

Marcos J. Rider

Department of Systems and Energy (DSE)
 School of Electrical and Computer Engineering (FEEC)
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- CURRENT POSITION** **Associate Professor** at the University of Campinas, Campinas, São Paulo, Brazil.
- EDUCATION** **University of Campinas**, Campinas, São Paulo, Brazil.
 Ph.D. in Electrical Engineering, February 2006.
 Thesis title: *Transmission Systems Expansion Planning Using DC – AC Models and Non-linear Programming Techniques*, (in Portuguese).
Federal University of the Maranhão, São Luís, Maranhão, Brazil.
 M.Sc. in Electrical Engineering, February 2002.
 Thesis title: *Analysis Methodology for a Reactive Power Competitive Market*”, (in Portuguese).
National University of Engineering, Lima, Peru.
 Professional Engineer, February 2000.
 Thesis title: *Proposal for Enhancement of the Peruvian Electrical Concessions Law and its Regulations for Compensation for the Use of Secondary Transmission Systems*”, (in Spanish).
National University of Engineering, Lima, Peru.
 B.Sc. (Hons.) in Electrical Engineering, July 1999.
- LANGUAGES** Spanish, Portuguese, English.
- CURRENT INTERESTS** Operation, planning, and control of energy systems; Developing mathematical tools for decision-making; Exact and approximate optimization techniques.
- RECOGNITION** Named as 2 CNPq Researcher in 2011, three years later, in 2014, he was promoted to 1D CNPq Researcher and in 2022 was promoted to 1C CNPq Researcher, thus acknowledging his productivity and ability to conduct high-level research as an independent researcher. *CNPq (National Council of Technological and Scientific Development) researcher recognition – given to researchers who stand out among their peers, valuing their scientific production according to normative criteria established by CNPq, and specifically, by the CNPq assistance committees.*
- HONORS** **2024** – Indicated for the Teaching Excellence Award in Undergraduate Education in FEEC.
2024 – Top Scholar, top 0.5% of all scholars worldwide, ScholarGPS.com.
2024 – One of the winners of the 17th edition of the UNICAMP Inventors Award 2024, Inova – UNICAMP Innovation Agency.
2024 – One of the FEEC/UNICAMP professors in the world ranking of the most influential researchers, in a study conducted by Stanford University, scientific publisher Elsevier.
2023 – One of the 93 researchers UNICAMP in the ranking scientists with the greatest global impact by scientific publisher Elsevier.
2023 – Ranked #4 in Brazil among Best Scientists in the field of Electronics and Electrical Engineering in the 9th edition of Research.com.
2023 – One of the 70 professors UNICAMP in the ranking of the best scientists in the world.
2023 – Indicated for the Teaching Excellence Award in Undergraduate Education in FEEC.
2021 – Indicated for the Teaching Excellence Award in Undergraduate Education in FEEC.
2020 – One of the 74 researchers at the University of Campinas among the most influential in the world, PLOS Biology.
2020 – Co-supervisor of the Master's Dissertation with Honorable Mention in the choice of the Best Master's Dissertation in Operational Research in the Country, period 2019/2020, Brazilian Society of Operational Research (SOBRAPO).
2020 – Concytec Researcher in the Carlos Monge Medrano Level I Category, National Council

of Science, Technology and Technological Innovation (Concytec), Peru.

2019 – Best paper in the section 'Smart Grids: Deployment, Projects, Experiences, Interoperability and Standards' at the IEEE PES Congress Innovative Smart Grid Technologies Latin America (ISGT-LA 2019), IEEE Power & Energy Society.

2019 – Indicated for the Teaching Excellence Award in Undergraduate Education in FEEC.

2017 – Awarded January in recognition of the contribution to the quality of the journal made by: “A mixed-integer linear programming approach for optimal type, size and allocation of distributed generation in radial distribution systems”. Paper published in 2013 and cited in 2014 / 2015 up until June 2016 according to data from Scopus.

2017 – Awarded the best algorithm in “Test Bed 2 – Optimal Scheduling of Distributed Energy Resources” and one of the three best algorithms in “Test Bed 1 – Stochastic OPF Based Active-Reactive Power Dispatch” both in a competition about “Evaluating the Performance of Modern Heuristic Optimizers on Smart Grid Operation Problems”, IEEE PES Working Group on Modern Heuristic Optimization, Intelligent Systems Subcommittee, Power System Analysis, Computing, and Economic Committee.

