

### arsPERSONAL INFORMATION

# Pedro Manuel Soares Moura



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<u>www.isr.uc.pt/~pmoura/</u>

Skype pmsmoura

Sex Male | Date of birth 26/07/1978 | Nationality Portuguese

# POSITION Professor / Researcher

#### WORK EXPERIENCE

#### 01/09/2013 - ... Assistant Professor

University of Coimbra, Dep. of Electrical and Computers Engineering, FCTUC, Polo II, 3030-290 Coimbra, Portugal (www.deec.uc.pt).

- Teaching of several unit courses in the Electrical and Computers Engineering M.Sc. and Ph.D. degrees and in the Energy for Sustainability M.Sc. and Ph.D. degrees from the Faculty of Sciences and Technology – University of Coimbra:
- Energy Planning and Sustainable Development (2014/2015; 2015/2016, 2016/2017)
- Planning and Production of Electricity (2014/2015; 2015/2016, 2016/2017)
- Renewable Energy Systems (2014/2015)
- Software Applications for Engineering (2013/2014; 2015/2016, 2016/2017)
- Laboratory of Electrical Engineering and Circuits (2016/2017)
- Supervision of thesis from the Electrical and Computers Engineering and Energy for Sustainability M.Sc. and Ph.D. degrees (Faculty of Sciences and Technology – University of Coimbra).

Business or sector Higher education

# 01/09/2012 - 31/08/2013

# **Invited Assistant Professor**

University of Coimbra, Dep. of Electrical and Computers Engineering, FCTUC, Polo II, 3030-290 Coimbra, Portugal (<a href="www.deec.uc.pt">www.deec.uc.pt</a>).

- Teaching of several unit courses in the Electrical and Computers Engineering M.Sc. degree from the Faculty of Sciences and Technology University of Coimbra:
  - Electric Energy Management
  - Intelligent Sensors
  - Laboratory of Electrical Engineering and Circuits
  - Software Applications for Engineering
- Co-supervision of thesis from the Electrical and Computers Engineering and Energy for Sustainability M.Sc. and Ph.D. degrees (Faculty of Sciences and Technology – University of Coimbra).

Business or sector Higher education

#### 01/09/2012 - ... Senior Researcher

Institute of Systems and Robotics, Dep. of Electrical and Computers Engineering, FCTUC, Polo II, 3030-290 Coimbra, Portugal (<a href="https://www.isr.uc.pt">www.isr.uc.pt</a>).

- Project manager of national and international projects.
- Research activities in the areas of energy efficiency, renewable energies, smart grids and ecodesign of energy using products.

Business or sector Research institute



#### 01/01/2010 - 31/08/2012

# **Assistant Researcher**

Curriculum Vitae

Institute of Systems and Robotics, Dep. of Electrical and Computers Engineering, FCTUC, Polo II, 3030-290 Coimbra, Portugal (<a href="https://www.isr.uc.pt">www.isr.uc.pt</a>).

- Project manager of national and international projects.
- Research activities in the areas of energy efficiency, renewable energies, smart grids and ecodesign of energy using products.
- Teaching of several classes related with his research activities in the unit courses of "Electricity Planning and Production" (Electrical and Computers Engineering M.Sc. degree) and "Energy Planning and Sustainable Development" (Energy for Sustainability M.Sc. and Ph.D. degrees) from the Faculty of Sciences and Technology – University of Coimbra.
- Co-supervision of thesis from the Electrical and Computers Engineering and Energy for Sustainability M.Sc. and Ph.D. degrees (Faculty of Sciences and Technology – University of Coimbra).

Business or sector Research institute

#### 15/09/2003 - 31/12/2009

### Researcher

Institute of Systems and Robotics, Dep. of Electrical and Computers Engineering, FCTUC, Polo II, 3030-290 Coimbra, Portugal (<a href="https://www.isr.uc.pt">www.isr.uc.pt</a>).

- Research activities in the areas of rational use of energy, renewable energies and sustainable development, dealing both with national and international projects.
- Teaching of several classes related with his research activities in the unit courses of "Electricity Planning and Production", "Electric Energy Management" and "Sustainable Development" in the Electrical and Computers Engineering degree and M.Sc. degree (Faculty of Sciences and Technology – University of Coimbra).
- Co-supervision of thesis from the Electrical and Computers Engineering degree and M.Sc. degree (Faculty of Sciences and Technology University of Coimbra).

Business or sector Replace with type of business or sector

#### 15/03/2003 - 14/09/2003

#### **Trainee**

EDP Distribuição - Energia S.A, Av. Urbano Duarte, 100, 3030-215 Coimbra, Portugal (www.edp.pt).

- Development of Demand-Side Management programs.
- Development of products and services related with energy efficiency to residential consumers.

Business or sector Electricity distribution company

#### 15/09/2002 - 14/03/2003

#### Scientific Research Scholarship-holder

Institute of Systems and Robotics, Dep. of Electrical and Computers Engineering, FCTUC, Polo II, 3030-290 Coimbra, Portugal (<a href="https://www.isr.uc.pt">www.isr.uc.pt</a>).

• Research activities in the area of renewable energies and sustainable development.

Business or sector Research institute

# **EDUCATION AND TRAINING**

#### 02/01/2006 - 21/10/2010

# Ph.D. in Electrical Engineering

ISCED 8 Approved by unanimity with honour and laude

Faculty of Sciences and Technology – University of Coimbra, Rua Sílvio Lima, Univ. Coimbra – Pólo II, 3030-790 Coimbra, Portugal (<u>www.uc.pt</u>).

- 4 years degree with specialization in Energy Systems.
- Research on energy efficiency, renewable energies, and smart grids.
- Final thesis supervised by Prof. Aníbal T. de Almeida, with the title "Methodologies and Technologies for the Large Scale Integration of Intermittent Power Sources".
- Ph.D. grant awarded by the Foundation for Science and Technology.



#### 01/10/2003 - 30/12/2005

# M.Sc. in Electrical and Computers Engineering

ISCED 7 Grade: Very Good

Faculty of Sciences and Technology – University of Coimbra, Rua Sílvio Lima, Univ. Coimbra – Pólo II, 3030-790 Coimbra, Portugal (www.uc.pt).

- 2 years degree with specialization in Energy.
- Curricular part concluded.
- Concluded course units: Energy management in buildings and industry; Energy systems laboratory;
   Energy systems seminar; Organization and management of electrical energy systems; Organization and management of maintenance; Power quality; Sustainable development.

#### 01/10/1996 - 23/09/2002

# Engineering degree in Electrical and Computers Engineering

ISCED 6 Grade: 15 (0-20)

Faculty of Sciences and Technology – University of Coimbra, Rua Sílvio Lima, Univ. Coimbra – Pólo II, 3030-790 Coimbra, Portugal (<u>www.uc.pt</u>).

- 5 years degree with specialization in Energy.
- Final thesis supervised by Prof. António G. Martins and Humberto M. Jorge, with the title "Diagnostics to Consumption and Power Quality in Buildings".
- Concluded course units: Applied Complex Analysis; Applied Electrotechnics; Complements of Electric Machines; Computer Programming; Data Structures and Algorithms; Design and Graphic Computation; Differential Equations; Digital Systems; Economics; Electric and Telecommunications Installations; Electric Circuits; Electric Drives; Electric Energy Management; Electric Energy Systems I; Electric Energy Systems II; Electric Rotating Machines; Electricity Planning and Production; Electromagnetism; Electronics I; Electronics II; Energy Management in Electric Energy Systems; Enterprise Establishment and Management; Fundamentals of Electrical Materials; Fundamentals of Operational Research; High Voltage Techniques and Protections; Industrial Automation; Instrumentation and Measures; Linear Algebra and Analytical Geometry; Maintenance if Electric Systems; Mathematical Analysis I; Mathematical Analysis II; Mathematical Analysis II; Microprocessor Systems; Numeric Analysis; Optimization and Reliability of Electric Energy Systems; Physics I; Physics II; Planning and Management Techniques; Power Electronics II; Power Electronics II; Probabilities and Statistics; Signals and Systems I; Signals and Systems II; Systems and Control; Transformers; Waves and Propagation.

