MINISTERIO
DE CIENCIA
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AGENCIA
ESTATAL DE
INVESTIGACIÓN

CURRICULUM VITAE ABREVIADO (CVA)

Part A. PERSONAL INFORMATION

First name	DANIEL		
Family name	LIMON MARRUEDO		
Gender (*)		Birth date (dd/mm/yyyy)	
ID number			
e-mail		URL Web https://bibliometria.us.es/prisma/investigador/2196	
Open Researcher and Contributor ID (*)	0000-0001-9334-7289		

(*) Mandatory

A.1. Current position

Position	Full Professor
Initial date	10-11-2017
Institution	University of Seville
Department/Center	Sytems Engineering and Automation
Country	Spain	Tel. number
Key words	Model Predictive Control. Learning based control. Optimization

A.2. Previous positions (research activity interuptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
2007-2017	Associate Professor/ University of Seville/Spain
2006-2007	Prof. Contratado Doctor/ University of Seville/Spain
1999-2006	Assistant professor/ University of Seville/Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD on Automatics and Electronics	University of Seville	2002
Degree in Electric Engineering	University of Seville	1996

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

Daniel Limón is an Electrical Engineering PhD and Full Professor in the Systems Engineering and Automation department of the Univsersity of Seville since 2017. His main contributions are summarized in the following

Scientific contributions:

Daniel Limón is the responsible of the PAIDI research group TEP-950: Estimación, Predicción, Optimización y Control (GEPOC) (grupos.us.es/gepoc) and he has 3 periods of six years of research (sexenios de investigación) recognized by the CNEAI, the last one in 2018.

He is author of **63 publications in journals** indexed in JCR, **46 in Q1**, 10 in Q2, 3 in Q3 and 4 in Q4, **11 book chapters** and **115 conference papers**. His works have received **2863 WoS citations and his h-index is 28**. In Scopus the number of citations in Scopus is 3692 and his h index is 30. The total number of citations in Google Scholar is 6007 and his h-index is 39 and the i10-index is 83. His most cited work has total of 299 citations in WOS, 348 in Scopus and 488 in Google Scholar.

He has been invited as **Plenary Speaker** in the international conference on Nonlinear Model Predictive Conference NMPC08 in 2008, and as semi-plenary speaker in NMPC12. In addition, he has been the **organizer** of the 5th IFAC conference on Nonlinear Model Predictive Control (NMPC15), Seville, 2015.

He has been an **invited lecturer** in the IEEE Workshop on Innovations in Predictive Control 2018 in Mumbai (India) and in the workshop on Model Predictive Control in IFAC World Congress in Milano

2011. Additionally, he has been invited to give lectures in international universities like Cambridge, EPFL, Stuttgart, Magdeburg, Leicester or Sao Paulo, and national universities like Madrid or San Sebastián.

He has been **invited professor** in Mitsubishi Electric Research Labs (Cambridge, USA) from July to September 2018. He has also performed a research stay at the University of Cambridge from July to September 2016. In 1999 he was an invited researcher for three months in the Pennsylvania State University.

He is an **associate editor** of the Optimal Control Methods and Application (Wiley) journal since 2015.

He has been the **principal researcher of four research projects** funded by the Spanish national research plan. Besides that, he has participated in 3 framework projects and 2 networks of excellence funded by the European Commission and in 11 research projects funded by the Spanish national research plan (8) and Junta de Andalucía (3).

Society and industry contributions

Daniel Limón has been the **principal researcher in 1 knowledge transfer projects** funded by Junta de Andalucía devoted to the efficient management of Water Distribution Networks for the Aguas del Huesna Company. He is responsible of 2 transfer contracts with Mitsubishi Electric Research Labs for the development of predictive controllers for tracking and the design of data driven predictive control algorithms for tracking for multi-zone HVAC systems.

He has participated in an additional competitive knowledge transfer project funded by Junta de Andalucía and in other 12 knowledge transfer projects funded by private companies, such as EMASESA, Elecnor or Ontech.

Besides working on knowledge transfer projects for other companies, he was one of the founders of the spin-off company 'Optimización para la sostenibilidad S.L. (IDENER)' and joined as a partner to the technology-based company 'Optimal Performance S.L.'.

Contributions to the formation of young researchers

He has been the **supervisor of 7 PhD theses**, the last one presented in February 2023. All his PhD students has successful careers in the academia or in private companies.

