

CURRICULUM VITAE

ALEXANDRE MOREIRA

CONTACT INFORMATION

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EDUCATION

Imperial College London

Currently, PhD Candidate, Electrical Engineering.
Advisor: Professor Goran Strbac

Pontificia Universidade Católica do Rio de Janeiro – PUC-Rio

M.Sc., Electrical Engineering, Mar, 2014.
Advisor: Professor Alexandre Street

Pontificia Universidade Católica do Rio de Janeiro – PUC-Rio

B.Sc., Electrical Engineering, Dec, 2011.

Pontificia Universidade Católica do Rio de Janeiro – PUC-Rio

B.Sc., Industrial Engineering, Dec, 2011.

RESEARCH INTERESTS

Optimization methods (robust, stochastic, linear, mixed-integer, multi-level) for decision making under uncertainty and power systems operations, economics, and planning.

RESEARCH AND DEVELOPMENT PROJECTS

CONICYT PCI/REDES, under grant 150008 - 2015

Research and Development Project

May, 2016 – November, 2017

Sponsor: Chilean government

Project Name: Reliable integration of renewable energy to support climate mitigation

Description: In this project, the Global Change Center of the Pontifical Catholic University of Chile (PUC-Chile) and the LAMPS of the Pontifical Catholic University of Rio de Janeiro (PUC-Rio) agree to work together on the development of robust-optimization models for planning the transmission system considering reliability standards and climate variability under high renewable integration.

Pontificia Universidade Católica do Rio de Janeiro – PUC-Rio

Research and Development Project

February, 2013 – April, 2014

Company: MPX

Project Name: New business models for the formation of renewable and conventional energy pool in the Brazilian Free Market

Description: Development of commercial models to foster renewable sources into the Brazilian Free Market.

Pontificia Universidade Católica do Rio de Janeiro – PUC-Rio

Research and Development Project

February, 2011 – February, 2013

Company: Nortefluminense—EDF

Project Name: Increasing the competitiveness of renewable sources in the Brazilian Free Market.

Description: Development of statistical models capable to produce scenarios of renewable resources availability coherent with the spot price scenarios generated by the Brazilian ISO (ONS).

ACADEMIC EXPERIENCE

Pontificia Universidade Católica do Rio de Janeiro – PUC-Rio

Teaching Assistant in Undergraduate Course

March, 2012 – July, 2014

Introduction to Control and Servomechanisms

Electrical Engineering Department

Pontificia Universidade Católica do Rio de Janeiro – PUC-Rio

Teaching Assistant in Undergraduate Course

August, 2011 – December, 2011

Mixed Integer Linear Optimization

Electrical Engineering Department

PROFESSIONAL EXPERIENCE

Pontificia Universidade Católica do Rio de Janeiro – PUC-Rio

Researcher

January, 2010 – December, 2014

Designer, developer and programmer of optimization and statistical models and algorithms to support the decision-making under uncertainty.

Quantum Avaliação de Fundos de Investimento, Rio de Janeiro, Brazil

Intern

March, 2008 – April, 2009

Investment funds analysis.

DiMarco DTVM Broker, Rio de Janeiro, Brazil

Intern

September, 2007 – March, 2008

Investment funds analysis.

VOLUNTARY ACTIVITY

Dinner Club

Imperial College's lead volunteer

Since May 2016

The Dinner Club is a project that feeds homeless and lonely people in the Notting Hill Community every fortnight. The aim is not only to provide food for them but to engage with those who are in need and to ask them about their lives, being proactive in conversation.

RESEARCH ACTIVITY

Journal Papers

A. Moreira, G. Strbac, R. Moreno, A. Street, and I. Konstantelos, "A Five-Level MILP Model for Flexible Transmission Network Planning under Uncertainty: A Min-Max Regret Approach." *IEEE Trans. Power Syst.*, 2017.

A. Moreira, D. Pozo, A. Street, and E. Sauma, "Reliable Renewable Generation and Transmission Expansion Planning: Co-Optimizing System's Resources for Meeting Renewable Targets." *IEEE Trans. Power Syst.*, 2017.

A. Moreira, A. Street, and J. Arroyo, "An Adjustable Robust Optimization Approach for Contingency-Constrained Transmission Expansion Planning." *IEEE Trans. Power Syst.*, 2015.

A. Moreira, A. Street, and J. Arroyo, "Energy and Reserve Scheduling under Correlated Nodal Demand Uncertainty: An Adjustable Robust Optimization Approach." *International Journal Of Electrical Power and Energy Systems--Special Issue for the best papers of the 18th Power Systems Computation Conference*, 2015.

A. Street, A. Moreira, and J. Arroyo, "Energy and Reserve Scheduling under a Joint Generation and Transmission Security Criterion: An Adjustable Robust Optimization Approach." *IEEE Trans. Power Syst.*, 2014.

Conference Papers

A. Moreira, A. Street, and J. Arroyo, "Energy and Reserve Scheduling under Correlated Nodal Demand Uncertainty: An Adjustable Robust Optimization Approach." *18th Power Systems Computation Conference*, Wroclaw, Poland, Aug 2014.

M. Souto, A. Moreira, A. Veiga, A. Street, and C. Epprecht, “Estimation of high-dimensional VARX model to long-term renewable energy.” *18th Power Systems Computation Conference*, Wroclaw, Poland, Aug 2014.

Seminar Talks

A. Moreira, R. Moreno, G. Strbac, I. Konstantelos, and A. Street, “Flexible Transmission Expansion Planning under Future Generation Uncertainty: A Min-Max Regret Approach” in *4th Manchester Electrical Energy and Power Systems (MEEPS) workshop -- ‘Tackling the Challenges of Evolving Electrical Energy Systems’*, Manchester, UK, Nov 2016.

A. Moreira, A. Street, and J. Arroyo, “General Security Criterion and Demand Uncertainty in Energy and Reserve Scheduling Models: An Adjustable Robust Optimization Approach,” in *26th European Conference on Operational Research (MMXIII EURO-Informs) 2013*, Rome, Italy, Jul 2013.

A. Moreira, A. Street, and J. Arroyo, “Energy and Reserve Scheduling under a joint GT n-K Security Criterion: an Adjustable Robust Optimization Approach,” in *21th ISMP*, Berlin, Germany, Aug 2012.

REVIEWER

IEEE Transactions on Power Systems

GRANTS AND AWARDS

Full Scholarship for PhD at Imperial College London from CNPq—Brazil.

Full Scholarship for M.Sc at PUC-Rio from CNPq—Brazil.

Third place in “Prêmio Mostra PUC” 2013, *Innovations for a better life* – PUC-Rio.

Oscar Niemeyer Award 2012 – Regional Council of Engineering of Rio de Janeiro.