### PERSONAL SKILLS

## Mother tongue(s)

## Portuguese

### Other language(s)

English Spanish French Italian

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
C1	C1	B2	B2	C1
C2	C2	C1	C1	B2
B1	B2	A2	A2	A2
B1	B2	A2	A2	A2

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user Common European Framework of Reference for Languages

### Communication skills

- Experience to deal with a large variety of stakeholders: energy utilities, energy agencies, government officials, industry, technical associations and technical consultants.
- Ability for working in intercultural environments and in foreign languages.
- Team work abilities integrating multi-knowledge groups in international projects.
- Good communication skills gained through the experience as project manager.

# Organisational / managerial skills

- The coordination and management of international collaborative projects with large number of partners have provided good knowledge of organization and complex project management.
- Experience in team integration and management, coordinating multidisciplinary and multi-cultural teams.
- Experience in technical and financial managing in RTD projects.
- Experience in writing European (IEE, FP7 and ecodesign tenders) projects proposals.



#### Curriculum Vitae

- Capability of work in different projects at the same time.
- Capability of developing work independently.
- Experience in organization of conferences and public events.

#### Job-related skills

- Technical and economic analysis skills covering a wide variety of energy efficient technologies, renewable energy and sustainable development, acquired during more than 10 years of experience in research and development.
- Research developed in the following subjects: energy efficiency, demand-side management, demand response, renewable energy, energy storage, electric vehicles, smart grids and ecodesign of energy using products.

### Computer skills

- Operating systems: Windows, Linux.
- Software tools: Microsoft Office (Excel, PowerPoint, Project, Publisher, Visio, Word), LaTex, AutoCad, FireWorks, Photoshop.
- Programming languages: C/C++, Matlab//Simulink, LabVIEW.
- Functional knowledge of hardware and networking.

#### Other skills

- Saxophone player in a community wind band and in a big band (1990-2015).
- Co-author of the book: E. Arcanjo, H. Abreu, J. Ferreira, P. Moura (2012) Sociedade Musical Gouveense: Centenário 1911-2011 (in Portuguese), 443 pages. Sociedade Musical Gouveense, ISBN: 978-989-20-2762-3, April 2012.
- Management of several local and regional organizations:
  - Federação de Bandas do Distrito da Guarda President of the General Assembly (July 2012 January 2014).
  - Sociedade Musical Gouveense Vice-President of the Board of Directors (January 2010 January 2014); Member of the Board of Directors (January 2002 October 2003; December 2005 December 2009); Member of the Audit Committee (October 2003 December 2005).
  - Orquestra Ligeira de Gouveia President of the General Assembly (since January 2010); President of the Board of Directors (December 2005 – December 2009).
  - Orquestra Juvenil da Serra da Estrela President of the Board of Directors (April 2000 May 2005).

## **Driving licence**

Car driving licence (B category).

#### ADDITIONAL INFORMATION

# Research projects International projects Local coordinator

- CERtuS Cost Efficient Options and Financing Mechanisms for nearly Zero Energy Renovation of existing Buildings Stock (<a href="http://www.certus-project.eu">http://www.certus-project.eu</a>). European project supported by the Intelligent Energy for Europe Programme, coordinated by ENEA (March 2014 – February 2017).
- ErPLot27 Ecodesign Regulation on Uninterruptible Power Supplies Preparatory Study (<a href="http://www.ecoups.org">http://www.ecoups.org</a>).
   Study for European Commission Directorate-General for Energy, coordinated by Ricardo-AEA (May 2012 June 2014).
- ENERsip Energy Saving Information Platform for Generation and Consumption Networks (<a href="http://www.enersip-project.eu">http://www.enersip-project.eu</a>). European project supported by the Seventh Framework Programme, coordinated by TECNALIA Corporación Tecnológica (January 2010 – October 2012).
- Energy2B Stimulate Students to Make an Energy Difference through Local & European Idea Competitions and Entrepreneurial Services (<a href="http://www.energy2b.eu">http://www.energy2b.eu</a>). European project supported by the Intelligent Energy for Europe Programme, coordinated by the University of Sheffield (May 2009 – April 2012).

# Research projects International projects Member of the research team

- PremiumLight\_Pro: Next-Level Energy Efficient Lighting Systems in the Service Sector. European project supported by the h2020 Programme, coordinated by the Austrian Energy Agency (April 2016 – September 2018).
- EIPCI Evaluation of the impact of Projects of Common Interest implementation. Study for European Commission Directorate-General for Energy, coordinated by the Institute of Communications and Computer Systems - National Technical University of Athens (January 2016 - October 2016).
- GROUND-MED Advanced ground source heat pump systems for heating and cooling in Mediterranean climate (<a href="http://groundmed.eu/">http://groundmed.eu/</a>). European project supported by the Seventh Framework Programme, coordinated by CRES - Centre for Renewable Energy Sources and Saving (September 2014 – December 2014).



- ErPLot2 Ecodesign Requirements for Power, Distribution and Small Transformers Impact Assessment. Study for European Commission Directorate-General for Energy, coordinated by Ricardo-AEA (September 2012 – February 2013).
- CA EED Concerted Action for the Energy Efficiency Directive (<a href="http://www.esd-ca.eu">http://www.esd-ca.eu</a>). European network, financed under the Intelligent Energy Europe Programme, to support the effective implementation of the Energy Services Directive (January 2012 June 2015).
- SG4-GHG Methodologies to Measure the Potential of Smart Grids for GreenHouse Gas Reductions.
   Project under contract with European Commission, coordinated by the VaasaEtt (July 2011 September 2011).
- PrimeEnergyIT Supporting the Market for Energy Efficient Central IT (<a href="http://www.efficient-datacenter.eu">http://www.efficient-datacenter.eu</a>). European project supported by the Intelligent Energy for Europe Programme, coordinated by the Austrian Energy Agency (May 2010 December 2011).
- CA ESD Concerted Action for the Energy Services Directive (<a href="http://www.esd-ca.eu">http://www.esd-ca.eu</a>). European network, financed under the Intelligent Energy Europe Programme, to support the effective implementation of the Energy Services Directive (July 2009 July 2011).
- EMEEES Evaluation and Monitoring for the EU Directive on Energy End-Use Efficiency and Energy Services (<a href="http://www.evaluate-energy-savings.eu">http://www.evaluate-energy-savings.eu</a>). European project supported by the Intelligent Energy for Europe Programme, coordinated by the Wuppertal Institute for Climate, Environment, Energy (October 2006 October 2007).
- EETT Energy Efficiency Training of Trainers (<a href="http://www.eett.info">http://www.eett.info</a>). European project supported by the Intelligent Energy for Europe Programme, coordinated by the MVV Consulting (October 2006 – October 2007).
- EuroWhiteCert Stepwise towards Effective European Energy Efficiency Policy Portfolios Involving White Certificates (<a href="http://www.ewc.polimi.it">http://www.ewc.polimi.it</a>). European project supported by the Intelligent Energy for Europe Programme, coordinated by the Politecnico di Milano (January 2005 – June 2007).