2014 – Awarded one of the five best algorithms in a competition about “Application of Modern Heuristic Optimization Algorithms for Solving Optimal Power Flow Problems”, IEEE PES Working Group on Modern Heuristic Optimization, Intelligent Systems Subcommittee, Power System Analysis, Computing, and Economic Committee.

2013 – Co-advisor of Ph.D. thesis with honorable mention award CAPES, IV engineering area.

**WORK
EXPERIENCE**

Assistant Professor at the University of Campinas, São Paulo, Brazil (May 2015 – Oct. 2019).

Assistant Professor, Paulista State University, São Paulo, Brazil, (Mar. 2010 – Apr. 2015).

Researcher Associate and Visiting Professor, Ryerson University, Toronto, Canada, (Feb. 2019 – Jul. 2019).

Researcher Associate and Visiting Professor, University of Campinas, São Paulo, Brazil, (Sep. 2008 – Feb. 2010).

Researcher Associate and Visiting Professor, Technical University of Catalonia, Barcelona, Spain, (Jun. 2007 – Aug. 2008).

Researcher Associate, University of Campinas, São Paulo, Brazil, (Mar. 2006 – May 2007).

Electrical Engineering Analyst, ElectroInter SRL, Lima, Peru, (Oct. 1999 – Feb. 2000).

Electrical Engineering Analyst, Koc Ingenieros EIRL, Lima, Peru, (Aug. 1998 – Sep. 1999).

Teaching Assistant, National University of Engineering, Lima, Peru, (Aug. 1997 – Feb. 1999), Course: PSPICE for WINDOWS.

**TEACHING
EXPERIENCE**

Energy Conversion Principles, Undergraduate.

Electrical Engineering Laboratory, Undergraduate.

Operations Research, Undergraduate.

Energy Conversion Laboratory, Undergraduate.

Circuit Theory and Electrotechnical, Undergraduate.

Electrotechnical, Undergraduate.

Electrical Machines Laboratory, Undergraduate.

Electrical Machines, Undergraduate.

Applied Mathematics for Electrical Engineering, Undergraduate.

Planning and Operation of Electrical Energy System, Undergraduate.

Transmission Network Expansion Planning, Graduate.

Optimization Applied to Electric Power Systems Expansion, Graduate.

Optimization Applied to Electric Distribution Systems, Graduate.

Interior Point Method for Electric Power Systems Optimization, Graduate.

Power System Analysis, Graduate.

Optimal Power Flow, Graduate.

Optimization Using Interior Point Method, Graduate.

Integer Programming, Graduate.

Some disciplines at the graduate level are unpublished, and he aims to present the research conducted, contributing to the creation, consolidation of knowledge, and competence in strategic issues within the areas of teaching and research.

