



**GMEPE**  
Global Medical Engineering Physics Exchanges



**PAHCE**

18th Global Medical Engineering Physics Exchange  
(GMEPE) &

Pan American Health Care Engineering (PAHCE)

2024

Mexico City, Mexico


# Programme

[http:// www.pahce.global](http://www.pahce.global)






Monday April 15th, 2024

GMEPE/PAHCE

Hour	Lobby	Room 13	Meetings room
09:00 - 10:00	Registration open		
10:00 - 11:00		<b>Workshop W1-S1-s</b> Dr. Citlalli J. Trujillo Romero & Dr. Raquel Martínez Valdez Introduction to finite element method modeling 	
11:00 - 12:00			
12:00 - 12:30	Coffee Break		
12:30 - 13:30		<b>Workshop W1-S2-s</b> Dr. Citlalli J. Trujillo Romero & Dr. Raquel Martínez Valdez Experimental evaluation of a heat/cold pack on multilayer ex vivo pig tissue 	<b>Workshop W2-s</b> Dr. Mario Ibrahín Gutiérrez Velasco Generalities of modeling with the Finite Element Method 
13:30 - 14:30	Independent lunch break		Independent lunch break
14:30 - 15:30			<b>Workshop W2-s (cont.)</b> Dr. Mario Ibrahín Gutiérrez Velasco Generalities of modeling with the Finite Element Method 
15:30 - 16:30			
16:30 - 17:30	Networking meetings		

Tuesday April 16th, 2024







GMEPE/PAHCE

Hour	Lobby	Room 13	Meetings room
09:00 - 10:00	Registration opens		
10:00 - 11:30		<p><b>Workshop W1-S3-s</b> Dr. Citlalli J. Trujillo Romero &amp; Dr. Raquel Martínez Valdez Modeling the heat/cold pack behavior from experimental data on a multilayer ex vivo pig tissue</p> 	<p><b>Workshop W3-s</b> Dr. Rocío Ortega Palacios Introduction to image processing with Python</p> 
11:30 - 12:00	Coffee Break		
12:00 - 12:30		<p><b>Workshop W1-S3-s</b> Dr. Citlalli J. Trujillo Romero &amp; Dr. Raquel Martínez Valdez Modeled and experimental data discussion</p> 	
12:30 - 14:00			
14:00 -15:00	Independent lunch break/Networking meetings		
15:00 - 16:00			
16:00 - 17:30			

Wednesday April 17th, 2024







GMEPE/PAHCE

Hour	Lobby	Room 13	Meetings room	Auditorium
09:00 - 10:00	Registration opens			
10:00 - 11:00	Networking meetings			
11:00 - 12:00				
12:00 - 13:00				
13:00 - 12:00				
14:00 - 13:00				
15:00 - 16:00				
16:00 - 17:30				

Thursday April 18th, 2024			
GMEPE/PAHCE			
Hour	Lobby	Auditorium	Room 13
09:00 - 10:00	Registration opens		
10:00 - 10:40	Expo Tecnológica Médica	<b>Keynote presentation</b> Dr. José Bernardo Rosas Fernández Science, Technology and Innovation in CDMX Chair: Dr. Josefina Gutiérrez 	
10:40 - 11:00		<b>Conference inauguration</b> 	
11:00 - 11:45		<b>Round table</b> Challenge of Research, Development and Innovation (R+D+I) of Health Technology Chair: Dr. Josefina Gutiérrez 	
11:45 - 12:15	Coffee Break		
12:15 - 13:30	Expo Tecnológica Médica		<b>Session S1-e</b> 
13:30 - 15:00	Independent lunch break		
15:00 - 15:40		<b>Special Session</b> Dr. L. Leija & Dr. R. Leder Honor to Dr. Christopher Druzgalski, Late President and Founder of the GMEPE/PAHCE Remembrance PAHCE'friends 	
15:40 - 16:55			<b>Session S2-e</b> 
19:00 - 22:00	Social Networking		

