

Curriculum Vitae

João Filipe Pinto Ribau

(Ph.D, Mechanical Engineering)

CONTENTS

| | |
|--|----|
| Personal Information | 2 |
| Summary | 2 |
| Academic formation | 3 |
| Ph.D degree..... | 3 |
| M.Sc degree | 3 |
| B.Sc degree..... | 3 |
| Skills in IT tools..... | 3 |
| Linguistic skills..... | 3 |
| Courses and workshops | 4 |
| Professional experience | 5 |
| Scientific activity and publications..... | 6 |
| Participation In Scientific Projects And Industry Partnerships | 6 |
| Publications and communications | 7 |
| - Thesis | 7 |
| - Book chapters | 8 |
| - Articles in international peer-reviewed scientific journals..... | 8 |
| - Articles in scientific conferences and meetings..... | 9 |
| - Communications in scientific conferences and meetings..... | 10 |
| <i>Chairman</i> in Scientific meetings | 12 |
| Reviewer in scientific journals | 12 |
| Teaching and Student Supervision..... | 12 |
| Teaching..... | 12 |
| Student Supervision | 13 |
| Other Activities | 13 |
| Scientific Project Jury | 13 |
| Other Skills | 14 |

PERSONAL INFORMATION

Name: João Filipe Pinto Ribau**Age:** 32**Nationality:** Portugal**Phone.:** (+351) 964422023,**E-mail:** joao.ribau@tecnico.ulisboa.pt; jfribau@isq.pt**Web:** <https://fenix.ist.utl.pt/homepage/ist154021/apresentacao>
<https://www.linkedin.com/pub/jo%C3%A3o-ribau/88/629/a24>

SUMMARY

João P. Ribau is a Scientific Researcher at the Sustainable Innovation Centre from ISQ (Instituto de Soldadura e Qualidade).

Previously he was a Post-Doc researcher and an Invited Assistant Professor at the Institute of Mechanical Engineering (IDMEC) of Técnico Lisboa (IST), University of Lisbon. Received his Ph.D degree in Mechanical Engineering from IST, in 2014, with work in life cycle analysis and optimization of alternative road vehicles. In 2009, he received his M.Sc. degree in Mechanical Engineering, from IST, with work in analysis and simulation of electric and hydrogen consumption hybrid and electric vehicles.

Participated in several international projects, under a LIFE Action Grant, and MIT-Portugal, and also national projects under FCT (Foundation for Science and Technology). He is the author of over 13 publications in scientific journals, one book chapter, more than 9 publications in international conferences, and 17 communications in international conferences.

Currently he performs scientific research in the areas of optimization and decision in energy systems, interior air quality, and life cycle analysis. His scientific interests cover:

- Water-energy nexus, Industrial symbiosis and sustainability, Circular Economy
- Conventional and innovative powertrain technologies for vehicles (e.g. electric, hybrid, plug-in, fuel cell);
- Life cycle analysis, and sustainability of energy production and conversion;
- Optimization, metaheuristics, decision, and machine learning applied to energy systems and transports.

Scientific and Academic Indicators:**H-index:** 6 (Scopus)**ResearcherID:** B-7694-2014**ORCID:** <http://orcid.org/0000-0002-1018-6908>**Scopus Author ID:** [44261708900](https://orcid.org/0000-0002-1018-6908)

| | |
|-----------------------|---|
| Project Participation | 6 (LIFE, FCT, MIT-Portugal) |
| Book chapters | 1 |
| Scientific Papers | 13 (inc. Q1 level, IF: 2.5-7.1) |
| Papers Reviewed | 9 |
| Students supervision | 8 (Mech. Eng., Energy Management Eng.) |
| Classes | Thermodynamics and Transport Phenomena (2015/2016 – 2016/2017) |

ACADEMIC FORMATION

PH.D DEGREE

| | |
|-------------|---|
| Date | 1/06/2011 – 19/12/2014 |
| Degree | Ph.D in Mechanical Engineering |
| Specialty | Modelling and simulation of electric, hybrid, and fuel cell road vehicles. Optimization, decision, and life cycle analysis of energy and transport systems. |
| Thesis | <i>Powertrain optimization of road vehicles using alternative technologies</i> |
| Institution | IDMEC/IST Institute of Mechanical Engineering of Instituto Superior Técnico, University of Lisbon, Portugal |

