



# CLAGTEE 2024

## XV LATIN-AMERICAN CONGRESS ON ELECTRICITY GENERATION AND TRANSMISSION

27th - 29th November 2024  
Mar del Plata  
Argentina

### Organizing Universities



UNIVERSIDAD NACIONAL  
de MAR DEL PLATA



PONTIFICIA  
UNIVERSIDAD  
CATÓLICA DE  
VALPARAÍSO



UNIVERSIDADE ESTADUAL PAULISTA  
"JÚLIO DE MESQUITA FILHO"

## About CLAGTEE

The Department of Electrical Engineering, College of Engineering of the National University of Mar del Plata – UNMDP (Argentina), the Department of Electrical Engineering, College of Engineering of the Pontifical Catholic University of Valparaíso – PUCV (Chile) and the Department of Energy, College of Engineering, São Paulo State University–UNESP (Brazil) are jointly organizing the XV LATIN AMERICAN CONGRESS ON ELECTRICITY GENERATION AND TRANSMISSION (CLAGTEE 2024) during November 27<sup>th</sup> to 29<sup>th</sup>, 2024.

The present conference aims to bring together researchers, academics, scientists, scholars, industry and research organizations from around the world to discuss and present papers on the latest developments in the broad fields of electrical and energy engineering.

The CLAGTEE 2024 also provides a premier interdisciplinary platform for a large gathering of industry and academic professionals from around the world in the field of electrical and energy engineering. It provides an important forum for the exchange of knowledge on the latest innovations, trends and issues as well as practical challenges and solutions in the areas of generation, transmission and distribution planning; conventional and non-conventional generation systems; energy and demand forecasting; high voltage AC and DC transmission systems; electrical system interconnections; electrical protection and control of electrical power systems; power electronics applications; system control and modeling; and advanced topics in telecommunication systems.



## Objective

The growing demand for electrical energy in Latin American countries requires a higher quality of service and efficiency in technical and economic operations. This implies the need for continuous improvement in the planning of growth and the operational levels of electrical energy systems. The economic and technical aspects must be taken into account, as well as the environmental impact of the construction of new power plants and the need to introduce new technologies, control systems and safety measures.

Gradually, a process of integration has emerged between Latin American countries, as the demand for electrical energy, including generation facilities, is similar in these countries.

## History of the Congress

The three organizing universities UNMdP (Argentina), PUCV (Chile) and UNESP (Brazil) have joined forces to create a forum that allows a valuable exchange of experiences on the methodology for analyzing the operation, planning and implementation of new technologies contributing to the improvement of electricity generation and transmission systems. This has become a reality with the creation of the CLAGTEE congresses, which have been holding every two years in different cities in Latin American countries:

I CLAGTEE: Viña de Mar, Chile, October, 1993.

II CLAGTEE: Mar del Plata, Argentina, November, 1995.

III CLAGTEE: Campos do Jordão SP, Brazil, November, 1997.

IV CLAGTEE: Viña del Mar, Chile, November, 2000.

V CLAGTEE: São Pedro SP, Brazil, November, 2003.

VI CLAGTEE: Mar del Plata, Argentina, November, 2005.

VII CLAGTEE: Valparaiso, Chile, October, 2007.

VIII CLAGTEE: Ubatuba SP, Brazil, October, 2009.

IX CLAGTEE: Mar del Plata, Argentina, November, 2011.

X CLAGTEE: Viña de Mar, Chile, October, 2013.

XI CLAGTEE: São José dos Campos, Brazil, November, 2015.

XII CLAGTEE: Mar del Plata, Argentina, November, 2017.

XIII CLAGTEE: Santiago, Chile, October, 2019.

XIV CLAGTEE: Rio de Janeiro, Brazil, November, 2022.

XV CLAGTEE: will take place in Mar del Plata, Argentina, 27th – 29th, November, 2024.