Friday April 19th, 2024

GMEPE/PAHCE

Hour	Lobby	Auditorium	Room 13
08:30 - 09:00	Registration opens		
09:00 - 09:45	Expo Tecnológica Médica	<b>Keynote presentation (virtual mode)</b> <b>Dr. Mila Aleckovic-Bataille</b> Biomedical engineering and neuropsychology Chair: <b>Dr. Arturo Vera</b> 	
09:45 - 10:15		<b>Keynote presentation</b> <b>Dr. Alejandro Valentino</b> Lower limb biomimetics Chair: <b>Lorenzo Leija</b> 	
10:15 - 10:45	Coffee Break		
10:45 - 12:00	Expo Tecnológica Médica		<b>Session S3-e</b> 
12:00 - 13:15			<b>Session S4-e</b> 
13:15 -15:00	Independent lunch break		
15:00 -16:00	Poster session		
16:00 - 16:40		<b>Keynote presentation</b> <b>Dr. Wagner Coelho de Albuquerque Pereira</b> Personal experiences with research in Biomedical Engineering Chair: <b>Raquel Martínez</b> 	
16:40 - 17:00		<b>Conference closing ceremony and 2025 GMEPE/PAHCE announcement</b> Chair: <b>Lorenzo Leija</b> 	
17:00 - 18:00	Social Networking		

## Pre-Congress Workshops

Monday April 15<sup>TH</sup>

### W1: "Introduction to finite element method modeling"



Dr. Citlalli Trujillo-Romero  
&  
Dr. Raquel Martínez-Valdez

S1: 10:00 AM – 12:00 PM

Room 13

#### Professor Profile:

Dr. Trujillo-Romero is a Bionics Engineer from the Interdisciplinary Professional Unit in Engineering and Advanced Technologies from the IPN (2006) and PhD in Sciences in Electrical Engineering with specialty in Bioelectronics from CINVESTAV-IPN (2012). She completed a postdoctoral degree in Department of Radiation Oncology (Hyperthermia Unit) at the Erasmus MC Cancer Institute, Rotterdam, Netherlands (2012-2014). Dr. Trujillo-Romero is a Research Advisor for the company Machina Innovation Lab (2016-present). She is the author of national patents related to the development of radiation equipment for use in cancer treatments and pain management.

#### Professor Profile:

Dr. Raquel Martínez-Valdez has academic training as an Electronics and Communications Engineer by the Tecnológico de Monterrey, State of Mexico campus. She obtained the degrees of Master of Science and Doctor of Science in Bioelectronics from the Department of Electrical Engineering of the Center for Research and Advanced Studies of the National Polytechnic Institute (Cinvestav-IPN), in the years 2010 and 2015, respectively. During her doctoral training she completed research stays at the Universidade Federal do Rio de Janeiro (UFRJ), Brazil, at the Center de Recherche en Automatique de Nancy (CRAN), France and the Institute of Physical and Information Technologies, Spain.

**W1: “Experimental evaluation of a heat/cold pack on multilayer ex vivo pig tissue”**

**Dr. Citlalli Trujillo-Romero  
&  
Dr. Raquel Martínez-Valdez**

S2: 12:30 – 14:30

**Room 13**

**W2: “Generalities of modeling with the finite element method”**



**Dr. Mario Ibrahín  
Gutiérrez-Velasco**

S1: 12:30 – 13:30

S2: 14:30 – 16:30

**Meetings Room**

**Content:**

To know the foundations and basic concepts of the finite element method (FEM) to apply them in the modeling of multiphysics problems and in the interpretation of the results.

**Professor Profile:**

Dr. Mario Ibrahín Gutiérrez Velasco. He is a graduate of Cinvestav, he was in a post doctorate position at the University of California, USA, and is currently a CONAHCYT Researcher at the National Rehabilitation Institute. He works in the area of applied ultrasound therapy in ophthalmology, in the development of detection devices for diabetic foot complications and in research on ultrasound brain therapy, and he has many years of experience in computational modeling of multiphysics systems using the finite element method.



