



Roberto Giral Castellón

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Date of document: 04/04/2024

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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.

Roberto Giral received the B.S. degree in Ingeniería Técnica de Telecomunicación, the M.S. degree in Ingeniería de Telecomunicación, and the Ph.D. (with honors) degree from the Universitat Politècnica de Catalunya, Barcelona, Spain, in 1991, 1994, and 1999, respectively. From 1992 to 2000 he was Assistant Professor and from 2000 to 2019 Associate Professor with the Departament d'Enginyeria Electrònica, Elèctrica i Automàtica (DEEEA), Escola Tècnica Superior d'Enginyeria (ETSE), Universitat Rovira i Virgili (URV), Tarragona, Spain, where he is Full Professor since 2019. From 2000 to 2003 he was secretary of the DEEEA. He was academic coordinator of the doctoral program in Technologies for Nanosystems, Bioengineering and Energy of the URV from Oct 2012 to Jan 2015. From Jan 2015 to Jun 2018 he was the URV Rector's Delegate for ICTs. Since Feb 2020 he is the academic coordinator of the Master's degree in Industrial Engineering of the URV. He has co-supervised five doctoral thesis, (3 since 2012) and is currently co-supervising two more. Four of the five doctors he has co-supervised are currently employed at Colombian (2, UNAL), Chilean (U. de Talca) and Mexican (UPAEP) universities. There are on-going postdoctoral collaborations with the three doctors having more significant research activity, in particular with the researcher at U.Talca, including a 3-month research stay at his laboratory in 2019.

From 2019 to 2023 he collaborated with the Spanish "Agencia Estatal de Investigación (División de Coordinación, Evaluación y Seguimiento Científico y Técnico), gestor del área: PIN, subárea: Ingeniería eléctrica, electrónica y automática (IEA)".

Recognized with 4 CNAI six-year research terms/sixenios (last in 2019), his research focuses in the field of power electronics and, in particular, in the design and control of AC/DC and DC/DC converters in DC power buses for automotive applications and for distributed renewable generation systems. He is investigating solutions to seamlessly integrate power supplies such as the grid, PV modules with MPPT and current-slope-limited PEMFCs, storage devices like batteries and large capacitors, and pulsating loads. Other important subjects in his research are the parallel-interleaved connection of current-controlled converters, the integrated design of switching power stages and their controllers to achieve the desired closed loop dynamics without subharmonic or chaotic instabilities, and the power regulators design by means of sliding mode and input-output linearization techniques and the subsequent implementation of their controllers either in analog, digital or hybrid ways.

As a researcher of the GAEI (Automatic Control and Industrial Electronics consolidated Group of the URV) he has participated in 17 private and 19 public R&D projects, being the main researcher at three of the projects supported by the Spanish Government and the last four of the private. He is also coinventor of 3 patents: ES2356548 (B1) in 2012, IT1401606 (B1) in 2013 and US11271473B2 in 2022, being the last one a result of a research and transference collaboration with Lear Corporation Holding Spain. He is actually the Director of the GAEI with 13 doctors (12 researchers and 1 permanent research technician), and a variable number of postdocs (1) and Ph.D students (8). Some of the most relevant projects acting as IP were: (PID2021-124229NB-I00) Plataforma de Cargadores de Baterías Embarcados para Vehículos Eléctricos Universal. Funded by AEI/FEDER.

**C****V****n**

CURRÍCULUM VÍTAE NORMALIZADO

(TEC2012-30952) Convertidor versátil buck-boost no inversor: aplicaciones y control (BBVersaConv).

(T18154S) Stability Study of an On-Board Battery Charger in 2018 and (T19172S) Stability Measurements of an On-Board Battery Charger in 2019, both for Lear Corporation Holding Spain.



General quality indicators of scientific research

This section describes briefly the main quality indicators of scientific production (periods of research activity, experience in supervising doctoral theses, total citations, articles in journals of the first quartile, H index...). It also includes other important aspects or peculiarities.

Total of 4 six-year research terms awarded (sexenios). Date of last term (2013-2018): June 5th, 2019.

