

Report on the activities of IUPAP C14 ICPE - International Commission on Physics Education 2015-2017



The main goals of the Commission

ICPE promotes the exchange of information and views among the members of the international scientific community in Physics Education including:

1. The collection, evaluation, coordination and distribution of information concerning education in the physical sciences at all levels
2. Information relating to the assessment of standards of physics teaching and learning
3. Suggestions of ways in which the facilities for the study of physics at all levels might be improved, stimulating experiments at all levels, and giving help to physics teachers in all countries in incorporating current knowledge of physics, physics pedagogy, and the results of research in physics education into their courses and curricula.

Officers/Members for the term 2015-2017

Chair: Hideo Nitta (Japan)

Vice-Chair: Leoš Dvůrák (Czech Republic)

Secretary: Zulma Gangoso (Argentina)

Members:

Qiang Chen (China)

Ian Bearden (Denmark)

Lotten Glans (Sweden)

Dmitry Khokhlov (Russian Federation)

Priscilla Laws (United States)

Eilish McLoughlin (Ireland)

Deena Naidoo (South Africa)

Roberto Nardi (Brazil)

Gorazd Planinšič (Slovenia)

Jayashree Ramadas (India)

David Sands (United Kingdom)

Conferences Organized

International Conference on Physics Education (ICPE 2015), Beijing, China, August 10-14, 2015.

This conference was supported by IUPAP and C14. The conference focused on

“Engaging Students in Physics – Research and Practice”. More than 300 scientists attended the conference, including about 90 people from outside China. More than one-third of attendees were women.

The Second World Conference on Physics Education (2nd WCPE 2016) , São Paulo, Brazil, July 10-15, 2016

2nd WCPE was held at the University of São Paulo as the IUPAP supported conference through C14. The conference theme was “Contemporary Science Education and Challenges in the Present Society: perspectives in Physics Teaching and Learning”. WCPE is a series of conferences with a four-year periodicity, organized in global cooperation. 2nd WCPE was supported by ICPE, GIREP (Groupe International de Recherche sur l'Enseignement de la Physique) and MPTL (the Multimedia in Physics Teaching and Learning group) and endorsed by AAPT (American Association of Physics Teachers), LAPEN (Latin American Physics Education Network) and ASPEN (the Asian Physics Education Network).

GIREP-ICPE-EPEC 2017, Dublin, Ireland, July 3-7, 2017

The 2017 IUPAP supported conference, GIREP-ICPE-EPEC 2017, was held at the Dublin City University. The conference theme was “Bridging Research and Practice in Physics Teaching and Learning”. The conference was jointly organized with GIREP and EPEC (European Physical Society - Physics Education Division). Approximately 250 researchers from 21 countries took part in the conference. Eilish McLoughlin chaired the conference.

Future Conferences

ICPE 2018 (ICPE-SAIP-WITS), Johannesburg, South Africa, October 1-05, 2018

The next International Conference on Physics Education will take place in Johannesburg. Deena Naidoo will organize the conference. A website has been created: <http://events.saip.org.za/conferenceDisplay.py?confId=93>

An IUPAP Conference sponsorship application has been submitted.

GIREP-ICPE-EPEC 2019, Budapest, Hungary, 1-5 July

The Commission agreed to endorse GIREP-ICPE-EPEC 2019 as the IUPAP supported conference.

Conference endorsed

The commission endorsed GIREP-MPTL 2018 (July 9-11, San Sebastian, Spain) although this conference will not be financially supported by IUPAP.

ICPE Medal

The ICPE medal was instituted to recognize “outstanding contributions to physics teaching of a kind that transcends national boundaries”. The ICPE medal recipient should have fulfilled two criteria: (1) the contributions to physics education should have extended over a considerable number of years; and (2) the contributions should be international in their scope and influence. The laureates during the period of report are:

- 2015 ICPE Medal: Kaihua Zhao (China); presented at 2nd WCPE in Sao Paulo.
- 2017 ICPE Medal: Marco Antonio Moreira (Brazil); presented at GIREP-ICPE-EPEC 2017 in Dublin.

We had faced the “ICPE Medal using-up” problem: in 2015, only one blanc Medal was left. Thanks to Roberto Nardi, the problem was finally resolved. In 2016, Roberto found a factory that could reproduce *20 copies* of the ICPE Medal within the budget IUPAP regularly provides to commissions. I dare to mention this fact with the hope that future C14 will prepare for the same problem well *before 2036*.

ICPE Newsletter

ICPE Newsletter No. 64 was published in June, 2017. Manjula Sharma (Editor – Associate Member of C14) did a great effort for its publication. The Newsletter is disseminated only in electronic form. The ICPE Newsletters are uploaded at <http://iupap-icpe.org/publications/newsletters/n64a.pdf>

ICPE Website

The commission’s website is being maintained by Leoš Dvorač at <http://iupap-icpe.org/> Our reports and publications as well as the list of ICPE Medal laureates are available at this site.

PHYSWARE

PHYSWARE 2015 was held on January 25 to 30 at the ICTP Trieste. PHYSWARE is a collaborative workshop on low-cost equipment and appropriate technologies that promote active learning in physics throughout the developing world. PHYSWARE 2015 was generously sponsored by ICTP and co-sponsored by IUPAP and EPS. Gorazd Planinsic and Leoš Dvorač took care of this activity. The detail of the

workshop has been published in: *Physics Education* **50** (2015) pp.264-267.

Annual ICPE face-to-face meeting

The annual meeting of ICPE is usually held immediately after the closing of the commission supported conference. In the last three years, meetings took place in Beijing in 2015, Sao Paulo in 2016 and Dublin in 2017.

Links with other Commission/Organization

Women in Physics (Workshop)

The IUPAP Working Group on Women in Physics (WIP) and C14 built a link. As a cooperative activity, C14 and WIP organized the symposium on *Global Perspectives of Women in Physics* at the international conference GIREP-ICPE-EPEC 2017. The purpose of the symposium was to review and analyze the initiatives and research into the gender gap observed in physics education and in academia. The symposium was very successful. We plan to organize the next symposium at ICPE 2018.

Institute of Physics (IOP)

Along with the line of the proposal from IOP for Africa proposal to IUPAP, the *Workshop on Physics for Africa* was held at the GIREP-ICPE-EPEC 2017. Right after the workshop, a closed meeting was organized for discussing the outcome of the workshop and possible action among representative members from IOP, ICTP, C14, and some other organizations. In order to determine a plan of action, however, further discussion is necessary. The next ICPE conference in Johannesburg, Africa, will be a nice place for further discussion.

Hideo Nitta
C14 (ICPE) Chair