

# LUIS SALINAS SALINAS SAN MARTIN



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## Summary

**Industrial Experience:** 5 years of working experience in electricity generation and distribution companies, 6 years of working experience in electricity regulation agencies, and 10 years of experience in the design, installation, and construction of electrical systems in low and medium voltage.

**Academic Experience:** More than 10 years of experience as a lecturer at several universities in Bolivia, the UK, and Brazil.

## Experience

### Senior Lecturer

Bolivian Private University: Apr 2022 - Aug 2024 (2 years 4 months)

Head of the Electromechanical Engineering Career, carrying activities related to the review of subjects and contents of the career, organization of classes, design of alliances with private and public institutions to develop research projects on power systems, renewable energies, robotics and automatization of processes.



### Senior Electrical Engineer

KETAL Corp.: Jul 2024 - Aug 2024 (1 month) , La Paz - Bolivia

Design and Installation of the electricity grounding system for KETAL Corp. main building, which involved the measurement of resistivity of the terrain and the sizing of the grounding system using cooper wiring and javelins.



### Senior Electrical Engineer

The Rooftop Bolivia Hostel: May 2023 Aug 2023 (4 months), La Paz - Bolivia

Development of the electricity load study and diagnosis of the situation of the Hotel's low and medium voltage electrical system. The main product of the project was to develop new electricity layouts and a report containing all the observations found and recommendations to solve the issues detected in the installation according to national and international Standards.



### Senior Electrical Engineer

KETAL Corp.: Oct 2022 - Mar 2023 (6 months), La Paz - Bolivia

Development of load study and diagnosis of the situation of the medium and low voltage electrical system of the main building of Ketal. The main product of the project was to develop new electricity layouts and a report containing all the observations found and recommendations to solve the issues detected in the installation according to national and international Standards.

### Electrical Design Engineer

WHITE ENERGY: Aug 2021 - Nov 2021 (4 months). Quito - Ecuador

Development of the electrical redesign and sizing of the general and auxiliary electrical services in medium voltage of the 2<sup>nd</sup> phase of the 3,600 MW Santiago Hydroelectric power plant in Ecuador. The total project had a cost of 3,800 MMUS\$.

### Electrical Design Engineer

WHITE ENERGY: Mar 2021 - Jul 2021 (5 months)

Development of the electrical redesign of the medium and low voltage facilities for the modernization of the 1,500 MW Chivor Hydroelectric plant in Colombia, project that had a total cost of 120 MMUS\$.



### Research Assistant

University of Glasgow: Nov 2017 - Dec 2020 (3 years 2 months), Glasgow – UK.

Developer of the project related to the Planning of scheduled maintenance of electrical generators and transmission lines in a electricity free market, to minimize operation costs, maximize system adequacy and profits of generation

companies while considering the impact of renewable energies. To do so, artificial intelligence tools were used like Non-dominated Sorting Genetic Algorithms and classical optimization techniques like Stochastic Dual Dynamic Programming to take into account the cost of water usage stored in hydroelectrical reservoirs overtime. Activities related to lecturing and tutoring master and undergraduate students were also performed.



#### Senior Electrical Design Engineer

La Papelera Corp. Aug 2017 - Oct 2019 (2 years 3 months), El Alto – Bolivia.

Development of the electricity system diagnosis in low and medium voltages of La Papelera paper mill in order to make new electricity layout of the facility and a report containing the findings of the diagnosis and the recommendations to solve the issues detected according to international and national standards.



#### Senior Electrical Design Engineer

Bolivian Stock Exchange (BBV/EDV): Dec 2016 - Mar 2018 (1 year 4 months), La Paz - Bolivia

Design, installation, and supervision of the low and medium voltage electrical and communications network for the BBV/EDV Building, which involved sizing of electrical circuits, voltage drops calculations, short circuit analysis, electrical protections coordination, power transformer, backup generators and grounding system sizing and the execution of electrical tests to check the effectiveness of the design.



#### Design Engineer

HANSA Proyectos & Servicios: Oct 2016 - Dec 2016 (3 months)

Gathering of information, preparation of plans, and arrangement of low voltage distribution boards on the 3rd floor of the Hansa Building in the city of La Paz.



#### Regulation and technical Coordination Officer

Autoridad de Fiscalización y Control Social de la Electricidad (AE). (Electricity Regulation Agency): Aug 2011 - Jul 2016 (5 years)

Monitoring of contractual obligations of electricity companies, development of generation licenses for new entrance of new generation projects to the market, enforcement and design of electricity regulations and processing and analysis of statistical information of the Electricity Sector of Bolivia.



#### Regulation and Electricity Standards Analyst

Viceministry of Electricity and Renewable Energies of Bolivia: Mar 2010 - Aug 2010 (6 months), La Paz – Bolivia.

Responsible for the development and design of regulatory standards for the electrical sector of Bolivia.



#### Part - Time Lecturer

Universidad Privada Boliviana UPB: Feb 2009 - Jun 2010 (1 year 5 months)

Lecturer in subjects related to maths, physics, and electricity like "Mathematics for Engineers", "Electrical Circuits I-II", "Electricity Medium and Low Voltage Installations", "Power Systems", "Electrical Machinery", "Electricity and Magnetism", and others.