ADMINISTRATIVE POSITIONS	<p>Director of Graduate Program in Electrical Engineering, University of Campinas, São Paulo, Brazil (May 2021 – Current).</p> <p>Member of the Scientific Council of CEPETRO (Center for Petroleum Studies), University of Campinas, São Paulo, Brazil (Jan. 2020 – Nov. 2023).</p> <p>Vice Director of Graduate Program in Electrical Engineering, University of Campinas, São Paulo, Brazil (May 2019 – Apr. 2021).</p> <p>Member of the Graduate Program Board of Electrical Engineering, University of Campinas, São Paulo, Brazil (Oct. 2019 – Apr. 2021).</p> <p>Member of the Scientific Council of NIPE (Interdisciplinary Center for Energy Planning), University of Campinas, São Paulo, Brazil (Feb. 2017 – Aug. 2019).</p> <p>Member of the Department Board of Electrical Engineering, Paulista State University, São Paulo, Brazil (Oct 2011 – May 2015).</p> <p>Member of the Graduate Program Board of Electrical Engineering, Paulista State University, São Paulo, Brazil (Jun. 2013 – May 2015).</p>
10 RESEARCH PROJECTS (AS PRINCIPAL INVESTIGATOR)	<p>1C CNPq Researcher, “Optimization of Microgrid Planning and Operation (in Portuguese)”, Campinas, Brazil, 2022-2026.</p> <p>Paulista Company of Power and Light (CPFL), “CS3060 - Electromobility and Distributed Energy Resources: Platform for Smart Urban Environments and Enabling Business Models (in Portuguese)”, Campinas, Brazil, 2020-2023.</p> <p>FAPESP Research Support Grant, “Mathematical Models and Moderns Solution Techniques for the Planning of the Expansion and Operation of Electrical Energy Systems (in Portuguese)”, Campinas, Brazil, 2018-2020.</p> <p>1D CNPq Researcher, “Branch Flow Models for the Planning and Operation of Electric Power Systems (in Portuguese)”, Campinas, Brazil, 2018-2022.</p> <p>FAPESP Research Support Grant, “Optimization Applied to Electric Distribution Systems (in Portuguese)”, Campinas, Brazil, 2015-2017.</p> <p>1D CNPq Researcher, “Expansion Planning and Operation of Power Distribution Systems (in Portuguese)”, Ilha Solteira, Brazil, 2014-2018.</p> <p>CNPq Research Grant (Edital Universal), “Mixed-Integer Linear Programming Models for the Problem of Distribution System Planning (in Portuguese)”, Ilha Solteira, Brazil, 2013-2015.</p> <p>2 CNPq Researcher, “Transmission Network Expansion Planning (in Portuguese)”, Ilha Solteira, Brazil, 2011-2014.</p> <p>FEPIISA Research Support Grant, “Integrated Planning of the Power Distribution System Expansion (in Portuguese)”, Ilha Solteira, Brazil, 2010-2011.</p> <p>FAPESP Research Support Grant (First Projects), “Metaheuristics for the Transmission Network Expansion Planning Using the AC Model (in Portuguese)”, Campinas, Brazil, 2008-2009.</p>
15 RESEARCH PROJECTS (AS COLLABORATOR)	<p>FAPESP Research Support Grant, “Green Hydrogen and Energy Transition: Regulatory, Technological, Productive and Decarbonization Challenges for Mercosur (in Portuguese)”, Campinas, Brazil, 2024-2028.</p> <p>FAPESP Research Support Grant, “CPTEn - São Paulo Center for Energy Transition Studies (in Portuguese)”, Campinas, Brazil, 2022-2026.</p> <p>ENGIE Brazil Energy, “Methodologies for the Identification of Operational Restrictions in Systems with High Penetration of Variable Renewable Energy Sources (in Portuguese)”, Campinas, Brazil, 2021-2023.</p> <p>Paulista Company of Power and Light (CPFL), “PA3058 - MERGE: Microgrids for Efficient, Reliable and Greener Energy (in Portuguese)”, Campinas, Brazil, 2019-2024.</p> <p>FAPESP Research Support Grant, “Optimization of Planning and Operation of Electric Power Transmission and Distribution Systems (in Portuguese)”, Campinas, Brazil, 2017-2022.</p> <p>Paulista Company of Power and Light (CPFL), “PA3018 - Technical and Commercial Insertion for Implementation, Development and Analysis of Applications of Energy Storage Technologies in the Operation of Distribution Networks of CPFL (in Portuguese)”, Campinas, Brazil, 2017-2020.</p> <p>Paulista Company of Power and Light (CPFL), “PA3010 – System to Automatic Network Reconfiguration and Optimal Allocation of Controlled Switches (in Portuguese)”, Campinas, Brazil, 2015-2018.</p> <p>Paulista Company of Power and Light (CPFL), “PA0060 - Electrical Mobility - Technical and Commercial Insertion of Electric Vehicles in Business Fleets of the Campinas Metropolitan Region (in Portuguese)”, Campinas, Brazil, 2015-2018.</p> <p>University of Campinas and Princeton University, “SMART-SEN – A Simulation Model of</p>

the National Power System with Renewable Generation: Operational Impacts, Regulatory and Costs (in Portuguese)”, Campinas, Brazil, 2015-2017.

Energy Company of Minas Gerais (CEMIG), “L2 – Development of a Management System for the Electric Distribution Systems, Through Monitoring, Diagnostics and Reconfiguration Within the Platform and Concepts of Smart Grid (in Portuguese)”, Campinas, Brazil, 2012-2014.

Light Service of Electricity S.A (LIGHT), “D423 – Development of a Model of Smart Grid using Distribution Network Automation, Infrastructure of Measurement and Consumer Participation (in Portuguese)”, Campinas, Brazil, 2012-2013.