Five co-supervised doctoral Thesis, three of them with European/International distinction and two with honors.

Total citations of the 103 works listed in WoS: 2275 (1090 citations between 2018 and 2024, 156 in 2023). Average citations/item 23,91. With 176 citations, the most cited publication according to WoS is "A Fast Current-Based MPPT Technique Employing Sliding Mode Control".

WoS h-index=28 at April 2024. Scopus h-Index=28.

Scholar Google Indicators: Total citations 4781 (1756 from 2019). H-index=37, (25 from 2019). I10 index=74, (42 from 2019).

<https://scholar.google.es/citations?user=sPga5SoAAAAJ>.



Roberto Giral Castellón

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ScopusID: **6701717039**
ResearcherID: **D-1640-2010**
Email: **roberto.giral@urv.cat**
Personal web page: **<http://scholar.google.es/citations?user=sPga5SoAAAAJ>**

Current professional situation

Employing entity: Universitat Rovira i Virgili

Department: Escuela Técnica Superior de Ingeniería, Departamento de Ingeniería Electrónica, Eléctrica y Automática

Professional category: Catedrático de Universidad

Start date: 08/08/2019

Type of contract: Civil servant

Dedication regime: Full time

Primary (UNESCO code): 330700 - Electronic technology

Secondary (UNESCO code): 330703 - Circuit design

Tertiary (UNESCO code): 120326 - Simulation

Education

University education

Doctorates

Doctorate programme: Dr. Ing. Telecomunicación

Degree awarding entity: Universitat Politècnica de Catalunya **Type of entity:** University

Date of degree: 07/07/1999

Thesis title: Síntesis de estructuras multiplicadoras de tensión basadas en células convertidoras continua-continua de tipo conmutado

Thesis director: Luis Martínez Salamero

Teaching experience

Experience supervising doctoral thesis and/or final year projects

1 Project title: Desarrollo de un Sistema de Iluminación Solar para el Ahorro de Energía Eléctrica en el Alumbrado Público de México

Type of project: Doctoral thesis

Co-director of thesis: Roberto Giral Castellón; Beatriz Pico González

Entity: Universitat Rovira i Virgili

Type of entity: University

Student: Juan Francisco Méndez Díaz

Date of reading: 18/10/2018

2 Project title: Estudio de un Control de Corriente a Frecuencia Ajustada por Feedforward para Convertidores Conmutados

Type of project: Doctoral thesis

Co-director of thesis: Roberto Giral Castellón; Javier Calvente Calvo

Entity: Universitat Rovira i Virgili

Type of entity: University

Student: Guillermo Ruíz Magaz

Date of reading: 15/09/2015

3 Project title: PEM Fuel Cell Modeling and Converter Design for a 48 V DC Power Bus

Type of project: Doctoral thesis

Co-director of thesis: Roberto Giral Castellón; Javier Calvente Calvo

Entity: Universitat Rovira i Virgili

Student: Carlos Alberto Restrepo Patiño

Date of reading: 22/06/2012

European doctorate: Yes

4 Project title: Fuel Cell Modeling and Control for Fuel Consumption Optimization

Type of project: Doctoral thesis

Co-director of thesis: Roberto Giral Castellón; Alfonso Romero Nevado

Entity: Universitat Rovira i Virgili

Type of entity: University

Student: Carlos Andrés Ramos Paja

Date of reading: 15/07/2009

Quality recognition: Yes

5 Project title: Modelling and control of an asymmetric interleaved DC to DC switching converter

Type of project: Doctoral thesis

Co-director of thesis: Roberto Giral Castellón; Javier Calvente Calvo

Entity: Universitat Rovira i Virgili

Type of entity: University

Student: Eliana Isabel Arango Zuluaga

Date of reading: 06/07/2009

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: Plataforma de Cargadores de Baterías Embarcados para Vehículos Eléctricos Universal

Degree of contribution: Researcher

Entity where project took place: Universitat Rovira i Virgili

Name principal investigator (PI, Co-PI. ..): Javier Calvente Calvo; Roberto Giral Castellón

Nº of researchers: 5

Funding entity or bodies: FEDER Una manera de hacer Europa; MCIN/AEI/ 10.13039/501100011033

Code according to the funding entity: PID2021-124229NB-I00

Start-End date: 01/09/2022 - 31/08/2026

Duration: 4 years

Total amount: 121.000 €

2 Name of the project: Herramientas para la estandarización en análisis y diseño de la interconexión de convertidores electrónicos de potencia.

