-Aware Resource Management in Heterogeneous Cellular Networks with Hybrid Energy Sources. Accepted in IEEE Transactions on Network and Service Management. (JCR IF (2017) 3.286, 26/148 Q1 Computer Science & Information Systems).
11. F.J. Muros, **J. M. Maestre**, C. Ocampo. E. Algaba, E. F. Camacho. A Game Theoretical Randomized Method for Large-Scale Systems Partitioning. IEEE Access (in press). (JCR IF (2017) 3.557, 24/148 Q1 Computer Science & Information Systems, 48/260 Q1 Electrical & Electric Engineering,19/87 Q1 Telecommunications).
12. S.M. Hashemy Shahdany, A.R. Firoozfar, **J.M. Maestre**, I. Mallakpour, S.Taghvaeian, P. Karimi. Operational Performance Improvements in Irrigation Canals to Overcome Groundwater Overexploitation. Accepted in Agricultural Water Management. (JCR IF (2016) 2.848, Q1 13/83 Agronomy, Q1 14/88 Water resources).
13. L. A. Fletscher, **J. M. Maestre**, C. Valencia. Coalitional Planning for Energy Efficiency of HetNets Powered by Hybrid Energy Sources. IEEE Transactions on Vehicular Technology. In press. (JCR IF(2016) 4.066, Q1 10/89 Telecommunications, Q1 32/262 Electrical & Electronic Engineering, Q1 4/34 Transportation Science & Technology).
14. F. Fele, E. Debada, **J. M. Maestre**, E. F. Camacho. Coalitional Control for Self-Organizing Agents. IEEE Transactions on Automatic Control. In press. (JCR IF(2016) 4.27, Q1 Automation & Control Systems, Q1 Electrical & Electronic Engineering).
15. **J.M. Maestre**, H. Ishii. Node Aggregation for Enhancing PageRank. *IEEE Access*, vol. 5, pp. 19799-19811, 2017. (JCR IF (2016) 3.244, Q1 Computer Science & Information Systems, Q1 Electrical & Electric Engineering, Q2 Telecommunications)
16. X. Tian, R. Negenborn, P.J. van Overloop, **J.M. Maestre**, A. Sadowska, N. Van de Giesen. Efficient Multi-scenario Model Predictive Control for Water Resources Management with Ensemble Streamflow Forecasts. Aceptado en Advances in Water Resources. (JCR IF 3.221, Q1 Water Resources)
17. P. Velarde, **J. M. Maestre**, H. Ishii, R. Negenborn. Vulnerabilities in Lagrange-based Distributed Model Predictive Control. Aceptado en Optimal Control, Applications and Methods. (JCR IF (2016) 1.558, 36/60 Q3 Automation and Control Systems, 39/83 Q2 Operations Research, 49/255 Q1 Applied Mathematics)
18. J. Barreiro, C. Ocampo, N. Quijano, **J. M. Maestre**. Non-centralized Control for Flow-based Distribution Networks: A Game-theoretical Insight. Journal of the Franklin Institute: Engineering and Applied Mathematics. In press. (JCR IF (2016) 3,139 Q1 Engineering Multidisciplinary, Q1 Electrical & Electronic Engineering).
19. F. J. Muros, E. Algaba, **J. M. Maestre**, E. F. Camacho. The Banzhaf Value as a Design Tool in Coalitional Control. Accepted for publication in Systems and Control Letters 104: 21-30, June 2017. (JCR IF (2016) 2.550, Q1 Operations Research).
20. J. Ramírez De La Pinta, **J.M. Maestre**, I. Jurado, S. Reyes De Cozar. Off the Shelf Cloud Robotics for the Smart Home: Empowering a Wireless Robot through Cloud Computing. *Sensors*, *17*(3), 525. 2017. (JCR IF(2016) 2.677, Q2 Analytical chemistry, Q2 Electrochemistry, Q1 Instruments & Instrumentation).
21. P. Velarde, L. Valverde, **J. M. Maestre**, C. Ocampo, C. Bordons. On the Comparison of Stochastic Model Predictive Control Strategies Applied to a Hydrogen-based Microgrid. Journal of Power Sources 343: 161-173, March 2017. (JCR IF(2016) 6.395, Q1 Physical chemistry, Q1 Electrochemistry, Q1 Energy and Fuels, Q1 Materials science, multidisciplinary).
22. F. J. Muros, E. Algaba, **J. M. Maestre**, E. F. Camacho. Harsanyi Power Solutions in Coalitional Control Systems. IEEE Transactions on Automatic Control 62(7): 3369-3381, 2017. (JCR IF(2016) 4.27, 7/60 Q1 Automation & Control Systems, 28/262 Q1 Electrical & Electronic Engineering).