**Tuesday April 16<sup>TH</sup>**

<b>W1: "Modeling the heat/cold pack behavior from experimental data on a multilayer <i>ex vivo</i> pig tissue"</b>	
	<p><b>Dr. Citlalli Trujillo-Romero &amp; Dr. Raquel Martínez-Valdez</b></p> <p>S3: 10:00 – 11:30</p> <p><b>Room 13</b></p>

<b>W1: "Modeled and experimental data discussion"</b>	
	<p><b>Dr. Citlalli Trujillo-Romero &amp; Dr. Raquel Martínez-Valdez</b></p> <p>S4: 12:00 – 12:30</p> <p><b>Room 13</b></p>

### W3: "Introduction to image processing with Python"



**Dr. Rocío Ortega-Palacios**

Tuesday April 16<sup>th</sup>  
10:00– 14:00

**Meeting Room**

#### **Content:**

In this workshop the students will learn to read and write images with the OpenCV library, working with color fields, performing geometric transformations, morphological operations, binarization, contours and template comparison

#### **Professor Profile:**

Dr. Rocío Ortega Palacios completed her postgraduate studies, master's, and doctorate in the Department of Electrical Engineering in the Bioelectronics Section at CINVESTAV. She currently works at the Polytechnic University of Pachuca in the Department of Biomedical Engineering. She is member of the National System of Researchers of CONAHCYT (SNI 1), among its lines of research is the study of thermal techniques for cancer, the development of electronic devices for medical applications, signal processing and biomedical images for classification, development of immersive environments for rehabilitation.

**“Special Session”**



**Dr. Lorenzo Leija-Salas**

Thursday April 18<sup>th</sup>

15:00 – 15:40

**Honor to Dr. Christopher  
Druzgalski, Late President and  
Founder of the GMEPE/PAHCE  
Conference**

**Auditorium Department of Electrical  
Engineering**

**Keynote Speeches**

**“Competitiveness and technological innovation as determining factors in  
the health sector”**



**Dr. José Bernardo Rosas Fernández**

**Secretaría de Educación, Ciencia, Tecnología e  
Innovación de  
la Ciudad de México**

Thursday April 18<sup>th</sup>  
10:00 – 10:40

**Auditorium Department of Electrical  
Engineering**

**Session Chair: Dr. Josefina Gutiérrez**

**“Biomedical engineering and neuropsychology”**



**Dr. Mila Aleckovic-Bataille**

**Sorbonne University  
France**

**Friday April 19<sup>th</sup>  
9:00 – 9:45**

**Auditorium Department of Electrical  
Engineering  
(Virtual Mode)**

**Session Chair: Dr. Arturo Vera Hernández**

**“Personal experiences with research in biomedical engineering”**



**Dr. Wagner Coelho de Albuquerque  
Pereira**

**Rio de Janeiro University  
Brazil**

**Friday April 19<sup>th</sup>  
16:00 – 16:40**

**Auditorium Department of Electrical  
Engineering**

**Session Chair: Dr. Raquel Martínez**

**“Lower limb biomimetics”**



**Dr. Gerardo Alejandro Valentino  
Orozco**

**UPIITA – IPN  
México**

**Friday April 19<sup>th</sup>  
9:45 – 10:15**

**Auditorium Department of Electrical  
Engineering**

**Session Chair: Dr. Lorenzo Leija**

**Reference time: Mexico City 9 AM (UTC-6), Brazil 12 PM**

**(Programme time = Mexico City time) – see above reference**

**15/04/24 Monday**

**09:00 Registration opens.** Location: Lobby, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

**Workshop W1-S1-s.** Location: Room 13, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

\*Workshop W1 is divided into theoretical (S1), experimental (S2) and modeling stages (S3).

\*Limited to 15 participants

**10:00-12:00 Introduction to finite element method modeling**

Presenters: Dr. Citlalli J. Trujillo Romero & Dr. Raquel Martínez Valdez

**12:00-12:30 Coffee break.** Location: Lobby, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

**Workshop W1-S2-s,** Location: Room 13, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

\*Workshop W1 is divided into theoretical (S1), experimental (S2) and modeling stages (S3).