# Research projects National projects Member of the research team

- NEXTSTEP NEXT distribution Substation improved Platform. National project supported by the P2020 programme, coordinated by EFACEC (December 2016 – November 2019).
- EPQ Scientific and Technical Consulting for Electric Power Quality Issues. Project developed to EDP Energias de Portugal S.A. Portuguese electric utility (since July 2016).
- CHPhe Portuguese Potential of Combined Heat and Power with High Efficiency. Project developed to DGEG – Directorate General for Energy and Geology (July 2016 – Decemberr 2016).
- PPEC2017-2018 Plan to the Promotion of the Efficiency in Consumption 2017/2018. Project developed to EDP – Energias de Portugal S.A. – Portuguese electric utility (February 2016 – October 2016).
- EMSURE Energy and Mobility for SUstainable REgions (<a href="http://www.uc.pt/en/efs/research/emsure">http://www.uc.pt/en/efs/research/emsure</a>).
   National project supported by the QREN-MaisCentro, coordinated by the University of Coimbra (April 2013 September 2015).
- PPEC2013-2014 Plan to the Promotion of the Efficiency in Consumption 2013/2014. Project developed to EDP – Energias de Portugal S.A. – Portuguese electric utility (February 2013 – January 2014).
- EESEVS Economic and Environmental Sustainability of Electric Vehicle Systems (<a href="http://www.uc.pt/en/efs/research/EESEVS">http://www.uc.pt/en/efs/research/EESEVS</a>). National project supported by the MIT Portugal programme, coordinated by the Institute for Systems Engineering and Computers at Coimbra (October 2010 April 2014).
- SIREMI Solutions to the Intermittence between Renewable Energies in the Madeira Islands. Project developed to EEM – Empresa de Electricidade da Madeira S.A. – Portuguese electric utility (October 2010 – January 2012).
- Eco.EDP Scientific and Technical Consulting for Energy Efficiency Contents (<a href="http://www.eco.edp.pt">http://www.eco.edp.pt</a>).
   Project developed to EDP Energias de Portugal S.A. Portuguese electric utility (January 2010 December 2013).
- PPEC2011-2012 Plan to the Promotion of the Efficiency in Consumption 2013/2014. Project developed to EDP – Energias de Portugal S.A. – Portuguese electric utility (January 2010 – October 2010).
- PPEC2009-2010 Plan to the Promotion of the Efficiency in Consumption 2013/2014. Project developed to EDP – Energias de Portugal S.A. – Portuguese electric utility (May 2008 – March 2009).
- PPEC2008 Plan to the Promotion of the Efficiency in Consumption 2013/2014. Project developed to EDP – Energias de Portugal S.A. – Portuguese electric utility (February 2007 – October 2007).
- PPEC2007 Plan to the Promotion of the Efficiency in Consumption 2013/2014. Project developed to EDP – Energias de Portugal S.A. – Portuguese electric utility (June 2006 – February 2007).
- PROT-C Plan of Territory Management to the Centre Region (http://protc.ccdrc.pt). Project developed to the Commission of Coordination and Regional Development of Centre Region (October 2006 – June 2008).



- MTLSIIPS Methodologies and Technologies for the Large Scale Integration of Intermittent Power Sources. Ph.D. grant awarded by the Foundation to the Science and Technology (January 2006 – December 2009)
- EFIPRE Energy Efficiency and Sustainable Integration of Production in Special Regime. Project developed to Rede Eléctrica Nacional S. A. – Portuguese grid operator (January 2006 – December 2006).
- EEB Energy Efficiency in Business. Project developed to the Business Council for Sustainable Development – Portugal (June 2005 – November 2005).
- CISEPI Characterization of Solutions to the Sustainable Integration of High Levels of Intermittent Production. Project developed to Rede Eléctrica Nacional S. A. – Portuguese grid operator (March 2004 – March 2005).
- HidroValor Evaluation of Economic, Social and Environmental Impacts of New Medium and Large Hydropower Plants in Portugal Centre Region. Project developed to the Commission of Coordination and Regional Development of Centre Region (September 2002 – January 2004).

### Publications Thesis

- P. Moura (2010) Methodologies and Technologies for the Large Scale Integration of Intermittent Power Sources (in Portuguese). Ph.D. thesis in Electrical Engineering, University of Coimbra.
- P. Moura, T. Duarte (2002) Diagnostics to Consumption and Power Quality in Buildings (in Portuguese). Engineering degree thesis in Electrical and Computers Engineering, University of Coimbra.

# Publications Books

• A. de Almeida, P. Moura, J. Mariano, J. Marques, J. Almeida, H. Albergaria, A. Simões, M. Graça, R. Lopes, C. Maia, J. Manteigas (2004) HidroValor – Evaluation of Economic, Social and Environmental Impacts of New Medium and Large Hydropower Plants in Portugal Centre Region (in Portuguese), 315 pages. University of Coimbra, Instituto de Estudos Regionais e Urbanos, ISBN: 972-99151-0-5, January 2004.

# Publications Books chapters

- A. de Almeida, P. Moura (2015) Distributed Generation Technologies through 2025, 251-288. In Handbook of Energy Efficiency and Renewable Energy 2<sup>nd</sup> Edition, Mechanical and Aerospace Engineering Series, CRC Press, Editors: F. Kreith, Y. Goswami, ISBN: 978-1-4665-8508-9, September 2015
- P. Moura, A. de Almeida (2010) Large Scale Integration of Wind Power Generation, 95-120. In Handbook of Power Systems, Springer Press, Editors: N. Iliadis, P. Pardalos, M. Pereira, S. Rebennack, ISBN: 978-3-642-02492-4, October 2010.
- A. de Almeida, P. Moura, C. Gellings, K. Parmenter (2007) Distributed Generation and Demand Side Management, 5.1-5.33. In Handbook of Energy Efficiency and Renewable Energy, Mechanical Engineering Series Volume: 3, CRC Press, Editors: F. Kreith, Y. Goswami, ISBN: 978-0-849-31730-9, April 2007.
- A. de Almeida, P. Moura (2007) Desalination with Wind and Wave Power, 305-325. In Solar Desalination for the 21<sup>st</sup> Century, Nato Security Through Science Series, Springer Press, Editors: L. Rizzuti, H. Ettouney, A. Cipollina, ISBN: 978-1-4020-5507-2, January 2007.

# Publications International Journals Peer Reviewed Papers

- F. Vieira, P. Moura, A. de Almeida (2017) Energy Storage System for Self-Consumption of Photovoltaic Energy in Residential Zero Energy Buildings. In Renewable Energy (IF 3.404), Volume 103, pag. 308-320, Elsevier, April 2017.
- A. Assunção, P. Moura, A. de Almeida (2016) Technical and Economic Assessment of the Secondary Use of Repurposed Electric Vehicle Batteries in the Residential Sector to Support Solar Energy. In Applied Energy (IF 5.106), Volume 181, pag. 120-131, Elsevier, November 2016.
- P. Moura, C. Nuttall, B. Harrison, C. Jehle, A. de Almeida (2016) Energy Savings Potential of Uninterruptible Power Supplies in European Union. In Energy Efficiency (IF 1.150), Volume 9, Issue 6, pag. 993-1013, Springer Press, October 2016.
- J. Moreno, M. Martínez-Ramón, P. Moura, J. Matanza, G. Lopez (2016) Smart Grid: ICT Control for Distributed Energy Resources. In International Journal of Distributed Sensor Networks (IF 0.665), Volume 2016, pag. 1-2, Hindawi Publishing Corporation, May 2016.
- A. Carvalho, P. Moura, G. Vaz, A. de Almeida (2015) Ground Source Heat Pumps as High Efficient Solutions for Building Space Conditioning and for Integration in Smart Grids. In Energy Conversion and Management (IF 4.380), Volume 103, pag. 991-1007, Elsevier, October 2015.
- G. López, V. Custodio, J. Moreno, M. Sikora, P. Moura, N. Fernández (2015) Modeling Smart Grid Neighborhoods with the ENERsip Ontology. In Computers in Industry (IF 1.457), Volume 70, pag. 168-182, Elsevier, June 2015.
- J. Santos, P. Moura, A. de Almeida (2014) Technical and Economic Impact of Residential Electricity Storage at Local and Grid Level for Portugal. In Applied Energy (IF 5.106), Volume 128, pag. 254-264, Elsevier, September 2014.



