

## Part A. PERSONAL INFORMATION

CV date 12/06/2019

First and Family name	Koldobika Martin Escudero		
Social Security, Passport, ID number	45673486V	Age	39
Researcher numbers	Researcher ID	R-7843-2018	
	Orcid code	0000-0002-9647-3747	

### A.1. Current position

Name of University/Institution	University of the Basque Country (UPV/EHU)		
Department	Thermal Engineering		
Address and Country	Plaza Torres Quevedo, 1		
Phone number	94 601 7378	E-mail	<a href="mailto:koldobika.martin@ehu.eus">koldobika.martin@ehu.eus</a>
Current position	Associate Professor	From	17/10/2017
Espec. cód. UNESCO	3322 - 330590 - 221302		
Palabras clave	Heat transfer, CFD, Building Energy Simulation		

### A.2. Education

PhD	University	Year
Mechanical Engineering	University of the Basque Country	2005
PhD in Thermal Engineering	University of the Basque Country	2009

### A.3. JCR articles, h Index, thesis supervised... (source Web of Science)

- 4 co-directed dissertations.
- 25 articles (15 in Q1)
- Total number of citations: 229
- Last 5 years average citation: 36.6
- h-index: 10
- 2 six-year research accreditation ("sexenio" 2006 /12 and 2013/18)

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

Since the end of the Industrial Engineering degree at ETSI Bilbao in 2005, my professional career has been directed towards training to obtain the Doctorate degree, in order to be able to work as professor/researcher at the University.

Being PhD student, I have held different positions as research fellow at the University of the Basque Country (UPV/EHU) from 2006 to 2009. During these 4 years of scholarship, I have worked in the Thermal Area of the Building Quality Control Laboratory (LCCE) of the Basque Government, as a laboratory technician in charge of carrying out thermal characterization tests of construction materials, as well as thermal studies by numerical calculation (CFD) or thermographic analysis among others. For each of the tasks, I have previously received training through different courses or seminars: thermograph level 1 by the Infrared Training Center, Heat Transfer course by ANSYS-FLUENT...

In 2009 I obtained my PhD degree with Cum Laude qualification. At the same time, I was hired by the UPV/EHU as Teaching and Research Staff (PDI). At first I worked part-time, which allowed me to combine it with a postdoctoral scholarship for continuous improvement of my training. However, in September 2010, I resign from this scholarship due to a full-time contract at the UPV/EHU until nowadays.

The fact that I worked at the LCCE and belonged to ENEDI (research group in the field of ENergetics in the EDification of the UPV/EHU; <http://www.ehu.eus/enedi/>) allowed me to work on many research projects. It also provided the necessary tools for writing technical articles

published in journals with a high impact index (Q1) or presentations at international congresses about subjects related to building energy efficiency.

At the international level, I was member of ANNEX 58 "Reliable building energy performance characterization based on full scale dynamic measurements" of the International Energy Agency, in which we were co-leaders of the subtask 2. I also participated in a European project led by TECNALIA: "Affordable and Adaptable Public Buildings through Energy Efficient Retrofitting", which finished in 2017. In 2012, during the 3-month postdoctoral stay at the National Technological University of Campana (Buenos Aires), we advised technically on the design of a PASLINK cell the CIDEA research group.

At national level, I was main researcher of the RETOS project called ekimProVe: "Solar energy system for heating and domestic hot water supply by means of a photovoltaic ventilated façade with compact latent heat storage". I have also cooperated in energy or thermal analysis with industrial companies through different business contracts.

In terms of teaching and research, I teach two subjects in the Master's Degree in Energy Efficiency and Sustainability in Industry, Transport, Building and Urban Planning. One is about "Buildings Energy Simulation" and the other about "Thermal Design by Numerical Methods". This Master Degree gives access to the Doctorate in Thermal Engineering. This Doctorate, in which I am member, has a Quality Mention from the ANECA (National Agency). From 2014, I have co-directed four PhD dissertations.

In order to improve the research CV, the short-term objectives focus on my participation as main researcher in more regional or national projects and on obtaining a patent or collaborate in European projects.

## Part C. RELEVANT MERITS

### C.1. Publications (including books)

- **Martin-Escudero, K.**, Salazar-Herran, E., Campos-Celador, A., Diarce-Belloso, G., Gomez-Arriaran, I., Solar energy system for heating and domestic hot water supply by means of a heat pump coupled to a photovoltaic ventilated façade (2019) Solar Energy, pp. 453-462.
- Romero-Anton, N., **Martin-Escudero, K.**, Portillo-Valdés, L.A., Gómez-Elvira, I., Salazar-Herran, E., Improvement of auxiliary BI-DRUM boiler operation by dynamic simulation (2018) Energy, 148, pp. 676-686.
- Terés-Zubiaga, J., **Martin, K.**, Erkoreka, A., Aparicio, X., del Portillo, L.A., Cost-Effective Energy Retrofitting of Buildings in Spain: An Office Building of the University of the Basque Country (2017) Cost-Effective Energy Efficient Building Retrofitting: Materials, Technologies, Optimization and Case Studies, Elsevier, pp. 515-551.
- Erkoreka, A., Garcia, E., **Martin, K.**, Teres-Zubiaga, J., Del Portillo, L., In-use office building energy characterization through basic monitoring and modelling (2016) Energy and Buildings, 119, pp. 256-266. Cited 6 times.
- Diarce, G., Campos-Celador, A., **Martin, K.**, Urresti, A., García-Romero, A., Sala, J.M. A comparative study of the CFD modeling of a ventilated active façade including phase change materials (2014) Applied Energy, 126, pp. 307-317. Cited 30 times.
- Escudero, C., **Martin, K.**, Erkoreka, A., Flores, I., Sala, J.M. Experimental thermal characterization of radiant barriers for building insulation (2013) Energy and Buildings, 59, pp. 62-72. Cited 15 times.
- **Martin, K.**, Escudero, C., Erkoreka, A., Flores, I., Sala, J.M. Equivalent wall method for dynamic characterisation of thermal bridges (2012) Energy and Buildings, 55, pp. 704-714. Cited 25 times.