#### Field and Design Engineer

LUMINOTEC: Apr 2008 - Dec 2009 (1 year 9 months), La Paz – Bolivia.

Design, installation, and commissioning of electrical and illumination projects in low and medium voltages for several buildings, malls, bridges, and other infrastructure like the Multicine Cinema Mall with 41,500 m<sup>2</sup> of area built, the Triplets Bridges of La Paz with a length of 700 m and others.



#### Power System Analyst

Hidroeléctrica Boliviana Corp. (HB): Jul 2003 - Aug 2005 (2 years 2 months), La Paz – Bolivia.

Planning of the production of the two hydroelectrical units of 50MW and 35MW of the company by making power flows simulations in DIGLSILENT and ETAP and economic dispatch simulations using Stochastic Dual Dynamic Programming in the medium and short term to estimate the company revenues and design strategies to maximize profits and reduce costs. Other activities carried out were related to the operation and maintenance of the hydroelectrical units and their control equipment.



#### Power System Analyst

Cochabamba Distribution Company (ELFEC Corp.): Feb 2002 - Feb 2003 (1 year 1 month). Cochabamba - Bolivia

Planning and design of the extension of the medium and high voltage distribution network in the department of

Cochabamba making power flow, faults and protections coordination simulations using Windmill and ETAP. Other activities carried out were related to the development of power flow and short circuit analysis for the expansion of substations that faced overloads due to increasing demand.

## Education



### Delft University of Technology

Digitalization of Intelligent and Integrated Energy Systems: 2024 - 2024



### Instituto Tecnológico Master.D

Certificate, Solar Energy Technology/Technician: 2021 - 2022



### Imperial College London

Diploma in Incorporating Renewable Energy in the Electricity Grid: 2021 – 2021



### University of Glasgow

PhD in Electrical and Electronic Engineering: 2017 - 2020

### Servicio de Desarrollo Empresarial (SEDESEM)

Diploma in Grounding and Lighting systems, Electrical and Power Transmission Installation: 2016 – 2016



### Delft University of Technology

Diploma in Nuclear Energy, Energy Management and Systems Technology: 2016 - 2016

Diploma on Sustainable Energy: Designing a Renewable Future, Energy Management and Systems Technology 2016 - 2016

Diploma in Solar Energy, Solar Energy Technology: 2013 - 2013



### Universidad Católica Boliviana

Diploma on Renewable Energy and Sustainable Development, Energy Management and Systems Technology: 2012 – 2012. Course made in conjunction with Colorado School of Mines of the U.S.A.



### Federal University of Rio de Janeiro

Msc Economics of the Electricity Sector., Electrical Energy Economics: 2010 - 2011



### University of Strathclyde

Msc. Electrical Engineering with Business , Power Systems and Business: 2005 – 2006. Finished the course with distinction.



### Florida International University

Master on International Business, International Business: 2003 - 2004



### Universidad Privada Boliviana:

BA Hons. Electromechanical Engineering., Electrical and Mechanical Engineering: 1998 - 2002

## Publications

**Paper:** "Design of the Hybrid Electric Car Angelito 1.0. for the Competition Solar Rally 2023 - Part 1", L. Salinas San Martin, J. L. Vera; Electromundo Journal No 25, pp, 2024.

**Paper:** "Hybrid NSGA III/dual simplex approach to generation and transmission maintenance scheduling", L. Salinas San Martin, J. Yang, Y. Liu, International Journal of Electrical Power & Energy Systems, Volume 135, 2022.

**Book:** "Determination of the Price of Natural Gas for the Electricity Sector of Bolivia and its Impact on the Electricity Tariffs"; Editorial Académica Española (15th June 2018), ISBN-10 : 6202143533

**Paper:** Determinación del Precio de Gas Natural para El Sector Eléctrico Boliviano y su Efecto en las Tarifas a Consumidor Final. Texto de Discussão do Setor Elétrico n.º 43. Rio de Janeiro- Brazil, December 2011.

**Paper:** "The Need for Interconnection Reserve in a System With Wind Generation", Keith R. W. Bell, Dusko P. Nedic and L. Salinas San Martin; IEEE Transactions on Sustainable Energy, 2012, Vol 3, 703-712, ID:10097588

**Paper:** "Generation maintenance scheduling in a liberalised electricity market", Jianing Cao; K.R.W. Bell; I. Kockar; L.A.S. San Martin; 45th International Universities Power Engineering Conference UPEC 2010.

## Licenses & Certifications



Active Member - Sociedad de Ingenieros de Bolivia SIB. RNI 13591



Member – IEEE. Issued Nov 2020 - Expires Nov 2024. Membership No. 95652451

## Skills

**Languages:** English, Spanish, Portuguese

**Softwares Proficiency:** Proficient in using MATLAB, PHYTON, DIGSILENT, SDDP, GAMS, ETAP, WINMILL, DIALUX, AUTOCAD and OFFICE.

## Honors & Awards

1st place on the "Rally Solar 2023" competition organized by Immersive Consulting Group on Oct 2023. Director of the team "STRAHL" that designed and built a small hybrid electric car for the competition "Rally Solar 2023", with a length of 270 km and that took place in Cochabamba - Bolivia.