



## **Francisco María Martín Martínez**

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## Summary of CV

This section describes briefly a summary of your career in science, academic and research; the main scientific and technological achievements and goals in your line of research in the medium -and long- term. It also includes other important aspects or peculiarities.

In September 2011, he joined the Institute for Technological Research (IIT) as a visiting student in the Intelligent Systems Area. He obtained the degree of Industrial Engineer (Electrical specialization) in June 2013, the Master's in Research in Engineering Systems Modeling in June 2015, and the PhD in July 2017, all from Universidad Pontificia Comillas. During his doctorate, he spent three months at the Smart Polygeneration Microgrid (SPM) on the University of Genoa's Savona campus, where he was able to test his optimization models.

So far, he has published works related to the electricity sector, some at the system level and others at the customer level focused on distributed resources, in high-impact journals and conferences. He has also participated in technical studies and in a book chapter together with other IIT researchers using the model developed from his thesis, SPLORDER.

Currently, he combines teaching (see teaching profile) with research at IIT, where he works on projects for companies related to the electricity sector (Endesa, Iberdrola, Gas Natural...) or national and European projects (ReDREAM, SOCIAREM). In addition, during this time he has supervised theses and final degree, master's, or capstone projects. For several years, he also combined this with experience at the company Stemy Energy S.L., where he carried out management and software development tasks.



## Leadership Merits

Brief presentation of the merits related to leadership activities of special relevance.

Dr. Martín-Martínez demonstrates significant leadership merits beyond academia, highlighting his experience as co-founder and COO of Stemy Energy S.L. (2018–2024), a startup focused on energy efficiency and flexibility, where he undertook management and software development responsibilities. His technical influence extends to the standardization of norms, participating as a Member of the Working Group CTN-UNE 71/SC 42/GT 1 at AENOR – IEC for the “Evaluation of the energy efficiency of artificial intelligence systems.”

In addition, he has led funding acquisition, being responsible for securing resources for major European projects (such as REDREAM and SOCIAREM). The impact of his research is directly manifested in the sphere of energy policy, as his methodology for evaluating prosumer participation has been cited in at least two policy documents prepared by international bodies, underscoring his contribution to regulatory debates on flexibility and electricity markets.



## Francisco María Martín Martínez

**Surname(s):** Martín Martínez  
**Name:** Francisco María  
**ORCID:** 0000-0003-2968-7144  
**ScopusID:** 57207948302  
**ResearcherID:** AAG-8205-2019  
**Google Scholar ID:** uyrn9soAAAAJ  
**Gender:** Male  
**Nationality:** Spain  
**Contact aut. region/reg.:** Community of Madrid  
**Personal web page:** <https://www.iit.comillas.edu/personas/fmartin>

### Current professional situation

**Employing entity:** Universidad Pontificia Comillas      **Type of entity:** University  
**Department:** Escuela Técnica Superior de Ingeniería  
**Professional category:** PDI- Profesor Propio Adjunto      **Leadership and management (Y/N):** Yes  
**City employing entity:** Community of Madrid, Spain  
**Phone:** (34) 915422800  
**Start date:** 14/03/2025  
**Type of contract:** Permanent employment contract      **Dedication regime:** Full time

### Previous positions and activities

	Employing entity	Professional category	Start date
1	Universidad Pontificia Comillas	PDI - Investigador Propio Adjunto	04/07/2024
2	Universidad Pontificia Comillas	PDI - Investigador Colaborador Asistente	01/02/2019
3	Stemy Energy S.L.	Ingeniero Superior	01/02/2019
4	Universidad Pontificia Comillas	PDI - Investigador Colaborador Asistente	01/09/2017
5	Universidad Pontificia Comillas	PDI - Investigador en Formación	26/08/2013

**1** **Employing entity:** Universidad Pontificia Comillas      **Type of entity:** University  
**Department:** Instituto de Investigación Tecnológica (IIT), Escuela Técnica Superior de Ingeniería (ICAI)  
**Professional category:** PDI - Investigador Propio Adjunto      **Leadership and management (Y/N):** Yes  
**Start-End date:** 04/07/2024 - 13/03/2025  
**Type of contract:** Permanent employment contract  
**Dedication regime:** Full time  
**Area of leadership and/or management activity:** University



- 2** **Employing entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Department:** Instituto de Investigación Tecnológica (IIT), Escuela Técnica Superior de Ingeniería (ICAI)  
**Professional category:** PDI - Investigador Colaborador Asistente **Leadership and management (Y/N):** Yes  
**Start-End date:** 01/02/2019 - 04/07/2024  
**Type of contract:** Permanent employment contract  
**Dedication regime:** Part time  
**Area of leadership and/or management activity:** University
- 3** **Employing entity:** Stemy Energy S.L. **Type of entity:** Business  
**Professional category:** Ingeniero Superior  
**Start-End date:** 01/02/2019 - 04/07/2024  
**Type of contract:** Permanent employment contract  
**Dedication regime:** Part time
- 4** **Employing entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Department:** Instituto de Investigación Tecnológica (IIT), Escuela Técnica Superior de Ingeniería (ICAI)  
**Professional category:** PDI - Investigador Colaborador Asistente **Leadership and management (Y/N):** Yes  
**Start-End date:** 01/09/2017 - 31/01/2019  
**Dedication regime:** Full time  
**Area of leadership and/or management activity:** University
- 5** **Employing entity:** Universidad Pontificia Comillas  
**Department:** Instituto de Investigación Tecnológica (IIT)  
**City employing entity:** Community of Madrid, Spain  
**Professional category:** PDI - Investigador en Formación  
**Phone:** (34) 915422800  
**Start-End date:** 26/08/2013 - 24/08/2017  
**Dedication regime:** Full time



## Education

### University education

#### 1st and 2nd cycle studies and pre-Bologna degrees

- 1** **University degree:** Higher degree  
**Name of qualification:** Official master's degree in research in engineering systems modeling  
**Degree awarding entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Date of qualification:** 01/07/2015
- 2** **University degree:** Higher degree  
**Name of qualification:** Ingeniero Industrial  
**Degree awarding entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Date of qualification:** 01/07/2013

#### Doctorates

**Doctorate programme:** Doctorado internacional en modelado de sistemas de ingeniería  
**Degree awarding entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Date of degree:** 25/08/2017

#### Specialised, lifelong, technical, professional and refresher training (other than formal academic and healthcare studies)

**Type of training:** Course  
**Training title:** International Course EES-UETP: Microgrids' the building block of a smarter grid  
**City awarding entity:** Oporto, Portugal  
**Awarding entity:** EES-UETP; INESC Porto **Type of entity:** Technological Centre  
**End date:** 04/06/2014 **Duration in hours:** 22 hours

