Editorial

Dear readers,

Currently, scientific research in science and technology is at a crucial moment of global expansion and collaboration, as reflected in the articles presented in this issue. Coming from diverse academic and geographical backgrounds, these contributions stand out not only for their rigor and relevance, but also for the variety of topics they address, providing a broad and enriching panorama for our scientific community.

From the Universidad Estatal Península de Santa Elena in Ecuador, the work of Torres Guin, Sánchez Aquino, Bustos Gaibor, and Coronel Suárez on IoT architecture for monitoring vehicle emissions using Machine Learning is notable for its innovation in mitigating pollutants, a critical issue for global sustainable development.

On the other hand, from Mexico, the Universidad Popular Autónoma del Estado de Puebla and the Benemérita Universidad Autónoma de Puebla contribute with advanced structural evaluation of mototaxis using simulation tools, led by Cuautle-Gutiérrez, Cordero Guridi, Olivares Rojas, and Pena Preza. This study not only enhances vehicle safety but also demonstrates the potential of simulation tools in automotive applications.

In the energy field, the impact of electric vehicles on electrical distribution systems is explored by Zavala-Tubay, Pico-Mera, and Pico-Mera from Ecuador, offering crucial insights for the transition towards cleaner and more efficient energy.

From the University of Guanajuato, Mexico, Camaraza-Medina investigates radiant heat transfer in H_2O and CO_2 mixtures, contributing to the fundamental understanding of key physical processes with implications across various industries, from environmental to industrial sectors.

In the realm of composite materials, Jiménez-Pereira and Picoita-Camacho, from the Instituto Superior Tecnológico Loja in Ecuador, optimize the VARTM process for prototyping bumpers, highlighting its practical application and relevance in the automotive industry.

The inclusion of artificial intelligence in medical diagnosis is a crucial topic, as demonstrated by the work of Dávila Olivos, Herrera Del Águila, and Santos López from the National University of San Marcos in Peru, who develop deep learning algorithms for oral cancer diagnosis, improving the accuracy and speed of medical diagnostics.

The experimental analysis of kinematics in elastic collisions, investigated by Arcos Villagómez, Pillalaza, Rivera Gálvez, Michelena Rosero, and Camacho Cañar from the Pontificia Universidad Católica del Ecuador, stands out for its interdisciplinary approach that bridges experimental physics with systems engineering.

From the University of Guanajuato, Trujillo-Romero explores robot localization based on neural networks and visual features, advancing the automation and precision of robotic systems.

From Pakistan, Haider from the Air University Islamabad investigates the structural integrity of combat aircraft wing stations, applying finite element analysis to enhance the safety and performance of critical aircraft components.

Finally, from the Autonomous University of the State of Mexico, Ramírez Vergara, López-Chau, and Rojas Hernández present the design and evaluation of an innovative storytelling system based on Generative Artificial Intelligence (GAI). This system is aimed at children aged 4 to 6 and aims to promote the inclusion of people with disabilities.

Each article reflects not only a commitment to academic excellence but also the diversity of approaches and international collaborations that characterize contemporary research. In our role as editors, it is crucial to promote and celebrate this diversity, ensuring that the voices and perspectives of researchers worldwide are heard and valued. We hope that this special issue inspires new collaborations and scientific advances that benefit global society.

John Calle-Sigüencia, PhD

Editor in Chief