Spanish Ministry of Science and Innovation, “Short- and Medium-Term Multimarket Optimal Electricity Generation Planning with Risk and Environmental Constraints”, Barcelona, Spain, 2009-2013.

Spanish Ministry of Science and Innovation, “Short and Long-Term Electricity Generation Planning in a Liberalized Market Including Bilateral Contracts”, Barcelona, Spain, 2005-2008.

Power Plants of Northern Brazil S/A (ELETRONORTE), “Software Implementation to Improve of the On-Line Dynamic Security of Electric Energy Systems (in Portuguese)”, Maranhão, Brazil, 2004-2005.

Power Plants of Northern Brazil S/A (ELETRONORTE), “Development of Intelligent Software for Training of Operators and Maintenance Staff (in Portuguese)”, Maranhão, Brazil, 2004-2005.

9 SHORT
STAYS

Porto School of Engineering, Porto, Portugal, Jan. 2025.

National University of the Center of Peru, Junín, Peru, Sep. 2019.

University of Antioquia, Medellín, Colombia, Feb. 2017.

Technical University of Federico Santa María, Valparaíso, Chile, Feb. 2016.

Federal University of Juiz de Fora, Juiz de Fora, Brazil, Dec. 2013 – Jan. 2014.

University of Castilla-La Mancha, Toledo, Spain, Nov. 2012 – Jan. 2013.

Technical University of Catalonia, Barcelona, Spain, Jan. 2011.

Federal University of Santa Catarina, Santa Catarina, Brazil, Jul. 2006.

Technology University of Pereira, Pereira, Colombia, Nov. 2004 and Jan. 2012.

19 INVITED
SEMINARS

“Hardware and computational tools applied to the management/optimization of networks and microgrids with energy. A Vision on the Optimization Applied to Electric Power Distribution Networks”, October 2024.

“Challenges and Opportunities in the Integration of New Technologies into Electric Grids. Location and sizing of energy storage systems in transmission systems”, September 2023.

“The Challenges in Modeling Storage Technologies for the Planning of Electrical Power Systems”, March 2020.

“Convex Relaxation in Power Distribution Optimization” Ryerson University, Toronto, Canada, March 2019.

“SOCP and QC Relaxations for the AC Optimal Power Flow Problem” Ryerson University, Toronto, Canada, April 2019.

“Intelligent Electrical Networks or Future Distribution Networks?” National University of San Antonio Abad of Cusco, Cusco, Peru, August 2017.

“Optimization in Electric Power System” National University of San Antonio Abad of Cusco, Cusco, Peru, August 2017.

“Transmission Network Expansion Planning: Models, Methodologies and Challenges” University of Antioquia, Medellín, Colombia, February 2017.

“Optimization Applied to the Electric Power Transmission Networks Planning”, Technical University of Federico Santa María, Valparaíso, Chile, February 2016.

“Applications of Optimization in the Planning of Networks”, Interconexión Eléctrica S.A. E.S.P (ISA), Medellín, Colombia February 2015.

“A Bi-level Approach for Optimal Location and Contract Pricing of Distributed Generation in Radial Distribution Systems Using Mixed-Integer Linear Programming”, Technical University of Catalonia, Barcelona, Spain, February 2013.

“Interior Point Method for Electric Power Systems Optimization (in Spanish)”, Technology University of Pereira, Pereira, Colombia, January 2012.

“Introduction to Software Usage for Optimization Mathematics (in Portuguese)”, Paulista Estate University, Ilha Solteira, Brazil, February 2011.

“Transmission Network Expansion Planning (in Portuguese)”, Interconnection Electric S.A. E.S.P. – ISA, Medellín, Colombia, October 2011.

“Transmission Network Expansion Planning: Models, Methodologies and Developed Software (in Portuguese)”, Energy Research Company (EPE), Rio de Janeiro, Brazil, July 2009.

“*Optimization Techniques Application and Software Development for Deregulated Power Systems Analysis*”, Second Manchester Seminar for the Next Generation of Young Researchers in Power Systems, University of Manchester, Manchester, England, 16 - 19 September 2007.

“*Topics About the Planning and Operation of Power Systems (in Spanish)*”, National University of Engineering, Lima, Peru, December 2005.

“*Interior Point Method for Electric Power Systems Optimization (in Spanish)*”, Technology University of Pereira, Pereira, Colombia, November 2004.