M.SC DEGREE

| | |
|-------------|---|
| Date | 1/09/2007 – 10/11/2009 |
| Degree | M.Sc. in Mechanical Engineering |
| Specialty | Energy field. Relevant subjects: Energy in Transports, Internal Combustion Engines, Renewable Energies and Resources, Energy and Atmosphere, Sustainable Development, Optimization in Energy Systems, Energy management, Combustion, Thermodynamics, Fluid Mechanics, Heat & Mass Transfer, Turbomachines |
| Thesis | <i>Electric and hydrogen consumption analysis in electric and plug-in hybrid road vehicles</i> |
| Institution | IDMEC/IST Institute of Mechanical Engineering of Instituto Superior Técnico, University of Lisbon, Portugal |

B.SC DEGREE

| | |
|-------------|--|
| Date | 1/08/2003 – 1/09/2007 |
| Degree | B.Sc. in Mechanical Engineering |
| Institution | Instituto Superior Técnico, University of Lisbon, Portugal |

SKILLS IN IT TOOLS

- Software/coding languages: MatLab™, PYTHON, FORTRAN
- Vehicle simulation/modelling software: ADVISOR (NREL), AVL CRUISE, e AVL BOOST.
- Vehicles and energy sources life cycle analysis with the database GREET (Argonne)
- CAD modelling - Inventor and Solidworks
- Modelling of HVAC systems with the software Lindab CADvent.

LINGUISTIC SKILLS

First language: **Portuguese**

Other languages: **English** (B2) independent, **Japanese** (A1.2) basic

COURSES AND WORKSHOPS

2017

Machine Learning by Stanford University. (Machine learning algorithms – supervised and unsupervised, such as: Regression, Classification, Neural Networks, Clustering)

Online course by *coursera*.

2016/2017

KnowHy - "Improving the Knowledge in Hydrogen and Fuel Cell Technology for Technicians and Workers": Fuel Cells Basics & Hydrogen Safety/ H2 Fuel Cells for Transport Applications/ H2 Production and Handling

2016

APREN and the Universities - The perspectives and impact of Solar Energy on the Portuguese economy. Commemoration of the Day of the Sun. Instituto Superior de Engenharia de Lisboa (ISEL)

2015

Course "Mixed-Integer Programming / Disjunctive Programming, Mixed-Integer Models for Planning, Scheduling". Instituto Superior Técnico (IST)

2014

Workshop "Advanced biofuels to decarbonize transport in Portugal". Auditório do Centro de Informação Urbana de Lisboa (CIUL)

2012

Sessão Ponto de Encontro: "Management of Environmental and Social Impacts along the Life Cycle of Products and Materials". (EDP)

2011

Sessão da Lisboa e-nova: "The Gap Between Realistic Expectations and our Transportation GHG Emissions Targets", John Heywood do MIT, CIUL - Centro de Informação Urbana de Lisboa.

2010

Sustainable and competitive Cities Seminar. AESE.

2009

Sessão Depois das 7 da Lisboa e-nova: "Energy Diversification: Charging points for electric vehicles" EDP Inovação, Lisboa.

2004

Workshop "Hydrogen and Fuel Cells: the Future of Automobile Mobility", IST.

PROFESSIONAL EXPERIENCE

Date | **1/03/2016 – present**
Activity | **Researcher**, with research in the areas of optimization in energy systems, life cycle analysis, modelling interior air quality.
Institution | Sustainable Innovation Centre of ISQ (Instituto de Soldadura e Qualidade), Oeiras, Portugal

Date | **1/03/2016 – 1/08/2017**
Activity | **Invited Assistant Professor**, Thermodynamics and Transport Phenomena
Institution | DEM/IST Department of Mechanical Engineering of Instituto Superior Técnico, University of Lisbon, Portugal