\*Limited to 15 participants

**12:30-14:30 Experimental evaluation of a heat/cold pack on multilayer ex vivo pig tissue**

Presenters: Dr. Citlalli J. Trujillo Romero & Dr. Raquel Martínez Valdez

**Workshop W2-s,** Location: Meetings Room, 1<sup>st</sup> floor, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

\*Limited to 15 participants. Duration: 3 h

**12:30-13:30 Generalities of Modeling with the Finite Element Method**

Presenter: Dr. Mario Ibrahin Gutiérrez Velasco

**13:30-14:30 Independent lunch break**

**Workshop W2-s (cont.),** Location: Meetings Room, 1<sup>st</sup> floor, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

**14:30-16:30 Generalities of Modeling with the Finite Element Method**

Presenter: Dr. Mario Ibrahin Gutiérrez Velasco

**16:30-17:30** Independent organizational and networking meetings.  
These sessions are open to all registered GMEPE/PAHCE participants

Independent networking/social

## **16/04/24 Tuesday**

**09:00 Registration opens.** Location: Lobby, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

**Workshop W1-S3-s.** Location: Room 13, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

\*Workshop W1 is divided into theoretical (S1), experimental (S2) and modeling stages (S3).

\*Limited to 15 participants

**10:00-11:30 Modeling the heat/cold pack behavior from experimental data on a multilayer ex vivo pig tissue**

Presenters: Dr. Citlalli J. Trujillo Romero & Dr. Raquel Martínez Valdez

**11:30-12:00 Coffee break.** Location: Lobby, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

**Workshop W1-S3-s (cont.)**

**12:00-12:30 Modeled and experimental data discussion**

Presenters: Dr. Citlalli J. Trujillo Romero & Dr. Raquel Martínez Valdez

**Workshops W3-s.** Location: Meetings Room, 1<sup>st</sup> floor, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

\*Limited to 15 participants

**10:00-14:00 Introduction to image processing with Python.**

Presenter: Dr. Rocío Ortega Palacios

**14:00-17:30** Independent organizational and networking meetings.

These sessions are open to all registered GMEPE/PAHCE participants

Independent networking/social

## **17/04/24 Wednesday**

(See Online Registration at <http://pahce.global> )

Independent organizational and social/networking meetings.

**09:00 Registration open.** Location: Lobby, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

\* Open to all GMEPE/PAHCE registered participants

Professional workshops included in a standard registration unless otherwise stated - register. **Note:** Parallel events, multiple locations. (See Online Registration at <http://pahce.global> )

## **18/04/24 Thursday**

(See Online Registration at [http:// pahce.global](http://pahce.global))

**9:00 Registration open.** Location: Lobby, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

**Exhibitors.** Location: Lobby, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

### **9:00 – 14:00 Expo Tecnológica Médica**

**Keynote presentation.** Location: Auditorium, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

#### **10:00-10:40 Science, Technology and Innovation in CDMX**

Presenter: Dr. José Bernardo Rosas Fernández

General Director of Technological Development and Innovation, SECTEI-CDMX

Chair: Dr. Josefina Gutiérrez Martínez

**10:40-11:00 Conference inauguration.** Location: Auditorium, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

**Round Table.** Location: Auditorium, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

#### **11:00-11:45. Challenge of Research, Development and Innovation (R+D+I) of Health Technology.**

Participants: Professionals from different institutions.

Chair: Dr. Lorenzo Leija Salas

**11:45-12:15. Coffee Break.** Location: Lobby, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

**Session S1-e** Location: Room 13, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

#### **12:15-13:30 Signal and image processing**

IDs: 8, 10, 13, 14, 9

Session co-chairs: Miguel Ángel Rodríguez and Wilfrido Gómez

12:15-12:30 (8) Genetic Programming for Feature Construction in Breast Ultrasound Tumor Classification

Perales-García, M.A, and Gómez, W.

12:30:12:45 (10) Three-Dimensional Breast Tumor Visualization on MRI Based on a-Shapes  
Serrano Díaz, D.G., Gómez Flores, W., Vera Hernández, A. and Leija Salas, L.

12:45-13:00 (13) Time and Phase Shift Detection Methods to Estimate a Characteristic Speed of Sound/Temperature Rate of a Bilayer Phantom

Acero Mendoza, R.V., Rodríguez Hernández, M.A., Bazán Trujillo, I. and Ramírez García, A.