- R. Faria, P. Marques, R. Garcia, P. Moura, F. Freire, J. Delgado, A. de Almeida (2014) Primary and Secondary Use of Electric Mobility Batteries from a Life Cycle Perspective. In Journal of Power Sources (IF 4.675), Volume 262, pag. 167-177, Elsevier, September 2014.
- R. Faria, P. Moura, J. Delgado, A. de Almeida (2014) Managing the Charging of Electrical Vehicles: Impacts on the Electrical Grid and on the Environment. In Intelligent Transportation Systems Magazine (IF 3.064), Volume 6, Issue 3, pag. 54-65, IEEE, July 2014.
- G. López, P. Moura, J. Moreno, J. Camacho (2014) Multi-faceted Assessment of a Wireless Communications Infrastructure for the Green Neighborhoods of the Smart Grid. In Energies (IF 2.072), Volume 7, Issue 5, pag. 3453-3483, MDPI, May 2014.
- P. Moura, G. López, J. Moreno, A. de Almeida (2013) The Role of Smart Grids to Foster Energy Efficiency. In Energy Efficiency (IF 1.150), Volume 6, Issue 4, pag. 621-639, Springer Press, November 2013.
- A. de Almeida, P. Moura (2013) Introduction to the Special Issue on Smart Grids and Energy Efficiency. In Energy Efficiency (IF 1.150), Volume 6, Issue 4, pag. 619-620, Springer Press, November 2013.
- R. Faria, P. Marques, P. Moura, F. Freire, J. Delgado, A. de Almeida (2013) Impact of the Electricity Mix and Use Profile in the Life Cycle Assessment of Electric Vehicles. In Renewable & Sustainable Energy Reviews (IF 6.018), Volume 24, pag. 271-287, Elsevier, August 2013.
- R. Faria, P. Moura, J. Delgado, A. de Almeida (2012) A Sustainability Assessment of Electric Vehicles as a Personal Mobility System. In Energy Conversion and Management (IF 4.380), Volume 61, pag. 19-30, Elsevier, September 2012.
- P. Moura, A. de Almeida (2010) The Role of Demand-side Management in the Grid Integration of Wind Power. In Applied Energy (IF 5.106), Volume 87, pag. 2581-2589, Elsevier, August 2010.
- P. Moura, A. de Almeida (2010) Multi-Objective Optimization of a Mixed Renewable System with Demand-Side Management. In Renewable & Sustainable Energy Reviews (IF 6.018), Volume 14, pag. 1461-1468, Elsevier, June 2010.
- A. de Almeida, P. Moura, J. Almeida, A. Marques (2005) Multi-impact Evaluation of New Medium and Large Hydropower Plants in Portugal. In Renewable & Sustainable Energy Reviews (IF 6.018), Volume 9, pag. 149-167, Elsevier, April 2005.
- A. de Almeida, P. Moura, J. Almeida, A. Marques (2004) Multi-Disciplinary Ranking for New Medium and Large Hydro Plants Portugal's Central Region. In International Journal on Hydropower & Dams, Volume 11, Issue 5, pag. 79-83, Aqua Media, September 2004.

# Publications International Journals Invited Papers

- G. López, P. Moura, Boris Kantsepolsky, M. Sikora, J. Moreno, A. de Almeida (2012) European FP7
  Project ENERsip: Bringing ICT and Energy Together. In IEEE Global Communications Newsletter (IF
  0.98), Volume 15, Issue 11, pag. 2-4, IEEE, November 2012.
- P. Moura, A. de Almeida (2010) Methodologies and Technologies for the Integration of Renewable Resources in Portugal. In Energy Bulletin, Volume 2, Issue 9, pag. 55-60, UNESCO, September 2010.
- P. Moura, A. de Almeida (2010) Managing Electricity Demand Could Maximise Wind Power Benefits.
   In Science for Environment Policy, Volume 204, European Commission DG Environment, July 2010.
- P. Moura, A. de Almeida (2009) Integrating Wind Power in Portugal. In Renewable Energy World, Volume 12, Issue 6, pag. 45-52, PennWell, November 2009.

# Publications National Journals Invited Papers

- A. de Almeida, P. Moura (2013) Sustainable Energy Systems (in Portuguese). In Ingenium, Portuguese Order of Engineers, Volume 134, pag. 38-39, April 2013.
- G. Lopez, P. Moura, J. Moreno, A. de Almeida (2012) Platform to the Energy Efficiency Improvement and Microgrids Optimization (in Portuguese). In Eletricidade Moderna Brazil, Volume 40, Issue 5, pag. 52-67, Aranda, May 2012.
- A. de Almeida, P. Moura (2006) Hydrogen and Fuel Cells to Distributed Energy Generation (in Portuguese). In Gazeta de Física, Volume 29, pag. 50-55, SPF, June 2006

# Publications International Conferences Proceedings

- T. Vasques, P. Moura, A. de Almeida (2017) Energy Efficiency Insight into Small and Medium Data Centres: A Comparative Analysis Based on a Survey. In 13<sup>th</sup> European Council for an Energy Efficient Economy Summer Study on Energy Efficiency (ECEEE 2017), Presqu'île de Giens (France), 29<sup>th</sup> May - 3<sup>rd</sup> June 2017.
- P. Moura, N. Morais, P. Fonseca, A. de Almeida (2017) Cost-Effective Options for Nearly Zero Energy Renovation of Municipal Buildings. In 13<sup>th</sup> European Council for an Energy Efficient Economy Summer Study on Energy Efficiency (ECEEE 2017), Presqu'île de Giens (France), 29<sup>th</sup> May - 3<sup>rd</sup> June 2017.
- P. Fonseca, P. Moura, H. Jorge, A. de Almeida (2017) Achieving University Campus Sustainability with Nearly Zero Energy Building Retrofits. In 13<sup>th</sup> European Council for an Energy Efficient Economy Summer Study on Energy Efficiency (ECEEE 2017), Presqu'île de Giens (France), 29<sup>th</sup> May - 3<sup>rd</sup> June 2017
- T. Vasques, P. Moura (2017) An Energy Efficiency Perspective into Small and Medium Data Centers: Progress and Reality Based on Surveys. In Energy for Sustainability 2017, Sustainable Cities:



- Designing for People and the Planet (EfS 2017), Funchal (Portugal), 8-10<sup>th</sup> February 2017.
- T. Shu Xian, P. Moura (2016) Particle Swarm Optimization in Virtual Power Plants with Cogeneration Systems. In International Workshop on Optimization Challenges in the Evolution of Energy Networks to Smart Grids (OptEnergy2016), Coimbra (Portugal), 27-28<sup>th</sup> October 2016.
- P. Moura, F. Vieira, G. López, J. Moreno, A. de Almeida (2015) Demand Response and Energy Storage for Zero Energy Residential Buildings. In 8th International Conference on Energy Efficiency in Domestic Appliances and Lighting (EEDAL'15), Lucerne (Switzerland), 26-28<sup>th</sup> August 2015.
- T. Vasques, S. Araújo, F. Vieira, G. Júnior, M. Castro, G. Souza, P. Moura (2015) Building the Brazilian Smart Grid: Implementation of Smart Grid Technologies in Goiás. In Energy for Sustainability 2015, Sustainable Cities: Designing for People and the Planet (EfS 2015), Coimbra (Portugal), 14-15<sup>th</sup> May 2015.
- F. Vieira, P. Moura, A. de Almeida (2015) Energy Storage System for Residential Zero Energy Buildings in Portugal. In Energy for Sustainability 2015, Sustainable Cities: Designing for People and the Planet (EfS 2015), Coimbra (Portugal), 14-15<sup>th</sup> May 2015.
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#### **Invited Talks**