Date | **1/03/2015 – 1/05/2017**
Activity | **Post-Doctorate research** in Mechanical Engineering at IST, with the research plan “ODISSEY - Optimization and Decision Integrated Support tool for Energy Systems related to road transportation”. Areas of simulation, optimization and decision of transport and energy systems. Energy and environment sustainability evaluation. Life cycle of conventional and alternative vehicles and alternative energy (inc. fuels).
Institution | IDMEC/IST Institute of Mechanical Engineering of Instituto Superior Técnico, University of Lisbon, Portugal

Date | **1/01/2015 – 29/02/2015**
Activity | **Scientific researcher** at IDMEC/IST with research in optimization, life cycle and biorefinery assessment. Research grant under the LAETA Unit (IDMEC - IST), with the financial support of FCT/MEC, UID/EMS/50022/2013.
Institution | IDMEC/IST Institute of Mechanical Engineering of Instituto Superior Técnico, University of Lisbon, Portugal

Date | **1/06/2011 – 19/12/2014**
Activity | **PhD Scientific research grant in Mechanical Engineering** with the research work “Powertrain optimization of road vehicles using alternative technologies”.
Simulation area of alternative vehicles (hybrid, electric, fuel cell), optimization (vehicle design), and analysis of life cycle energy and transportation systems, including the materials of the vehicle and the fuel used.
Institution | IDMEC/IST Institute of Mechanical Engineering of Instituto Superior Técnico, University of Lisbon, Portugal

| | |
|-------------|---|
| Date | 1/12/2009 – 1/06/2011 |
| Activity | Scientific researcher , under the project MIT-Portugal “Power demand estimation and power system impacts resulting of fleet penetration of electric/plug-in vehicles” Research in the area of life cycle for different types of fuel and vehicles, and simulation of alternative road vehicles, including electric, hybrid, and hydrogen fuel cell. |
| Institution | IDMEC/IST Institute of Mechanical Engineering of Instituto Superior Técnico, University of Lisbon, Portugal |

| | |
|-------------|---|
| Date | 01/09/2003 – 30/09/2003 |
| Activity | Mechanical maintenance of an industrial unit. |
| Institution | Portucel-Soporcel, Figueira da Foz, Portugal |

SCIENTIFIC ACTIVITY AND PUBLICATIONS

Resume of Scientific Indicators:

H-index: 6 (Scopus)
ResearcherID: B-7694-2014
ORCID: <http://orcid.org/0000-0002-1018-6908>
Scopus Author ID: [44261708900](https://orcid.org/0000-0002-1018-6908)

| | |
|---------------------------|---|
| Project Participation | 6 (LIFE, FCT, MIT-Portugal) |
| Book chapters | 1 |
| Scientific Journal Papers | 13 (inc. Q1 level, IF: 2.5-7.1) |
| Papers Reviewed | 9 |
| Students supervision | 8 (Mech. Eng. , Energy Eng.) |
| Classes | Thermodynamics and Transport Phenomena (2015/2016 – 2016/2017) |

PARTICIPATION IN SCIENTIFIC PROJECTS AND INDUSTRY PARTNERSHIPS

| | |
|----------------|--|
| Date | 2017 |
| Project | Project LIFE: "SWSS - Smart Water Supply Systems" (LIFE14 ENV/PT/000508) |
| Activity | Responsible for the development of the water pumping optimization algorithm, aiming to minimize the cost and energy consumption in real water distribution systems (e.g. case studies such as <i>Águas do Algarve</i> , <i>Águas do Oeste</i>). |

| | |
|----------------|---|
| Date | 2015 |
| Project | <i>Institutional projects LAETA 2015: "BIO2URBAN: Biodiesel blends for road vehicles in urban areas"</i> |
| Activity | Modelling internal combustion engines with different blends of biodiesel. Energy assessment of flex-fuel engines. Life cycle analysis of road vehicles and biodiesel as fuel. |