Degree of contribution: Researcher

Entity where project took place: Universitat Rovira i Virgili

Type of entity: University

Name principal investigator (PI, Co-PI. ..): Angel Cid Pastor; Carlos Olalla Martínez

Nº of researchers: 5

Funding entity or bodies: Agencia Estatal de Investigación/ FEDER

Code according to the funding entity: DPI2017-84572-C2-1-R

Start-End date: 01/01/2018 - 31/12/2020

Total amount: 110.000 €



3 Name of the project: Diseño y control digital de convertidores conmutados del sistema de tracción del vehículo eléctrico e híbrido con modificación dinámica de la tensión de inversor

Degree of contribution: Researcher

Entity where project took place: Universitat Rovira i Virgili

Name principal investigator (PI, Co-PI. ...): Enric Vidal Idiarte; Javier Calvente Calvo

Nº of researchers: 6

Funding entity or bodies: Agencia Estatal de Investigación, FEDER

Code according to the funding entity: DPI2016-80491-R

Start-End date: 30/12/2016 - 29/12/2019

Duration: 3 years

Total amount: 116.600 €

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

1 Name of the project: Stability Measurements of an On-Board Battery Charger

Name principal investigator (PI, Co-PI. ...): Roberto Giral

Nº of researchers: 3

Funding entity or bodies: Lear Corporation Holding Spain, SLU **Type of entity:** Business

City funding entity: Valls, Catalonia, Spain

Start date: 14/02/2019

Duration: 1 day

Total amount: 360 €

2 Name of the project: Stability Study of an On-Board Battery Charger

Name principal investigator (PI, Co-PI. ...): Roberto Giral

Nº of researchers: 6

Funding entity or bodies: Lear Corporation Holding Spain, SLU **Type of entity:** Business

City funding entity: Valls, Catalonia, Spain

Start date: 01/06/2018

Duration: 2 months

Total amount: 16.128 €

3 Name of the project: Control of DC-DC converters in PV applications

Entity where project took place: Universitat Rovira i Virgili

Degree of contribution: Researcher

Name principal investigator (PI, Co-PI. ...): Roberto Giral / Javier Calvente

Nº of researchers: 2

Funding entity or bodies: Knowledge on Power (KOP) **Type of entity:** Business

City funding entity: Italy

Code according to the funding entity: T10159S

Start date: 2010

Duration: 1 year

Total amount: 7.500 €



Results

Industrial and intellectual property

1 Title registered industrial property: On-board charger (OBC) having grid frequency rejecter

Type of industrial property: Patent of invention

Inventors/authors/obtainers: Antonio Martinez Perez; Adria Marcos Pastor; Antonio Leon Masich; Roberto Giral Castillon; Javier Calvente Calvo; Enric Vidal Idiarte; Hugo Valderrama Blavi

Entity holder of rights: Lear Corporation

Nº of application: US2021/0028691A1

Country of inscription: United States of America

Date of register: 26/07/2019

Conferral date: 08/03/2022

Nº of patent: US11271473B2

2 Title registered industrial property: Metodo e dispositivo per la massimizzazione della potenza elettrica prodotta da un generatore, in particolare un generatore basato su una fonte energetica rinnovabile

Type of industrial property: Propiedad Intelectual (otros)

Inventors/authors/obtainers: Bianconi, E.; Petrone, G.; Spagnuolo, G.; Femia, N.; Vitelli, M.; Calvente Calvo, F.J.; Giral Castilon, R.

Entity holder of rights: Bitron Industrie, S.p.A.