#### Language skills

Language	Listening skills	Reading skills	Spoken interaction	Speaking skills	Writing skills
English	C2	C2	C2	C2	C2



## Teaching experience

### General teaching experience

- 1** **Type of teaching:** Official teaching  
**Name of the course:** Microprocesadores  
**Type of teaching:** In person theory  
**Type of subject:** Obligatoria (Grado)  
**University degree:** Grado en Ingeniería en Tecnologías de Telecomunicación  
**Start date:** 15/01/2025 **End date:** 23/05/2025  
**Type of hours/ ECTS credits:** Credits  
**Hours/ECTS credits:** 3  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)  
**Department:** Departamento de Electrónica, Automática y Comunicaciones  
**City of entity:** Madrid, Community of Madrid, Spain
- 2** **Type of teaching:** Official teaching  
**Name of the course:** Microprocesadores  
**Type of teaching:** Práctica  
**Type of subject:** Obligatoria (Grado)  
**University degree:** Grado en Ingeniería en Tecnologías de Telecomunicación  
**Start date:** 15/01/2025 **End date:** 23/05/2025  
**Type of hours/ ECTS credits:** Credits  
**Hours/ECTS credits:** 3  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)  
**Department:** Departamento de Electrónica, Automática y Comunicaciones  
**City of entity:** Madrid, Community of Madrid, Spain
- 3** **Type of teaching:** Official teaching  
**Name of the course:** Sistemas Electrónicos  
**Type of teaching:** Práctica  
**Type of subject:** Obligatoria (Grado)  
**University degree:** Grado en Ingeniería Matemática  
**Start date:** 15/01/2025 **End date:** 23/05/2025  
**Type of hours/ ECTS credits:** Credits  
**Hours/ECTS credits:** 3  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)  
**Department:** Departamento de Electrónica, Automática y Comunicaciones  
**City of entity:** Madrid, Community of Madrid, Spain
- 4** **Type of teaching:** Official teaching  
**Name of the course:** Sistemas Electrónicos  
**Type of teaching:** Práctica  
**Type of subject:** Obligatoria (Grado)