23. P. Trodden, **J. M. Maestre**. Distributed predictive control with minimization of mutual disturbances. Automatica 77: 31-43, March 2017. (JCR IF(2016) 5.451, 3/60 Q1 Automation & Control Systems, 17/262 Q1 Electrical & Electronic Engineering).
24. F. J. Muros, **J. M. Maestre**, E. Algaba, T. Alamo, Eduardo F. Camacho. Networked Control Design for Coalitional Schemes using Game-Theoretic Methods. Automatica 78: 320-332, April 2017. (JCR IF(2016) 5.451, 3/60 Q1 Automation & Control Systems).
25. F. Fele, **J.M. Maestre**, Eduardo F. Camacho. Coalitional Control Cooperative Game Theory and Control. IEEE Control Systems Magazine 37(1): 53-69, Feb. 2017. (JCR IF(2016) 5.196, 4/60 Q1 Automation & Control Systems).
26. J. M. Grosso, P. Velarde, C. Ocampo-Martinez, **J. M. Maestre**, V. Puig. Stochastic Model Predictive Control Approaches applied to Drinking Water Networks. Optimal Control and Application Methods 2017; 38:541–558. (JCR IF (2016) 1.558, 36/60 Q3 Automation and Control Systems, 49/255 Q1 Applied Mathematics).

C.2. Research projects

Projects as PI

1. Coalitional Control for Cyber-Physical system Optimization, Round 2: Digital Doubles (C3PO-R2D2), project funded by the Spanish Ministry of Economy and Competitiveness (ref. PID2020-119476RB-I00). Duration: 2021-23. Budget: 160k eur.
2. AQUACOLLECT H2020 Enhancement, project funded by the «Proyectos I+D+i FEDER Andalucía 2014-2020» (ref. P-18-HO-4713). Junta de Andalucía. Duration: 2020-2021. Budget: 50k eur.
3. Efficient and safe management of micro-networks for the integration of renewable energies in homes using predictive control techniques, project funded by the «Proyectos I+D+i FEDER Andalucía 2014-2020» (ref. US-1265917). Duration: 2020-2022. Budget: 93k eur.
4. Coalitional Control for Cyber-Physical system Optimization (C3PO), project funded by the Spanish Ministry of Economy and Competitiveness (ref. DPI2017-86918-R). Duration: 2018-2021. Budget: 24k eur.
5. Pharmacontrol: Pharmacontrol, project funded by the Andalusian Government (ref. P12-TIC-2400). In cooperation with: Hospital Reina Sofía de Córdoba, Hospital S. Juan de Dios de Córdoba, Idener. Duration: 2014 – 2016. Budget: 43 k eur.

Other relevant funding as applicant

1. Adapting artificial intelligence in the loop model predictive irrigation control. Visiting Scholars' Fund of State Key Laboratory of Water Resources & Hydropower Engineering Science (Wuhan, China). Duration: 2021-2022. Budget: 18k eur.
2. Cyber Secure Distributed Model Predictive Control Schemes, fellowship funded by the Japanese Society for the Promotion of Science (PE16048). Duration: 2017-2018. Budget: 50k eur.

Other relevant participation in projects

1. Digital intelligence for collaborative ENergy management in Manufacturing. H2020. Duration: 2020-2024. Budget US: 500k eur. PI: Juan Manuel Escaño.
2. OCONTSOLAR. European Research Council. Duration: 2018 - 2023. Budget US: 2.5M eur. PI US: Eduardo Fernández Camacho.
3. Dynamic Management of Physically Coupled Systems of Systems (DYMASOS), funded by EU VII Framework Program (ref. FP7-ICT-ICT-2013.3.4-611281). Duration: 2013-2016. PI US: Budget: 321k eur.
4. Highly-Complex and networked control systems (HYCON 2). VII UE Framework Program. Duration: 2010 – 2014. Budget US: 200k eur. PI: E. F. Camacho.
5. Hierarchical and distributed control of large-scale systems (HD-MPC). VII UE Framework Program. Duration: 2008 – 2011. Budget US: 230k eur. PI: M. A. Ridao.

C.3. Contracts, technological or transfer merits

1. Smart cooking device Eskesso, funded by the EU program FIware, in cooperation with the firms UEG Mobile y Domonova. Budget: 100k.