- Renewable Energy Integration in Buildings (in Portuguese). Workshop: Energy Management, IEE Project Transparense, ISR-UC – Coimbra (Portugal), 2015.
- Energy Efficiency (in Portuguese). Distribution School of the EDP University (2 classes), EDP Caldas da Rainha (Portugal), 2012.
- Energy Efficiency in Residential Buildings (in Portuguese). Workshop: Energy Efficiency, EPSE Seia (Portugal), 2012.
- Energy Efficiency Trends in Residential Buildings (in Spanish). Workshop: Technological Advances to the Energy Efficiency Management, FAEN – Oviedo (Spain), 2011.
- Integration of Renewable Intermittent Resources with Electric Vehicles. Day of the Electric Mobility, 13<sup>th</sup> International IEEE Conference on Intelligent Transportation Systems – Funchal (Portugal), 2010.
- Cogeneration and Trigeneration (in Portuguese). Workshop: Production, Consumption and Management of Energy in Hospitals, ATEHP – Vilamoura (Portugal), 2007.
- Contribution from Renewable Energies to the Environmental Sustainability (in Portuguese).
   Workshop: Hydropower Dams and Environmental Sustainability, DEC-FCTUC Coimbra (Portugal), 2006.
- Hydrogen as a Fuel (in Portuguese). Workshop: The Future of Renewable Energy Sources, DEQ-FCTUC Coimbra (Portugal), 2005.
- Hydropower, Multiple Impacts to the Sustainable Development (in Portuguese). Workshop: Baixo Sabor Hydropower Dam Environmental Impact, DEC-FCTUC – Coimbra (Portugal), 2005.
- Plans to Reduce the Emissions of Greenhouse Gases (in Portuguese). Workshop: Engineering Technical Sessions, OE – Coimbra (Portugal), 2004.
- Impacts of New Medium and Large Hydropower Plants in Portugal Centre Region (in Portuguese).
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- New Lighting Technologies (in Portuguese). Workshop: GreenLight, Promotion of Electrical Efficiency in Lighting, ADENE – Porto (Portugal), 2003.
- Medium and Large Hydropower Plants (in Portuguese). Workshop: Energy and Sustainable Development, IPN – Coimbra (Portugal), 2003.

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- 51 publications indexed by Google Scholar with 733 citations (h-index: 13) http://scholar.google.com/citations?user=9fBQat8AAAAJ
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- ORCID: http://orcid.org/0000-0003-4852-2812

# Editor Journals

 Member of the Editorial Board - European Journal of Sustainable Development Research, Lectito Journals, <a href="http://www.lectitopublishing.nl/european-journal-of-sustainable-development-research">http://www.lectitopublishing.nl/european-journal-of-sustainable-development-research</a> (since 2016).

# Guest Editor Special Issues

- Guest Editor of the Special Issue entitled "Smart Grid: ICT Control for Distributed Energy Resources" for International Journal of Distributed Sensor Networks – IF 0.665, Hindawi Publishing Corporation, May 2016.
- Guest Editor of the Special Issue entitled "Smart Grids and Energy Efficiency" for the journal Energy Efficiency 4 (6) – IF 1.150, Springer Press, November 2013.

# Reviewer Journals

- Advances in Applied Sociology, SCIRP (since 2017).
- Energy, Elsevier IF 4.292 (since 2017).
- Journal of Cleaner Production, Elsevier IF 4.959 (since 2016).
- IEEE Transactions on Smart Grid, IEEE IF. 3.19 (since 2016).
- Applied Soft Computing, Elsevier IF 2.857 (since 2016).
- International Journal of Distributed Sensor Networks, SAGE Publishing IF 0.665 (since 2016)



- Applied Sciences, MDPI IF 1.484 (since 2016).
- Future Internet, MDPI (since 2015).
- Energy for Sustainable Development, Elsevier IF 1.993 (since 2015).
- Frontiers of Information Technology & Electronic Engineering, Springer IF 0.415 (since 2015).
- Sustainable Cities and Society, Elsevier IF 1.044 (since 2015).
- IEEE Intelligent Transportation Systems Magazine, IEEE IF 3.064 (since 2015).
- IEEE Transactions on Intelligent Transportation Systems, IEEE IF 2.472 (since 2015).
- Sustainability, MDPI IF 1.077 (since 2015).
- Transportation Research Part A: Policy and Practice, Elsevier IF 2.525 (since 2015).
- International Journal of Communication Systems, Wiley IF. 1.106 (since 2015).
- Sustainable Energy Technologies and Assessments, Elsevier (since 2014).
- International Journal of Sustainable Transportation, Taylor & Francis IF 1.447 (since 2014).
- International Journal of Decision Support Systems, InderScience (since 2014).
- IEEE Transactions on Sustainable Energy, IEEE IF. 3.842 (since 2014).
- Transportation Research Part D: Transport and Environment, Elsevier IF 1.291 (since 2014).
- Computer Communications, Elsevier IF 1.079 (since 2014).
- Journal of Renewable and Sustainable Energy, American Institute of Physics IF 1.514 (since 2014).
- IEEE Transactions on Industry Applications, IEEE IF 1.672 (since 2013).
- International Journal of Electrical Power and Energy Systems, Elsevier IF 3.432 (since 2013).
- Energies, MDPI IF 2.072 (since 2013).
- Renewable and Sustainable Energy Reviews, Elsevier IF 6.018 (since 2012).
- International Journal of Hydrogen Energy, Elsevier IF 3.548 (since 2012).
- Energy Efficiency, Springer IF 1.150 (since 2012).
- Proceedings of the IEEE, IEEE IF 6.810 (since 2011).
- Energy Conversion and Management, Elsevier IF 2.216 (since 2011).
- Applied Energy, Elsevier IF 5.106 (since 2011).
- Energy Policy, Elsevier IF 2.743 (since 2007).

# Reviewer Books

 Review of book proposals in the area of renewable generation and smart energy systems for Elsevier (since 2015).

# Organization Committee Conferences

- ICARSC 2017: 17<sup>th</sup> IEEE International Conference on Autonomous Robot Systems and Competitions, Coimbra (Portugal), Registrations Chair, 26-30<sup>th</sup> April 2017.
- EEDAL'13: 7<sup>th</sup> International Conference on Energy Efficiency in Domestic Appliances and Lighting, Coimbra (Portugal), Technical Conference Manager, 11-13<sup>th</sup> September 2013.
- PCEEE 2012: Portugal in Conference to an Energy Efficient Economy, Coimbra (Portugal), 22<sup>nd</sup> June 2012
- EPQU'11: 11<sup>th</sup> International Conference on Electric Power Quality and Utilization, Lisbon (Portugal), 17-19<sup>th</sup> October 2011.

# Scientific Committee Conferences

- VEHITS 2017: International Conference on Vehicle Technology and Intelligent Transport Systems, Porto (Portugal), 22-24<sup>th</sup> April 2017.
- ICRAECT 2017: International Conference on Recent Advances in Electronics and Communication Technology 2017, Bengaluru (India), 16-17<sup>th</sup> March 2017.
- EfS 2017: Energy for Sustainability 2017 "Sustainable Cities: Designing for People and the Planet", Funchal (Portugal), 8-10<sup>th</sup> February 2017.
- ICEED 2016: 8<sup>th</sup> IEEE International Conference on Engineering Education, Kuala Lumpur (Malaysia), 7-8<sup>th</sup> December 2016.
- PECON 2016: 2016 IEEE International Conference on Power and Energy, Melaka (Malaysia), 28-30<sup>th</sup> November 2016.
- IEACon 2016: IEEE Industrial Electronics and Applications Conference, Kota Kinabalu (Malaysia), 20-22<sup>th</sup> November 2016.
- Behave 2016: 4<sup>th</sup> European Conference on Behaviour and Energy Efficiency, Coimbra (Portugal), 8-9<sup>th</sup> September 2016.
- VEHITS 2016: International Conference on Vehicle Technology and Intelligent Transport Systems, Rome (Italy), 23-24<sup>th</sup> May 2016.
- EfS 2015: Energy for Sustainability 2015 "Sustainable Cities: Designing for People and the Planet", Coimbra (Portugal), 14-15<sup>th</sup> May 2015.
- VEHITS 2015: International Conference on Vehicle Technology and Intelligent Transport Systems, Lisbon (Portugal), 20-22<sup>th</sup> May 2015.
- PECON 2014: 2014 IEEE International Conference on Power and Energy, Kuching (Malaysia), 1-3<sup>rd</sup>



December 2014.