49 DIRECTIONS
OF PHD AND
MASTER
STUDENTS

Leandro Jose Cesini da Silva, *Contracting Strategies of Products and other Services for Microgrids*, Ph.D. Thesis defended at the University of Campinas, 2024. Supervisor: **M. J. Rider**.

Luis Alexsander Oroya Alvarado. *Linear Robust Min-Max Optimization for AC Microgrid Energy Management Systems*. M.Sc. Thesis defended at the University of Campinas, 2023. Supervisor: **M. J. Rider**.

Rody Aldair Gallegos Huaman. *Three-Stage Optimization-based Framework for the Balance-of-System of a Photovoltaic Power Plant*. M.Sc. Thesis defended at the University of Campinas, 2023. Supervisor: **M. J. Rider**.

Derian Carlos Tairo Garcia. *Implementation of a Microgrid Energy Management System Considering Fair EV Charging, Uncertainties and Contingencies: A Multi-Objective Approach*. M.Sc. Thesis defended at the University of Campinas, 2023. Supervisor: **M. J. Rider**.

Lucas Zenichi Terada. *Algoritmos de Recarga Inteligente de Veículos Eléctricos Considerando a Integração de Recursos Energéticos Distribuídos*. M.Sc. Thesis defended at the University of Campinas, 2023. Supervisor: **M. J. Rider**.

Luiza Higino Silva Santos. *Modeling and Simulation of the Microgrids of the MERGE-UNICAMP Project*. M.Sc. Thesis defended at the University of Campinas, 2022. Supervisor: **M. J. Rider**.

Juan Carlos Cortez Aucapiña. *Day-ahead Photovoltaic Power Forecasting Based on a Hybrid Deep Learning Methodology*. M.Sc. Thesis defended at the University of Campinas, 2022. Supervisor: **M. J. Rider**.

Gabriela Beatriz Sanchez Ponce. *Sensibility Analysis of Alternating Direction Method of Multipliers Applied to Distributed Energy Management of Microgrids*. M.Sc. Thesis defended at the University of Campinas, 2022. Supervisor: **M. J. Rider**.

Jefferson Javier Chavez Arias. *Short-Term Hydro-thermal Scheduling with AC Network Constraints using a New Successive Linear Programming*. M.Sc. Thesis defended at the University of Campinas, 2021. Supervisor: **M. J. Rider**.

Fernando Walter Liederer. *Transient Stability Constrained Optimal Power Flow considering the Fourth-Order Synchronous Generator Model*. M.Sc. Thesis defended at the University of Campinas, 2021. Supervisor: **M. J. Rider**.

Bárbara Resende Rosado. *Impact of Massive Penetration of Intermittent Generation and Energy Storage Devices in Planning the Amount of Transmission System Usage*. M.Sc. Thesis defended at the University of Campinas, 2020. Supervisor: **M. J. Rider**.

Mario David Pastrana Iglesias. *Transmission Network Expansion Planning With Renewable Energy Sources and Energy Storage Systems Using Representative Periods*. M.Sc. Thesis defended at the University of Campinas, 2020. Supervisor: **M. J. Rider**.

Santiago Gabriel Constante Flores. *Optimal Reactive Power Dispatch with Discrete Controllers Using a Branch and Bound Algorithm: A Semidefinite Relaxation Approach*. M.Sc. Thesis defended at the University of Campinas, 2020. Supervisor: **M. J. Rider**.

Caio dos Santos. *Integration of a Set of Small Renewable Sources into a Bulk Power System*. M.Sc. Thesis defended at the University of Campinas, 2020. Supervisors: C. Lyra and **M. J. Rider**.

Juan Camilo López Amezquita, *Designing and Implementation of a Self-Healing Scheme for Modern Electrical Distribution Systems*, Ph.D. Thesis defended at the University of Campinas, 2019. Supervisor: **M. J. Rider**.

Miguel Alberto Torres Rodríguez, *A Novel Strategy for the Electric Power Transmission Network Expansion Planning Using a Mixed Integer Linear AC Model*, Ph.D. Thesis defended at the University of Campinas, 2019. Supervisors: C. A. Castro and **M. J. Rider**.

Erik Francisco Alvarez Quispe. *Semidefinite Relaxation for the Optimal Operation and Expansion Planning of Power Transmission Systems*. M.Sc. Thesis defended at the University of Campinas, 2019. Supervisor: **M. J. Rider**.

