

Education

- 9/2012 to 6/2017 **Doctorate in Information Systems (expected)**
Université de Lausanne, Switzerland
Thesis: *Security of Supply in the Electricity Sector: The Case of Switzerland*
Supervisor: Prof. Ann van Ackere
Course work included: Design science and design thinking, Maximum likelihood methods, System Dynamics, Energy and environmental economics, and Energy regulation. Formation courses: teaching development, academic writing and public speaking.
- 1/2011 to 6/2012 **M.Sc in Systems Engineering**
Universidad Nacional de Colombia, Medellin, Colombia
Thesis: *Modelling capacity expansion in the LNG industry using system dynamics*
Supervisor: Prof. Yris Olaya
Course work included: Energy markets, System Dynamics, Systems thinking, Econometrics and Game theory.
- 1/2005 to 6/2010 **B.S. in Industrial Engineering**
Universidad Nacional de Colombia, Medellin, Colombia
Thesis: *Mathematical models of oligopolistic competition applied to natural gas markets*
Supervisor: Prof. Yris Olaya

Teaching experience

- 9/2012 to date **Teaching Assistant**
Faculty of Business and Economics, **University of Lausanne**, Switzerland.
Course: Decision Analysis (6 ECTS undergraduate course of 250 people approx.).
Duties include: developing teaching material, office hours, lecturing and grading exams. Subjects covered: optimisation, decision trees, simulation and queuing theory.
- 1/2011 to 6/2012 **Teaching Assistant**
Systems Engineering Department, **Universidad Nacional de Colombia**, Medellin. Course: Systems Simulation (equiv. 4.5 ECTS undergraduate course, three groups of 40 people approx. each one). Duties included: developing teaching material, office hours, grading exams, and giving hands-on workshops (Simul8 and spread sheet-based simulation). Subjects covered: discrete event simulation and system dynamics.
- 3-6/2009 and 2-9/2008 **Teaching Assistant**
Systems Engineering Department, **Universidad Nacional de Colombia**, Medellin. Course: Operations Research II (equiv. 4.5 ECTS undergraduate course

of 100 people approx.). Duties included: grading, solving problem sets and having office hours for students. Subjects covered: Markov chains, queuing theory, inventories theory and decisions theory.

Research experience

- 7/2017
to date **Postdoctoral researcher**
Potsdam Institute for Climate Impact Research (PIK), Potsdam, Germany.
Responsible for the European power system model (LIMES-EU) update and extension. Other duties are to participate in several group projects (e.g., TripleF) and to work on my own research agenda, e.g., hydropower modelling.
- 7/2010
to 1/2011 **Junior Researcher**
Research Centre in Applied Energy Technologies (Centro de Investigación e Innovación en Energía – CIEN). Medellin, Colombia.
Supported the evaluation of the performance of research groups belonging to the Centre. Other duties were to collect, analyse and report advances on energy research and technology development worldwide; and to support the elaboration of a Technological Agenda for establishing research priorities in the short, medium and long-term.
- 1-6/2010 **Research Assistant**
I.S.A-Universidad Nacional de Colombia
Developed, calibrated and tested optimization models for analysing different market structures for Colombian natural gas market, including the impact of imports and exports, under the supervision of Prof. Yris Olaya.

Research interests

Energy economics, energy markets modelling, energy policy, computer simulation

Skills

Computer skills: Vensim, Matlab, GAMS, R, VBA, ExtendSim, Palisade Decision Tools, Powersim, Simul8

Language skills: Native Spanish speaker, fluent in English (C1) and French (B2/C1), intermediate Italian (B2) and basic German (A2)

Awards

Scholarship ‘Outstanding postgraduate student’ during the entire duration of the masters

Scholarship ‘Outstanding undergraduate student’ during four semesters of the bachelor (2005-1, 2009-1, 2009-2, 2010-1)

Other activities

Member of the International Association of Energy Economics (IAEE)

Occasional referee for the journal *Energy Policy*

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