| | |
|------------------------|--|
| Date | 2012 |
| Project | Project FCT: "ESIBITS- Evaluation of the Sustainability of Industrial Biohydrogen production by microalgae, and Integration in taxi/bus Transport Systems" (EXPL/EMS-ENE/1078/2012) |
| Activity | Vehicle simulation especially with hybrid propulsion systems equipped with hydrogen fuel cell. Optimization of the propulsion system of hybrid vehicles. |
| Date | 2010 |
| Project | Project MIT–Portugal: "Assessment and Development of Integrated Systems for Electric Vehicles" (MIT-Pt/EDAM-SMS/0030/2008). |
| Activity | Simulation of vehicles with fuel cell hybrid propulsion, and full electrical propulsion. Analysis of the life cycle of vehicles and fuels used for the case study. |
| Date | 2010 |
| Project | Project MIT–Portugal: "Power demand estimation and power system impacts resulting of fleet penetration of electric/plug-in vehicles" (MIT-Pt/SESGI/0008/2008) |
| Activity | Simulation and optimization with conventional propulsion, fuel cell hybrid propulsion, engine hybrid propulsion, and full electrical propulsion. Analysis of the life cycle of vehicles and fuels used for case study. |
| Date | 2010 |
| Project w/ industry | PROJECT ON "Fuel Cell Hybrid Taxi Life-Cycle Analysis" . Industry partnership IDMEC-IST / Intelligent Energy (http://www.intelligent-energy.com/). |
| Activity | Simulation of vehicles with conventional propulsion, hybrid with hydrogen cell, and electric, for taxi service in the city of London. Analysis of the life cycle of vehicles and fuels used for the case study. |

PUBLICATIONS AND COMUNICATIONS

- THESIS

- PhD thesis, Instituto Superior Técnico, 2014. (*Pass with distinction*)
Powertrain optimization of road vehicles using alternative technologies.
- MSc thesis, Instituto Superior Técnico,, 2009.
Electric and hydrogen consumption analysis in Plug-In battery electric and fuel cell hybrid electric road vehicles.

- BOOK CHAPTERS

Carla M Silva, Rui C Pacheco, Teresa M Baptista, Ana F Ferreira and João P Ribau.

Roadmap to Decarbonization and Energy Consumption Minimization of the Road Transport Sector: Biohydrogen Production from Several Microalgae Species and Integration in Optimized Bus Configurations. *Energy Science and Technology*, 2015. Vol. 11: Hydrogen & other Technologies. Studium Press LLC, USA.

- ARTICLES IN INTERNATIONAL PEER-REVIEWED SCIENTIFIC JOURNALS

From a total of **13 published papers** in international peer-review scientific journals, **6 have level Q1** in Mechanical Eng. or Energy area, with impact factors ranging from **IF: 3.582 - 7.182**.

1. J. Ribau, C. Silva and T. Farias. **Electric and hydrogen consumption analysis in plug-in road vehicles.** *International Journal of Energy and Environment*. Volume 1, Issue 2, 2010, pp.199-220. ISSN 2076-2909 (Online)
2. P. Baptista, J. Ribau, J. Bravo, C. Silva, P. Adcock, A. Kells. **Fuel Cell Hybrid Taxi Life Cycle Analysis.** *Energy Policy*. Volume 39, Issue 9, 2011, pp. 4683-4691. DOI: 10.1016/j.enpol.2011.06.064 (**Impact Factor 4.140) (Q1)**)
3. Ana F. Ferreira, João P. Ribau, Carla M. Silva. **Energy consumption and CO₂ emissions of potato peel and sugarcane biohydrogen production pathways, applied to Portuguese road transportation.** *International Journal of Hydrogen Energy* - 36 (21) 2011, pp. 13547-13558. DOI: 10.1016/j.ijhydene.2011.08.008 (**Impact Factor 3.582) (Q1)**)
4. P. Baptista, J. Ribau, J. Bravo, C. Silva, P. Adcock, A. Kells . **Fuel Cell Hybrid Taxi Well-to-Wheel Life-Cycle Analysis.** *World Electric Vehicle Journal*, Volume 4, Issue 1, 2011, Pages 798-803. ISSN: 2032-6653
5. J. Ribau, C. Silva, F. Brito, J. Martins. **Analysis of four-stroke, Wankel, and microturbine based range extenders for electric vehicles.** *Energy Conversion and Management*, 58, Jun 2012, p.120-133. DOI: 10.1016/j.enconman.2012.01.011 (**Impact Factor 5.589) (Q1)**)
6. Ribau, J., Sousa, J., and Silva, C., **Multi-Objective Optimization of Fuel Cell Hybrid Vehicle Powertrain Design - Cost and Energy.** *SAE Technical Papers*, volume 6, 2013-24-0082, 2013. DOI:10.4271/2013-24-0082
7. Paulo Melo, João Ribau, Carla Silva. **Urban Bus Fleet Conversion to Hybrid Fuel Cell Optimal Powertrains.** *Procedia - Social and Behavioral Sciences*, Volume 111, 5 February 2014, Pages 692-701. ISSN 1877-0428, DOI: 10.1016/j.sbspro.2014.01.103
8. João Ribau, Rita Viegas, Ana Angelino, Alexandra Moutinho, Carla Silva. **A new offline optimization approach for designing a fuel cell hybrid bus.** *Transportation Research Part C: Emerging Technologies*, Volume 42, May 2014, Pages 14-27. DOI: 10.1016/j.trc.2014.02.012 (**Impact Factor 3.805) (Q1)**)