13:00-13:15 (14) CNN-Based Pixel Classification for Temperature Analysis in Ultrasonic Agar Phantom Imaging

Cortes Rojas, F., Vera Hernández, A., Leija Salas, L., Ortega Palacios, R. and Gómez Flores, W.

13:15-13:30 (9) Features Characterization of Facial sEMG Signals for Facial Paralysis

Toledo-Peral, C.L., Castillo-Alvarez, L.E., Alvarez-Torres, R., Vega-Martinez, G., Lomeli-Rivas, A., Vera-Hernandez, A., Leija Salas, L. and Gutierrez-Martinez, J.

**13:30-15:00 Independent lunch break**

**Special session.** Location: Auditorium, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

**15:00-15:40 Honor to Dr. Christopher Druzgalski, Former President and Founder of the GMEPE/PAHCE Conference.**

Coordinated by: L. Leija & R. Leder

Historical collaborations of the GMEPE/PAHCE Conference and Dr. Druzgalski family

**Session S2-e** Location: Room 13, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

**15:40-16:55 Biomedical applications**

IDs: 3, 5, 21, 4, 7

Session co-chair: Blanca Tovar

15:40-15:55 (3) Routine EEG Process for Beginners using Geometry Compass Method in a hospital

Rosa, B.M.V.F and Nohama, P.

15:55-16:10 (5) Evaluation of NOMA Systems for Healthcare Applications Evaluación de Sistemas NOMA para Aplicaciones Sanitarias

Rodriguez-Hernandez, M.A., Rodriguez-Sanchez, M. and Aldas, G.A.

16:10-16:25 (21) Impact of the Cell-Spread and Ablation Imaging Technique on Irreversible Electroporation of MCF-7-seeded Hydrogels

Vera Tizatl, C.E., Vega Lopez, M.A., Vera Hernández, A., Leija Salas, L. and Vera Tizatl, A.L.

16:25-16:40 (4) Elements of the Routine EEG Process for Beginners in a hospital

Rosa, B.M.V.F and Nohama, P.

16:40-16:55 (7) Monitoreo del Temblor de Extremidades Causado por la Enfermedad de Parkinson.

Velázquez Chávez, S.I., Hernández Jacquez, J.I., Cepeda Rubio, M.F.J., Juárez Rodríguez, C.J., Piña Santos, D.B., Pinto García, E. and Flores García F.G.

**19:00-22:00** Social networking - Welcome cocktail\* at Zona Rosa, Mexico City

\* Open to all GMEPE/PAHCE registered participants

Independent social/networking



**19/04/25 Friday**

(See Online Registration at <http://pahce.global> )

**8:30 Registration opens.** Location: Lobby, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

**Exhibitors.** Location: Lobby, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

**9:00 – 14:00 Expo Tecnológica Médica**

**Keynote Presentation (virtual mode)** Location: Auditorium, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

**9:00-9:45 Biomedical engineering and neuropsychology**

Presenter: Prof. Dr. Mila Aleckovic-Bataille

Sorbonne University, Paris, France

Chair:Dr. Arturo Vera Hernández

**Keynote Presentation.** Location: Auditorium, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

**9:45-10:15 Lower limb biomimetics**

Presenter: Dr. Alejandro Valentino

UPIITA-IPN

Chair: Dr. Lorenzo Leija Salas

**10:15-10:45. Coffee Break.** Location Lobby, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

**Session S3-e** Location: Room 13, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

**10:45-12:00 Sensors and ultrasonic systems applications**

IDs: 16, 17, 18, 23, 22

Session co-chair: Ivonne Bazan and Wagner Coelho de Albuquerque Pereira

10:45-11:00 (16) Ultrasonography Validation of Condylar and Pre Condylar Distances and its Correlation with the Arthralgia Intensity Attributed to Local Arthritis

Sacre Fernandes, C.E., Senechal de Goffredo Filho, G., Sad, L. de Souza Tesch, R. and Coelho de Albuquerque Pereira, W.

