



BTΣym'25

Conference Program

October 15th, 16th and 17th -2025
UNICAMP University, Campinas – SP - Brazil

Welcome to the BTSym'2025 as a Virtual Event

The Brazilian Technology Symposium (BTSym), **ISSN 2447-8326**, is an event created by the Laboratory of Visual Communications of the Faculty of Electrical and Computer Engineering at the State University of Campinas. This is an excellent forum for presentations and discussions of the latest results of projects and development research in several areas of knowledge, in scientific and technological scope.

This event seeks to bring together researchers, students, and professionals from the industrial and academic sectors, seeking to create and/or strengthen the linkages between issues of joint interest. Participants are invited to submit research papers, case studies, articles of opinion, or posters, showing studies, methodologies, and results achieved in scientific level research projects, completion of course work for graduation, dissertations, and theses.

The BTSym'25 organizing committee invites researchers to attend and submit papers addressing the current research topics of interest. In 2025, the event will be held on **October 15th, 16th, and 17th at the CTI Renato Archer, SP**. Proceedings of the event will be published by **Springer** publisher through the book **Proceedings of the 11th Brazilian Technology Symposium - Emerging Trends and Challenges in Technology**, and will be submitted for indexing by **Scopus, WoS, and EI Compendex database**.

In 2025, we received 69 research works, divided into: 63 articles submitted for option A and 6 articles submitted for option B.



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General information

Conference Location:

Virtual via Webex

Contact Info:



Phone LCV committee:
Gabriel Gomes:
+55 19 982886496

Useful Telephone Numbers:

Ambulance: 192

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These numbers may be dialed from public or mobile phones, even without a card.

Contact BTSym Support:

If you have any need for additional information, questions, concerns, and/or system issues, please feel free to contact the Editorial Office via email.

Email Address:

contact.btsym@gmail.com

Virtual Oral and Poster Presentations:

The authors are obliged to be present during the panels designated for the presentation, using the time given by

the person in charge of the panel discussion or posters session. Such presentations utilize technological solutions to allow you present live.

Official Event Room:

<https://conferenciaweb.rnp.br/sala/gabriel-gomes-de-oliveira-3>



Plenary Talks - PANEL 1

October 15th, 2025 (14:00 – 14:30)

Panel discussion 1: Technology and industrial processes.

Topic covered: Industrial technological processes, Technology applied to production processes, Innovation models, Digital factory, Quality 4.0, Logistics 4.0, Innovation 4.0, Clean technologies, Industrial automation, Engineering Process Simulations.

Moderator:

João Gabriel Ribeiro Damaian, PhD



14:00 - 14:10

008 - Effects of chemical corrosion on refractory linings used in metallurgy: An analysis from a post-mortem perspective.
Authors: Caroline Piffer Diniz Santos.

14:10 - 14:20

091 - Characterization of Functionalized Nanotubes in Epoxy for Concrete.
Authors: Wandercleiton Cardoso, Silvio Lacerda de Carvalho, Danyelle Santos Ribeiro, Thiago Augusto Pires Machado and Elielton Almeida Cometti.

14:20 - 14:30

092 - Engineering, Carbon Credits and Climate Change: Challenges and Opportunities.
Authors: Wandercleiton Cardoso, Bruno Locateli, Danyelle Santos Ribeiro, Thiago Augusto Pires Machado, Elielton Almeida Cometti and Luigi Conti.

Plenary Talks - PANEL 2

October 15th, 2025 (19:00 – 19:50)

Panel discussion 2: Microelectronics, Sensors, Robotics, Artificial Intelligence, and Real-Time Systems.

Topic covered: Microelectronics, MEMS, Reconfigurable Devices and Systems, Sensors, Robotics, Satellites, Aerospace and Defence, Artificial Intelligence, Radar System and Algorithms, Resilient and Robust Systems, Real-Time Systems.

Moderator:

Osamu Saotome, PhD



19:00 - 19:10

002 - Paper: Harmonic source localization in power systems: an approach based on joint entropy and decision rules.

Authors: Thales W. Cabral, Leandro R. M. Silva, Marcelo A. A. Lima, Igor D. de Melo, Henrique L. M. Monteiro, Felipe M. Dias and Carlos A. Duque.

19:10 - 19:20

010 - Paper: Robust Battery Rotation Estimation for Industrial Robotics Using OpenCV and Template Matching.

Authors: Thiago S. Alves, Jefferson B. Costa, André L. Printes, Yara B. Dutra, Tiago E. Melo and Israel G. Torné.