9. João P. Ribau, Carla M. Silva, João M. C. Sousa. **Efficiency, Cost and Life Cycle CO₂ Optimization of Fuel Cell Hybrid and Plug-In Hybrid Urban Buses.** *Applied Energy*, Volume 129, Set 2014, Pages 320-375. DOI: 10.1016/j.apenergy.2014.05.015 **(Impact Factor 7.182) (Q1)**
 10. João P. Ribau, Ana F. Ferreira. **Life cycle analysis and environmental effect of electric vehicles market evolution in Portugal.** *International Journal of Energy and Environment*. Volume 5, Issue 5, 2014, pp.535-558. ISSN 2076-2909 (Online)
 11. António P. Castel-Branco, João P. Ribau, Carla M. Silva. **Taxi Fleet Renewal in Cities with Improved Hybrid Powertrains: Life Cycle and Sensitivity Analysis in Lisbon Case Study.** *Energies*, 8(9), 9509-9540, 2015. DOI:10.3390/en8099509 . **(Impact Factor 2.262).**
 12. João P. Ribau, João M. C. Sousa, Carla M. Silva. **Reducing the carbon footprint of urban bus fleets using multi-objective optimization.** *Energy*. Volume 93, Part 1, 15 Dec 2015, Pages 1089–1104. DOI:10.1016/j.energy.2015.09.112 **(Impact Factor 4.520) (Q1).**
 13. Demostenes R. Cassiano, João Ribau, Francisco Sales A. Cavalcante, Mona Lisa M. Oliveira, Carla M. Silva. **On-board Monitoring and Simulation of Flex Fuel Vehicles in Brazil.** *Transportation Research Procedia*. Volume 14, 2016, Pages 3129–3138. DOI:10.1016/j.trpro.2016.05.253
- João P. Ribau, Susana M. Vieira, Carla M. Silva. **Selecting sustainable electric bus powertrains using multi-preference evolutionary algorithms.** *International Journal of Sustainable Transportation*. (Under review)
- Gonçalo N. Cardeal, António S. Santos, Muriel C. Iten, João P. Ribau, Cláudia Mafra. **Methodology for enhanced Indoor Air Quality modelling in Buildings.** *Building and Environment*. (Submitted)