John Willihans Cruz Condemaita. *N-1 Multi-contingency Transient Stability Constrained Optimal Power Flow with Discrete Controllers using an AC Branch Flow MILP Model Approach*. M.Sc. Thesis defended at the University of Campinas, 2019. Supervisor: **M. J. Rider**.

- Fábio Kenji Taniguchi. *Optimal Management of Photovoltaic Inverters for the Voltage Magnitude Control in Electrical Network System*. M.Sc. Thesis defended at the University of Campinas, 2019. Supervisor: **M. J. Rider**.
- Erick Facure Giaretta. *Direct Control of Variable Frequency Air Conditioning Appliances in Smart Grids with Photovoltaic Systems and Residential Batteries*. M.Sc. Thesis defended at the University of Campinas, 2019. Supervisor: **M. J. Rider**.
- Carlos Francisco Sabillón Antúnez, *Mathematical Optimization of Unbalanced Networks Operation with Smart Grid Devices*, Ph.D. Thesis defended at the Paulista State University, 2018. Supervisor: **M. J. Rider**.
- Gloria Patricia Lopez Sepulveda, *Application of Computational Intelligence in Troubleshooting Power Systems* (in Portuguese), Ph.D. Thesis defended at the Paulista State University, 2017. Supervisor: **M. J. Rider**.
- Fernando Marcos Wittmann. *Optimization Applied to Residential Non-Intrusive Load Monitoring*. M.Sc. Thesis defended at the University of Campinas, 2017. Supervisor: **M. J. Rider**.
- John Edisson Cardona Ruiz. *Decentralized Load Control of Electric Vehicles Using Local Voltage Magnitude Measurements* (in Portuguese). M.Sc. Thesis defended at the University of Campinas, 2017. Supervisor: **M. J. Rider**.
- Luigi Viola. *Short-Term Planning of Battery Operation and Hydrogen Storage in Electric Power Distribution Systems* (in Portuguese). M.Sc. Thesis defended at the University of Campinas, 2017. Supervisors: L. C. P. da Silva and **M. J. Rider**.
- Tiago Madureira. *Optimal Management in Virtual Power Plants using Mixed-Integer Linear Programming* (in Portuguese). M.Sc. Thesis defended at the University of Campinas, 2017. Supervisors: L. C. P. da Silva and **M. J. Rider**.
- Fernando Vladimir Cerna Nahuis, *Mathematical Programming Models for Energy Management in Modern Electric Energy Distribution Systems* (in Portuguese), Ph.D. Thesis defended at the Paulista State University, 2017. Supervisor: **M. J. Rider**.
- Cristiam Victor Villajuan Montes, *Mixed-Integer Linear Programming Models for Transmission System Expansion Planning Using the AC Model* (in Portuguese), M.Sc. Thesis defended at the Paulista State University, 2016. Supervisor: **M. J. Rider**.
- Marlon Borges Correia de Oliveira, *Three-phase Reconfiguration of Unbalanced Electricity Distribution Systems* (in Portuguese), Ph.D. Thesis defended at the Paulista State University, 2015. Supervisor: **M. J. Rider**.
- Marcos André de Jesus Delgado, *Optimization of Radial Electrical Distribution Systems Using Mixed-Integer Second-Order Conic Programming* (in Portuguese), Ph.D. Thesis defended at the Paulista State University, 2015. Supervisor: **M. J. Rider**.
- Juan Camilo López Amezcua, *Optimal Allocation of Interconnect Switches in Electricity Distribution Networks* (in Portuguese), M.Sc. Thesis defended at the Paulista State University, 2015. Supervisor: **M. J. Rider**.
- Marcia Cristina Dal Toé, *Optimal Allocation and Contract Price of the Distributed Generation in Radial Electrical Distribution Systems* (in Portuguese), Ph.D. Thesis defended at the Paulista State University, 2014. Supervisor: **M. J. Rider**.
- Jorge Hans Alayo Gamarra, *A Bi-level Model for the Multi-stage Investment in Transmission Capacity and Electricity Generation on Competitive Markets* (in Portuguese), M.Sc. Thesis defended at the Paulista State University, 2014. Supervisor: **M. J. Rider**.
- Rodrigo Romais, *Optimal Reconfiguration of Electricity Distribution Systems Using a Mixed-Integer Second-Order Conic Formulation* (in Portuguese), M.Sc. Thesis defended at the Paulista State University, 2014. Supervisor: **M. J. Rider**.
- Carlos Francisco Sabillon, *Optimal Allocation of SVC and TCSC in Electric Power Transmission Network* (in Portuguese), M.Sc. Thesis defended at the Paulista State University, 2014. Supervisor: **M. J. Rider**.
- Rogério dos Reis Gonçalves, *Mixed-Integer Linear Programming Models to Solve Optimization Problems in Radial Electrical Distribution Systems* (in Portuguese), Ph.D. Thesis defended at the Paulista State University, 2013. Supervisor: **M. J. Rider**.
- Emivan Ferreira da Silva, *Multistage Stochastic Planning of Power Transmission Network Considering Security Restrictions* (in Portuguese), Ph.D. Thesis defended at the Paulista State University, 2013. Supervisor: **M. J. Rider**.
- Hugo Andres Ruiz Flores, *Development a State Estimator for the Unbalanced Electricity Distribution Systems* (in Portuguese), Ph.D. Thesis defended at the Paulista State University, 2013. Supervisors: J. R. Mantovani and **M. J. Rider**.
- Mohsen Rahmani, *Study of New Mathematical Models for Transmission Expansion Planning Problem* (in Portuguese), Ph.D. Thesis defended at the Paulista State University, 2013.