11:00-11:15 (17) Statistical Validation of the Use of Advanced Piezoelectric Sensors for the Measurement of Blood Flow in Coronary Transplants

Carrillo Barroso, E., Montero, M., Leija Salas, L., Vera Hernández, A., Vólquez Perez, J.A., Chong Quero, J.E., Díaz García, R. and Santos Peñas, M.

11:15-11:30 (18) Aspects to Take into Account in the Design of Ultrasonic Angiological Doppler Equipment

Jiménez Cañas A., Carrillo Barroso, E., Moreno Hernández, E., Leija Salas, L., Vera Hernández, A., Vólquez Perez J. and Santos Peñas, M.

11:30-11:45 (23) Analyzing the Probability of Acoustic Cavitation Induced by Focused Ultrasound with Short-Pulsed Emission

Rodríguez, J. Gutierrez, M.I., Gutiérrez, J., Vera, A. Leija, L. and Santos Peñas, M.

11:45-12:00 (22) *Optical Cavitation Detection through Continuous Laser in a Controlled Medium Emulating Biological Tissue*

Rodríguez Peña, A., Vera Hernández, A., Leija Salas, L. and Gutiérrez Velasco, M.I.

**Session S4-e** Location: Room 13, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

**12:00-13:15 Instrument characterization and in vitro/phantom experimentation**

IDs: 27, 25, 6, 15, 11

Session co-chair: Marco A. Reyna

12:00-12:15 (27) *Test Chamber for Particulate Matter Sensors Measurements in Controlled Environment Through a Python GUI*

Cuevas González, D., Reyna, M.A., Sánchez, M.A., García Vázquez, J.P., Altamira Colado, E. and Avitia, R.L.

12:15-12:30 (25) *In vitro degradation of Polydioxanone (PDO) Lifting Threads in Microfocused Ultrasound*

Henrique Silva, M., Raybolt, A. and Pereira, W.

12:30-12:45 (6) *Development and Measurement of Breast Tissue Mimicking Phantom with Medium and Low Adipose Content for Microwave Ablation Therapy Evaluation*

Pinto García, E., Cepeda Rubio, M.F.J., Guerrero López, G.D., Segura Félix, K., Vera Hernández, A. Leija Salas, L., Hernández Jáquez, J.I., Flores García, F. and Velázquez Chávez, S.I.

12:45-13:00 (15) *Determination of the Volume that a Syringe Pump can provide for Fluids Injection into Nanochannels*

Flores Reyes, M., Zepeda Peralta, J.H., Vera Hernández, A. and Leija Salas, L.

13:00-13:15 (11) *Proposal of a Movement Analysis Methodology for Validation of a Functional Electrical Stimulation Device in an Animal Model*

Mercado-Gutierrez, J.A., Vega Martinez, G., Toledo.Peral, C.L, Gutierrez, M.I, Quinzaños-Fresnedo, J., Lecona-Butron, H., Vera-Hernandez, A., Leija-Salas, L. and Gutierrez-Martinez, J.

**13:15-15:00 Independent lunch break**

**15:00-16:00 Poster Session.** Location: Lobby, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

- 12 *Analysis of the Design and Implementation of a Biopotential Acquisition System: An Adaptable and Economical Alternative*

Lopez, M., Flores, F., Gomez, E. and Hernandez, J.

- 28 *Model for Suspension of Unmanned Aerial Vehicle for Air Pollution Monitoring*

Reyna, M.A., Cuevas, D., Altamira-Colado, E., Garcia-Vazquez, J.P, Sanchez, M.A, and Avitia, R.L.

**Keynote presentation.** Location: Auditorium, Building: Jefatura de Ingeniería Eléctrica, Cinvestav-Zacatenco

**16:00-16:40. Personal experiences with research in Biomedical Engineering**

Presenter: Dr. Wagner Coelho de Albuquerque Pereira

COPPE, Federal University of Rio de Janeiro, Brazil

**16:40-17:00** *Conference closing ceremony and 2025 GMEPE/PAHCE announcement*

**17:00-18:00** *Closing cocktail - Independent social/networking*

*These sessions are open to all registered GMEPE/PAHCE participants.*

*Independent networking/social*