

Research in Physics Teaching in the Inter-american Region from the Inter American Conference on Physics Education (IACPE)

Council of the Inter American Conferences on Physics Education (1), Eduardo MONTERO (2)

(1) IACPE/CIAEF, <https://ciaef.edu.uy/>

(2) *Escuela Superior Politécnica del Litoral, ESPOL, Facultad de Ciencias Naturales y Matemáticas, Guayaquil, Ecuador*

Abstract. A synthesis of the Inter-American Conferences on Physical Education, their organization and areas of interest is presented, considering the papers presented in the last three held (Uruguay 2019, Costa Rica-Guatemala 2021 and Brazil, 2023). The themes and subthemes thereof and the analysis criteria of the papers presented therein are presented

Introduction

The Inter-American Conferences on Physics Education (IACPE) have their genesis in Brazil 61 years ago, where the first one was held in Rio de Janeiro. They were originally an initiative of the Latin American Commission on Physics (CLAF), and the Organization of American States (OAS). The second Conference was held in 1975 in Caracas, Venezuela. In 1987 the third was held in Oaxtepec, Mexico; where the Permanent Council of Conferences (CIACPE) was created, made up of a representation of different countries in the region, whose Executive Committee is elected at each Conference, in order to promote them and maintain periodicity. The following Conferences were held in: 1991 (Caracas, Venezuela), 1994 (College Station, USA), 1997 (La Falda, Argentina), 2000 (Canela, Brazil), 2003 (Havana, Cuba), 2006 (San José, Costa Rica), 2009 (Medellín, Colombia), 2013 (Guayaquil, Ecuador), 2015 (Mexico City, Mexico), 2019 (Montevideo, Uruguay), 2021 (virtual, Costa Rica and Guatemala) and 2023 (Brasilia, Brazil). At the XV IACPE, 2023, their 60th anniversary was commemorated and was held in Brazil. The next one, XVI IACPE will be in 2025, in Valparaíso, Chile.

The main objective of the Conferences is to promote the improvement of Physics Education, and the dissemination and exchange of the work carried out by teachers and researchers in the participating countries.

IACPE Organization

The IACPE Council is currently made up of 18 members (designated by the Associations of Physics Teachers, the Associations/Societies of Physicists or at the proposal of their members), who represent countries on the American continent due to their academic relevance in the area. Its current members are: Maite Andrés – President (Venezuela) -, Alfredo Navarro – Vice President (Chile) -, Marta Massa -Secretary (Argentina), Laura Buteler and Sonia Concari (Argentina), Deise Miranda, Marco A. Moreira and Roberto Nardi (Brazil), Sonia López (Colombia), Fernando Ureña, Natalia Murillo and Leda Roldán (Costa Rica), Segifredo González Bello (Cuba), Eduardo Montero (Ecuador), Otto Hurtarte (Guatemala), César Mora and Héctor Riveros (Mexico) , Andrea Cabot (Uruguay) and Teodoro Halpern (USA).

Each Conference is organized with a basic motto and around a set of subtopics addressing areas of interest in the American context. A detail of them, corresponding to the last three IACPE, is presented in Table 1. The participation methodologies during the Conferences are: plenary sessions (45 minutes of master dissertation on central topics of the event, by reputed experts

world), garden talks (informal spaces, with the purpose of encouraging the exchange of opinions related to the contents of the plenary sessions), presentations (exhibition of academic work by participants in thematic groups and exchange with attendees), workshops (optional interactive spaces coordinated by invited specialists linked to the specific topics of the conference) and exhibition of innovations (spaces to demonstrate prototypes, products, tools or trending findings, which encourage improvement in teaching and learning processes). A summary of these activities is set out in [1]. The papers presented as presentations have been selected by specialist evaluators and published in journals [2, 3].

Table 1. Mottos and topics of the last three IACPE

Conference	Motto	Topics
XIII IACPE	<i>Current Trends in Physics Teaching</i>	Teaching and Learning of Physics at different levels of formal education Initial and continuous training of Physics teachers. Evaluation instruments in the teaching of Physics Teaching and Learning of Physics in non-formal contexts History and Philosophy of Physics Contributions of Technology to the Teaching and Learning of Physics Gender perspectives in STEM areas
XIV IACPE	<i>Rethinking the teaching of physics in new scenarios</i>	Physics and the STEAM educational approach Use of technological tools used in non-presence Teaching and learning of Physics at different levels of formal education Initial and continuous training of Physics teachers Evaluation instruments in the teaching of Physics Teaching and Learning of Physics in Non-Formal Education CTS Focus in Physics
XV IACPE	<i>Physics education for the construction of citizenship</i>	Educational background in physics for an inclusive society Educational background in physics for social credibility Teaching and learning physics without gender limitations Educational background in educational policies Educational background in physics to address problems in times of crisis Physics in elementary school I - first years Physics in elementary school II and high school Experimental foundations, materials and digital technologies for teaching physics Teaching of physics and sciences from interdisciplinarity Frontier physics topics for physics teaching

This paper offers a characterization of the papers presented according to the following analysis criteria: type of work, educational level involved and specific content in which it is included.

References

- [1] CIAEF – IACPE. <https://ciaef.edu.uy/>.
- [2] *Enseñanza de la Física*. 33(2) Julio – Diciembre, (2021). <https://revistas.unc.edu.ar/index.php/revistaEF/issue/view/2394>
- [3] *Experiências em Ensino de Ciências* **18(4)** (2023). <https://fisica.ufmt.br/eenciojs/index.php/eenci/issue/view/62>