

# DANIEL E. OLIVARES Q.

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## PROFESSIONAL EXPERIENCE

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### **Pontificia Universidad Católica de Chile**

*Assistant Professor*

March 2014 - Today

*Santiago, Chile*

- Teaching courses at graduate and undergraduate levels.
- Supervision of graduate students and conduct research in the area of Power and Energy Systems.

### **TRANSELEC S.A.**

*Project Engineer*

November 2007 - July 2009

*Santiago, Chile*

- Project Engineer in the Aysen-SIC HVDC transmission project.
- Technical and economical studies for the development of an HVDC link in Chile.

### **CDEC-SING Ltd. (SING System Operator)**

*Professional Internship*

January 2007 - September 2007

*Santiago, Chile*

- Professional Practice in the area of System Studies.
- Subsequent work on the thesis topic: "Design of a Defense Plan against extreme Contingencies in SING system".

## TEACHING EXPERIENCE

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### **Pontificia Universidad Católica de Chile**

*Lecturer*

March 2014 - Today

- IEE3363 Applied Power Systems Optimization and Control
- IEE2213 Electric Machines
- IEE3303 Advanced Topics on Power Engineering

### **University of Waterloo**

*Teaching Assistant*

September 2010 - August 2013

- ECE-106 Physics for Electrical Engineering
- ECE-140 Linear Circuits
- ECE-6613PD Power System Analysis (x2)
- ECE-6610PD Power System Components and Modeling
- MATH-211/215 Advanced Calculus / Linear Algebra
- ECE-663 Energy Processing (Power Electronics) (x2)

### **Universidad de Chile**

*Teaching Assistant*

March 2005 - December 2007

- Introduction to Physics (x2)
- Applied Mathematics
- Power Systems (x2)
- Laboratory of Electromechanic Energy Conversion

- General Physics I
- Electromagnetism

## EDUCATION

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### University of Waterloo

January 2014

Ph.D. in Electrical & Computer Engineering

Major in Power & Energy Systems

Thesis: An Energy Management System for Isolated Microgrids Considering Uncertainty

Supervisors: Professors Claudio Canizares and Mehrdad Kazerani

Overall GPA: 92.2%

### University of Chile

March 2008

Electrical Engineer

Thesis: Design of a Defense Plan against Extreme Contingencies in the SING

Overall GPA: 6.3/7

### Colegio Santa Cecilia de La Florida

December 2001

Secondary School Diploma

## RESEARCH PUBLICATIONS

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### Journal Papers<sup>1</sup>

- [J1] D. Olivares, C. Cañizares, and M. Kazerani, "A centralized energy management system for isolated microgrids," *IEEE Trans. Smart Grid*, vol.5, no.4, pp.1864-1875, July 2014.
- [J2] D. Olivares, A. Mehrizi-Sani, A. Etemadi, C. Cañizares, R. Iravani, M. Kazerani, A. Hajimiragha, O. Gomis-Bellmunt, M. Saeedifard, R. Palma-Behnke, A. Jimenez-Estevez, N. Hatziargyriou, "Trends in microgrid control," *IEEE Trans. Smart Grid*, vol.5, no.4, pp.1905-1919, July 2014.
- [J3] E. Nasr, C. Cañizares, D. Olivares, and K. Bhattacharya, "Stability analysis of unbalanced distribution systems with synchronous machine and DFIG based distributed generators," *IEEE Trans. Smart Grid*, vol.5, no.5, pp.2326-2338, Sept. 2014.
- [J4] D. Saez, F. Avila, D. Olivares, and C. Cañizares, "Fuzzy confidence interval models for forecasting renewable resources and loads in microgrids," Accepted for future publication in *IEEE Trans. Smart Grid*.
- [J5] D. Olivares, J. D. Lara, C. Cañizares, and M. Kazerani, "Stochastic-predictive energy management system for isolated microgrids," Submitted to *IEEE Trans. Smart Grid* (under review)
- [J6] J. D. Lara, D.E. Olivares, and C. Cañizares, "Robust energy management system for isolated microgrids," Submitted to *IEEE Trans. Sustainable Energy* (under review)
- [J7] I. Nuñez, H. Rudnick, D.E. Olivares, and M. Paolone, "Operation and Regulation of Hydro-Pumped Storage Coupled to Solar PV Generation," Submitted to *IEEE Trans. Power Systems* (under review)

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<sup>1</sup>This list includes papers currently under review.