Nº of application: TO2010A000661

Country of inscription: Italy

Date of register: 30/07/2010

Conferral date: 26/07/2013

3 Title registered industrial property: Fuente de alimentación concebida para funcionar en modo entrelazado

Type of industrial property: Propiedad Intelectual (otros)

Inventors/authors/obtainers: Calvente Calvo, J.; Cid Pastor, A.; Giral Castellón, R.; Martínez Salamero, L.; Utkin, V.I.

Entity holder of rights: Universitat Rovira i Virgili

Country of inscription: Spain

Date of register: 28/09/2010

Conferral date: 16/03/2012

Scientific and technological activities

Scientific production

Publications, scientific and technical documents

- 1 Restrepo, C.; Barrueto, B.; Murillo-Yarce, D.; Muñoz, J.; Vidal-Idiarte, E.; Giral, R.. Improved Model Predictive Current Control of the Versatile Buck-Boost Converter for a Photovoltaic Application. IEEE Transactions on Energy Conversion. 37 - 3, pp. 1505 - 1519. IEEE, 09/2022. **DOI:** 10.1109/TEC.2022.3183986
- 2 El Aroudi, A.; Haroun, R.; Al-Numay, M.S.; Calvente, J.; Giral, R.. A Large-Signal Model for a Peak Current Mode Controlled Boost Converter With Constant Power Loads. IEEE Journal of Emerging and Selected Topics in Power Electronics. 9 - 1, pp. 559 - 568. IEEE, 02/2021. **DOI:** 10.1109/JESTPE.2019.2960696
- 3 Restrepo, C.; González-Castaño, C.; Muñoz, J.; Chub, A.; Vidal-Idiarte, E.; Giral, R.. An MPPT algorithm for PV systems based on a simplified photo-diode model. IEEE Access. 9, pp. 33189 - 33202. IEEE, 02/2021. **DOI:** 10.1109/ACCESS.2021.3061340
- 4 El Aroudi, A.; Haroun, R.; Al-Numay, M.S.; Calvente, J.; Giral, R.. Fast-Scale Stability Analysis of a DC-DC Boost Converter With a Constant Power Load. IEEE Journal of Emerging and Selected Topics in Power Electronics. 9 - 1, pp. 548 - 558. IEEE, 02/2021. **DOI:** 10.1109/JESTPE.2019.2960564
- 5 González-Castaño, C.; Restrepo, C.; Giral, R.; García-Amoros, J.; Vidal-Idiarte, E.; Calvente, J.. Coupled inductors design of the bidirectional non-inverting buck-boost converter for high-voltage applications. IET Power Electronics. 13 - 14, pp. 3188 - 3198. IET, 04/11/2020. **DOI:** 10.1049/iet-pel.2019.1479
- 6 González-Castaño, C.; Restrepo, C.; Giral, R.; Vidal-Idiarte, E.; Calvente, J.. ADC Quantization Effects in Two-Loop Digital Current Controlled DC-DC Power Converters: Analysis and Design Guidelines. Applied Sciences. 10 - 20, pp. 7179. MDPI, 15/10/2020. **DOI:** 10.3390/app10207179
- 7 Enric Vidal Idiarte; Carlos Restrepo; Abdelali El Aroudi; Javier Calvente; Roberto Giral. Digital Control of a Buck Converter Based on Input-Output Linearization. An Interpretation Using Discrete-Time Sliding Control Theory. Energies. 12 - 14, pp. 2738. MDPI, 17/07/2019. **DOI:** 10.3390/en12142738
- 8 Restrepo, C.; Konjedic, T.; Flores-Bahamonde, F.; Vidal-Idiarte, E.; Calvente J.; Giral, R. Multisampled Digital Average Current Controls of the Versatile Buck-Boost Converter. IEEE Journal of Emerging and Selected Topics in Power Electronics. 7 - 2, pp. 879 - 890. IEEE, 06/2019. **DOI:** 10.1109/JESTPE.2018.2888980
- 9 Mendez-Díaz, F.; Pico, B.; Vidal-Idiarte, E.; Calvente J.; Giral, R.. HM/PWM Seamless Control of a Bidirectional Buck-Boost Converter for a Photovoltaic Application. IEEE Transactions on Power Electronics. 34 - 3, pp. 2887 - 2899. IEEE, 03/2019. **DOI:** 10.1109/TPEL.2018.2843393
- 10 Lopez-Santos, O.; Garcia, G.; Martinez-Salamero, L.; Giral, R.; Vidal-Idiarte, E.; Merchan-Riveros, M.; Moreno-Guzman, Y.. Analysis, Design, and Implementation of a Static Conductance-Based MPPT Method. IEEE Transactions on Power Electronics. 34 - 2, pp. 1960 - 1979. IEEE, 02/2019. **DOI:** 10.1109/TPEL.2018.2835814
- 11 Calvente, J.; El Aroudi, A.; Giral, R.; Cid-Pastor, A.; Vidal-Idiarte, E.; Martinez-Salamero, L.. Design of Current Programmed Switching Converters Using Sliding-Mode Control Theory. Energies. 11 - 8, pp. 2034. MDPI, 08/2018. **DOI:** 10.3390/en11082034