## Organizing Chair

Chairman

Prof. Justo José Roberts - UNMdP (Argentina)

1st Co-chairman

Prof. Jorge Mendoza Baeza - PUCV (Chile)

2nd Co-chairman

Prof. Celso Eduardo Tuna - UNESP (Brazil)

## Founder Committee

Prof. Claudio Oscar Dimenna - UNMdP (Argentina)

Prof. José Luz Silveira - UNESP (Brazil)

Prof. Juan Antonio Suárez - UNMdP (Argentina)

Prof. Patricio Robles Calderon - PUCV (Chile)

Prof. Paulino Alonso Rivas - PUCV (Chile)

## Local Organizing Committee

Prof. Carlos Agüero - UNMdP (Argentina)

Prof. Daniel Anaut - UNMdP (Argentina)

Prof. Guillermo di Mauro - UNMdP (Argentina)

Prof. Guillermo Murcia - UNMdP (Argentina)

Prof. Gustavo Belliski - UNMdP (Argentina)

Prof. Gustavo Ferro - UNMdP (Argentina)

Prof. Jorge Strack - UNMdP (Argentina)

Prof. Juan Manuel Vignerte - UNMdP (Argentina)

Prof. Julio Cesar Branda - UNMdP (Argentina)

Prof. Justo José Roberts - UNMdP (Argentina)

Prof. Máximo Menna - UNMdP (Argentina)

## Preliminary Program

- Introduction and discussion of technical papers prepared by experts and scientists and accepted by the Review Committee.
- Technical conferences given by guest experts from major national and international companies, manufacturers and/or suppliers of electrical equipment or power plants.
- A round table on the planning, development and interconnection of electricity networks in Latin American countries with the participation of experts from these sectors.



## Topics of Discussion

### 1) Conventional Power Plants and Components

- Thermoelectric power plants
- Thermonuclear power plants
- Hydroelectric power plants
- Small Power Plants

### 2) Alternative Power Plants and Components

- Renewable and non-conventional sources of electric power (solar, wind, biomass, hydro, marine, fuel cell, hybrid power systems, etc.)
- Distributed energy resources
- Cogeneration systems, technical and economic issues
- Energy from waste

### 3) Bioenergy and Hydrogen

- Bioenergy for electricity generation
- Hydrogen production processes

### 4) Electric Power Transmission and Distribution

- Smart grid systems applications
- Technological developments in transmission and distribution systems
- Stations and equipment for high-voltage
- Interconnection of electric systems
- Exportation of electric energy
- High-voltage transmission systems
- Direct current transmission systems
- Electric power transformer
- Electrical distribution systems
- Electric power transmission
- Power system protection
- Transient phenomena in electrical power systems

### 5) Power Systems Planning

- Integral planning of resources seeking the increase of the electricity supply
- Generation and transmission systems planning
- Energy and load forecasting
- Control and safety measures systems
- Maintenance electrical power systems
- Project development

### 6) Energy Management

- Efficient use of energy
- Power quality
- Lighting quality
- Motors quality and efficiency
- Tariff systems
- Legislation for the electric energy trade

### 7) Computational Systems and Signals Processing

- Computer models and programs for analysis and design of power plants
- Artificial intelligence, fuzzy logic and neural networks
- Signal processing and analysis
- Instrumentation and data acquisition
- Intelligent systems
- Measurements systems for optimal process

### 8) Environmental and Ecological Issues

- Environmental issues in power plants
- Pollutants emissions, carbon credits

### 9) Social and Economic Issues

- Energy and quality of life
- Engineering education

### 10) Geographic Information Systems and Telemetry

- Customer Information System
- Asset Management System
- Load Flow and Load Growth studies
- Optimizing Electrical Lines Routing
- Disaster Management and Locating Faults

### 11) Electromobility

- Development of chargers
- Electric traction
- Charging and discharging management
- Effects on electrical grids

### 12) Battery energy storage systems

- DC microgrids
- Battery management system
- Conversion systems



## Call for Papers

Papers dealing with any topic included in the proceeding list are currently being invited for publication in this Congress. Full papers may be written in English, Spanish or Portuguese. The works must be sent in pdf format, following the double column IEEE format style and should not exceed 10 pages.

All accepted and presented papers will be published in the Book of Abstracts and Proceedings CLAGTEE 2024.