## Conference Papers

- [C1] D. Olivares, C. Cañizares, and M. Kazerani, “A centralized optimal energy management system for microgrids,” in Proc. IEEE PES General Meeting, 2011, July 2011, pp. 1-6.

## IP Disclosures

- [I1] D. Olivares, J. D. Lara, C. A. Cañizares, and M. Kazerani, “Stochastic-Predictive Energy Management System for Isolated Microgrids,” IP disclosure, Hatch, December 17, 2013, 46 pages.

## Technical Reports

- [R1] D. Olivares, “Design of a Defense Plan against extreme Contingencies in SING system,” Undergraduate Thesis, University of Chile, 2008.

## SEMINARS AND TECHNICAL PRESENTATIONS

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- [S1] “Stochastic-Predictive Energy Management System for Isolated Microgrids”, Invited Talk, Universidad Adolfo Ibañez, Santiago, Chile. November 2014.
- [S2] “Uncertainty-aware Energy Management for Integration of Intermittent Generation”, Workshop: CEST+I Solar Energy in Chile, Seville, Spain. November 2014.
- [S3] “Modelos de Operación bajo Incertidumbre para la Integración de Generación Intermitente en Sistemas Eléctricos”, Invited Talk, Seminar: Generación Distribuida y Energías Renovables en la Frontera, UFRO, Temuco, Chile. October 2014.
- [S4] “Update of Microgrid EMS Trends”, Panel: IEEE-PES Task Force on Microgrid Control, IEEE PES General Meeting, 2014, Washington, D.C., USA. July 2014.
- [S5] “Sistema para la Gestión de la Energía”, Workshop: Diseño y Operación de Micro-redes Inteligentes, University of Chile, Santiago, Chile. December 2013.
- [S6] “A Centralized Energy Management System for Isolated Microgrids”, Session: Energy Management Systems, The Modelling and Optimization: Theory and Applications (MOPTA) Conference, 2013, Lehigh University, Bethlehem, PA, USA. August 2013.
- [S7] “Energy Management Systems for Isolated Microgrids”, Workshop: Next Generation of Researchers in Power Systems, Villarino, Salamanca, Spain. October 5, 2012.
- [S8] “A Centralized Optimal Energy Management System for Microgrids”, Panel: IEEE-PES Task Force on Microgrid Control, IEEE PES General Meeting, 2011, Detroit, MI, USA. July 2011.

## RESEARCH PROJECTS

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### Fondecyt Iniciación 2014

EE Department, Pontificia Universidad Católica de Chile November 2014 - November 2017  
Project: Active Demand Response Mechanisms for Exploiting Flexibility in Electricity Supply: Models and Valuation  
Role: Principal Investigator

### NRCan Eco EII Initiative

ECE Department, University of Waterloo January 2012 - January 2014  
Project: Development of a Utility Grade Controller for Microgrids with High Penetration Renewable  
Role: PhD Student  
Supervisors: Professors Claudio Canizares and Mehrdad Kazerani

## **UW Internal Project**

ECE Department, University of Waterloo

September 2009 - December 2011

Project: Optimal Dispatch Strategies for Microgrids

Role: PhD Student

Supervisors: Professors Claudio Canizares and Mehrdad Kazerani

## **HONORS & AWARDS**

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- Graduate Research Studentship (University of Waterloo). Terms Winter-2011 to Fall-2013.  
*CAD\$ 18,000*
- University of Waterloo Graduate Scholarship (students with 1st class standing). Terms Spring-2010, Fall-2010, and Winter-2011 (obtained every eligible terms)  
*CAD\$ 3,000*
- BECAS CHILE 2009 Scholar. Awarded to pursue PhD studies at the University of Waterloo, Canada (2009-2013).  
*CAD\$ 150,000 approximately*
- “Millenium Institute of Complex Systems in Engineering” Scholar, 2007.  
*CAD\$ 2,000 approximately*
- Outstanding student of Electrical Engineering at the University of Chile, years 2005, 2006 and 2007.  
*List published yearly at: <http://escuela.ing.uchile.cl/la-escuela/alumnos-destacados>*

## **TECHNICAL SKILLS & LANGUAGES**

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<b>Languages</b>	Spanish (Native) and English (Fluent)
<b>Computer Languages</b>	C++, Java, Matlab
<b>Software</b>	GAMS, Matlab, Simulink, PowerFactory (DIgSILENT), UWPFLOW, PSAT, PSPICE, PSCAD