

# BTΣym'25

## Conference Program

October 28th, 29th, and 30th - 2025

GRUPO DE INVESTIGACION MIA - UNAJ, Juliaca - Perú

### Organization





# 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 28th, 29th, and 30th at the Universidad Nacional de Juliaca – Juliaca, Perú**. Proceedings of the event will be published by **Springer** publisher through the book **Proceedings of the 11<sup>th</sup> Brazilian Technology Symposium - Emerging Trends and Challenges in Technology**, and will be submitted for indexing by **Scopus, WoS, and EI Compindex database**.

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



Dr. Yuzo Iano  
*General Chairman*

# Organizing Committee



Rangel Arthur  
FT/UNICAMP

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Alex Rodriguez Ruelas  
LCV/DECOM/FEEC/UNICAMP

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**Institutional Relationship Chair**



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MIA/UNAJ

**Institutional Relationship Chair**



## Editorial Board

- Dr. Yuzo Iano
- Dr. Osamu Saotome
- Dr. Rangel Arthur
- Dr. Guido Humberto Cayo Cabrera
- Dr. Marcelo Zambrano Vizuete
- Dr. Kanubhai K. Patel
- Dr. Gabriel Gomes de Oliveira

# General information

## Conference location:

Virtual via Zoom

## Contact Info:

Phone LCV committee:

- Alex Rodriguez: +55 19 999984833



## Useful Telephone Numbers:

Police: 105

Fire Brigade: 116

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](mailto: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 poster session. Such presentations utilize technological solutions to allow you present live.

# Official Opening – Virtual Event

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<b>October 28th, 2025 (10:00 - 11:00)</b>	
<b>10:00 - 11:00</b>	<b>Official Opening</b> <ul style="list-style-type: none"><li>- Representante del BTSym'25 - Brasil</li><li>- Vicerector de Investigación de la UNAJ - Peru</li><li>- Representante de MIA – Universidad Nacional de Juliaca - Perú</li></ul>
	<b>Opening Speaker</b> <b>Moderator:</b> Msc. Alex Midwar Rodriguez Ruelas

# Plenary Talks - PANEL 1 and 2

**October 28th, 2025 (13:00 – 14:36)**

**Panel discussion 1:** Technology and industrial processes.

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

**Moderators:**

13:00 - 13:12	<p><b>003 - Paper: Proposal for a Six Sigma Methodology to Enhance Productivity in the Coffee Roasting Process at Coffee Light EIRL, Peru</b>            Authors: William Roly Rosales Urco, and Jhoseline Stayce Guillén Sánchez</p>
13:12 - 13:24	<p><b>030 - Paper: Trajectory Tracking for Lane Closure Using Cone-Robots and Vision-Based Feedback</b>            Authors: Angelo Casas, Manuel Martínez, Daniela Zavala, and Elvis J. Alegria</p>
13:24 - 13:36	<p><b>040 - Paper: Design and Implementation of a Strawberry-Picking Robot Using Artificial Vision in Greenhouses</b>            Authors: Ramiro Andree Pacosoncco Caira, Marco Antonio Quispe Barra, James Rolando Arredondo Mamani, Jorge Luis Apaza Cruz, and Gabino Rey Vidangos Ponce</p>
13:36 - 13:48	<p><b>048 - Paper: Model for Estimating Ultraviolet Index Values using Artificial Intelligence Techniques</b>            Authors: Ciro William Taipe Huaman, Russel Allidren Lozada Vilca, Mendoza Mamani Eva Genoveva, Josmell Tito Calderon, and Nilvar Olguin Salazar Nina</p>
13:48 - 14:00	<p><b>063 - Paper: Development of an Autonomous Monitoring System for Measuring Particulate Matter Concentrations in the Air at the Campus of the Universidad Nacional San Antonio Abad del Cusco</b>            Authors: Julio Cesar Mamani Ccañihua, and Jorge Luis Arizaca Cusicuna</p>

