MINISTERIO DE CIENCIA E INNOVACIÓN

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.

Part A. PERSONAL INFORMATION

CV date	12/01/2022

First name	MANUEL GIL		
Family name	ORTEGA LINARES		
e-mail	mortega@us.es	URL Web: http://www.etsi.us.es/~mortega	
Open Researcher and Contributor ID (ORCID) (*)		0000-0002-5463-2455	
Researcher ID		B-5331-2015	

(*) Mandatory

A.1. Current position

Position	Full Professor		
Initial date	26/04/2019		
Institution	Universidad de Sevilla		
Department/Center	Ingeniería de Sistemas y Automática		ETS Ingeniería
Country	Spain	Teleph. number	+34 954487356
Key words	Robust control, nonlinear control, process control, UAVs control		

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

Period	Position/Institution/Country/Interruption cause
2008-2019	Associate Professor / Universidad de Sevilla / Spain
1998-2008	Assistant Professor / Universidad de Sevilla / Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Ing. Industrial	U. Sevilla / Spain	1995
Dr. Ing. Industrial	U. Sevilla / Spain	04/07/2001

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

Manuel G. Ortega is full professor at the Systems Engineering and Automation, University of Seville. He received his Industrial Engineer degree and his Doctor Engineer degree with award in 1995 and 2001 respectively from the University of Seville. His main research areas have been focused on robust control, in particular on Hinf control, and on nonlinear control; both areas applied to process control, robotics, and aircraft control. His is co-author of more than 100 technical papers, including international journals, conferences proceedings, and book chapters. His h-index is 24 according to Google Scholar. He has supervised 7 PhD theses.

He has worked on many public competitive research projects, including a FP7 European project, in areas such as the process control and robotics. Recently he has started a new research line on the control of refrigeration systems. Actually, he is the leader of three public competitive research projects in that field.

He has also worked on research projects with companies, being the leader of most of them. Some projects addressed on modelling, control and optimization of power solar plant, including thermal and high-concentration photovoltaic plants. The experience gained in those projects has contributed to the new lines of cold production and cold facilities management.

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

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

1. **Journal paper**. Arahal, M.R., Satué, M.G., Ortega, M.G. *Optimal chiller loading including transients*. Energy & Buildings, Vol. 253, pp. 111527, 2021. (Q1 in Engineering Civil; among others).

2. **Journal paper**. Bejarano, G, Ortega, M.G., Normey-Rico, J.E., Rubio, F.R. *Optimal control analysis and Practical NMPC applied to refrigeration systems*. ISA Transactions, Vol. 107, pp.90-106, 2020 (Q1 in Automation & Control Systems; among others).

3. **Journal paper**. Satué, M.G., Castaño, F., Ortega, M.G., Rubio, F.R. *Power feedback strategy based on efficiency trajectory analysis for HCPV sun tracking*. Renewable Energy, Vol. 161, pp. 65-76, 2020 (Q1 in Green & Sustainable Science & Technology, among others).

4. **Journal paper**. García, R., Orihuela, L., Millán, P., Rubio, F.R., Ortega, M.G. *Guaranteed Estimation and Distributed Control of Vehicle Formations*. International Journal of Control, Vol. 93, pp. 2-15, 2020 (Q2 in Automation & Control Systems).

5. **Journal paper**. Bejarano, G, Rodríguez, D., Lemos, J.M., Vargas, M., Ortega, M.G. *MINLP-based hybrid strategy for operating mode selection of TES-backed-up refrigeration systems*. International Journal of Robust and Nonlinear Control, Vol. 30, pp. 6091-6111, 2020. (Q2 in Automation & Control Systems).

6. **Journal paper**. Bejarano, G, Vargas, M., Ortega, M.G., Castaño, F., Normey-Rico, J.E. *Efficient simulation strategy for PCM-based cold-energy storage systems*. Applied Thermal Engineering, Vol. 139, pp. 419-431, 2018. (Q1 in Thermodynamics; and in Engineering, Mechanical).

7. **Journal paper**. Bejarano, G, Vivas, C., Ortega, M.G., Vargas, M. *Novel scheme for a PCM-based cold energy storage system. Design, modelling, and simulation.* Applied Thermal Engineering, Vol. 132, pp. 256-274, 2018. (Q1 in Thermodynamics; and in Engineering, Mechanical).

8. **Journal paper**. Bejarano, G, Vivas, C., Ortega, M.G., Vargas, M. *Suboptimal hierarchical control strategy to improve energy efficiency of vapour-compression refrigeration systems*. Applied Thermal Engineering, Vol. 125, pp. 165-184, 2017. (Q1 in Thermodynamics; and in Engineering, Mechanical).

9. **Journal paper**. Bejarano, G, Alfaya, J.A., Ortega, M.G., Vargas, M. *On the difficulty of globally optimally controlling refrigeration systems*. Applied Thermal Engineering, Vol. 111, pp. 1143-1157, 2017. (Q1 in Thermodynamics; and in Engineering, Mechanical).

10. **Journal paper**. Jurado, I, Ortega, M.G., Quevedo, D.E., Rubio, F., *An H∞ suboptimal robust control approach for systems with uncertainties and data dropouts.* International

Journal of Systems Science, Vol. 46-11, pp. 1971-1981, 2014. (Q1 in Computer Science, Theory & Methods; and in Operations Research & Managements Science).