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

C.1. Publications

Scientific paper. Krupa, P.; Limón, Daniel; Álamo, Teodoro. 2022. Harmonic based model predictive control for set-point IEEE Trans. on Automatic Control.pp 48-62.

Scientific paper. Krupa, Pablo; Limón, Daniel; Bemporad, Alberto; Álamo, Teodoro.2022. Efficiently solving the harmonic model predictive control formulation. IEEE Transactions on Automatic Control. pp1-8

Scientific paper. Álamo, Teodoro; Krupa, Pablo; Limón, Daniel. 2022. Restart of accelerated first order methods with linear convergence under a quadratic functional growth condition. IEEE Transactions on Automatic Control. pp 612-619

Scientific paper. Manzano, J.M.; Muñoz de La Peña, David; Calliess, Jan Peter; Limón, Daniel. 2021. Componentwise Hölder inference for robust learning-based MPC. IEEE Transactions on Automatic Control. pp.5577-5583

Scientific paper. Manzano, J.M.; Muñoz de La Peña, David; Calliess, Jan; Limón, Daniel. 2021. Online learning constrained model predictive control based on double prediction. International Journal of Robust and Nonlinear Control. 30, pp. 1-17.

Scientific paper. Maiworm, Michael; Limón, Daniel; Findeisen, Rolf. 2021. Online learning-based model predictive control with Gaussian process models and stability guarantees International Journal of Robust and Nonlinear Control. pp. 31-18,

Scientific paper. Krupa, Pablo; Limón, Daniel; Álamo, Teodoro. 2020. Implementation of Model Predictive Control in Programmable Logic Controllers. IEEE Transactions on Control Systems Technology. Early, pp. 1-14.

Scientific paper. Manzano, J.M.; Limón, Daniel; Muñoz de La Peña, David; Calliess, Jan. 2020. Robust learning-based MPC for nonlinear constrained systems. Automatica. 117, pp. 1-7.

Scientific paper. Limón, Daniel; Ferramosca-, Antonio; Alvarado-Aldea, Ignacio; Álamo, Teodoro. 2018. Nonlinear MPC for Tracking Piece-Wise Constant Reference Signals. IEEE Transactions on Automatic Control. 63, pp. 3735-3750.

Scientific paper. Muñoz de La Peña, David; Limón, Daniel; Pereira-Martín , Mario . 2017. Robust economic model predictive control of a community micro-grid. Renewable Energy. 100, pp. 3-17.

C.2. Congress

Oral presentation: M. Nadales, J.; G. Ordóñez, Joaquín; Coronel, Juan F.; Limón, D. Energy-efficiency-oriented gradient-based economic predictive control of multiple-chiller cooling systems. IFAC World Congress. Berlin (Germany). 2020

Oral presentation: Carnerero, A. D. ; Ramírez, D. R.; Limón, D.; Álamo, T. Particle based optimization for predictive energy efficient data center management. IEEE Conference on Decision and Control. Korea 2020.

Poster: Cardona Adrián; Limón Daniel; Coronel Juan Fco; Pérez-Lombard Luis. Creación de casos de estudio para la gestión energética de sistemas HVAC en edificios basados en TRNSYS. XL Jornadas de Automática. Ferrol, 2019

Oral presentation: Krupa, Pablo; Danielson, Claus; Laughman, Chris; Bortoff, Scott A.; Burns, Daniel J.; DI Cairano, Stefano; Limon, Daniel. Modelica implementation of centralized MPC controller for a multi-zone heat pump. European Control Conference, Naples. 2019.

Oral presentation: Ordonez, Joaquin G.; Danielson, Claus; Limon, Daniel; Bortoff, Scott A.; Di Cairano, Stefano. Steady-State Analysis of HVAC Performance using Indoor Fans in Control Design. IEEE Conference on Decision and Control. Nice (France) 2019.

Poster: Ordóñez Joaquín G.; Limón, Daniel; Pérez-Lombard, Luis; Nadales Juan M.; Cardona, Adrián; Coronel Juan F. Modelo de sistema de refrigeración de edificios orientado al control y gestión de la eficiencia energética. XL Jornadas de Automática. Ferrol, 2019

C.3. Research projects.

Project. (TED2021-132099B-C33) Estrategias seguras de rendezvous para eliminación activa de basura espacial mediante control predictivo basado en modelo con cuantificación de incertidumbre. Ministerio de Ciencia e Innovación. Proyectos de Transición Ecológica y Transición Digital. Limón, Daniel and Vázquez, Rafael. Universidad de Sevilla. 01-12-2022/30-11-2024. 102.000€. Principal Investigator.