# Plenary Talks - PANEL 1 and 2

## October 28th, 2025 (13:00 – 14:36)

**Panel discussion 1:** Technology and industrial processes.

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

**Moderators:**

14:00 - 14:12	<b>065 - Paper: Validation of an Embedded Prototype for the Automatic Evaluation of Squats Using IMU and Binary Classification by AI</b> Authors: John Carlos Quispe Chambi, J.Max H'ery Quispe Chambi, Santusa Acero Caceres, and Ayrton Ronaldo Rojas Calla
14:12 - 14:24	<b>073 - Paper: Intelligent Embedded System for the Prediction of Drinking Water Quality Using Machine Learning and Low-Cost Hardware</b> Authors: Gludher Quispe Cotacallapa, Russel Allidren Lozada Vilca, Omar Castillo Alarcon, Wilson Jose Pampa Vilca, and Ciro William Taipe Human
14:24 - 14:36	<b>083 - Paper: Dielectric Characterization of Plant Tissues using a Resonant Fractal Sensor in the VHF–UHF Range</b> Authors: Guido Humberto Cayo Cabrera, Derly Gabriel Chique Chino, and Everthon Eradio Tapia Cayo

# Plenary Talks - PANEL 3 and 4

**October 29th, 2025 (13:00 – 14:24)**

**Panel discussion 3:** Technology applied to buildings.

**Panel discussion 4:** Product Development and Innovation.

**Moderators:**

13:00 - 13:12	<p><b>009 - Paper: Construction Defects and their Relationship to Complaints in Puno-Peru Building Projects</b>            Authors: Yasmani Vitulas Quille, and Alex Hiquisi Cáceres</p>
13:12 - 13:24	<p><b>037 - Paper: Traditional Masonry Blocks Reinforcement with Cement and their Relationship with Ch'Ampa</b>            Authors: Yasmani Vitulas Quille</p>
13:24 - 13:36	<p><b>041 - Paper: Use of Artificial Intelligence and Manual Method for Cephalometric Analysis in Lateral Skull Radiographs</b>            Authors: Karen Paola Pineda Palomino, Lizbeth Acero Condori, and Gian Carlo Valdez Velazco</p>
13:36 - 13:48	<p><b>054 - Paper: Improving Monthly Electricity Consumption Forecasting using Machine Learning Algorithms</b>            Authors: Antonio Arroyo Paz, Leonid Aleman Gonzales, Marga Ingaluque Arapa, Aldo Zanabria Galvez, and Jorge Polanco Arguelles</p>
13:48 - 14:00	<p><b>079 - Paper: Design and Implementation of a Portable PWM Solar Charge Controller for an Intelligent Led Lighting System in Peruvian Pitahaya Crops</b>            Authors: Kelly Jimena Arauco Casas, Moises Nuñez Ochoa, and Dante Inga Narváez</p>
14:12 – 14:24	<p><b>095 - Paper: Dielectric Evaluation of Geranium Exposed to Electromagnetic Fields with Fractal Antennas from 30 MHz to 710 MHz in the City of Puno - Peru</b>            Authors: Guido Humberto Cayo Cabrera, Derly Gabriel Chique Chino, Everthon Eradio Tapia Cayo, Teobaldo Raul Basurco Chambilla, and Gavino José Flores Chipana</p>

# Plenary Talks -PANEL 5 and 6

**October 29th, 2025 (15:00 – 14:06)**

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

**Panel discussion 6:** Technologies applied to urban infrastructure.

**Moderators:**

15:00 – 15:12	<p><b>011 - Paper: Mobile Tracking APP Based on Ionic and Angular to Optimize the Management and Tracking of Orders for Distribution Companies in Metropolitan Lima</b>            Authors: Hugo Vega Huerta, Anderson Carlos Minetto Mori, Gustavo Arredondo Castillo, Juan Honorato Luna Valdez, and Ivan Adrianzén Olano</p>
15:12 – 15:24	<p><b>049 - Paper: Influence of Conflicts Between Right-Turning Vehicles and Pedestrians on Vehicle Delays, Evaluated using a Microsimulation Model</b>            Authors: Fred Yeferson Quispe Cancharl, Rodrigo Andree Trinidad Calixto, and Pedro Luis Miñano Chamorro</p>
15:24 – 15:36	<p><b>052 - Paper: Design of a Cycling Route Conditioned by Urban Infrastructure: Application of the A* Algorithm</b>            Authors: Carlo Bocanegra, Adrian Caballero, and Alex Sanchez</p>
15:36 – 15:48	<p><b>053 - Paper: Operational Assessment of Roundabouts and X-Intersections in Urban Areas with Moderate Traffic and High Heavy Vehicle Volumes</b>            Authors: Paula Caso, Milagros Campos, and Alex Sanchez</p>
15:48 – 16:00	<p><b>066 - Paper: Development Of A Comprehensive RFID Based Electronic Charging System For Public Transport In Juliaca</b>            Authors: Ayrton Ronaldo Rojas Calla, John Carlos Quispe Chambi, Wilson Jose Pampa Vilca, and Helarf Ferrer Calsina Condori</p>
16:00 – 14:12	<p><b>077 - Paper: Proposal for Reducing the Level of Service in High Traffic Urban Intersections through a Continuous Flow Intersection (CFI) Design</b>            Authors: Christian Arana, Miriam Mamani, and Fernando Castro</p>
16:12 – 16:24	<p><b>078 - Paper: Proposal for a Turbo Roundabout to Reduce Vehicle Queues at a Roundabout in a Congested Situation</b>            Authors: Maricielo Huamani, Nilton Montalvo, and Fernando Castro</p>

