

Preface to the International Congress on Education and Technology in Sciences (CISETC 2023) Special Issue

Education in science and technology represents a fundamental component in the progress of societies in the 21st century. The swift development of technology and its incorporation into countless facets of daily life have profoundly changed the paradigms in which knowledge gets acquired, taught, and applied. Within this context, the International Congress on Education and Technology in Sciences (CISETC, for its acronym in Spanish) has established itself as a highly relevant academic and scientific forum, serving as a platform of best practices in STEAM education (Science, Technology, Engineering, Arts, and Mathematics).

The CISECT objective seeks to foster a collaborative environment that integrates researchers, educators, students, policymakers, and professionals in STEAM-related disciplines to enhance their competencies and promote the advancement of education through technological innovation.

Beginning in 2021 at the Universidad Católica Santo Toribio de Mogrovejo (Chiclayo, Peru), the 2023 edition of CISETC took place from December 4-6, 2023, at the Center for Research in Mathematics (CIMAT) in Zacatecas, Mexico. The event offered a series of conferences and workshops that explored significant topics in STEAM education from both theoretical and practical perspectives. It was designed to facilitate interaction between speakers and attendees, promoting a collaborative and engaging learning environment.

The hybrid structure of CISETC 2023, which adopted a forward-looking approach to scientific and technical development, demonstrated the congress's dedication to promoting innovation in educational environments. The principal objective of the event was to identify methods for incorporating cutting-edge technologies into the teaching and learning process, thereby encouraging innovative teaching strategies and improving academic results.

Expressions of profound gratitude are extended to all those who attended, participated in, and collaborated to ensure the success of this event. Their dedication to educational and technological innovation is of vital importance in the creation of a future where learning becomes more accessible, interactive, and impactful.

The congress covered a wide range of topics related to technology integration in STEAM education, including:

- Technology integration in pedagogical methodologies in STEAM disciplines.
- Pedagogical approaches in virtual learning environments.
- Technological ecosystems for science education.
- Diversity gaps in STEAM fields.
- Scientific experimentation with ICT.
- Development of scientific and technological competencies.

- Innovative methods for teaching Mathematics, Chemistry, Biology, Physics, and Statistics with ICT.
- Teacher training in digital contexts.
- Computational thinking, educational robotics, and gamification.
- Artificial intelligence, machine learning, and their impact on science education.
- Design and implementation of adaptive information systems for STEAM.
- Development of educational software applications for science teaching.
- Technology-mediated assessment in science education.
- Internet of Things (IoT) in science teaching.
- Software engineering for STEAM applications.
- Accessible virtual and augmented reality.
- Emotional and affective interfaces for universal access.
- Inclusive technologies and intelligent rehabilitation.
- Accessibility, usability, and user experience evaluation.
- User tracking, context, and interaction for universal access.

We once again express our sincere appreciation and profound gratitude to all those who made CISETC 2023 possible. Their dedication and commitment to education and technology are of paramount importance, as they foster the development of a future characterized by innovation, inclusivity, and transformative learning methodologies.

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