## Important Dates

**Submission full paper starts:** 20<sup>th</sup> May, 2024

**Submission full paper ends:** 8<sup>th</sup> August, 2024

**Notification of acceptance:** 2<sup>nd</sup> October, 2024

**Early bird registration starts:** 7<sup>th</sup> October, 2024

**Early bird registration ends:** 30<sup>th</sup> October, 2024

**Late registration ends:** 15<sup>th</sup> November, 2024

**Congress starts:** 27<sup>th</sup> November, 2024

## Publication Fees

### **PUBLICATION FEE - US\$ 50 per paper**

Includes the publication of the paper in the Book of Abstracts and Proceedings and in the congress web repository. If you submitted more than one paper, you must pay a "Publication Fee" for each additional paper.

### **INSCRIPTION OF ASSISTANTS (from 7<sup>th</sup> to 30<sup>th</sup> October)**

#### **ONSITE PRESENTATION MODALITY**

##### **Full Conference, Assistant Student - US\$ 75**

Includes onsite oral presentation of the article, access to all conferences and activities, congress material, attendance certificate, coffee break service, camaraderie lunch. Students (degree and postgraduate) must provide declaration of affiliation from their institution.

##### **Full Conference, Assistant Author - US\$ 185**

Includes onsite oral presentation of the article, access to all conferences and activities, congress material, attendance certificate, coffee break service, camaraderie lunch.

##### **Full Conference, Assistant Non-author - US\$ 225**

Includes access to all conferences and activities, congress material, attendance certificate, coffee break service, camaraderie lunch.

#### **ONLINE PRESENTATION MODALITY**

##### **Student - US\$ 115**

Includes virtual presentation of the article using Zoom platform, access to all virtual conferences, virtual attendance certificate.

##### **Author - US\$ 280**

Includes virtual presentation of the article using Zoom platform, access to all virtual conferences, virtual attendance certificate.

##### **Non-author - US\$ 340**

Includes access to all virtual conferences, virtual attendance certificate.

### **INSCRIPTION OF ASSISTANTS (after 30<sup>th</sup> October)**

#### **ONSITE PRESENTATION MODALITY**

##### **Full Conference, Assistant Student - US\$ 95**

##### **Full Conference, Assistant Author - US\$ 225**

##### **Full Conference, Assistant Non-author - US\$ 245**

#### **ONLINE PRESENTATION MODALITY**

##### **Student - US\$ 145**

##### **Author - US\$ 340**

##### **Non-author - US\$ 370**

## About the Organizing Universities

UNMdP - The National University of Mar del Plata (*Universidad Nacional de Mar del Plata*) is an Argentine national university in the city of Mar del Plata, on the Atlantic coast. The institution was established in 1962 as the "*Universidad de la Provincia de Buenos Aires*" (University of the Province of Buenos Aires). The university acquired its current name in 1975. The UNMdP currently includes nine faculties (Architecture, Urbanism and Design, Agricultural Sciences, Economics and Social Sciences, Natural Sciences, Health Sciences and Social Work, Law, Humanities, Engineering and Psychology) and one school (School of Medicine). It offers 50 graduate programs, 11 pre-graduate programs, and 48 post-graduate programs.



PUCV - The Pontifical Catholic University of Valparaíso (*Pontificia Universidad Católica de Valparaíso*), is one of six Catholic universities in Chile and one of the two pontifical universities in the country, along with the Pontifical Catholic University of Chile. Founded in 1928, it is located in Valparaíso Region and has about 18,000 students.

It is recognized in Chile as an institution with high academic prestige and as a research university due to its acquired research funds and offered postgraduate degrees in the fields of science, engineering, humanities and arts.



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UNESP - São Paulo State University (*Universidade Estadual Paulista "Júlio de Mesquita Filho"*) is a public university run by the state government of São Paulo, Brazil.

UNESP has a combined student body of over 45,000 spread among its 23 campuses. The first one founded in 1923. Before the university's official foundation in 1976, its original 12 campuses were public independent faculties.

São Paulo State University is considered the sixth most important university in Brazil. It is one of the few Latin American universities to be constantly listed as one of the best universities worldwide.

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