- 12** Ramirez-Murillo, H; Restrepo, C.; Konjedic, T.; Calvente, J.; Romero, A.; Baier, CR.; Giral, R.. An Efficiency Comparison of Fuel-Cell Hybrid Systems Based on the Versatile Buck-Boost Converter. IEEE Transactions on Power Electronics. 33 - 2, pp. 1237 - 1246. IEEE, 02/2018. **DOI:** 10.1109/TPEL.2017.2678160
- 13** Vidal-Idiarte, E.; Marcos-Pastor, A.; Giral, R.; Calvente, J.; Martinez-Salamero, L.. Direct digital design of a sliding mode-based control of a PWM synchronous buck converter. IET Power Electronics. 10 - 3, pp. 1714 - 1720. 10/2017. ISSN 1755-4535 **DOI:** 10.1049/iet-pel.2016.0975
- 14** El Aroudi, A.; Calvente, J.; Giral, R.; Al-Numay, M.; Martinez-Salamero, L.. Boundaries of Subharmonic Oscillations Associated to Filtering Effects of Controllers and Current Sensors in Switched Converters Under CMC. IEEE Transactions on Industrial Electronics. 63 - 8, pp. 4826. (United States of America): 08/2016. **DOI:** 10.1109/TIE.2015.2458966
- 15** Restrepo, C.; Garcia, G.; Calvente, J.; Giral, R.; Martinez-Salamero, L.. Static and Dynamic Current-Voltage Modeling of a Proton-Exchange Membrane Fuel-Cell Using an Input-Output diffusive approach. IEEE Transactions on Industrial Electronics. 63 - 2, pp. 1003 - 1015. (United States of America): 07/2016. **DOI:** 10.1109/TIE.2015.2480383
- 16** Gonzalez Montoya, D.; Ramos-Paja, C.A.; Giral, R.. Maximum power point tracking of photovoltaic systems based on the sliding mode control of the module admittance. Electric Power Systems Research. 136, pp. 125 - 134. (Switzerland): 02/2016. **DOI:** 10.1016/j.epsr.2016.02.001
- 17** Gonzalez Montoya, D.; Ramos-Paja, C.A.; Giral, R.. Improved Design of Sliding-Mode Controllers Based on the Requirements of MPPT Techniques. IEEE Transactions on Power Electronics. 31 - 1, pp. 235 - 247. (United States of America): IEEE, 01/2016. **DOI:** 10.1109/TPEL.2015.2397831
- 18** Zhioua, M.; El Aroudi, A.; Belghith, S.; Bosque-Moncusí, J. M.; Giral, R.; Al Hosani, K.; Al-Numay, M.. Modeling, Dynamics, Bifurcation Behavior and Stability Analysis of a DC-DC Boost Converter in Photovoltaic Systems. International Journal of Bifurcation and Chaos. 26 - 10, (Singapore): 2016. **DOI:** 10.1142/S0218127416501662
- 19** Restrepo, C.; González-Castaño, C.; Giral, R.. The Versatile Buck-Boost Converter as Power Electronics Building Block: Changes, Techniques, and Applications. IEEE Industrial Electronics Magazine. 17 - 1, pp. 36 - 45. IEEE, 03/2023. **DOI:** 10.1109/MIE.2022.3153280
- 20** Madrid, E.; Murillo-Yarce, D.; Restrepo, C.; Muñoz, J.; Giral, R.. Modelling of SEPIC, Ćuk and Zeta Converters in Discontinuous Conduction Mode and Performance Evaluation. Sensors. 21 - 22, pp. 7434. MDPI, 11/2021. **DOI:** 10.3390/s21227434
- 21** González-Castaño, C.; Restrepo, C.; Sanz, F.; Chub, A.; Giral, R.. DC Voltage Sensorless Predictive Control of a High-Efficiency PFC Single-Phase Rectifier Based on the Versatile Buck-Boost Converter. Sensors. 21 - 15, pp. 5107. MDPI, 07/2021. **DOI:** 10.3390/s21155107
- 22** Díaz Martínez, D.; Trujillo Codorniu, R.; Giral, R.; Vázquez Seisdedos, L.. Evaluation of Particle Swarm Optimization Techniques Applied to Maximum Power Point Tracking in PV systems. Internacional Journal of Circuit Theory and Applications. 49 - 7, pp. 1849 - 1867. Wiley, 07/2021. **DOI:** 10.1002/cta.2978
- 23** Alsmadi, Y.M.; Alqahtani, A.; Giral, R.; Vidal-Idiarte, E.; Martinez-Salamero, L.; Utkin, V.; Xu, L.; Abdelaziz, A.Y.; Sliding mode control of photovoltaic based power generation systems for microgrid applications. International Journal of Control. 94 - 6, pp. 1704 - 1715. Taylor & Francis, 06/2021. **DOI:** 10.1080/00207179.2019.1664762
- 24** Ramos-Paja, C.E.; González-Motoya, D.; Villegas-Ceballos, J.P.; Serna-Garcés, S.I.; Giral, R.. Sliding-mode controller for a photovoltaic system based on a Cuk converter. International Journal of Electrical and Computer Engineering (IJECE). 11 - 3, pp. 2027 - 2044. Institute of Advanced Engineering and Science (IAES), 06/2021. **DOI:** 10.11591/ijece.v11i3.pp2027-2044



