

Part A. PERSONAL INFORMATION

CV date 10/01/23

First and Family name	Enrique Romero Cadaval		
ID number		Age	
Researcher numbers	Researcher ID	L-7930-2014	
	Author ID	56754263700	
	ORCID code	0000-0003-4760-8788	

A.1. Current position

Name of University/Institution	University of Extremadura (Spain)/ School of Industrial Engineering		
Department	Electrical, Electronic and Control Engineering		
Address and Country	Avda. de Elvas, s/n. 06006 Badajoz (Spain)		
Phone number	924289635	E-mail	eromero@unex.es
Current position	Associate Professor (Full Professor certification)	From	01/01/2009
UNESCO code	33.07, 33.06, 33.17		
Key words	Power quality, renewable energies, power electronic converters, energy storage, electric vehicle		

A.2. Education

Degree/PhD	University	Year
Industrial Engineering (Electronic field)	High Technical School of Industrial Engineers of ICAI (Madrid). University Pontificia of Comillas	1992
PhD on Electromechanical and Electronic Engineering	University of Extremadura (Spain)	2004

A.3. General quality indicators of scientific productivity

Number of six-year research period recognized: 2

Last six-year research period obtained: 2013

Number of Thesis supervised during last 10 years: 3

Total citations: 2511

Average citations per year during the last 5 excluding the current year: 384

Number of journal paper in the first quartile (Q1): 15

H index: 21

Co-author of two highly cited paper

(Metrics obtained from **Google Scholar**)

Part B. CV SUMMARY

Enrique Romero-Cadaval receives the Ph.D. from the Universidad de Extremadura in 2004. His active research lines are integration of renewable energies, distributed generation, smart grids and electric vehicles. He is author of more than 200 contributions listed in the main databases. He is author of 9 book chapters included in two books published by SPRINGER and WILEY. He has delivered invited lectures in international conferences, tutorials in International Doctoral Schools. He has been member of 56 scientific committees, 47 international and 9 national conferences. He is author of more than 75 conference contributions.

He has been the main researcher of 5 national research projects, and more than 10 collaboration contracts with companies. He has also participated as researcher in 10 projects and in a national network about distributed generation, in topics related with "Smart Inverter for Distributed Energy Resources", "Minicorner development with motor wheel in Electrical Vehicle", "Systems for electrified mobility in the urban environment", "Control Strategies for Isolable NanoGrids", "Energy management system for an smart community: micro-hybrid storage system", "Hybrid Energy Storage System for manageable photovoltaic generation facilities", "Performance evaluation and diagnosis of photovoltaic plants", "National Instrument hardware and software platform evaluation for designing and prototyping of motor drive algorithms and comparison with others technologies available on the market", or "Conversion and protection solutions in power electrical system scenarios with high penetration level of

distributed energy resources". He has supervised 6 international research stays for his Ph.D. students, in Tallinn University of Technology (Tallinn, Estonia), University of Aalborg (Aalborg, Denmark) or McMaster University (Ontario, Canada).

He is member of three COST actions, related with hybrid energy storage (MP1004), NVH analysis for electric vehicles (TU1105), and Intelligent management of heritage buildings (TD1406).

He has participated as an expert in various business workshops and he collaborated as an expert in two European projects within the Leonardo program: SOLTEC/AIRE (2011), EUVET (2013) and SYMBI (2017, INTERREG EUROPE). Finally, he complements his research activity being reviewer of technical papers, highlighting his reviews in 9 journals listed in the JCR, and the regular participation in reviewing conference papers. He is also project evaluator for ANEP (Spanish National Agency for Project Evaluation) and R+D project evaluator for EQA (European Quality Assurance), one of the main projects certification company. He has eventually participated in research project revision of the Czech Science Foundation, National Science Centre Poland, Colciencias (Colombia), Estonian Research Information System (ETIS) and FONDECYT (Chilean National Science and Technology Commission).

He has participated as an expert in international professor recruitment processes, as well as in legal processes of some companies, as ENDESA or GAMESA, related with the determination of the power evacuation capacity of the distribution grid for photovoltaic plants, or with possible patent infractions.

He is CTO and Co-founder of "Smart Energy Products and Services", Spin-off Company of the University of Extremadura. He is the president of the Power Electronics and Industrial Electronics Jointed Spanish Chapter of the IEEE.