**University degree:** Grado en Ingeniería Matemática

**Start date:** 15/01/2025

**End date:** 23/05/2025

**Type of hours/ ECTS credits:** Credits

**Hours/ECTS credits:** 3

**Entity:** Universidad Pontificia Comillas

**Type of entity:** University

**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)

**Department:** Departamento de Electrónica, Automática y Comunicaciones

**City of entity:** Madrid, Community of Madrid, Spain

**5 Type of teaching:** Official teaching

**Name of the course:** Microprocesadores

**Type of teaching:** In person theory

**Type of subject:** Obligatoria (Grado)

**University degree:** Grado en Ingeniería en Tecnologías de Telecomunicación

**Start date:** 15/01/2024

**End date:** 23/05/2024

**Type of hours/ ECTS credits:** Credits

**Hours/ECTS credits:** 3

**Entity:** Universidad Pontificia Comillas

**Type of entity:** University

**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)

**Department:** Departamento de Electrónica, Automática y Comunicaciones

**City of entity:** Madrid, Community of Madrid, Spain

**6 Type of teaching:** Official teaching

**Name of the course:** Microprocesadores

**Type of teaching:** In person theory

**Type of subject:** Obligatoria (Grado)

**University degree:** Grado en Ingeniería en Tecnologías de Telecomunicación

**Start date:** 15/01/2024

**End date:** 23/05/2024

**Type of hours/ ECTS credits:** Credits

**Hours/ECTS credits:** 3

**Entity:** Universidad Pontificia Comillas

**Type of entity:** University

**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)

**Department:** Departamento de Electrónica, Automática y Comunicaciones

**City of entity:** Madrid, Community of Madrid, Spain

**7 Type of teaching:** Official teaching

**Name of the course:** Microprocesadores

**Type of teaching:** Práctica

**Type of subject:** Optativa (Grado)

**University degree:** Grado en Ingeniería en Tecnologías Industriales

**Start date:** 04/09/2023

**End date:** 14/01/2024

**Type of hours/ ECTS credits:** Credits

**Hours/ECTS credits:** 4,5

**Entity:** Universidad Pontificia Comillas

**Type of entity:** University

**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)

**Department:** Departamento de Electrónica, Automática y Comunicaciones

**City of entity:** Madrid, Community of Madrid, Spain

**8 Type of teaching:** Official teaching

**Name of the course:** Microprocesadores

**Type of teaching:** In person theory



**Type of subject:** Obligatoria (Grado)

**University degree:** Grado en Ingeniería en Tecnologías de Telecomunicación

**Start date:** 16/01/2023

**End date:** 24/05/2023

**Type of hours/ ECTS credits:** Credits

**Hours/ECTS credits:** 3

**Entity:** Universidad Pontificia Comillas

**Type of entity:** University

**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)

**Department:** Departamento de Electrónica, Automática y Comunicaciones

**City of entity:** Madrid, Community of Madrid, Spain

**9 Type of teaching:** Official teaching

**Name of the course:** Microprocesadores

**Type of teaching:** Práctica

**Type of subject:** Obligatoria (Grado)

**University degree:** Grado en Ingeniería en Tecnologías de Telecomunicación

**Start date:** 16/01/2023

**End date:** 24/05/2023

**Type of hours/ ECTS credits:** Credits

**Hours/ECTS credits:** 3

**Entity:** Universidad Pontificia Comillas

**Type of entity:** University

**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)

**Department:** Departamento de Electrónica, Automática y Comunicaciones

**City of entity:** Madrid, Community of Madrid, Spain

**10 Type of teaching:** Official teaching

**Name of the course:** Microprocesadores

**Type of teaching:** Práctica

**Type of subject:** Optativa (Grado)

**University degree:** Grado en Ingeniería en Tecnologías Industriales

**Start date:** 01/09/2022

**End date:** 15/01/2023

**Type of hours/ ECTS credits:** Credits

**Hours/ECTS credits:** 4,5

**Entity:** Universidad Pontificia Comillas

**Type of entity:** University

**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)

**Department:** Departamento de Electrónica, Automática y Comunicaciones

**City of entity:** Madrid, Community of Madrid, Spain

**11 Type of teaching:** Official teaching

**Name of the course:** Microprocesadores

**Type of teaching:** In person theory

**Type of subject:** Obligatoria (Grado)

**University degree:** Grado en Ingeniería en Tecnologías de Telecomunicación

**Start date:** 12/01/2022

**End date:** 22/05/2022

**Type of hours/ ECTS credits:** Credits

**Hours/ECTS credits:** 3

**Entity:** Universidad Pontificia Comillas

**Type of entity:** University

**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)

**Department:** Departamento de Electrónica, Automática y Comunicaciones

**City of entity:** Madrid, Community of Madrid, Spain



- 12** **Type of teaching:** Official teaching  
**Name of the course:** Microprocesadores  
**Type of teaching:** Práctica  
**Type of subject:** Obligatoria (Grado)  
**University degree:** Grado en Ingeniería en Tecnologías de Telecomunicación  
**Start date:** 12/01/2022 **End date:** 22/05/2022  
**Type of hours/ ECTS credits:** Credits  
**Hours/ECTS credits:** 3  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)  
**Department:** Departamento de Electrónica, Automática y Comunicaciones  
**City of entity:** Madrid, Community of Madrid, Spain
- 13** **Type of teaching:** Official teaching  
**Name of the course:** Microprocesadores  
**Type of teaching:** Práctica  
**Type of subject:** Optativa (Grado)  
**University degree:** Grado en Ingeniería en Tecnologías Industriales  
**Start date:** 01/09/2021 **End date:** 16/01/2022  
**Type of hours/ ECTS credits:** Credits  
**Hours/ECTS credits:** 4,5  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)  
**Department:** Departamento de Electrónica, Automática y Comunicaciones  
**City of entity:** Madrid, Community of Madrid, Spain
- 14** **Type of teaching:** Official teaching  
**Name of the course:** Microprocesadores  
**Type of teaching:** In person theory  
**Type of subject:** Obligatoria (Grado)  
**University degree:** Grado en Ingeniería en Tecnologías de Telecomunicación  
**Start date:** 13/01/2021 **End date:** 21/05/2021  
**Type of hours/ ECTS credits:** Credits  
**Hours/ECTS credits:** 3  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)  
**Department:** Departamento de Electrónica, Automática y Comunicaciones  
**City of entity:** Madrid, Community of Madrid, Spain
- 15** **Type of teaching:** Official teaching  
**Name of the course:** Microprocesadores  
**Type of teaching:** Práctica  
**Type of subject:** Obligatoria (Grado)  
**University degree:** Grado en Ingeniería en Tecnologías de Telecomunicación  
**Start date:** 13/01/2021 **End date:** 21/05/2021  
**Type of hours/ ECTS credits:** Credits  
**Hours/ECTS credits:** 3  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)  
**Department:** Departamento de Electrónica, Automática y Comunicaciones  
**City of entity:** Madrid, Community of Madrid, Spain



- 16** **Type of teaching:** Official teaching  
**Name of the course:** Microprocesadores  
**Type of teaching:** Práctica  
**Type of subject:** Optativa (Grado)  
**University degree:** Grado en Ingeniería en Tecnologías Industriales  
**Start date:** 01/09/2020 **End date:** 12/01/2021  
**Type of hours/ ECTS credits:** Credits  
**Hours/ECTS credits:** 4,5  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)  
**Department:** Departamento de Electrónica, Automática y Comunicaciones  
**City of entity:** Madrid, Community of Madrid, Spain
- 17** **Type of teaching:** Official teaching  
**Name of the course:** Microprocesadores  
**Type of teaching:** Práctica  
**Type of subject:** Obligatoria (Grado)  
**University degree:** Grado en Ingeniería en Tecnologías de Telecomunicación  
**Start date:** 14/01/2020 **End date:** 24/05/2020  
**Type of hours/ ECTS credits:** Credits  
**Hours/ECTS credits:** 3  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)  
**Department:** Departamento de Electrónica, Automática y Comunicaciones  
**City of entity:** Madrid, Community of Madrid, Spain
- 18** **Type of teaching:** Official teaching  
**Name of the course:** Microprocesadores  
**Type of programme:** Grado **Type of teaching:** Laboratory work  
**Type of subject:** Optional  
**University degree:** Grado en Ingeniería en Tecnologías Industriales  
**Start date:** 02/09/2018 **End date:** 13/01/2020  
**Type of hours/ ECTS credits:** Credits  
**Hours/ECTS credits:** 4,5  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)  
**Department:** Departamento de Electrónica, Automática y Comunicaciones  
**City of entity:** Madrid, Community of Madrid, Spain
- 19** **Type of teaching:** Official teaching  
**Name of the course:** Microprocesadores  
**Type of teaching:** Práctica  
**Type of subject:** Obligatoria (Grado)  
**University degree:** Grado en Ingeniería en Tecnologías de Telecomunicación  
**Start date:** 14/01/2019 **End date:** 24/05/2019  
**Type of hours/ ECTS credits:** Credits  
**Hours/ECTS credits:** 3  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)  
**Department:** Departamento de Electrónica, Automática y Comunicaciones