Supervisors: R. Romero and **M. J. Rider**.

João de Sousa, *Planning of Electric Power Distribution System Through a Mixed-Integer Linear Programming Model* (in Portuguese), Ph.D. Thesis defended at the Paulista State University, 2013. Supervisors: J. R. Mantovani and **M. J. Rider**.

Fernando Vladimir Cerna Ñahuis, *Dispatch of Vehicles for Care of Orders Services in Electricity Distribution Networks* (in Portuguese), M.Sc. Thesis defended at the Paulista State University, 2013. Supervisor: **M. J. Rider**.

Elson Batista Puger, *Non-Iterative Load Flow for the Energy Distribution Systems Analysis* (in Portuguese), M.Sc. Thesis defended at the Paulista State University, 2013. Supervisor: **M. J. Rider**.

Érica Tatiane Almeida Ribeiro, *Mixed-Integer Programming Models for the Optimal Capacitor Banks Allocation in Radial Electric Power Distribution Systems* (in Portuguese), M.Sc. Thesis defended at the Paulista State University, 2013. Supervisor: **M. J. Rider**.

Diego Alejandro Tejada Arango, *Transmission Network Expansion Planning Considering Non-Conventional Alternatives* (in Spanish), M.Sc. Thesis defended at the University of Antioquia, 2013. Supervisors: J. M. López-Lezama and **M. J. Rider**.

John Fredy Franco Baquero, *Decomposition Strategies Applied to the Planning Problem of Power Distribution Systems* (in Portuguese), Ph.D. Thesis defended at the Paulista State University, 2012. Supervisors: R. Romero and **M. J. Rider**.

Raiane Piacente Alves, *Optimal Allocation of Voltage Regulators in Radial Electric Distribution Systems Using a Mixed Integer Linear Formulation* (in Portuguese), M.Sc. Thesis defended at the Paulista State University, 2012. Supervisor: **M. J. Rider**.

Miguel Paredes Quiñoes, *Methodology for Hydrothermal System Planning in Electricity Market* (in Portuguese), M.Sc. Thesis defended at the Paulista State University, 2012. Supervisors: R. Romero and **M. J. Rider**.

Marina Lavorato de Oliveira, *Expansion Planning of Electric Distribution Systems* (in Portuguese), Ph.D. Thesis defended at the University of Campinas, 2010. Supervisors: A. V. Garcia and **M. J. Rider**.

Helois Helena Müller, *Artificial Neural Networks Applied to Power Systems* (in Portuguese), M.Sc. Thesis defended at the University of Campinas, 2008. Supervisors: C. A. Castro and **M. J. Rider**.

PROFESSIONAL MEMBERSHIPS

IEEE Senior Member, since 2016.
IEEE Member, 2006 – 2016.
IEEE Student Member, 1997 – 2005.
Member of Peru Engineers Institute, 2000 – current.