Part C. RELEVANT MERITS

C.1. Publications (including books)

1. O. Husev; T. Shults, F. Blaabjerg, C. Roncero-Clemente, E. Romero Cadaval and D. Vinnikov. "Novel Space Vector Pulse Width Modulation Strategies for Single-Phase Three-Level NPC Impedance-Source Inverters". IEEE Transactions on Power Electronics. Pending publication. July 2018. (Q1).
2. C. Roncero-Clemente, E. Romero-Cadaval, M. Ruiz-Cortés and O. Husev. "Carrier Level-Shifted Based Control Method for PWM 3L-T-Type qZS Inverter with Capacitor Imbalance Compensation". IEEE Transactions on Industrial Electronics. Print ISSN: 0278-0046; Vol: 65; Issue 10; pp. 8297 - 8306. IEEE. March 2018. (Q1).
3. M. I. Milanés-Montero, F. Barrero-González, J. Pando-Acedo, E. González-Romera, E. Romero-Cadaval and A. Moreno-Muñoz. "Smart Community Electric Energy Micro-Storage Systems with Active Functions". IEEE Transactions on Industry Applications. Print ISSN 0093-9994, Vol. 54, Issue:3, PP: 1975-1982. January 2018. (Q1).
4. O. Husev, F. Blaabjerg, C. Roncero-Clemente, E. Romero Cadaval, D. Vinnikov, Y. Siwakoti and R. Strzelecki. "Comparison of the Impedance-Source Networks for Two and Multilevel Buck-Boost Inverter Applications". IEEE Transactions on Power Electronics. ISSN 1941-0107, Vol: 31, Issue: 11, pp. 7564-7579. December 2016. (Q1).
5. J. Gallardo-Lozano, E. Romero Cadaval, M.I. Milanés-Montero and M. A. Guerrero-Martínez. "A novel active battery equalization control with on-line unhealthy cell detection and cell change decision". Journal of Power Sources. ISSN 0378-7753, Volume 299, Pages 934-949. El Sevier. December 2015. (Q1).
6. E. Romero-Cadaval, B. Francois, M. Malinowski and Q. C. Zhong. "Grid-Connected Photovoltaic Generation Plants as Alternative Energy Sources". IEEE Industrial Electronic Magazine. ISSN 1932-4529. New York, USA. March 2015. (Q1).
7. V. Fernão Pires, E. Romero-Cadaval, D. Vinnikov, I. Roasto and J.F. Martins. "Power Converter Interfaces for electrochemical energy storage systems - A review". Energy Conversion and Management. ISSN: 0196-8904, Volume 86, Pages 453-475. Elsevier. October 2014. (Q1).
8. E. Romero-Cadaval, G. Spagnuolo, L. G. Franquelo, C. A. Ramos-Paja, T. Suntio and W. M. Xiao. "Grid-Connected Photovoltaic Generation Plants: Components and Operation". IEEE Industrial Electronics Magazine. Vol. 7, Issue: 3, pp. 6-20. IEEE. September 2013. (Q1).

C.2. Research projects and grants

1. 860107 H2020-MSCA-ITN-2019 (European Training Network) "SMARTGYsum Smart Green Energy Systems and Business Models". In preparation. Funding: 501.809,76 €. Main investigator and consortium coordinator. Marie-Curie actions.
2. RTC-2017-6599-4 "Experimental Development of a boundless variable transmission for automotive application". Ministry of Economy and Competitiveness of Spain. 04/12/2018-at present. Funding: 156.891 €. Main investigator. Call for Challenges ("Retos" program).
3. UNEX15-AE-2910 "High Power Electronic Testing Laboratory". Ministry of Economy and Competitiveness of Spain. 01/01/2016-30/06/2018. Funding: 372.900 €. Main investigator. Call for scientific-technical equipment and infrastructures.
4. TEC2016-77632-C3-1-R: "Control Strategies for Isolable NanoGrids". Ministry of Economy and Competitiveness of Spain. 01/01/2016-31/12/2018. Funding: 68.004 €. Investigator. National Research Program call.
5. TEC2013-47316-C3-3-P: "Energy Management System for Smart Communities-Hybrid micro storage system, SCEMS-mHESS". Ministry of Economy and Competitiveness of Spain. 01/01/2014-30/06/2017. Funding: 90.024 €. Investigator. National Research Program call.
6. TEC2010-19242-C03: "SIDER: Smart Inverter for Distributed Energy Resources". Ministry of Economy and Competitiveness of Spain. 21/02/2011-31/12/2013. Funding: 89.500 €. Main Investigator. National Research Program call.

