

**DEPARTAMENTO DE**  
**INGENIERIA ELECTRICA**

## **DEPARTAMENTO DE INGENIERIA ELECTRICA**

### **Actividades de investigación**

#### **Tesis Doctorales**

- Power and frequency control of an offshore wind farm connected to grid through an HVDC link with LCC-based rectifier  
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*Año:* 2018

### **Publicaciones y actividades de difusión de resultados**

#### **Publicaciones en revistas científicas internacionales**

- AMARIS, H.E.; MOLINA, Y.P.; AGUADO ALONSO, M.; ALONSO, M.; LUYO, J.E.  
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- BURGOS, J. C.; SORRENTINO, E.  
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- CARDIEL, M.A.; ARNALTES, S.; RODRIGUEZ, J. L.; NAMI, A.  
Decentralized Control of Offshore Wind Farms Connected to Diode-Based HVdc Links, *IEEE TRANSACTIONS ON ENERGY CONVERSION*, Vol. 33, 2018, pp. 1233-1241, ESTADOS UNIDOS DE AMERICA.
- CASTRONUOVO, E.D.; SANCHEZ, I.; HERNANDEZ, V.J.  
Optimal statistical calculation of power cables disposition in tunnels, for reducing magnetic fields and costs, *INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS*, Vol. 103, 2018, pp. 360-368, REINO UNIDO.
- ESMAT, A.A.S.; USAOLA, J.; MORENO, M.A.  
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- GARCIA, M.; ELOY-GARCIA, J.; ALONSO-MARTINEZ, J.; ALONSO, M.; PEÑA, A.  
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Peak shaving algorithm with dynamic minimum voltage tracking for battery storage systems in microgrid applications, *JOURNAL OF ENERGY STORAGE*, Vol. 20, 2018, pp. 41-48.
- HERMIDA, M.G.; CASTRONUOVO, E.D.  
On the hydropower short-term scheduling of large basins, considering nonlinear programming, stochastic inflows and heavy ecological restrictions, *INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS*, Vol. 97, Núm. 04, 2018, pp. 408-417, REINO UNIDO.
- NAMI, A.; RODRIGUEZ, J. L.; ARNALTES, S.; CARDIEL, M.A.  
Active power filtering embedded in the frequency control of an offshore wind farm connected to a diode-rectifier-based HVDC link, *Energies*, Vol. 11, Núm. 10 (2718), 2018, pp. 1-20, SUIZA.
- PARRADO, E.; ROBLES, G.; ARDILA, J.A.; MARTINEZ-TARIFA, J. M.  
Robust Condition Assessment of Electrical Equipment with One Class Support Vector Machines Based on the Measurement of Partial Discharges, *Energies*, Vol. 11, Núm. 3, 2018, SUIZA.
- PEÑA, A.; ARNALTES, S.; RODRIGUEZ, J. L.; GARCIA, M.; ELOY-GARCIA, J.; ALONSO-MARTINEZ, J.  
A Voltage and Frequency Control Strategy for Stand-Alone Full Converter Wind Energy Conversion Systems, *Energies*, Vol. 11, 2018, SUIZA.
- PRIMO, V.A.; GARCIA DE, M.B.; ALBARRACIN, R.  
Improvement of transformer liquid insulation using nanodielectric fluids: a review, *IEEE ELECTRICAL INSULATION MAGAZINE*, Vol. 34, Núm. 3, 2018, pp. 13-26, ESTADOS UNIDOS DE AMERICA.
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- ROBLES, G.; FRESNO, J.M.; MARTINEZ-TARIFA, J. M.; ARDILA, J.A.; PARRADO, E.  
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- ROBLES, G.; SHAFIQ, M.; KAUHABIEMI, K.; KUMPULAINEN, L.  
Partial Discharge Signal Propagation in Medium Voltage Branched Cable Feeder, *IEEE ELECTRICAL INSULATION MAGAZINE*, Vol. 34, 2018, pp. 18-29, ESTADOS UNIDOS DE AMERICA.