**City of entity:** Madrid, Community of Madrid, Spain

**20 Type of teaching:** Official teaching

**Name of the course:** Optativa complementaria. Current developments in power systems

**Type of teaching:** Ordinaria

**Type of subject:** Optativa

**University degree:** Official Master's Degree in the Electric Power Industry

**Start date:** 14/01/2019

**End date:** 24/05/2019

**Type of hours/ ECTS credits:** Credits

**Hours/ECTS credits:** 0,2

**Entity:** Universidad Pontificia Comillas

**Type of entity:** University

**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)

**Department:** Departamento de Ingeniería Eléctrica

**City of entity:** Madrid, Community of Madrid, Spain

**21 Type of teaching:** Official teaching

**Name of the course:** Microprocesadores

**Type of teaching:** Práctica

**Type of subject:** Optativa (Grado)

**University degree:** Grado en Ingeniería en Tecnologías Industriales

**Start date:** 03/09/2018

**End date:** 13/01/2019

**Type of hours/ ECTS credits:** Credits

**Hours/ECTS credits:** 4,5

**Entity:** Universidad Pontificia Comillas

**Type of entity:** University

**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)

**Department:** Departamento de Electrónica, Automática y Comunicaciones

**City of entity:** Madrid, Community of Madrid, Spain

**22 Type of teaching:** Official teaching

**Name of the course:** Trabajo Fin de Máster

**Type of teaching:** In person theory

**Type of subject:** Prueba Final Máster

**University degree:** Máster Universitario en Ingeniería Industrial

**Start date:** 01/09/2017

**End date:** 31/08/2018

**Entity:** Universidad Pontificia Comillas

**Type of entity:** University

**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)

**Department:** Departamento de Electrónica, Automática y Comunicaciones, Departamento de Ingeniería Eléctrica, Depa

**City of entity:** Madrid, Community of Madrid, Spain

**23 Type of teaching:** Official teaching

**Name of the course:** Proyecto Fin de Grado

**Type of teaching:** Ordinaria

**Type of subject:** Trabajo fin de Grado

**University degree:** Grado en Ingeniería Electromecánica

**Start date:** 01/09/2017

**End date:** 31/08/2018

**Entity:** Universidad Pontificia Comillas

**Type of entity:** University

**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)

**Department:** Departamento de Ingeniería Eléctrica

**City of entity:** Madrid, Community of Madrid, Spain



- 24** **Type of teaching:** Official teaching  
**Name of the course:** Sistemas Electrónicos Digitales  
**Type of teaching:** Práctica  
**Type of subject:** Obligatoria (Grado)  
**University degree:** Grado en Ingeniería Electromecánica  
**Start date:** 04/09/2017 **End date:** 14/01/2018  
**Type of hours/ ECTS credits:** Credits  
**Hours/ECTS credits:** 3,75  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)  
**Department:** Departamento de Electrónica, Automática y Comunicaciones  
**City of entity:** Madrid, Community of Madrid, Spain
- 25** **Type of teaching:** Official teaching  
**Name of the course:** Proyecto Fin de Grado  
**Type of teaching:** Ordinaria  
**Type of subject:** Trabajo fin de Grado  
**University degree:** Grado en Ingeniería Electromecánica  
**Start date:** 01/09/2016 **End date:** 31/08/2017  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)  
**Department:** Departamento de Electrónica, Automática y Comunicaciones  
**City of entity:** Madrid, Community of Madrid, Spain
- 26** **Type of teaching:** Official teaching  
**Name of the course:** Trabajo Fin de Máster  
**Type of teaching:** In person theory  
**Type of subject:** Prueba Final Máster  
**University degree:** Máster Universitario en Ingeniería Industrial  
**Start date:** 01/09/2016 **End date:** 31/08/2017  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)  
**Department:** Departamento de Electrónica, Automática y Comunicaciones, Departamento de Ingeniería Eléctrica, Depa  
**City of entity:** Madrid, Community of Madrid, Spain
- 27** **Type of teaching:** Official teaching  
**Name of the course:** Sistemas Electrónicos Digitales  
**Type of teaching:** Práctica  
**Type of subject:** Obligatoria (Grado)  
**University degree:** Grado en Ingeniería Electromecánica  
**Start date:** 01/09/2016 **End date:** 13/01/2017  
**Type of hours/ ECTS credits:** Credits  
**Hours/ECTS credits:** 3,75  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)  
**Department:** Departamento de Electrónica, Automática y Comunicaciones  
**City of entity:** Madrid, Community of Madrid, Spain

**28** **Type of teaching:** Official teaching  
**Name of the course:** Sistemas Electrónicos Digitales  
**Type of teaching:** Práctica  
**Type of subject:** Obligatoria (Grado)  
**University degree:** Grado en Ingeniería Electromecánica  
**Start date:** 02/09/2015 **End date:** 12/01/2016  
**Type of hours/ ECTS credits:** Credits  
**Hours/ECTS credits:** 3,75  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)  
**Department:** Departamento de Electrónica, Automática y Comunicaciones  
**City of entity:** Madrid, Community of Madrid, Spain

**29** **Type of teaching:** Official teaching  
**Name of the course:** Sistemas Digitales I  
**Type of teaching:** Práctica  
**Type of subject:** Obligatoria (Grado)  
**University degree:** Grado en Ingeniería Telemática  
**Start date:** 13/01/2015 **End date:** 01/06/2015  
**Type of hours/ ECTS credits:** Credits  
**Hours/ECTS credits:** 3  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Faculty, institute or centre:** Escuela Técnica Superior de Ingeniería (ICAI)  
**Department:** Departamento de Electrónica, Automática y Comunicaciones  
**City of entity:** Madrid, Community of Madrid, Spain

## Experience supervising doctoral thesis and/or final year projects

- 1** **Project title:** Análisis de los métodos de clasificación en Machine Learning  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Student:** Lucía Álvarez Castro  
**Date of reading:** 30/06/2025
- 2** **Project title:** Aprendizaje por refuerzo e IA generativa para la gestión de la demanda energética  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Student:** Álvaro González Tabernero  
**Date of reading:** 30/06/2025
- 3** **Project title:** Diseño e implementación de un servidor que permita estudiar la experiencia de usuario en aplicaciones y webs  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Student:** Miguel Sánchez-Beato Gil  
**Date of reading:** 30/06/2025
- 4** **Project title:** Conexión con medidores de energía Wibee  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Student:** Fernando Arellano Rico  
**Date of reading:** 30/06/2024



- 5** **Project title:** Gamificación de Microprocesadores  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Student:** Alejandra de la Rica Escudero  
**Date of reading:** 30/06/2023
- 6** **Project title:** Sistema inteligente para habitaciones hoteleras  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Student:** Luis Bueno Archaga  
**Date of reading:** 30/06/2023
- 7** **Project title:** Diseno e implementación de la electrónica en un coche de competición Formula Student  
**Type of project:** Proyecto de Fin de Carrera  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**City of entity:** Madrid, Community of Madrid, Spain  
**Student:** Fernando del Pino Osborne  
**Date of reading:** 30/06/2022
- 8** **Project title:** Logística Certificada en Blockchain  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**Student:** Ainhoa García Echeverría  
**Date of reading:** 15/07/2019
- 9** **Project title:** Diseño de válvula termostática para el control de temperatura de una habitación  
**Type of project:** Trabajo de Fin de Grado  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**City of entity:** Madrid, Community of Madrid, Spain  
**Student:** Daniel Goicoechea Artero  
**Date of reading:** 26/08/2018
- 10** **Project title:** Diseño y desarrollo del control de una caldera de gas ecotec plus de Vaillant mediante protocolo EBUS  
**Type of project:** Trabajo de Fin de Grado  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**City of entity:** Madrid, Community of Madrid, Spain  
**Student:** Hugo García Tovar  
**Date of reading:** 24/07/2018
- 11** **Project title:** Análisis económico de la generación distribuida y centralizada con paneles fotovoltaicos  
**Type of project:** Trabajo de Fin de Máster  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**City of entity:** Madrid, Community of Madrid, Spain  
**Student:** Zhiyin Lou  
**Date of reading:** 15/07/2018
- 12** **Project title:** Potencial de la tecnología Blockchain en el sector eléctrico  
**Type of project:** Trabajo de Fin de Máster  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**City of entity:** Madrid, Community of Madrid, Spain  
**Student:** Daniel García Guzmán  
**Date of reading:** 15/07/2018