- 25** El Aroudi, A.; Al-Numay, M.; Calvente, J.; Giral, R.; Rodriguez, E.; Alarcon, E.. Prediction of Subharmonic Oscillation in Switching Regulators: From a Slope to a Ripple Standpoint. International Journal of Electronics. 103 - 12, pp. 2090 - 2109. (United Kingdom): 2016.
DOI: 10.1080/00207217.2016.1178342

Works submitted to national or international conferences

1 Title of the work: Multifrequency Power Transfer in a Power Distribution Line

Name of the conference: ISIE 2023 - IEEE 32nd International Symposium on Industrial Electronics

Type of event: Conference

Type of participation: Participatory - oral communication

Corresponding author: No

City of event: Helsinki, Finland

Date of event: 19/06/2023 **End date:** 21/06/2023

Organising entity: IEEE

Type of entity: Associations and Groups

With external admission assessment committee: Yes

Type of contribution: Scientific paper

Genaro-Muñoz, X.; Valderrama-Blavi, H.; Giral, R. "Proceedings of ISIE 2023".

DOI: 10.1109/ISIE51358.2023.10228093

2 Title of the work: Small-Signal Model and Controller Design of Interleaved Isolated Boost Converter for PV Application

Name of the conference: IECON 2022 – 48th Annual Conference of the IEEE Industrial Electronics Society

Type of event: Conference

Type of participation: Participatory - oral communication

Corresponding author: No

City of event: Brussels, Belgium

Date of event: 17/10/2022 **End date:** 20/10/2022

Organising entity: IEEE

Type of entity: Associations and Groups

With external admission assessment committee: Yes

Type of contribution: Scientific paper

Ahmad, U.; Giral, R.; Olalla, C. "Proceedings of IECON 2022". ISSN 2577-1647, ISBN 978-1-6654-8025-3