C.2. Congress

1. Bejarano, G., Rodríguez, D., Alfaya, J.A., Gil Vergel, J.D., Ortega, M.G. *Optimization and Cascade Robust Temperature Control of a Refrigerated Chamber.* 9th IFAC Symposium on Robust Control Design (ROCOND'18) and 2nd IFAC Workshop on Linear Parameter Varying Systems (LPVS'18). Florianópolis (Brasil). 2018.

2. Bejarano, G., Alfaya, J.A., Rodríguez, D., Morilla, F., Ortega, M.G. *Benchmark for PID control of Refrigeration Systems based on Vapour Compression.* 3rd IFAC Conference on Advances in Proportional-Integral-Derivative Control. Ghent, Bélgica. 2018

3. Rodríguez, D., Bejarano, G., Alfaya, J.A., Ortega, M.G. *Robust and Decoupling Approach to PID Control of Vapour-compression Refrigeration Systems.* 3rd IFAC Conference on Advances in Proportional-Integral-Derivative Control. Ghent, Bélgica. 2018

4. Rodríguez, D., Alfaya, J.A., Bejarano, G., Ortega, M.G., Castaño, F. *Steady-state parameter estimation of an experimental vapour compression refrigeration plant*. European Control Conference. Aalborg (Dinamarca). 2016

5. García, R., Orihuela, L., Millán, P., Ortega, M.G., Rubio, F.R. *Kalman-inspired distributed set-membership observers.* European Control Conference. Aalborg (Dinamarca). 2016

6. Navas, S., Rubio, F.R., Ollero, P., Ortega, M.G. *Modeling and simulation of parabolic trough solar fields with partial radiation*. European Control Conference. Aalborg (Dinamarca). 2016

7. García, R., Millán, P., Orihuela, L., Rubio, F.R., Ortega, M.G. *Agent-based guaranteed estimation and control of nonlinear systems*. European Control Conference (ECC). Linz - Austria. 2015

8. Alfaya, J.A., Bejarano, G.,Ortega, M.G, Rubio, F.R. *Multi-operating-point robust control of a one-stage refrigeration cycle*. European Control Conference (ECC). Linz - Austria. 2015

9. García, R., Raffo, G.V., Ortega, M.G., Rubio, F.R. *Guaranteed Quadrotor Position Estimation Based on GPS Refreshing Measurements*. *Workshop on Advanced Control and Navigation for Autonomous Aerospace Vehicles*. Seville. 2015

10. Raffo, G.V, Ortega, M.G., Rubio, F.R. *Nonlinear H-Infinitive Controller for the Quad-Rotor Helicopter With Input Coupling*. 18th IFAC Wold Congress. Milan. 2011.

C.3. Research projects

1. *Gestión Óptima de la Demanda de Frío en Grandes Instalaciones (OCOLA).* RTI2018-101897-B-100. Ortega-Linares, Manuel Gil (IP1) y Ruiz Arahal, Manuel (IP2) (Universidad de Sevilla). 2019-2021. 89298 EUR.

2. *Optimización de la Producción de Frío mediante Sistemas de Almacenamiento de Energía (OPF-SAE).* DPI2015-70973-R. Ortega-Linares, Manuel Gil (Universidad de Sevilla). 2016-2018. 203280 EUR.

3. *Optimización y Control Robusto Multivariable de Sistemas de Refrigeración (OCROSIRE).* DPI2012-37580-C02-02. Ortega-Linares, Manuel Gil (Universidad de Sevilla). 2013-2015. 152100 EUR.

4. *Control Óptimo de la Generación Híbrida de Frío Solar-Compresión de Vapor (COGESOL)* US-1381503. Rodríguez Rubio, Francisco / ortega Linares, Manuel Gil (Universidad de Sevilla). 2022-2023 (Concedido). 90.000 EUR.

C.4. Contracts, technological or transfer merits

1. *THESTO. Desarrollo de Sistemas de Almacenamiento para Generación Directa de Vapor.* IP: Ortega Linares, Manuel Gil (Abengoa Solar New Technologies, S.A.). 2012-2015. 250000 EUR.

2. *Sistemas de Sales Fundidas para el Almacenamiento Térmico a Alta Temperatura.* IP: Ortega Linares, Manuel Gil (Abengoa Solar New Technologies, S.A.). 2010-2011. 138491,38 EUR.

3. *eFleet - Inteligencia y eficiencia energética en la gestión integral de flotas de vehículos eléctricos.* IP: Ruiz Arahal, Manuel (Azvi, S.A.). 2013-2015.

4. *DIANNA. Desarrollo e Investigación de nuevas tecnologías para la automatización de los procesos de montaje aeronáutico: Aplicación Automática de Sellantes*. IP: Rodríguez Rubio, Francisco (Industria Especializada Aeronáutica, S.A.). 2012-2014.

5. *Suitable Control Method for a System of Photovoltaic Concentration Modules.*
Inventores: Ortega Linares, M.G, Rodríguez Rubio, F., Gerrero Cano, M., Noriega Gil, P.
N. de publicación: ES2384936 Fecha de publicación: 16-07-2012
N. de solicitud internacional: PCT/ES2012/070868 País de prioridad: España
Fecha de concesión: 24-04-2013
Entidad titular: ABENGOA Solar New Technologies, S.A.
Países a los que se ha extendido: Internacional
Empresa/s que la están explotando: ABENGOA Solar New Technologies, S.A.