- ARTICLES IN SCIENTIFIC CONFERENCES AND MEETINGS

1. P. Baptista, J. Bravo, J. Ribau, C. Silva, P. Adcock, A. Kells . **Fuel Cell Hybrid Taxi Well-to-Wheel Life-Cycle Analysis.** World Electric Vehicle Symposium and Exposition, EVS25, Shenzhen, China, 2010. ISSN: 20326653
2. João Bravo, João Ribau, Carla Silva. **Influence of energy storage and energy management strategies on fuel consumption of a fuel cell hybrid vehicle.** E-COSM'12, 2012 IFAC Workshop on Engine and Powertrain Control, Simulation and Modeling. Rueil-Malmaison, Paris, France, 2012. . In proceedings of Engine and Powertrain Control, Simulation and Modeling, Volume # 3 | Part# 1. DOI: 10.3182/20121023-3-FR-4025.00042
3. João P. Ribau, João M. C. Sousa and Carla M. Silva. **PHEV powertrain design optimization – energy consumption and cost.** 34th FISITA World Automotive Congress, Beijing, China, November 27-30, 2012. In proceedings of: 34th FISITA World Automotive Congress, Lecture Notes in Electrical Engineering Volume 191, 2013, pp 595-613. DOI: 10.1007/978-3-642-33777-2_49
4. Ribau, J.P., Silva, J.M.S., Silva, C.M., 2013. **Multi-objective optimization of fuel cell hybrid vehicle powertrain design – cost and energy.** SAENA, ICE2013 - 11th International Conference on Engines & Vehicles, Capri, Napoli, Italy, September 15-19, 2013. SAE Technical Paper 2013-24-0082. DOI:10.4271/2013-24-0082

5. Paulo Melo, João Ribau, Carla Silva. **Urban bus fleet conversion to hybrid fuel cell optimal powertrains**. EWGT2013 – 16th Meeting of the EURO Working Group on Transportation, Porto, Portugal, September 4-6, 2013. ISSN 1877-0428, <http://dx.doi.org/10.1016/j.sbspro.2014.01.103>
6. Carla M. Silva, Ana F. Ferreira and João F. Ribau. **Evaluation of the Sustainability of Industrial Biohydrogen production by microalgae, and Integration in taxi/bus Transport Systems**. Energy for Sustainability 2013 - Sustainable Cities: Designing for People and the Planet, Coimbra, 8 to 10 September 2013
7. Carla Silva, Ana Filipa Ferreira, João Ribau, Miguel Angulo-Escalante, Alfredo Estrada-Angulo, Jorge Milán-Carrillo and Contreras-Andrade Ignacio. **Non-toxic jatropha curcas biorefinery evaluation: sinaloa Case study**. Energy for Sustainability 2015 - Sustainable Cities: Designing for People and the Planet, Coimbra, Portugal, 14-15 May, 2015
8. Demostenes R. Cassiano, João Ribau, Francisco Sales A. Cavalcante, Mona Lisa M. Oliveira, Carla M. Silva. **On-board Monitoring and Simulation of Flex Fuel Vehicles in Brazil**. Transport Research Arena TRA2016, Warsaw, Poland, 2016. DOI:10.1016/j.trpro.2016.05.253
9. Ribau, J.P., Silva, C.M. **Simulation of an urban bus fuelled with several biodiesel blends: Advantages and disadvantages on the efficiency and emissions**. Proceedings of the 3rd International Conference on Vehicle Technology and Intelligent Transport Systems - Volume 1: SMS, 392-399, 2017, Porto, Portugal. ISBN: 978-989-758-242-4. DOI: 10.5220/0006386103920399

- COMUNICATIONS IN SCIENTIFIC CONFERENCES AND MEETINGS

ORAL COMUNICACION (12)

1. P. Baptista, J. Bravo, J. Ribau, C. Silva, P. Adcock, A. Kells . **Fuel Cell Hybrid Taxi Well-to-Wheel Life-Cycle Analysis**. World Electric Vehicle Symposium and Exposition, EVS25, Shenzhen, China, 2010
2. Ana F. Ferreira, João P. Ribau, Carla M. Silva. **Análise de Ciclo de Vida do Biohidrogénio – sua aplicação a transportes em Portugal**. 8º Encontro Anual do Grupo de Estudos em Transportes, GET 2011
3. João P. Ribau, Carla M. Silva. **Conventional to Hybrid and Plug-In Drive-train Taxi Fleet Conversion**. European Electric Vehicle Congress, EEVC, Brussels, Belgium, 2011
4. João Ribau, Tiago Farias, Carla Silva. **PHEV Powertrain Optimization Based On Driving Cycle Analysis**. Workshop on "Future Vehicles and Fuels" at MIT on January 18 and 19, 2012
5. João P. Ribau, Joao M. Sousa, Carla M. Silva. **Plug-In Hybrid Vehicle Powertrain Design Optimization – Energy Consumption And Cost**. 34th FISITA World Automotive Congress, Beijing, China, 2012
6. Carla M. Silva, Ana F. Ferreira and João F. Ribau. **Evaluation of the Sustainability of Industrial Biohydrogen production by microalgae, and Integration in taxi/bus Transport Systems** . Energy for Sustainability 2013 - Sustainable Cities: Designing for People and the Planet, Coimbra, 8 to 10 September 2013