- ISGT ASIA 2014: IEEE PES Innovative Smart Grid Technologies Asia, Kuala Lumpur (Malaysia), 20-23rd May 2014.
- ICEED 2013: 5<sup>th</sup> IEEE International Conference on Engineering Education, Kuala Lumpur (Malaysia), 4-5<sup>th</sup> December 2013.
- EEDAL'13: 7<sup>th</sup> International Conference on Energy Efficiency in Domestic Appliances and Lighting, Coimbra (Portugal), 11-13<sup>th</sup> September 2013.
- EfS 2013: Energy for Sustainability 2013 "Sustainable Cities: Designing for People and the Planet", Coimbra (Portugal), 8-10<sup>th</sup> September 2013.
- PECON 2012: 2012 IEEE International Conference on Power and Energy, Kota Kinabalu (Malaysia), 2-5<sup>th</sup> December 2012.
- EPQU'11: 11<sup>th</sup> International Conference on Electric Power Quality and Utilization, Lisbon (Portugal), 17-19<sup>th</sup> October 2011.

# Chair Conferences

- Chair of the Session "Rural Electrification, DC Microgrids and Off-Grid Appliances". 13<sup>th</sup> European Council for an Energy Efficient Economy Summer Study on Energy Efficiency (ECEEE 2017), Presqu'île de Giens (France), 1<sup>st</sup> June 2013.
- Chair of the Session "SMART CITIES: Energy Storage and Human Dimensions". EfS 2013: Energy for Sustainability 2013 "Sustainable Cities: Designing for People and the Planet", Coimbra (Portugal), 9th September 2013.
- Chair of the Session "The Role of Smart Grids to Foster Energy Efficiency". 11<sup>th</sup> European Council for an Energy Efficient Economy Summer Study on Energy Efficiency (ECEEE 2013), Presqu'île de Giens (France), 8<sup>th</sup> June 2013.

# Reviewer Conferences

- ECEEE 2017: 13<sup>th</sup> European Council for an Energy Efficient Economy Summer Study on Energy Efficiency, Presqu'île de Giens (France), 29<sup>th</sup> May - 3<sup>rd</sup> June 2017.
- VEHITS 2017: International Conference on Vehicle Technology and Intelligent Transport Systems, Porto (Portugal), 22-24<sup>th</sup> April 2017.
- EfS 2017: Energy for Sustainability 2017 "Sustainable Cities: Designing for People and the Planet", Funchal (Portugal), 8-10<sup>th</sup> February 2017.
- ICEED 2016: 8<sup>th</sup> IEEE International Conference on Engineering Education, Kuala Lumpur (Malaysia), 7-8<sup>th</sup> December 2016.
- PECON 2016: 2016 IEEE International Conference on Power and Energy, Melaka (Malaysia), 28-30<sup>th</sup> November 2016.
- IEACon 2016: IEEE Industrial Electronics and Applications Conference, Kota Kinabalu (Malaysia), 20-22th November 2016.
- Industrial Efficiency 2016: 3<sup>rd</sup> ECEEE Industrial Energy Efficiency Conference 2016, Berlin (Germany), 12-14<sup>th</sup> September 2016.
- Behave 2016: 4<sup>th</sup> European Conference on Behaviour and Energy Efficiency, Coimbra (Portugal), 8-9<sup>th</sup> September 2016.
- VEHITS 2016: International Conference on Vehicle Technology and Intelligent Transport Systems, Rome (Italy), 23-24th May 2016.
- EEDAL'15: 8<sup>th</sup> International Conference on Energy Efficiency in Domestic Appliances and Lighting, Lucerne (Switzerland), 26-28<sup>th</sup> August 2015.
- EfS 2015: Energy for Sustainability 2015 "Sustainable Cities: Designing for People and the Planet", Coimbra (Portugal), 14-15<sup>th</sup> May 2015.
- VEHITS 2015: International Conference on Vehicle Technology and Intelligent Transport Systems, Lisbon (Portugal), 20-22<sup>th</sup> May 2015.
- PECON 2014: 2014 IEEE International Conference on Power and Energy, Kuching (Malaysia), 1-3<sup>rd</sup> December 2014.
- ISGT ASIA 2014: IEEE PES Innovative Smart Grid Technologies Asia, Kuala Lumpur (Malaysia), 20-23rd May 2014.
- ICEED 2013: 5<sup>th</sup> IEEE International Conference on Engineering Education, Kuala Lumpur (Malaysia), 4-5<sup>th</sup> December 2013.
- EEDAL'13: 7<sup>th</sup> International Conference on Energy Efficiency in Domestic Appliances and Lighting, Coimbra (Portugal), 11-13<sup>th</sup> September 2013.
- EfS 2013: Energy for Sustainability 2013 "Sustainable Cities: Designing for People and the Planet", Coimbra (Portugal), 8-10<sup>th</sup> September 2013.
- ECEEE 2013: 11<sup>th</sup> European Council for an Energy Efficient Economy Summer Study on Energy Efficiency, Presqu'île de Giens (France), 3-8<sup>th</sup> June 2013.
- PECON 2012: 2012 IEEE International Conference on Power and Energy, Kota Kinabalu (Malaysia), 2-5th December 2012.



- PCEEE 2012: Portugal in Conference to an Energy Efficient Economy, Coimbra (Portugal), 22<sup>nd</sup> June 2012
- EPQU'11: 11<sup>th</sup> International Conference on Electric Power Quality and Utilization, Lisbon (Portugal), 17-19<sup>th</sup> October 2011.
- PCEEE 2010: Portugal in Conference to an Energy Efficient Economy, Coimbra (Portugal), 22<sup>nd</sup> June 2010

### Organization Events

- Competition "Robotica 2017: Portuguese Robotics Open" (<a href="http://robotica2017.isr.uc.pt">http://robotica2017.isr.uc.pt</a>),
   Competitions Chair, Coimbra (Portugal), 26-30<sup>th</sup> April 2017.
- Congress ""Around the Light" (<a href="http://www.uc.pt/efs/destaques/2015/avoltadaluz">http://www.uc.pt/efs/destaques/2015/avoltadaluz</a>), Member of the Organization Committee, Energy for Sustainability Initiative, FCTUC Coimbra, December, 2<sup>nd</sup> 2015.

## PhD Thesis Supervisor

- Yohannes Aemro (ongoing) Distributed Renewable Energy based DC-Microgrids as Means of Rural Development in Developing Countries. Ph.D. thesis in Sustainable Energy Systems, University of Coimbra. Supervisors: Anibal de Almeida and Pedro Moura.
- Zuleika Hoyos (ongoing) Integration of Photovoltaic Systems, Energy Storage and Load Shifting to Increase the Generation and Consumption Matching in Buildings. Ph.D. thesis in Sustainable Energy Systems, University of Coimbra. Supervisor: Pedro Moura.
- Thiago Luz (ongoing) Methodologies and Technologies for the Integration of Renewable Energies in the Brazilian Electric System. Ph.D. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Pedro Moura.
- Thiago Vasques (ongoing) Load Management and Demand Response in Small and Medium Data Centers. Ph.D. thesis in Sustainable Energy Systems, University of Coimbra. Supervisor: Pedro Moura.