2 PATENTS

J. A. A da Silva, J. C. López, **M. J. Rider**, “Microgrid Web-EMS MERGE”, Computer Program, 2023, Brazil.
F. B. B. Rolim, F. C. T. Arioli, **M. J. Rider**, “Adaptive Overcurrent Protection Methodology for Modern Electric Power Distribution Systems”, 2021, Brazil.

6 BOOK CHAPTERS

J. C. López, P. P. Vergara, **M. J. Rider** and L. C. P. da Silva, “*Optimal Restoration of Electrical Distribution Systems Considering Switching Sequence*”, in: Mariana Resener, Steffen Rebennack, Panos M. Pardalos and Sérgio Haffner. *Handbook of Optimization in Electric Power Distribution Systems*. Springer International Publishing, pp. 273-291, 2020.
J. López, **M. J. Rider** and J. Contreras, “*Electric Distribution Network Planning Under Uncertainty*”, in: Mariana Resener, Steffen Rebennack, Panos M. Pardalos and Sérgio Haffner. *Handbook of Optimization in Electric Power Distribution Systems*. Springer International Publishing, pp. 293-323, 2020.
P. P. Vergara, J. C. López, J. M. Rey, L. C. P. da Silva, **M. J. Rider**, “*Energy Management in Microgrids*”, in: Antonio Zambroni and Miguel Castilla. *Microgrids Design and Implementation*. Springer International Publishing, pp. 195-216, 2019.
C. F. Sabillón, J. F. Franco, **M. J. Rider**, R. Romero, “*Mathematical Optimization of Unbalanced Networks with Smart Grid Devices*”, in: Farhad Shahnia, Ali Arefi and Gerard Ledwich. *Electric Distribution Network Planning*. Springer Singapore, pp. 65-114, 2018.
S. P. Torres, C. A. Castro, **M. J. Rider**, “*Transmission Expansion Planning by using DC and AC Models and Particle Swarm Optimization*”, in: Girolamo Fornarelli and Luciano Mescia. *Swarm Intelligence for Electric and Electronic Engineering*. IGI Global, pp. 260-284, 2013.
M. Rahmani, R. Romero, **M. J. Rider**, M. Paredes, “*Domain Reduction Using GRASP Construction Phase for Transmission Expansion Planning Problem*”, in: Jin-Kao Hao and Martin Middendorf. *Evolutionary Computation in Combinatorial Optimization*. Springer Berlin

Heidelberg, pp. 87-98, 2012.

112 JOURNALS
PAPERS

- J. A. A. Silva, J. C. López, N. B. Arias, L. Z. Terada and **M. J. Rider**, “Tri-Level Adaptive Robust Optimization for the Optimal Charging Coordination of EVs Considering Grid Impact”, *IEEE Access*, vol. 12, pp. 169755-169767, Dec. 2024.
- W. S. Alvarez, J. C. López, F. W. Liederer, D. Dotta and **M. J. Rider**, “Dynamic Security Constrained AC Optimal Power Flow for Microgrids”, *Electric Power Systems Research*, vol. 236, pp. 110927, Nov. 2024.
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PARTICIPATION
IN EVENTS

2021 – Jornadas del Conocimiento ISA.
2020 – VIII Simpósio Brasileiro de Sistemas Elétricos.
2019 – Fourth annual NESTNet Week, Ryerson University, Toronto, CA.
2019 – Jornadas del Conocimiento ISA.
2018 – IEEE PES Transmission & Distribution Latin America Conference and Exposition.
2017 – Jornadas del Conocimiento ISA.
2017 – XXIV Congreso Internacional de Ingeniería Eléctrica, Electrónica y Computación.
2015 – Jornadas del Conocimiento ISA
2013 – Power Engineering Society General Meeting.
2012 – IV Simpósio Brasileiro de Sistemas Elétricos.
2011 – IEEE PES Conference on Innovative Smart Grid Technologies Latin America.
2009 – Power Engineering Society General Meeting.
2008 – International Conference on Applied Mathematical Programming and Modelling.
2006 – Power Engineering Society General Meeting.
2004 – Brazilian Automation Congress.
2004 – IX Symposium of Specialists in Electric Operational and Expansion Planning.
2002 – VIII Symposium of Specialists in Electric Operational and Expansion Planning.
2001 – XIV Congreso Nacional de Ingeniería Mecánica, Eléctrica y Ramas Afines.

LINKS

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Orcid – <https://orcid.org/0000-0001-5484-1161>