7. Paulo Melo, João Ribau, Carla Silva. **Urban bus fleet conversion to hybrid fuel cell optimal powertrains**. EWGT2013 – 16th Meeting of the EURO Working Group on Transportation, Porto, Portugal, September 4-6, 2013
8. Ribau, J.P., Silva, J.M.S., Silva, C.M.. **Multi-objective optimization of fuel cell hybrid vehicle powertrain design – cost and energy**. SAENA, ICE2013 - 11th International Conference on Engines & Vehicles, Capri, Napoli (Italy), September 15-19, 2013
9. Ribau, J.P., Silva, J.M.S., Silva, C.M.. **Optimization of Financial Savings and Life Cycle CO2 emissions of Hybrid Bus Powertrains Considering the Energy Management Strategy and Design**. EngOpt2014 – International Conference on Engineering Optimization, Lisboa, 8 to 11 September 2014
10. Carla Silva, Ana Filipa Ferreira, João Ribau, Miguel Angulo-Escalante, Alfredo Estrada-Angulo, Jorge Milán-Carrillo and Contreras-Andrade Ignacio. **Non-toxic jatropha curcas biorefinery evaluation: sinaloa Case study**. Energy for Sustainability 2015 - Sustainable Cities: Designing for People and the Planet, Coimbra, Portugal, 14-15 May, 2015
11. Ribau, J.P.; Silva, C.M.; Bastos, J.; Castanheira, E.G.; Freire, F. **Biodiesel Production And Use In The Urban Transport Sector In Portugal**. Mechanical Engineering Conference – CEM2016, Porto, Portugal, Junho, 2016
12. João P. Ribau, Carla M. Silva. **Simulation of an Urban Bus Fuelled With Several Biodiesel Blends**. 3rd International Conference on Vehicle Technology and Intelligent Transport Systems (VEHITS) Special Session - Sustainable mobility solutions: vehicle and traffic simulation, on-road trials and EV charging, Porto, Portugal, 2017

POSTER (5)

1. Ana F. Ferreira, João P. Ribau, Carla M. Silva. **Biohydrogen pathways for the Portuguese road transportation sector - Uncertainty in the LCA analysis**. International Advanced Mobility Forum, Geneva, Switzerland, IAMF 2011
2. João P. Ribau, Ana F. Ferreira, Carla M. Silva. **Hybrid vehicle alternative fuel converter, energy strategy optimization and application to a fuel cell Plug-In Hybrid Vehicle**. International Advanced Mobility Forum, Geneva, Switzerland, IAMF 2011
3. João Bravo, João Ribau, Carla Silva. **Influence of energy storage and energy management strategies on fuel consumption of a fuel cell hybrid vehicle**. E-COSM'12, 2012 IFAC Workshop on Engine and Powertrain Control, Simulation and Modeling. Rueil-Malmaison, Paris, France, 2012.
4. João Ribau. **OPTIMotiveR - Optimization Model for Alternative Vehicle and Ranking assessment**. TRA-VISIONS 2014 academic competition, Paris, France, April 14-17, 2014.
5. Demostenes R. Cassiano, João P. Ribau, Francisco Sales A. Cavalcante, Mona Lisa M. Oliveira, Carla A. Silva. **On-board monitoring and simulation of flex fuel vehicles in Brazil**. Transport Research Arena, 6th European Transport Research Conference, TRA2016, Warsaw, Poland, 2016.