- 13** **Project title:** Desarrollo del control remoto y local de una persiana para edificios inteligentes  
**Type of project:** Trabajo de Fin de Grado  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**City of entity:** Madrid, Community of Madrid, Spain  
**Student:** Estefanía Zulaica Pérez  
**Date of reading:** 31/08/2017
- 14** **Project title:** Termostato para un edificio inteligente  
**Type of project:** Trabajo de Fin de Máster  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**City of entity:** Madrid, Community of Madrid, Spain  
**Student:** Pedro de Otaola Arca  
**Date of reading:** 02/06/2017
- 15** **Project title:** Desarrollo de un vehículo eléctrico ultraligero  
**Type of project:** Trabajo de Fin de Grado  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**City of entity:** Madrid, Community of Madrid, Spain  
**Student:** Carlos Becker Robles  
**Date of reading:** 03/06/2016
- 16** **Project title:** Gestión inteligente de edificios y viviendas interconectadas en un distrito de consumo energético cero  
**Type of project:** Trabajo de Fin de Grado  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**City of entity:** Madrid, Community of Madrid, Spain  
**Student:** Zhiyin Lou  
**Date of reading:** 03/06/2016
- 17** **Project title:** Coordinación de recursos energéticos distribuidos en distritos inteligentes  
**Type of project:** Trabajo de Fin de Grado  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**City of entity:** Madrid, Community of Madrid, Spain  
**Student:** Enrique Fernández-Castaño Ruiz  
**Date of reading:** 05/06/2015
- 18** **Project title:** Desarrollo de una plataforma para la definición natural de comportamientos en un sistema domótico  
**Type of project:** Trabajo de Fin de Grado  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**City of entity:** Madrid, Community of Madrid, Spain  
**Student:** Marta Garrido Oriol  
**Date of reading:** 05/06/2015
- 19** **Project title:** Etiquetas inteligentes para la localización de objetivos  
**Type of project:** Trabajo de Fin de Grado  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**City of entity:** Madrid, Community of Madrid, Spain  
**Student:** Belén Núñez Oliva  
**Date of reading:** 05/06/2015



- 20** **Project title:** Medida de potencia para sistemas de gestión de energía en hogares  
**Type of project:** Trabajo de Fin de Grado  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**City of entity:** Madrid, Community of Madrid, Spain  
**Student:** Jorge García-Morales Merino  
**Date of reading:** 05/06/2015
- 21** **Project title:** Control de un sistema domótico mediante un iPhone  
**Type of project:** Proyecto de Fin de Carrera  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**City of entity:** Madrid, Community of Madrid, Spain  
**Student:** Ignacio Bautista Enciso  
**Date of reading:** 02/05/2014
- 22** **Project title:** Control de un sistema domótico mediante un smartphone Android  
**Type of project:** Proyecto de Fin de Carrera  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**City of entity:** Madrid, Community of Madrid, Spain  
**Student:** Miguel Manuel Martín Lopo  
**Date of reading:** 02/05/2014
- 23** **Project title:** Control inalámbrico de equipos en un edificio inteligente  
**Type of project:** Trabajo de Fin de Grado  
**Entity:** Universidad Pontificia Comillas **Type of entity:** University  
**City of entity:** Madrid, Community of Madrid, Spain  
**Student:** Jaime Adroher Molins  
**Date of reading:** 02/05/2014

## Other activities/achievements not included above

- 1** **Description of the activity:** Acreditación: Profesor Contratado Doctor  
**Organising entity:** Agencia Nacional de Evaluación de la Calidad y Acreditación **Type of entity:** Ente Público  
**End date:** 05/12/2022
- 2** **Description of the activity:** Acreditación: Profesor de Universidad Privada  
**Organising entity:** Agencia Nacional de Evaluación de la Calidad y Acreditación **Type of entity:** Ente Público  
**End date:** 05/12/2022
- 3** **Description of the activity:** Acreditación: Profesor Ayudante Doctor  
**Organising entity:** Agencia Nacional de Evaluación de la Calidad y Acreditación **Type of entity:** Ente Público  
**End date:** 19/10/2018
- 4** **Description of the activity:** Curso: Curso: International Course EES-UETP: Microgrids ? the building block of a smarter grid  
**City of activity:** Oporto, Portugal  
**Organising entity:** EES-UETP; Instituto de Engenharia de Sistemas e Computadores, Tecnologia e Ciência (INESC TEC)



End date: 04/06/2014

## Scientific and technological experience

### Scientific or technological activities

#### R&D projects funded through competitive calls of public or private entities

- 1 Name of the project:** Solar Open Community Instruments for All Residents in Europe and the Mediterranean region (Horizon Europe Grant agreement ID: 101235482)  
**Entity where project took place:** Comisión Europea  
**Name principal investigator (PI, Co-PI....):** Francisco Martín Martínez  
**Nº of researchers:** 10  
**Start-End date:** 01/10/2025 - 30/03/2029  
**Total amount:** 5.572.687,5 €
- 2 Name of the project:** BeFlex- Boosting Engagement to increase FLEXibility  
**Entity where project took place:** Comisión Europea  
**Start-End date:** 01/09/2022 - 01/09/2026  
**Total amount:** 10.383.163,75 €  
**Applicant's contribution:** Participación a través de Stemy Energy
- 3 Name of the project:** REDREAM: Real consumer engagement through a new user-centric ecosystem development for end-users' assets in a multi-market scenario  
**Entity where project took place:** Comisión Europea  
**Nº of researchers:** 10  
**Start-End date:** 01/10/2020 - 01/04/2024  
**Total amount:** 7.204.530 €
- 4 Name of the project:** FLEXENER: Nuevo sistema energético 100% renovable, flexible y robusto para la integración de nuevas tecnologías en generación, redes y demanda – Escenarios  
**Degree of contribution:** Researcher  
**Entity where project took place:** Iberdrola Generación España, S.A.U  
**Name principal investigator (PI, Co-PI....):** Michel Luis Rivier Abbad  
**Nº of researchers:** 9  
**Funding entity or bodies:**  
Iberdrola Generación España, S.A.U  
**Start-End date:** 01/10/2020 - 31/12/2023
- 5 Name of the project:** IA4TES: Inteligencia Artificial para la Transición Energética Sostenible  
**Degree of contribution:** Researcher  
**Entity where project took place:** Ministerio de Ciencia e Innovación      **Type of entity:** Gobierno de España  
**Name principal investigator (PI, Co-PI....):** 1  
**Name of the programme:** Misiones  
**Code according to the funding entity:** IA4TES MIA.2021.M04.000  
**Start-End date:** 01/10/2020 - 31/12/2023



**Applicant's contribution:** Participación a través de Stemy Energy

- 6 Name of the project:** OneNet- One network for Europe  
**Entity where project took place:** Comisión Europea  
**Nº of researchers:** 10  
**Start-End date:** 01/10/2020 - 01/10/2023  
**Total amount:** 27.900.043,75 €  
**Applicant's contribution:** Participación a través de Stemy Energy