19:20 - 19:30

014 - Paper: Design and Evaluation of a TMR-Protected PicoRV32 Soft Processor.

Authors: Ricardo Zanone and Osamu Saotome.

19:40 – 19:50

031 - Paper: Machine Learning and Deep Learning and Fraud Prediction: An Review and a Path Forward.

Authors: Arhtur A G Garcia and Selma Oliveira.

Plenary Talks - PANEL 3

October 16th, 2025 (10:00 – 10:30)

Panel discussion 3: Technology applied to buildings.

Topic covered: Construction 4.0, Automation and Robotics in buildings, Environmental comfort, Energy efficiency in buildings, Constructions, Technologies in Design, BIM, Construction Information Model, Provisional and adapted constructions, Sensors applied to civil construction, Sustainable buildings, Smart buildings.

Moderator:

João Carlos Gabriel, MSc



10:00 - 10:10

017 - Paper: MODELING A DATA NETWORK CONSIDERING PRIORITIES AND TRANSMISSION PROBABILITIES USING MATLAB AND PYTHON SOFTWARE.

Authors: Gabriel Cerqueira Pires, Leonardo Grando, José Roberto Emiliano Leite and Edson Luiz Ursini.

10:10 - 10:20

018 - Paper: Pattern Recognition Algorithm using LabView Platform for Color Predominance Detection.

Authors: Siomar Gonçalves de Alencar, Rubens de Andrade Fernandes, Israel Gondres Torne, Jozias Parente de Oliveira and Raimundo Claudio de Souza Gomes.

10:20 - 10:30

020 - Paper: REINFORCED CONCRETE URBAN PAVEMENTS: CONSTRUCTION METHODS, ANALYSIS OF FUNCTIONAL AND STRENGTH PARAMETERS.

Authors: Castro, G.T.; Forti, N. C. S.; Jacintho, A. E. P. G. A. and Pimentel, L. L.

Plenary Talks - PANEL 4

October 16th, 2025 (14:00 – 14:40)

Panel discussion 4: Product Development and Innovation.

Topic covered: Engineering design, Design methods, Design thinking, Sustainable product development, Circular economy, Cradle to Cradle (C2C), Innovation strategies applied to product development, Business model innovation, Digital innovation and transformation, Open innovation.

Moderator:

Marcos Almeida do Amaral, MSc.



14:00 - 14:10

004 - Paper A Proposal for the Mechanical Design of a Hand Prosthesis Using ABS Material.

Authors: Victor Raul Huaman Condori and Fernando de Azevedo Silva.

14:10 - 14:20

012 - Paper: Development of a microgrid control device based on the IEC-61850 reference architecture.

Authors: João Victor Reis de Oliveira de Sicco, Miguel Angel Orellana Postigo, Enrik Ramos Lima, Israel Gondres Torné and José Reinaldo Silva.

14:20 - 14:30

022 - Paper: IMPLEMENTATION OF THE KALMAN FILTER FOR DATA FUSION APPLIED TO A GYROSCOPIC SENSOR AND ACCELEROMETER.

Authors: Guilherme Braga do Vale, Giovane Maia do Vale, João Gabriel Ribeiro Damaian, and Vlademir de Jesus Silva Oliveira.

14:30 – 14:40

093 - Paper: Neural Network Model Applied to Brazil's Electricity Generation, 2015 to 2024.

Authors: Alexandre Fabiano Zilli, João Gabriel Ribeiro Damian, Giovane Maia do Vale, Vlademir de Jesus Silva Oliveira, Sônia Maria de Stefano Piedade, Joaquim Manoel da Silva, Adilson Pacheco de Souza and Guilherme Braga do Vale

Plenary Talks - PANEL 5

October 16th, 2025 (19:00 – 19:30)

Panel discussion 5: Telecommunications, product development and innovation in mobile systems.

Topic covered: New products and services, Mobile systems for 4G and 5G cell phones, Visual computing, Image and video processing, Machine learning, Human-computer interaction using image processing, Image processing for real-time control, Medical image processing, new generation of digital TV, Digital TV interactivity, Broadband and transmission systems.

Moderator:

Edgard Luciano Oliveira da Silva, PhD



19:00 - 19:10

007 - Paper: The Institutional Economics Theory Development in Organizational Reforms.

Authors: Nikolai I. Plotnikov, Gabriel Gomes de Oliveira, Gabriel Caumo Vaz and Angela Maria Alves.