SCIENTIFIC COMMITTEE PARTICIPATION

| | |
|------|--|
| Date | 22/4/2017 Special session program committee 3rd International Conference on Vehicle Technology and Intelligent Transport Systems (VEHITS)/SMS 2017, Special Session on Sustainable mobility solutions: vehicle and traffic simulation, on-road trials and EV charging |
|------|--|

CHAIRMAN IN SCIENTIFIC MEETINGS

| | |
|------|---|
| Date | 1-3/6/2016 Chairman – Energy session CEM 2016 - Mechanical Engineering Conference, Porto, Portugal |
| Date | 7-8/5/2015 Chairman – Energy session 3EJIL – LAETA Young researcher meeting, Coimbra, Portugal |

REVIEWER IN SCIENTIFIC JOURNALS

Reviewer of 9 scientific articles in the area of analysis and simulation of alternative vehicles, and optimization, in the following scientific journals:

- *Energy Conversion and Management*,
- *IEEE Transactions on Fuzzy Systems*,
- *IEEE Transactions on Industrial Electronics*,
- *Dyna*,
- *International Journal of Electrical Power and Energy Systems*,
- *Transportation Research Part E: Logistics and Transportation Review*,
- *International Journal of Hydrogen Energy*
- *Energies*

TEACHING AND STUDENT SUPERVISION

TEACHING

| | |
|----------------|---|
| Academic year: | 2015/2016 and 2016/2017 |
| Activity | Invited Assistant Professor, - Thermodynamics and Transport Phenomena Responsible for all of the problem classes planning (inc. problems selection and solving), elaborating and correcting exams, and managing student's questions schedule. |
| Institution | DEM/IST Department of Mechanical Engineering of Instituto Superior Técnico, University of Lisbon, Portugal |

STUDENT SUPERVISION

1. Co-Supervisor of MSc of the student Verónica Cortez. MSc in Mechanical Engineering, Instituto Superior Técnico, Lisboa. Thesis: ***Wind farm performance degradation and its impact in life cycle and on future electricity generation***, 2017. (in progress)
2. Co-Supervisor of MSc of the student Natalia Buczak. MSc in Energy Management Engineering, Instituto Superior Técnico, Lisboa. Thesis: ***Comparative Life cycle analysis of innovative technologies in the road transport sector: biofuels and hydrogen driven technologies***, 2017. (in progress)
3. Co-Supervisor of MSc of the student Duarte Rolim. MSc in Mechanical Engineering, Instituto Superior Técnico, Lisboa. Thesis: ***Many-objective optimization in electric vehicle design problem***, 2017. (in progress)
4. Co-Supervisor of MSc of the student Pedro Loução. MSc in Mechanical Engineering, Instituto Superior Técnico, Lisboa. Thesis: ***An assessment tool for the evaluation of electricity production pathways from biomass***, 2017
5. Co-Supervisor of MSc of the student Diogo Gonçalves. MSc in Mechanical Engineering, Instituto Superior Técnico, Lisboa. Thesis: ***Simulation study of Diesel engine characteristics fueled with biodiesel blends for passenger transportation***, 2016. (in progress)
6. Supervisor of MSc of the student Jorge Gonçalves. MSc in Mechanical Engineering, Instituto Superior Técnico, Lisboa. Thesis: ***Life cycle model for road transportation fuels***, 2016
7. Supervisor of MSc of the student Paulo Melo MSc in Mechanical Engineering, Instituto Superior Técnico, Lisboa. Thesis: ***Configuração Óptima de um Autocarro Híbrido a Hidrogénio para Frotas Urbanas: caso de estudo Lisboa e Funchal***, 2014.
8. Supervisor of MSc of the student António Castel-Branco. MSc in Mechanical Engineering, Instituto Superior Técnico, Lisboa. Thesis: ***Configuração óptima de um veículo híbrido com motor de combustão interna***, 2014.

OTHER ACTIVITIES

SCIENTIFIC PROJECT JURY

- 2010 – 2015, 2017
Scientific project jury (science and technology) in the competition FIRST® LEGO® League (FLL)
<http://www.firstlegoleague.org/>

OTHER SKILLS

- (1992-2007) Federated Athlete by the Portuguese Basketball Federation
- (1995) Federated Athlete by the Portuguese Athletics Federation
- (1999) Federated Athlete by the Portuguese Federation of Rowing
- (2008-2010) Federated Athlete by the Portuguese Federation of Chinese martial arts
- (2017) Advanced PADI diver