### R&D non-competitive contracts, agreements or projects with public or private entities

- 1 Name of the project:** Colaboración para el despliegue y puesta en marcha de los sistemas de PROFITFLEX para implementar servicios de agregación de demanda de clientes en los mercados eléctricos  
**Degree of contribution:** Researcher  
**Name principal investigator (PI, Co-PI....):** Alvaro Sánchez; Francisco Martín; Jaime Boal; Carlos Rodríguez; Ruben Rodríguez  
**Nº of researchers:** 5  
**Funding entity or bodies:**  
 PROFITFLEX **Type of entity:** Business  
**City funding entity:** Madrid, Spain  
**Start date:** 01/09/2025 **Duration:** 1 year
- 2 Name of the project:** Análisis de la electrificación del transporte pesado  
**Name principal investigator (PI, Co-PI....):** Michel Rivier; Francisco Martín; Fernando Modrego-Arceo  
**Nº of researchers:** 3  
**Funding entity or bodies:**  
 Iberdrola, S.A. **Type of entity:** Business  
**Start date:** 01/09/2024 **Duration:** 4 years
- 3 Name of the project:** Cuantificación de los beneficios técnico-económicos del despliegue del almacenamiento distribuido y la respuesta de la demanda  
**Degree of contribution:** Researcher  
**Name principal investigator (PI, Co-PI....):** Carlos Mateo; José Pablo Chaves; Andrés Ramos; Francisco Martín; Tomás Gómez; Miguel Martínez  
**Nº of researchers:** 6  
**Funding entity or bodies:**  
 Samso EDS S.L. , UNEF, AEPIBAL, PIMEC, OCTOPUS  
**City funding entity:** Spain  
**Start date:** 01/09/2024 **Duration:** 5 months  
**Total amount:** 60.000 €
- 4 Name of the project:** Inteligencia Artificial para ahorro energético en hoteles  
**Degree of contribution:** Technician  
**Name principal investigator (PI, Co-PI....):** José Portela González; Francisco Martín Martínez; Samuel Peña Yunda  
**Nº of researchers:** 3  
**Funding entity or bodies:**  
 Substrate AI, S.A. **Type of entity:** Business  
**Start date:** 01/09/2023 **Duration:** 9 months



- 5** **Name of the project:** Marco director para el desarrollo de los proyectos de urbanización en materia de infraestructura energética en Madrid Nuevo Norte  
**Degree of contribution:** Researcher  
**Name principal investigator (PI, Co-PI....):** Tomás Gomez San Roman; Álvaro Sánchez Miralles; Rafael Cossent; Carlos Mateo; Pablo Rodilla; José Ignacio Linares; Francisco Martín Martínez; Fernando Postigo; Luca de Rosa  
**Nº of researchers:** 9  
**Funding entity or bodies:**  
IDOM INGENIERIA Y CONSULTORIA, S.A.  
**Start date:** 01/05/2020 **Duration:** 6 months
- 6** **Name of the project:** Análisis del mix de generación 2030 bajo distintos escenarios de gestión de la demanda y generación  
**Name principal investigator (PI, Co-PI....):** Francisco Martín Martínez  
**Nº of researchers:** 2  
**Funding entity or bodies:**  
Repsol S.A.  
**Start date:** 01/09/2019 **Duration:** 1 month - 15 days  
**Total amount:** 48.000 €
- 7** **Name of the project:** Análisis de la expansión y explotación del sistema eléctrico español en el horizonte 2030-2050  
**Name principal investigator (PI, Co-PI....):** Michel Rivier; Tomás Gómez; Álvaro Sánchez; Francisco Martín; José Pablo Chaves; Teresa Freire; Andrés Ramos; Sebastien Huclin; Timo Guerres  
**Nº of researchers:** 9  
**Funding entity or bodies:**  
Iberdrola, S.A. **Type of entity:** Business  
**Start date:** 01/01/2019 **Duration:** 4 years
- 8** **Name of the project:** Análisis de la extensión de vida útil de las centrales nucleares en España desde la perspectiva de sus operadores  
**Degree of contribution:** Researcher  
**Name principal investigator (PI, Co-PI....):** Michel Luis Rivier Abbad  
**Nº of researchers:** 5  
**Funding entity or bodies:**  
IBERDROLA S.A.  
**Start date:** 15/05/2018 **Duration:** 7 months  
**Total amount:** 133.066 €
- 9** **Name of the project:** Futuro del sector eléctrico en España  
**Degree of contribution:** Researcher  
**Name principal investigator (PI, Co-PI....):** Tomás Gómez San Román  
**Nº of researchers:** 13  
**Funding entity or bodies:**  
Iberdrola S.A.  
**Start date:** 01/04/2018 **Duration:** 6 months  
**Total amount:** 165.359,9 €



- 10** **Name of the project:** Sistema distribuido de eficiencia energética conectado a la nube para viviendas con alta penetración de renovables y almacenamiento. Análisis de impacto sacando el máximo partido de las bombas de calor.  
**Degree of contribution:** Researcher  
**Name principal investigator (PI, Co-PI....):** Alvaro Sánchez Miralles  
**Nº of researchers:** 5  
**Funding entity or bodies:**  
Endesa Energía  
S.A.U  
**Start date:** 01/07/2017 **Duration:** 6 months  
**Total amount:** 150.000 €
- 11** **Name of the project:** Análisis de tecnologías para el sector eléctrico en el horizonte 2040  
**Degree of contribution:** Researcher  
**Name principal investigator (PI, Co-PI....):** Michel Luis Rivier Abbad  
**Nº of researchers:** 9  
**Funding entity or bodies:**  
IBERDROLA S.A  
**Start date:** 01/02/2017 **Duration:** 11 months  
**Total amount:** 151.563 €
- 12** **Name of the project:** Evaluación de escenarios energéticos en un contexto de reducción de costes de los recursos energéticos distribuidos  
**Degree of contribution:** Researcher  
**Name principal investigator (PI, Co-PI....):** Tomás Gómez San Román  
**Nº of researchers:** 6  
**Funding entity or bodies:**  
GAS NATURAL SDG  
S.A  
**Start date:** 15/12/2016 **Duration:** 1 year  
**Total amount:** 203.366,32 €
- 13** **Degree of contribution:** Researcher  
**Name principal investigator (PI, Co-PI....):** Alvaro Sánchez Miralles  
**Nº of researchers:** 10  
**Funding entity or bodies:**  
CENTRO DE ACUSTICA APLICADA Y EVALUACION NO DESTRUCTIVA **Type of entity:** Associations and Groups  
**Duration:** 3 years  
**Total amount:** 7.204.530 €



## Scientific and technological activities

### Scientific production

- 1** **H index:** 10  
**Date of application:** 15/07/2024  
**Source of H-Index:** WOS
- 2** **H index:** 11  
**Date of application:** 29/01/2025  
**Source of H-Index:** GOOGLE SCHOLAR
- 3** **H index:** 10  
**Date of application:** 29/01/2025  
**Source of H-Index:** SCOPUS