# M.Sc. Thesis Supervisor

- Jorge Dias (ongoing) Algorithms for the Coordinated Charging of Electric Vehicles for the Large Scale Integration of Renewable Energiy. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Pedro Moura.
- José Silva (ongoing) Control Algorithms for Energy Storage in Residential Buildings. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Pedro Moura.
- Rui Nunes (ongoing) Planning of 100% Renewable Energy Systems. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Pedro Moura.
- Diogo Ferreira (ongoing) Evaluation of Technologies for the Large-Scale Integration of Photovoltaic Generation. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Pedro Moura.
- Alexandre Gaspar (ongoing) Impact Assessment of Energy Efficiency and Load Control Option on Capacity Markets. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Pedro Moura.
- Rita Salgueiro (ongoing) Impact of the Large-Scale Penetration of Electric Vehicles on the Generation Mix. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Pedro Moura.
- Bernardo Lemos (ongoing) Control Algorithms for Charging Electric Vehicles in Residential Buildings.
   M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Pedro Moura
- Diogo Monteiro (2017) Sizing of Energy Storage Systems for Residential Buildings Using Photovoltaic Solar Energy. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Pedro Moura.
- João Ferreira (2017) Technical and Economic Analysis of Electrical Energy Storage Technologies for the Large-Scale Integration of Intermittent Renewable Generation. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Pedro Moura.
- Dino Castanheiro (2017) Tilt Angle Optimization for different Solar Models. M.Sc. thesis in Electrical and Computers Engineering, Supervisor: Pedro Moura.
- Zuleika Hoyos (2016) Demand-Side Management for Large Scale Integration of Photovoltaic Power.
   M.Sc. thesis in Energy for Sustainability, University of Coimbra. Supervisor: Pedro Moura.
- Pedro Mateus (2016) Control Strategies of Distributed Renewable Energy Sources and Demand Response Scheduling. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Pedro Moura.
- Micael Carvalho (2016) Methods for Control of Flexible Resources. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Pedro Moura.
- Soraia Fernandes (2016) Evaluation of Load Control Options for the Large-Scale Integration of Intermittent Renewable Generation in the Portuguese Grid. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Pedro Moura.
- André Assunção (2016) Technical and Economic Feasibility of Second Use Electric Vehicle Batteries



- for Residential Energy Storage with Photovoltaic Systems. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Pedro Moura.
- Sérgio Lopes (2015) Energy Storage Technologies for Ancillary Services. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Pedro Moura.
- João Alexandre (2015) Impact of the New Portuguese legislation for the Self-Consumption of Electricity. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Pedro Moura.
- Ashkan Ramezani (2014) Cost-Benefit Assessment of in-House Energy Generation and Consumption Matching using Energy Storage. M.Sc. thesis in Energy for Sustainability, University of Coimbra. Supervisor: Pedro Moura.
- Rui Morgado (2013) Heterogeneous Energy Routers for Smart Cities. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisors: Pedro Moura and Aníbal de Almeida.
- Francisco Couto (2012) Residential Demand Response to the Integration of Intermittent Renewable Generation. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisors: Aníbal de Almeida and Pedro Moura.
- Fábio Vieira (2012) Methodology of Evaluation to the Benefits of Optimization between Consumption and Local Generation. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisors: Aníbal de Almeida and Pedro Moura.
- Silvio Jacinto (2012) Consumption Monitoring and Loads Control in Residential Buildings. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisors: Aníbal de Almeida and Pedro Moura.
- João Nogueira (2011) Consumption Reductions with Monitoring Systems and Loads Control in Residential Buildings. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisors: Aníbal de Almeida and Pedro Moura.
- André Ferreira (2011) Models to the Optimization between Energy Consumption and Generation in Residential Buildings. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisors: Aníbal de Almeida and Pedro Moura.
- Adriano Lopes (2008) Wind Power Impact into the Electric Grid Small Scale Storage. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisors: Aníbal de Almeida and Pedro Moura
- Lúcio Alonso (2008) Wind Power Impact into the Electric Grid Large Scale Storage. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisors: Aníbal de Almeida and Pedro Moura.
- Ivo Figueiredo (2007) Evaluation and Monitoring for the EU Directive on Energy End-Use Efficiency and Energy Services. Engineering degree thesis in Electrical and Computers Engineering, University of Coimbra. Supervisors: Aníbal de Almeida and Pedro Moura.
- Carlos Pinto, Luís Oliveira, Pedro Freitas (2006) White Certificates and Emissions Trade. Engineering degree thesis in Electrical and Computers Engineering, University of Coimbra. Supervisors: Aníbal de Almeida and Pedro Moura.

# Research Grants Supervisor

- Cláudia Gaspar, Scientific Research Scholarship, Project PPEC2017-2018 Plan to the Promotion of the Efficiency in Consumption 2017/2018, March 2016 - September 2016.
- André Assunção, Scientific Research Scholarship, Project EIPCI - Evaluation of the impact of Projects of Common Interest implementation, March 2016 - September 2016.
- Filomeno Vieira, Scientific Research Scholarship, Project EMSURE Energy and Mobility for SUstainable Regions, November 2013 September 2015.

# PhD Thesis Project Jury

- Alireza Emami (2015) Control and Optimization with Applications to Microgrids. Thesis Project, Ph.D. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Rui Araújo.
- Catarina Matos (2015) Compressed Air Energy Storage Potential in Portugal and Its Economic Analysis. Thesis Project, Ph.D. thesis in Sustainable Energy Systems, University of Coimbra. Supervisors: Patricia Silva and Júlio Carneiro.

# M.Sc. Thesis Jury External

- Ana Carvalho (2015) Development of a Battery and BMS for Electric Vehicles. M.Sc. thesis in Electrical
  and Computers Engineering Energy and Automation, Polytechnic Institute of Viseu. Supervisor:
  Joaquim Delgado.
- Micael Lindinho (2015) Intelligent Systems of Public Lighting with High Efficiency. M.Sc. thesis in Electrical and Computers Engineering – Energy and Automation, Polytechnic Institute of Viseu. Supervisor: Joaquim Delgado.
- José Rodrigues (2014) Use of Supercapacitors in Electric Mobility Systems. M.Sc. thesis in Electrical and Computers Engineering – Energy and Automation, Polytechnic Institute of Viseu. Supervisor: Joaquim Delgado.
- João Nogueira (2013) A New Approach to Create and Transfer Innovation to the Markets, with Special



Focus on Energy Efficiency Technologies for a More Sustainable Economy. M.Sc. thesis in Physics Engineering, University of Coimbra. Supervisor: António Bento.

- José Jacinto (2013) Assessment of Two Electric Energy Generation Technologies to Remote Locations: Autonomous Photovoltaic Systems With and Without Diesel Generator. M.Sc. thesis in Automation and Communication in Energy Systems, Coimbra Institute of Engineering. Supervisor: Fernando Ferreira.
- Luis Marques (2012) Techno-Economic Evaluation of HVAC Systems. M.Sc. thesis in Automation and Communication in Energy Systems, Coimbra Institute of Engineering. Supervisor: Fernando Ferreira
- Rafael Jegundo (2012) Development and Monetization of an Energy Data and Analytics Platform.
   M.Sc. thesis in Physics Engineering, University of Coimbra. Supervisors: Jorge Landeck, Nuno Martins
- Tânia Bonito (2011) Investment Optimization in Photovoltaic Systems. M.Sc. thesis in Automation and Communication in Energy Systems, Coimbra Institute of Engineering. Supervisor: Fernando Ferreira.
- Joana Costa (2011) Production and Use of Biogas. M.Sc. thesis in Automation and Communication in Energy Systems, Coimbra Institute of Engineering. Supervisor: Fernando Ferreira.