DOI: 10.1109/IECON49645.2022.9968903

3 Title of the work: Microinverter Architecture with Submodule-Level Balancing and Active Power Decoupling

Name of the conference: 2022 IEEE 13th International Symposium on Power Electronics for Distributed Generation Systems (PEDG)

Type of event: Conference

Type of participation: Participatory - oral communication

Corresponding author: No

City of event: Kiel, Germany

Date of event: 26/06/2022 **End date:** 29/06/2022

Organising entity: IEEE

Type of entity: Associations and Groups

With external admission assessment committee: Yes

Type of contribution: Scientific paper

Ahmad, U.; Giral, R.; Olalla, C. "Proceedings of PEDG 2022". ISSN 2329-5767, ISBN 978-1-6654-6618-9

DOI: 10.1109/PEDG54999.2022.9923102

**4 Title of the work:** Generación de una Referencia de Triple Armónico de Red para un Sistema de Distribución de Energía Multifrecuencia**Name of the conference:** XXIX Seminario Anual de Automática, Electrónica Industrial e Instrumentación (SAAEI'22)**Type of event:** Conference**Type of participation:** Participatory - oral communication**Corresponding author:** No**City of event:** Lleida, Spain**Date of event:** 06/06/2022**End date:** 08/06/2022**Organising entity:** Universitat de Lleida**Type of entity:** University**With external admission assessment committee:** Yes**Type of contribution:** Scientific paper

Genaro-Muñoz, X.; Valderrama-Blavi, H.; Giral, R. "Actas del Congreso".

5 Title of the work: DC transformer based on the versatile DC-DC noninverting buck-boost converter for fuel cell emulation**Name of the conference:** 2017 IEEE Southern Power Electronics Conference (SPEC)**Corresponding author:** No**City of event:** Puerto Varas, Chile**Date of event:** 04/12/2017**End date:** 08/12/2017**Organising entity:** IEEE**Type of entity:** Associations and Groups

Flores-Bahamonde, F.; Rivera, M.; Baier, C.; Calvente, J.; Giral, R.; Restrepo, C.

DOI: 10.1109/SPEC.2017.8333636**6 Title of the work:** Digital current control of the versatile buck-boost converter for photovoltaic applications**Name of the conference:** 2017 IEEE 8th International Symposium on Power Electronics for Distributed Generation Systems (PEDG)**Corresponding author:** No**City of event:** Florianópolis, Brazil**Date of event:** 17/04/2017**End date:** 20/04/2017**Organising entity:** IEEE**Type of entity:** Associations and Groups

Ruiz, F.; Fuentes, C.; Flores-Bahamond, F.; Calvente, J.; Giral, R.; Restrepo, C.

DOI: 10.1109/PEDG.2017.7972464**R&D management and participation in scientific committees****Organization of R&D activities****1 Title of the activity:** XXIX Seminario Anual de Automática, Electrónica Industrial e Instrumentación**Type of activity:** Congreso**Geographical area:** Non EU International**City of event:** Tarragona, Spain**City convening entity:** Japan**Type of participation:** Local Organizing Committee Member**Start-End date:** 06/06/2022 - 08/06/2022**2 Title of the activity:** 2018 International Symposium on Nonlinear Theory and Its Applications (NOLTA2018)**Type of activity:** Congreso**Geographical area:** Non EU International**City of event:** Tarragona, Spain**City convening entity:** Japan**Type of participation:** Technical Program co-secretary**Start-End date:** 02/10/2018 - 06/10/2018



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CURRÍCULUM VITAE NORMALIZADO

R&D management

Name of the activity: Gestor del área PIN-IEA de la División de Coordinación, Evaluación y Seguimiento Científico Técnico

Type of management: Management of R&D&I actions and projects

Entity: Agencia Estatal de Investigación

Start date: 01/06/2019

Duration: 4 years - 7 months

Other achievements

Stays in public or private R&D centres

Entity: Universidad de Talca

Type of entity: University

Faculty, institute or centre: Facultad de Ingeniería

City of entity: Curicó, Chile

Start date: 18/02/2019

Duration: 3 months

Goals of the stay: Post-doctoral Sabbatical