- VANUSSI, S.; YAHYAOU, I.; FARIAS, J.; FRIZERA, L.; TADEO, F.  
Power unit SOFC-MTG model in Electromagnetic Transient Software PSCAD, *INTERNATIONAL JOURNAL OF HYDROGEN ENERGY*, Vol. 43, 2018, pp. 5386-5397, REINO UNIDO.
- VELASCO, J.; FRASCELLA, R.; ALBARRACIN, R.; BURGOS, J. C.; DONG, M.; REN, M.; YANG, L.  
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## Colaboraciones en obras colectivas

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*Partial discharges: keys for condition monitoring and diagnosis of power transformers*, en: Power Transformer Condition Monitoring and Diagnosis, THE INSTITUTION OF ENGINEERING AND TECHNOLOGY (IET), REINO UNIDO, pp. 39-86, 2018.
- GARCIA DE, M.B.; CESPEDES, A.; GARCÍA, D.  
*Moisture Analysis for Power Transformers*, en: Power Transformer Condition Monitoring and Diagnosis, IET The institution of Engineering and Technology, REINO UNIDO, 2018.
- YAHYAOU, I.; SERNA, A.  
*Scalar and Vector Control of Induction Motor for Online Photovoltaic Pumping*, en: ADVANCES IN RENEWABLE ENERGIES AND POWER TECHNOLOGIES, VOL 1: SOLAR AND WIND ENERGIES, pp. 335-348, 2018.
- YAHYAOU, I.; SERNA, A.  
*Modeling and Characterization of a Wind Turbine Emulator*, en: ADVANCES IN RENEWABLE ENERGIES AND POWER TECHNOLOGIES, VOL 1: SOLAR AND WIND ENERGIES, pp. 491-508, 2018.

## Ponencias y Comunicaciones a congresos

- ABURAGHIEGA, E.; FARRAG, E.; HEPBURN, D.; GARCIA DE, M.B.  
*Advanced On-line Condition Monitoring of, and Inter-turn Short Circuit Detection in, Power Transformers*; en: 2018.
- ARREDONDO, F.; CASTRONUOVO, E.D.; LEDESMA, P.; LEONOWICZ, Z.  
*Comparative Implementation of Numerical Integration Methods for Transient Stability Constrained Optimal Power Flow*; en: 2018.
- CESPEDES, A.; GARCÍA, D.; GARCIA DE, M.B.  
*Experimental validation of a moisture sensor for cellulosic insulation of power transformers*, IEEE 36th Electrical Insulation Conference (EIC), San Antonio, Texas, ESTADOS UNIDOS DE AMERICA, 2018.
- ESCALERA, A.; PRODANOVIC, M.; CASTRONUOVO, E.D.  
*An Analysis of the Energy Storage for Improving the Reliability of Distribution Networks*; en: 2018.

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*A Comparison of The Renewable Distributed Generation Models used in Reliability Assessment*; en: 2018.
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- MELO, S.V.; YAHYAOU, I.; FARIAS, J.; FRIZERA, L.; TADEO, F.  
*A review of fuel cell and energy cogeneration technologies*; en: 2018.
- PRIMO, V.A.; PÉREZ, D.; GARCIA DE, M.B.; BURGOS, J. C.  
*Analysing the impact of Moisture on AC Breakdown Voltage of Fe<sub>3</sub>O<sub>4</sub> Based Nanodielectric Fluids*, IEEE 2nd International Conference on Dielectrics (ICD), *Budapest*, HUNGRÍA, 2018.
- ROBLES, G.; SHAFIQ, M.; MARTINEZ-TARIFA, J. M.  
*Designing a Rogowski Coil with Particle Swarm Optimization*, 5th International Electronic Conference on Sensors and Applications, 2018.
- VELASCO, J.A.; AMARIS, H.E.; ALONSO, M.; MIGUELEZ, M.  
*Stochastic Technical Losses Analysis of Smart Grids under Uncertain Demand*; en: 2018.

## **Actividades de cooperación internacional**

### **Acciones integradas y bilaterales**

- D Santos-Martin; REBOLLAL, D.; CHINCHILLA, M.  
Desarrollo de capacidades y apoyo a la investigación de la Universidad de Cuenca (República de Ecuador) para el desarrollo sostenible de comunidades aisladas con el uso de microredes eléctricas. Centro: Universidad de Cuenca, *Universidad de Cuenca*, ECUADOR. Duracion: de 2018 a 2018.  
*Descripción:* Desarrollo y fortalecimiento de capacidades científicas y técnicas del personal de la universidad de Cuenca, permitiendo el avance en líneas de docencia e investigación en el ámbito de las energías renovables y desarrollo sostenible de comunidades aisladas con el uso de microrredes eléctricas.