# M.Sc. Thesis Jury Internal

- Daniel Lopes (2017) Selection of Indicators for the Analysis and Characterization of Power Quality in the Distribution Network. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Humberto Jorge.
- Diogo Bacalhau (2017) Modeling and Control of Power Converters for Energy Generation and Storage. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: André Mendes.
- Marco Macário (2016) Evaluation of Simplified Nuclear Power Plant Simulator in Case of a Main Steam Line Break. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Humberto Jorge.
- João Carocha (2016) Management of Electricity Consumption According to an Energy Retailer's Perspective. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Álvaro Gomes.
- Ravi Teja (2016) Quantitative Assessment of Advanced Energy Efficiency Retrofitting for Indian Hospitals. M.Sc. thesis in Energy for Sustainability, University of Coimbra. Supervisor: Álvaro Gomes.
- Filipe Silva (2016) Energy Consumption Rationalization Plan for the Building of FFUC. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisors: António Martins and Humberto Jorge.
- Citeljor Menezes (2016) Building Management System of DEC-FCTUC. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisors: António Martins and Humberto Jorge.
- André Simões (2015) Technical Management of the Building of FFUC. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: António Martins.
- Diana Lopes (2015) Power Quality, Regulation in the Area of Shared Responsibility. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Humberto Jorge.
- Rui Fernandes (2015) Resonant Converter for Charging Batteries of Electric Vehicles. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: André Mendes.
- Tiago Jesus (2015) Building Management System of DEEC-FCTUC. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisors: António Martins and Humberto Jorge.
- Osvaldo Sousa (2015) Building Management System of DEC-FCTUC. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisors: António Martins and Humberto Jorge.
- José Marques (2014) Battery Management Systems for Li-Ion Batteries. M.Sc. thesis in Energy for Sustainability, University of Coimbra. Supervisor: Aníbal de Almeida.
- Roham Torabikalaki (2014) Development of an Algorithm to Control and Optimize the Coordinated Charging Process of Group of Electric Vehicles in Low Voltage Power Grids. M.Sc. thesis in Energy for Sustainability, University of Coimbra. Supervisor: Álvaro Gomes.
- Daniel Rodrigues (2014) Efficient Elevators in Buildings. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Aníbal de Almeida.
- Diogo Ribeiro (2014) Characterization of Consumption in a University Campus: A Systematic Approach to the Case of ESAC. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Humberto Jorge.
- João Figueiredo (2014) Development of a New Application to the Building Management System of DEC-FCTUC. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: António Martins.
- Fábio Ferreira (2014) Combined Test of Motors and Variable Speed Drives. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Aníbal de Almeida.
- Filipe Graça (2014) Testing Electrical Motors. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Aníbal de Almeida.
- Leandro Silva (2013) Modelling and Design of the Electric Drivetrain for the 2013 Research Concept





Vehicle. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisors: Aníbal de Almeida and Oskar Wallmark.

 Bruno Lopes (2013) Characterization and Analysis of Efficiency of LED Luminaires. M.Sc. thesis in Electrical and Computers Engineering, University of Coimbra. Supervisor: Lino Marques.

#### Management

- Coordinator of the Thematic Line on "Intelligent Energy Systems", Institute of Systems and Robotics -University of Coimbra (since January 2014).
- Member of the Steering Committee of the Institute of Systems and Robotics University of Coimbra (since January 2014).

#### **Evaluation**

SOUL-FI – Startups Optimizing Urban Life with Future Internet (<a href="http://soul-fi.ipn.pt/">http://soul-fi.ipn.pt/</a>). FP7-funded initiative under the EU Future Internet Programme. Evaluation of grant applications (October 2014) – November 2015).

#### Honours and awards

- Ph.D. Grant awarded by the Foundation for Science and Technology (January 2006).
- Best internship 2004 in Electrical Engineering, awarded by the Portuguese Order of Engineers (May 2005).

#### Memberships

- IEEE Senior Member (since 2016).
- IEEE Smart Grid Education Committee (since 2015).
- IEEE Smart Cities Community (since 2014).
- IEEE Computer Society Technical Community on e-Government (since 2014).
- IEEE Communications Society (since 2013).
- IEEE Green ICT Community (since 2013).
- IEEE Electric Vehicles Community (since 2013).
- European Council for an Energy Efficient Economy (since 2013).
- IEEE Smart Grid Community (since 2012).
- IEEE Power Engineering Society (since 2005).
- Institute of Electrical & Electronics Engineers (since 2005).
- Portuguese Order of Engineers, in the specialization of Electrical Engineering (since 2004).

# Complementary formation (courses, seminaries, conferences)

- INESC-C (2015) International Seminar: Regulatory Challenges on the Electricity Sector. INESC-C and GESEL UFRJ, OE Coimbra (2 days).
- Sean McCarthy (2014) How to Write a Competitive Proposal for Horizon 2020, Hyperion, IPN, Coimbra.
- ISR-UC (2014) Energy Performance Contracts: A Business Model for Implementing Energy Efficiency Measures. ISR-UC, OE Coimbra.
- UC (2013) 4th Luso-Brazilian School of Evolutionary Computation. UC, Coimbra (2 days).
- Eric Ponthieu (2012) Sustainable Consumption: a Proposal at the Heart of Economic Crisis, and Climate and Environmental Challenges. FCTUC Coimbra.
- Eric Ponthieu (2012) The EU White Paper on the Transport Policy. FCTUC Coimbra.
- Eric Ponthieu (2012) Moving Towards Urban Sustainability. FCTUC Coimbra.
- Eric Ponthieu (2012) The 2050 EU Energy Roadmap. FCTUC Coimbra.
- ISR-UC (2012) Optimization of IT Systems and Infrastructures in Data Centres. ISR-UC, OE Coimbra.
- FINPIN (2012) 11th Science-to-Business Marketing Conference. Science-to-Business Marketing Research Centre and FINPIN Münster (Germany) (2 days).
- Alan Krupnick (2011) Assessing Energy Policy Options. RFF-CEEP, UC Coimbra.
- INESC-C (2011) P3E: Policy and Expediency in Energy Efficiency. INESC-C and GESEL UFRJ, OE

   – Coimbra (2 days).
- ISR-UC (2010) Workshop on Standby Consumption. ISR-UC, EDP Coimbra.
- Ruggero Bertani (2009) Geothermal Energy: An Overview on Resources and Potential. Enel Green Power, DEM-FCTUC – Coimbra.
- Pedro Portugal (2009) Autodesk AutoCad 2009, Level I. ACIV, DEC-FCTUC Coimbra (20 hours).
- SOLID-DER (2008) Large Scale Integration of RES and DG into the European Electricity Supply for Meeting the EU RES Targets of 20% for 2020. SOLID-DER Project – Warsaw (Poland) (2 days).
- Koji Okamoto (2005) Fuel Cell and Heat Pump Research in Japan. University of Tokyo, ISR-UC Coimbra.
- Ernest Moniz (2005) Energy Technology Pathways in a Greenhouse Gas Constrained World.
   Massachusetts Institute of Technology, DEM-FCTUC Coimbra.
- Peter Gasper (2005) Light and Colour. CMC Coimbra.



# Curriculum Vitae

- IEA (2005) Photovoltaics in Buildings: Opportunities for New Business Ventures. IEA, CIUCML Lisbon (1 day).
- Elias Stefanakos (2004) Journey to Sustainable Energy, The H2 Solution. CERC, ISR-UC Coimbra.
- OE (2003) Control and Management Systems in Buildings. OE Coimbra (12 sessions).
- OE (2003) Ethics and Professional Deontology. OE Coimbra (2 days).
- OE (2002) Power Quality: Sources, Consequences and Methodologies. OE Coimbra (7 sessions).
- ISR-UC (1999) Comfort and Economy in HVAC. ISR-UC Coimbra (5 sessions).