### Publications, scientific and technical documents

- 1** Teresa Freire-Barceló; Francisco Martín-Martínez; Álvaro Sánchez-Miralles. Demand response cost analysis and its effect on system planning. International Journal of Electrical Power & Energy Systems. 165, pp. 110483-1 - 110483-11. 01/04/2025.  
**Type of production:** Scientific paper **Format:** Journal  
**Corresponding author:** Yes
- 2** Pablo Calvo-Bascones; Francisco Martín-Martínez. Indicators for suitability and feasibility assessment of flexible energy resources. Applied Energy. 372, pp. 123834-1 - 123834-15. 01/10/2024.  
**Type of production:** Scientific paper **Format:** Journal  
**Corresponding author:** Yes
- 3** Design and assessment of energy infrastructure in new decarbonized urban districts: a Spanish case study. Energy Reports. 01/06/2024. Available on-line at: <<https://doi.org/10.1016/j.egy.2024.04.037>>.  
**Type of production:** Scientific paper **Format:** Journal  
**Corresponding author:** No
- 4** Francisco Martín-Martínez; Jaime Boal; Álvaro Sánchez Miralles; Carlos Becker Robles; Rubén Rodríguez Vilches. Technical deployment of aggregator business models. Heliyon. 10 - 9, 26/04/2024.  
**Type of production:** Scientific paper **Format:** Journal  
**Corresponding author:** Yes
- 5** Ruben Rodriguez Vilches; Francisco Martín Martínez; Álvaro Sánchez Miralles; Javier Rodrigo Gutiérrez de la Cámara; Sergio Muñoz Delgado. Methodology to assess prosumer participation in European electricity markets. Renewable & Sustainable Energy Reviews. 191 - 114179, pp. 1 - 13. Elsevier, 01/03/2024.  
**Type of production:** Scientific paper **Format:** Journal  
**Impact source:** WOS (JCR) **Category:** Science Edition - ENERGY & FUELS  
**Impact index in year of publication:** 15,900 **Journal in the top 25%:** Yes

- 6** Teresa Freire; Francisco Martín-Martínez; Álvaro Sánchez Miralles. System planning with demand assets in balancing markets. International Journal of Electrical Power & Energy Systems. 156 - 109747, pp. 1 - 16. Elsevier, 01/02/2024.  
**Type of production:** Scientific paper **Format:** Journal  
**Corresponding author:** No  
**Impact source:** WOS **Category:** JCR  
**Impact index in year of publication:** 5.2 **Journal in the top 25%:** Yes
- 7** T. Freire Barceló; F. Martín Martínez; A. Sánchez Miralles. A literature review of explicit demand flexibility providing energy services. Electric Power Systems Research. online, pp. 107953-1 - 107953-17. Lausana(Switzerland): 2022. ISSN 0378-7796  
**Type of production:** Scientific paper  
**Impact source:** WOS (JCR)  
**Impact index in year of publication:** 1.809
- 8** S. Huclin; J. P. Chaves Ávila; A. Ramos Galán; M. L. Rivier Abbad; T. Freire Barceló; F. Martín Martínez; T. Gómez San Román; A. Sánchez Miralles. Exploring the roles of storage technologies in the Spanish electricity system with high share of renewable energy. Energy Reports. online, pp. 4041 - 4057. Amsterdam2022. ISSN 2352-4847  
**Type of production:** Scientific paper
- 9** T. Freire Barceló; F. Martín Martínez; A. Sánchez Miralles; M. L. Rivier Abbad; T. Gómez San Román; S. Huclin; J. P. Chaves Ávila; A. Ramos Galán. Storage and demand response contribution to firm capacity: Analysis of the Spanish electricity system. Energy Reports. 8, pp. 10546 - 10560. Amsterdam2022. ISSN 2352-4847  
**Type of production:** Scientific paper
- 10** T. Gerres; J. P. Chaves Ávila; F. Martín Martínez; M. L. Rivier Abbad; R. Cossent Arín; A. Sánchez Miralles; T. Gómez San Román. Rethinking the electricity market design: remuneration mechanisms to reach high RES shares. Results from a Spanish case study. Energy Policy. 129, pp. 1320 - 1330. Oxfordshire(United Kingdom): 2019. ISSN 0301-4215  
**DOI:** 10.1016/j.enpol.2019.03.034  
**Type of production:** Scientific paper  
**Position of signature:** 3 **Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee  
**Total no. authors:** 7  
**Impact source:** WOS (JCR) **Category:** Science Edition - ENERGY & FUELS  
**Impact index in year of publication:** 4.88 **Journal in the top 25%:** Yes  
**Position of publication:** 22 **No. of journals in the cat.:** 103
- 11** F. Martín Martínez; A. Sánchez Miralles; M. L. Rivier Abbad; C. Calvillo. Centralized vs distributed generation. A model to assess the relevance of some thermal and electric factors. Application to the Spanish case study. Energy. 134, pp. 850 - 863. Oxfordshire(United Kingdom): 2017. ISSN 0360-5442  
**DOI:** 10.1016/j.energy.2017.06.055  
**Type of production:** Scientific paper  
**Position of signature:** 1 **Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee  
**Total no. authors:** 4 **Corresponding author:** Yes  
**Impact source:** WOS (JCR) **Category:** Science Edition - ENERGY & FUELS  
**Impact index in year of publication:** 4,968 **Journal in the top 25%:** Yes  
**Position of publication:** 18 **No. of journals in the cat.:** 97

- 12** C. Calvillo; A. Sánchez Miralles; J. Villar Collado; F. Martín Martínez. Impact of EV penetration in the interconnected urban environment of a smart city. *Energy*. 141, pp. 2218 - 2233. Oxfordshire(United Kingdom): 2017. ISSN 0360-5442  
**DOI:** 10.1016/j.energy.2017.12.006  
**Type of production:** Scientific paper  
**Position of signature:** 4  
**Total no. authors:** 4  
**Impact source:** WOS (JCR)  
**Impact index in year of publication:** 4.968  
**Position of publication:** 18  
**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee  
**Category:** Science Edition - ENERGY & FUELS  
**Journal in the top 25%:** Yes  
**No. of journals in the cat.:** 97
- 13** F. Martín Martínez; A. Sánchez Miralles; M. L. Rivier Abbad. A literature review of microgrids: a functional layer based classification. *Renewable & Sustainable Energy Reviews*. 62, pp. 1133 - 1153. Oxford(United Kingdom): 2016. ISSN 1364-0321  
**DOI:** 10.1016/j.rser.2016.05.025  
**Type of production:** Scientific paper  
**Position of signature:** 1  
**Total no. authors:** 3  
**Impact source:** WOS (JCR)  
**Impact index in year of publication:** 8.050  
**Position of publication:** 5  
**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee  
**Corresponding author:** Yes  
**Category:** Science Edition - ENERGY & FUELS  
**Journal in the top 25%:** Yes  
**No. of journals in the cat.:** 92
- 14** C. Calvillo; A. Sánchez Miralles; J. Villar Collado; F. Martín Martínez. Optimal planning and operation of aggregated distributed energy resources with market participation. *Applied Energy*. 182, pp. 340 - 357. Oxford(United Kingdom): 2016. ISSN 0306-2619  
**DOI:** 10.1016/j.apenergy.2016.08.117  
**Type of production:** Scientific paper  
**Position of signature:** 4  
**Total no. authors:** 4  
**Impact source:** WOS (JCR)  
**Impact index in year of publication:** 7.182  
**Position of publication:** 6  
**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee  
**Category:** Science Edition - ENERGY & FUELS  
**Journal in the top 25%:** Yes  
**No. of journals in the cat.:** 92
- 15** F. Martín Martínez; A. Sánchez Miralles; M. L. Rivier Abbad. Prosumers' optimal DER investments and DR usage for thermal and electrical loads in isolated microgrids. *Electric Power Systems Research*. 140, pp. 473 - 484. Lausana(Switzerland): 2016. ISSN 0378-7796  
**DOI:** 10.1016/j.epsr.2016.05.028  
**Type of production:** Scientific paper  
**Position of signature:** 1  
**Total no. authors:** 3  
**Impact source:** WOS (JCR)  
**Impact index in year of publication:** 2.688  
**Position of publication:** 73  
**Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee  
**Corresponding author:** Yes  
**Category:** Science Edition - ENGINEERING, ELECTRICAL & ELECTRONIC  
**No. of journals in the cat.:** 262