Project. (PDC2021-121120-C21), Desarrollo de la herramienta SPCIES. Ministerio de Ciencia e Innovación. Programa Estatal de I+D+i Retos de la Sociedad: Pruebas de Concepto Limón, Daniel and Muñoz de la Peña, David. Universidad de Sevilla. 01/12/2021-30/11/2023. 138.000€. Principal Investigator.

Project. (P20_00546), Optimización predictiva basada en aprendizaje en tiempo real. Aplicación a sistemas de climatización. Junta de Andalucía (Consejería de Economía, Conocimiento, Empresas y Universidad). PAIDI: Proyectos I+D+i. Rodríguez, Daniel. Universidad de Sevilla. 05/10/2021-31/03/2023. 92.570 €. Researcher.

Project. (PID2019-106212RB-C41), Operación segura de infraestructuras estratégicas basada en optimización con restricciones probabilísticas y aprendizaje. Ministerio de Ciencia, Innovación y Universidades. Plan Estatal 2017-2020 Retos - Proyectos I+D+i. Álamo, Teodoro and Rodríguez, Daniel. Universidad de Sevilla. 01/01/2020-31/12/2022. 206.305 €. Researcher.

Project. (DPI2016-76493-C3-1-R), Operación Económica Basada en Datos de Sistemas Cyber-Físicos. Ministerio de Economía y Competitividad. Plan Estatal 2017-2020 Retos - Proyectos I+D+i. Limón, Daniel and Muñoz de la Peña, David. Universidad de Sevilla. 30/12/2016-31/12/2020. 160.930 €. Principal Investigator.

Project. (DPI2013-48243-C2-2-R), Estimación y optimización dinámica de la eficiencia en infraestructuras críticas. Ministerio de Economía y Competitividad. Plan Estatal 2013-2016 Retos - Proyectos I+D+i. Limón, Daniel and Álamo,Teodoro. 01/01/2014-31/12/2017. 95.590€. Principal Investigator.

Project. (P11-TEP-8129), Gestión Óptima de Edificios de Energía Cero. Junta de Andalucía - Consejería de Innovación, Ciencia y Empresas. Proyectos de Excelencia de la Junta de Andalucía. Camacho,Eduardo F. Universidad de Sevilla. 26/03/2013-25/03/2017. 197.432 €. Researcher.
Project. FP7-ICT-2009-5-257462, Highly-complex and networked control systems (HYCON2). European Commision. 7th Framework Programme. Camacho, Eduardo F. Universidad de Sevilla. 01/09/2010-30/11/2014. 226.200 €. Researcher.

C.4. Contracts, technological or transfer merits,

Transfer Project: (PYC20 RE 073 US) Gestión eficiente y segura de redes de distribución y tratamiento de agua basada en machine learning. Junta de Andalucía. PAIDI: Actividades de Transferencia de Conocimiento. Limón, Daniel. 27-12-2021/ 30-04-2023. 120.400€. Principal Investigator.

Contract: Diseño y desarrollo en un dispositivo SoC (System on Chip) con integración en silicio de tecnología de Campos Magnéticos. Ontech Security SL. David Muñoz de la Peña. 2019-2021. 70000 €

Contract: Development of model based and data driven predictive control algorithms for tracking for multi-zone hvac systems. Mitsubishi electric research laboratories, inc.. Limón, Daniel 2018-2018. 16710 EUR.

Contract: Model-based and Data-driven Predictive Control Algorithms for Tracking *. MITSUBISHI ELECTRIC RESEARCH LABORATORIES, INC.. Responsable: Limón Daniel 2017-2019. 25096 EUR.

Contract: ECOWAMER. Monitorización de Fugas, Consumos y Fraude en Redes de Abastecimiento de Agua *. Empresa Municipal de Abastecimiento y Saneamiento de Aguas de Sevilla (EMASESA). Alamo, Teodoro 2015-2016. 85000 EUR.

Contract: PLATER: Plataforma Integral de Energías Renovables *. Elecnor S.A.. Ramirez, D.R.. 2014-2015. 18000 EUR.

Contract: Medida Coherente de Caudal *. Empresa Municipal de Abastecimiento y Saneamiento de Aguas de Sevilla (EMASESA). Alamo, Teodoro. 2013-2013. 45000 EUR.

Founder of the spin-off company *Optimización para la sostenibilidad S.L. (IDENER) in 2010* and the technology-based company *Optimal Performance S.L.* in 2013