- **Martin, K.**, Campos-Celador, A., Escudero, C., Gómez, I., Sala, J.M. Analysis of a thermal bridge in a guarded hot box testing facility (2012) Energy and Buildings, 50, pp. 139-149. Cited 26 times.
- **Martin, K.**, Erkoreka, A., Flores, I., Odriozola, M., Sala, J.M. Problems in the calculation of thermal bridges in dynamic conditions (2011) Energy and Buildings, 43 (2-3), pp. 529-535. Cited 45 times.

## C.2. Research projects

Title: ekimProVe - Sistema de aprovechamiento de energía solar mediante fachada ventilada fotovoltaica para calefacción y agua caliente sanitaria con unidad compacta de almacenamiento térmico latente.

Call: Ministerio de Economía y Competitividad

Main researcher: Ane Miren García Romero/ **Koldo Martín Escudero**

Duration: 18 From: 01-01-2016 To: 31-12-2018

Budget: 80.000,00 €

Title: Subvención UPV para el desarrollo del área térmica del Laboratorio Control Calidad de la Edificación 2017.

Call: Departamento de Vivienda (Gobierno Vasco)

Main researcher: José M<sup>a</sup> Sala Lizarraga

Duration: 12 From: 01-01-2017 To: 31-12-2017

Budget: 180.000,00 €

Title: Grupos de Investigación del Sistema Universitario Vasco.

Call: Gobierno Vasco

Main researcher: José M<sup>a</sup> Sala Lizarraga

Duration: 72 From: 01-01-2016 To: 31-12-2021

Budget: 500.200,00 €

Title: RodaTES - Desarrollo de sistemas de almacenamiento térmico latente distribuidos de tipo rodapié.

Call: SAIOTEK (Gobierno Vasco)

Main researcher: **Koldo Martín Escudero** (UPV/EHU)

Duration: 18 From: 01-01-2013 To: 30-06-2014

Budget: 5650,88 €

Title: MicroTES - Sistemas compactos de almacenamiento térmico latente para plantas de microgeneración en edificios.

Call: Ministerio de Economía y Competitividad - Plan nacional de investigación fundamental no orientada

Main researcher: Ane Miren García Romero

Duration: 36 From: 01-01-2013 To: 31-12-2015

Budget: 358.020, 00 €

Title: A2PBEER – Affordable and adaptable public buildings through energy efficient retrofitting

Call: FP7 - 7th Framework Programme

Main researcher: Luis Alfonso del Portillo Valdés

Duration: 48 From: 01-09-2013 To: 31-08-2017

Budget: 29.654,37 €

Title: Eficiencia energética en la edificación.

Call: Grupos consolidados (Gobierno Vasco)

Main researcher: José M<sup>a</sup> Sala Lizarraga

Duration: 36 From: 01-01-2013 To: 31-12-2015

Budget: 99.100, 00 €

### **C.3. Contracts**

Title: Asesoría técnica en ingeniería energética. (Auditoría energética MAIER S COOP.)

Firm: Ceiber Energy

Main researcher: **Koldobika Martin Escudero**

Duration: 12      From: 07-04-2016      To: 06-04-2017

Budget: 9.000,00 €

Title: Modelado del comportamiento dinámico de bombas de calor.

Firm: Vaillant Group

Main researcher: Luis Alfonso del Portillo Valdés

Duration: 36      From: 01-01-2016      To: 31-12-2018

Budget: 57.000,00 €

Title: WARM – Ventana activa para el aprovechamiento natural del calor solar.

Firm: Proner Ingenieros and G&C Arquitectura

Main researcher: **Koldobika Martin Escudero**

Duration: 28      From: 01-09-2012      To: 31-12-2014

Budget: 22.836,02 €

### **C.4. Patents**

### **C.5. Direction of educational and research works**

- Direction of 22 Master's Thesis.
- Direction of 34 Final Degree Project.
- Tutor of 31 students for company internship.

### **C.6. Other merits**

- Member of the ENEDI research group recognised by the UPV/EHU since 2006 and consolidated by the Basque Government since 2010.
- Participation in ANNEX 58: Reliable building energy performance characterisation based on full-scale dynamic measurements, within the ECBCS (Energy Conservation in Buildings and Community Systems) programme of the IEA (International Energy Agency).
- I have participated in 7 contracts with companies and in 20 research projects within competitive calls (regional, national and European).
- I have participated in 7 papers of National Congresses and 18 papers of Workshops or International Congresses.
- Reviewer of the journals "APPLIED ENERGY" (6 articles), "ENERGY AND BUILDINGS" (4 articles) and "INTERNATIONAL JOURNAL OF BUILDING SCIENCES" (1 article).
- In 2016, I get the excellent qualification as teacher in the Docentiaz program.
- Teaching of two subjects in the Master's Degree in Research on Energy Efficiency and Sustainability in Industry, Transport, Building and Urban Planning, which gives access to the Doctorate programme in Thermal Engineering with a Quality Mention from the ANECA: "Energy Tools in Building" and "Calculation and Thermal Design through Numerical Methods".