C.3. Contracts

1. "Research and development on energy microgeneration (MICROGEX)". Company: EXPAL Disposal and Recovery S.A. 21/02/2018- 21/02/2020. Funding: 50.000 €. Investigator.
2. "Development of components for electric vehicles-training program". Company: Powertrack international automotive S.L. 09/02/2018- 08/11/2018. Funding: 22.026 €. Main investigator.
3. "Research on Powering Sensors from Environmental Energy for Island Grid Sensor-Energy Harvesting". Company: ELABOREX CALIDAD EN LA CONSTRUCCIÓN (Spain). 02/02/2017- 31/12/2018. Funding: 40.000 €. Main investigator.
4. "GSM Interface System Design and Led Dimming Lighting System with RS485 Communication". Company: SFERAONE SOLUTIONS & SERVICES S.L. (Spain). 1/09/2014- 31/12/2014. Funding: 24.000 €. Main Investigator.
5. "Evaluation and Comparison of Hardware/Software Control Platforms for Motor Drives Prototyping". Company: National Instrument Spain. 1/01/2013- 30/06/2013. Funding: 24.000 €. Main Investigator.
6. "Power Quality Analysis in Solar Farm SPEX for Improving the Energy Generation". Company: Ecogestión del Guadiana (Spain). 1/03/2012- 30/09/2012. Funding: 11.785 €. Main Investigator.

C.4. Patents

1. Inventors: Oleksandr Husev, Dmitri Vinnikov, Enrique Romero-Cadaval and Carlos Roncero-Clemente. Title: "Method and system of carrier-based modulation for multilevel single stage buck-boost inverters". Application number: PCT/EP2015/056787. 27/03/2015. Title holder: Tallinn University of Technology (Estonia) and University of Extremadura (Spain).

C.5 Thesis Supervised

Defended

1. "Cooperative Power Injection Systems for Photovoltaic Plants". PhD: Victor Manuel Miñambres-Marcos. University of Extremadura (Spain). 2012.
2. "Bidirectional Smart Electric Vehicle Charger and Battery Management System". PhD: Javier Gallardo Lozano. International Doctorate. University of Extremadura (Spain). 2015.

3. "Buck/Boost Electronic Converter for the Active Connection of Photovoltaic Installations to the Grid". PhD: Carlos Roncero Clemente. International Doctorate. University of Extremadura (Spain). 2016.

On-going

4. "Quasi-Z-Source Based String Inverter for Residential Photovoltaic Application". PhD: Elena Santasheva. Bilateral agreement for Double PhD Diploma between University of Extremadura (Spain) and Tallinn University of Technology (Estonia). Expected defense: June 2019.
5. Title: To be determined. PhD: Jaime Pando Acedo. International Doctorate. University of Extremadura (Spain). Expected defense: To be determined.
6. Title: To be determined. PhD: Mercedes Ruiz Cortés. University of Extremadura (Spain). Expected defense: To be determined.
7. Title: To be determined. PhD: Jorge González Teodoro. University of Extremadura (Spain). Expected defense: To be determined.

More than 20 Bachelor and Master Thesis supervised during last 10 years.

C.6. International committee membership

1. "Energy Waves Power Converters and Power Quality". AEN/CTN 206/SC 114. (AENOR) 2011-at present.
2. "Innovation in Intelligent Management of Heritage Buildings (i2MHB)". COST ACTION TD1406 (European Union). 2015-at present.
3. "NVH analysis techniques for design and optimization of hybrid and electric vehicles". COST ACTION TU1105 (European Union). 2012-2016.
4. "Hybrid Energy Storage Devices and Systems for Mobile and Stationary Applications". COST ACTION MP1004 (European Union). 2011-2015.

C.7. International and national conference organization

1. "Automatic, Industrial Electronic and Instrumentation Annual Seminar" (SAAEI 2011). Badajoz (Spain). June 2011. General Chair.
2. "IEEE Compatibility and Power Electronics International Conference-Workshop" (CPE 2009). Badajoz (Spain). July 2009. General Chair.
3. Member of "IEEE CPE-POWERENG International Conference" International Advisory Board Organization Committee. 2016-at present.
4. Member of "Automatic, Industrial Electronic and Instrumentation Annual Seminar" Advisory Board Organization Committee. 2019-at present.

Scientific Committee member of more than 50 national and international conferences.

C.8. Participation as scientific evaluator and reviewer

1. Research project evaluator for the Czech Science Foundation, National Science Centre Poland, Colciencias (Colombia), Estonian Research Information System (ETIS), FONDECYT (Chilean National Science and Technology Commission) and Ministry of Economy and Competitiveness of Spain.
2. Participation as International expert in A3ES (Agency for Assessment and Accreditation of Higher Education, Portugal) External Teams for evaluating Higher Education program studies.
3. Coordinator of the Energy Group for the Intelligent Specialization (RIS3) of the Extremadura Region (Spain).
4. Guest Editor of "IEEE Transaction of Power Electronics", member of the editorial board of "International Journal of Renewable Energy and Biofuels", editor of "Power Electrical and Electronic Systems" section of "Electrical, published by the "Institute of Industrial Electronics and Electrical Engineering" from Riga Technical University (Latvia).