# Plenary Talks - PANEL 7

**October 30th, 2025 (13:00 – 14:36)**

**Panel discussion 7:** Applied Biomedicines.

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

**Moderators:**

13:00 – 13:12	<p><b>033 - Paper: Variation in the Inclination of the Cranial Base on Lateral Skull Radiographs of Puno Inhabitants</b>            Authors: Lizbeth Acero Condori, Karen Paola Pineda Palomino, and Gian Carlo Valdez Velazco</p>
13:12 – 13:24	<p><b>057 - Paper: Sealing Efficiency of the Single-Cone Technique versus Lateral Condensation in Mesial Canals of Mandibular First Molars</b>            Authors: Betsy Quispe Quispe, Nelly Beatriz Quispe Maquera, Hernán Freddy Ortega Cruz, Kandy Faviola Tuero Chirinos, and Milagros Molina Chicata</p>
13:24 – 13:36	<p><b>061 - Paper: Inhibitory Effect of Remineralizing Toothpastes on the Oral Cariogenic Microbiome. In Vitro Study</b>            Authors: Nelly Beatriz Quispe Maquera, José Emmanuel Huayna Yupa, and Betsy Quispe Quispe</p>
13:36 – 13:48	<p><b>068 - Paper: Salivary PH Variations Across Levels Of Oral Hygiene And Dental Caries In High-Andean Schoolchildren</b>            Authors: Talia Paola Calcina Asillo, Vilma Mamani Cori, Yessica Quilca Soto, Lilifort Maritza Alavarez Huayhua, and Emmanuel Luque Merma</p>
13:48 – 14:00	<p><b>070 - Paper: Urinary Tract Infection and Antibiotic Resistance in Children at a High-Complexity Hospital in Southern Peru: A Preliminary Study</b>            Authors: Fernando Arias Caceres, Laura Fernanda Gallegos Cervantes, and Camila Alyson Manrique Aguilar</p>

# Plenary Talks - PANEL 7

**October 30th, 2025 (13:00 – 14:36)**

**Panel discussion 7:** Applied Biomedicines.

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

**Moderators:**

14:00 – 14:12	<b>074 - Paper: Antimicrobial Susceptibility of Bacterial Isolates from Gold Mine Tailings in the Golden Lunar Community, the Rinconada, Puno, Peru</b> Authors: Vicky Cristina Gonzales Alcos, Gabriela Alexandra Quispe Florez, Catrina Liz Carrión Huancollo, Flor Zulema Guillen Venturo, and Juan Pablo Huarachi Valencia
14:12 – 14:24	<b>081 - Paper: Transition Technologies in the Preanalytical Phase: Qualitative Study of Obtaining Huacaya Alpaca (Vicugna Pacos) Milk for Therapeutic Purposes in a High Andean Region</b> Authors: Sheyla Lenna Cervantes Alagón, Vicky Cristina Gonzales Alcos, Doris Charaja Jallo, Rosa Pilco Vargas, and Roxana del Carmen Medina Rojas
14:24 – 14:36	<b>086 - Paper: Remineralizing Effect of “Chaco” Clay on Early Enamel Lesions: An In Vitro Study</b> Authors: Ana Paola Quispe Venegas, Sheyla Lenna Cervantes Alagón, and Yudy Yaneth Tapia Centellas

# Official Closing – Event Virtual

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**October 30th, 2025 (15:00 – 16:00)**

<b>15:00 - 16:00</b>	<p><b>Official Closing</b></p> <ul style="list-style-type: none"><li>- Representante del BTSym'25 - Brasil</li><li>- Vicerector de Investigación de la UNAJ - Peru</li></ul> <p><b>Moderator:</b> Msc Alex Midwar Rodriguez Ruelas</p>
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**BT Sym '25**

**Thank you very  
much!**