19:10 - 19:20

015 - Paper: MODELAGEM E SIMULAÇÃO DO CÓDIGO LPC PARA FALA.

Authors: Gabriel Enrico Alves do Nascimento, Youssef Hassn Gharib, Luiz Gustavo Esperidião de São José, José Roberto Emiliano Leite and Edson Luiz Ursini.

19:20 - 19:30

016 - Paper: CFD Modeling Vertical Upward Annular Flow with Wall Film Model.

Authors: Muryllo Vinci and Marcus Vinícius Canhoto Alves.

Plenary Talks - PANEL 6

October 17th, 2025 (10:00 – 10:40)

Panel discussion 6: Technologies applied to urban infrastructure.

Topic covered: Smart Cities, Urban environmental comfort, Technologies applied to urban planning, Technology and management of urban infrastructure, Innovation and technology in the urban environment, Intelligent technology and transport, Urban monitoring.

Moderator:

Angela Maria Alves, PhD.



10:00 - 10:10

005 - Paper: Sentiment in the Polls: Using Language Models to Unveiling Voter Tendencies through Twitter Data in Brazil's 2022 Presidential Election.

Authors: Arthur Emanuel de Oliveira Carosia, Filippo Savoi de Assis and Vinícius Pereda.

10:10 - 10:20

026 - Paper: Strategic Information Security Management Based on Risk: An Integrated Approach Using the Action Plan Methodology and the FIASM Framework.

Authors: Leonardo Bruscagini , Júlio C. S. Gregio, Gustavo Z. Toffoli, Raissa S. de Moura and Sérgio Ribeiro.

10:20 - 10:30

027 - Paper: Strategic Cybersecurity Management Based on Maturity: An Integrated Approach Using the MAT Methodology and the FIASM Framework

Authors: Leonardo Bruscagini , Júlio C. S. Gregio, Gustavo Z. Toffoli, Raissa S. de Moura and Sérgio Ribeiro.

10:30 - 10:40

028 - Paper: Strategic Information Security Management Based On Risk: An Integrated Approach Using The Risk Analysis Methodology and the FIASM

Authors: Raissa S. de Moura, Leonardo Bruscagini , Júlio C. S. Gregio, Gustavo Z. Toffoli, and Sérgio Ribeiro.

Plenary Talks - PANEL 7

October 17th, 2025 (14:00 – 14:40)

Panel discussion 7: Applied Biomedicines.

Topic covered: Medicine, Covid-19, Dentistry, Biology, Biomedicine, Nursing, Medicines, Vaccines.

Moderators:

Wandercleiton Cardoso, PhD



14:00 - 14:10

046 - Paper: IMPLEMENTATION OF THE KALMAN FILTER FOR DATA FUSION APPLIED TO A GYROSCOPIC SENSOR AND ACCELEROMETER.

Authors: Guilherme Braga do Vale, Giovane Maia do Vale, João Gabriel Ribeiro Damaian, Vlademir de Jesus Silva Oliveira and Marcelo Augusto Assunção Sanhes.

14:10 - 14:20

050 - Paper: Intelligent Control of Aquaponics Systems using LabVIEW.

Authors: Afonso Aguiar de Carvalho, Gabriel Augusto Tavares Dibo, Enrik Ramos Lima, Miguel Angel Orellana Postigo, Fábio de Sousa Cardoso, André Luiz Printes, Angilberto Muniz Ferreira Sobrinho and Raimundo Claudio Souza Gomes.

14:20 - 14:30

089 - Paper: Comparative Analysis of LSTM Multi-step and SARIMA Forecasting for Contracted Electricity Demand.



Authors: Aldo Cesar dos Reis, Lucas Silva Plachi, Carlos Eduardo Alves Carvalho, Flávio Junio Paulino and Talisson de Souza Barbosa.

14:30 – 14:40

090 - Paper: Data Transmission in Electronic Security Systems: From Analog to IP Evolution with Fiber Optics.

Authors: Wandercleiton Cardoso, Fernando Baptista dos Santos Neves, Danyelle Santos Ribeiro, Thiago Augusto Pires Machado and Elielton Almeida Cometti.

Official Closing – Event Virtual

October 17th, 2025 (19:00 – 20:00)	
19:00 - 20:00	<div>Official Closing</div> <div>Moderator: Kelem Pereira Jordão, PhD</div> <div></div>
	<div>Lecture –</div> <div>Speaker: Gabriel Bertocco, PhD.</div> <div></div>

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**Thank you very
much!**