- 16** Timo Guerres; Jose Pablo Chaves; Francisco Martín; Michel Rivier; Álvaro Sánchez; Tomás Gómez. Guiding the transition: design challenges in decarbonising electricity markets. Handbook on the economics of renewable energy. Edward Elgar Publishing, Cheltenham, Reino Unido, 2023.  
**Type of production:** Book chapter **Format:** Book
- 17** A. Sánchez Miralles; C. Calvillo; F. Martín Martínez; J. Villar Collado. Use of renewable energy systems in smart cities. Use, operation and maintenance of renewable energy systems. Green energy and technology. pp. 341-370. Berlín(Germany): Springer, 09/05/2014. ISBN 978-3-319-03223-8  
**Type of production:** Book chapter
- 18** Miguel Martínez; Francisco Martín Martínez; Andrés Ramos; Carlos Mateo; Tomás Gómez; José Pablo Chaves. Cuantificación de los beneficios técnico-económicos del despliegue del almacenamiento distribuido y la respuesta de la demanda.01/08/2025.  
**Type of production:** Scientific-technical report **Format:** Scientific and technical document or report  
**Position of signature:** 2  
**Total no. authors:** 6
- 19** Michel Rivier; Francisco Martín; Teresa Freire. Solar and wind production profiles and 2030 disaggregated electricity demand profiles to feed the SPODER generation expansion planning model. 01/12/2022.  
**Type of production:** Scientific-technical report **Format:** Scientific and technical document or report  
**Position of signature:** 2  
**Total no. authors:** 3
- 20** Michel Rivier; Tomás Gómez; Álvaro Sánchez; Francisco Martín; Teresa Freire; Andrés Ramos; José Pablo Chaves; Sebastian Huclin. Análisis de la competitividad del bombeo como sistema de almacenamiento y contribución a la garantía de suministro en España en el horizonte 2030. 01/03/2021.  
**Type of production:** Scientific-technical report **Format:** Scientific and technical document or report  
**Position of signature:** 4  
**Total no. authors:** 8
- 21** Pedro Linares; Pablo Rodilla; Tomás Gomez; Michel Rivier; Pablo Frías; José Pablo Chaves; Álvaro Sánchez; Timo Guerres; Rafael Cossent; Luis Olmos; Andrés Ramos; Luis Rouco; Francisco Martín. El sector eléctrico español del futuro: retos y políticas.01/12/2018.  
**Type of production:** Scientific-technical report  
**Position of signature:** 13  
**Total no. authors:** 13
- 22** Michel Rivier; Tomás Gómez; José Pablo Chaves; Rafael Cossent; Álvaro Sánchez; Francisco Martín; Timo Guerres. Análisis de escenarios futuros para el sector eléctrico en España para el período 2025-2050. 01/03/2018.  
**Type of production:** Scientific-technical report **Format:** Scientific and technical document or report  
**Position of signature:** 6  
**Total no. authors:** 7
- 23** T. Gómez San Román; M. L. Rivier Abbad; J. P. Chaves Ávila; F. Martín Martínez; T. Gerres. Señales de precio a la inversión en un mercado eléctrico con elevada penetración de renovables. Papeles de Energía. online - 6, pp. 9 - 38. Madrid(Spain): 2019. ISSN 2445-2726  
**Type of production:** Magazine  
**Position of signature:** 4  
**Total no. authors:** 5



## Works submitted to national or international conferences

- 1** **Title of the work:** Exploring a 2030 nearly 100% renewable Spanish electricity system from a capacity-mix adequacy perspective  
**Name of the conference:** 14th Mediterranean Conference on Power Generation, Transmission, Distribution and Energy Conversion - MED POWER 2024  
**City of event:** Athens, Greece  
**Date of event:** 04/11/2024  
**Organising entity:** IET The institution of Engineering and Technology  
Teresa Freire; Francisco Martín-Martínez; Michel Rivier.
- 2** **Title of the work:** The role of nuclear power plants in electricity systems with high RES share  
**Name of the conference:** 13th IEEE PowerTech Conference - PowerTech 2019  
**Type of event:** Conference  
**City of event:** Milán, Italy  
**Date of event:** 23/06/2019  
**End date:** 27/06/2019  
**Organising entity:** Institute of Electrical and Electronics Engineers Power and Energy Society; Politecnico di Milano  
Timo Gerres; José Pablo Chaves Ávila; Francisco Martín Martínez; Michel Luis Rivier Abbad; Tomás Gómez San Román.
- 3** **Title of the work:** Optimal planning and operation of distributed energy resources considering uncertainty on Evs  
**Name of the conference:** 1st IEEE International Smart Cities Conference - ISC2-2015  
**Type of event:** Conference  
**City of event:** Guadalajara, Mexico  
**Date of event:** 25/10/2015  
**End date:** 28/10/2015  
**Organising entity:** IEEE Smart Cities Steering Committee  
Francisco Martín Martínez; Christian Calvillo; Alvaro Sánchez Miralles; José Villar Collado; Lennart Söder.

## Other achievements

### Stays in public or private R&D centres

**Entity:** Electrical, Electronics and Telecommunication Engineering and Naval Architecture Department  
**City of entity:** Savona, Liguria, Italy  
**Start-End date:** 01/06/2016 - 01/09/2016      **Duration:** 3 months  
**Goals of the stay:** Guest  
**Provable tasks:** Estancia Doctoral