

**ICPE Minutes**  
***New Delhi, India***  
***August 26-27, 2005***

Attending: Lakshman Dissanayake, Toshio Hyodo (Vice-Chair), Pratibha Jolly, Jon Ogborn, Mauricio Pietrocola, Joachim Schlichting, Vivien Talisayon, Gunnar Tibell (Chair), Matilde Vicentini, June-hee Yoo, Dean Zollman

Regrets: Minella Alarcon, Diane Grayson, Xingkai Luo, Ernest McFarland (Secretary) Eduardo Molto, Sung-Jae Pak

Absent: Jacques Treiner

## **1. Introduction**

### 1.1 Welcome and Introduction of Commission Members

Gunnar Tibell (Chair) opened the meeting at 4:00 p.m. on August 26 by welcoming the commission members, associates and alternates (June-hee Yoo for Sung-Jae Pak). A warm welcome was given to Lakshman Dissanayake, attending for the first time. The Chair announced that Jon Ogborn had agreed at his request to act as Secretary in the absence of Ernest McFarland.

### 1.2 Minutes of the 2004 Meeting in Durban

The minutes of the 2004 Meeting, which had been circulated previously by email, were accepted, noting that Treiner was wrongly included in the list of those attending but correctly shown as absent.

### 1.3 Agenda 2005

The agenda was discussed and approved.

## **2. Reports on Conferences and Other Events**

### 2.1 “World View on Physics Education in 2005” – New Delhi, August 21-26, 2005

Gunnar Tibell, with unanimous support from Commission members, congratulated Pratibha Jolly on a well planned and very successful conference. The Commission thanked her for her very hard work. Pratibha Jolly reported that there were about 300 participants, from 30 countries, including about 170 from India.

Members noted that criticisms of previous conferences (see minutes of 2004 meeting, item 2.1) had been very fully addressed and met. In particular, the high quality of lectures on physics by world leaders, including one Nobel laureate, was welcomed. Unique features of the Conference included its opening by a Head of State, the President of India, and the use of satellite broadcasting and webcasting to make the Conference events widely accessible to a large audience. It was noted that women featured strongly, both in attendance at and contributions to the conference, and in special events addressing the participation of women in physics and in physics education. The Commission noted the substantial number of Indian delegates present.

The Commission discussed the need to encourage full cooperation between physicists and physics educators in such meetings.

## 2.2 International Young Physicists' Tournament (IYPT) 2005

Gunnar Tibell reported on the International Young Physicists' Tournament 2005, held in Winterthur, Switzerland, July 14-21, with 25 teams from 23 countries participating. Germany, Belarus and USA reached the final. He and Dean Zollman noted the good performance of the US team. The standard at the tournament was very high, with the German team being the winners.

### 2.2a EPEC1 Bad Honnef, Germany

Gunnar Tibell reported on the first European Physical Society Physics Education Conference (EPEC1) held in Bad Honnef, Germany, 4-8 July 2005. The meeting was small, with about 80 participants, drawn from European countries. The meeting was part of a planned initiative of the Division on Education of the European Physical Society, to address issues of physics education, notably recruitment to higher education.

The commission welcomed the initiative, but noted that care will be needed to avoid clashes with other international meetings, particularly GIREP and ESERA. It was thought that it might be helpful if the EPEC meetings had a distinctive focus, perhaps on physics education at the tertiary level.

### 2.3 China-Japan Symposium August 25-28

Toshio Hyodo noted the current 4th China-Japan-US Symposium on Physics Education and Experiment in University, August 25-28, 2005, at Zhejiang University, Hangzhou, China.

2.4 2<sup>nd</sup> IUPAP International Conference on Women in Physics, Rio de Janeiro, May 23-25, 2005

The Commission noted with pleasure the successful holding of the second IUPAP International Conference on Women in physics, held in Rio de Janeiro, May 23-25, 2005. This was part of an ongoing initiative of IUPAP on strengthening the position of women in physics. Pratibha Jolly attended as a member of the Indian delegation.

## 3. Future Conferences

### 3.1 ICPE Conference Sponsorship applications

Gunnar Tibell reported that three applications for ICPE sponsorship had been received. These were each discussed.

3.1.1 Inter-American Conference on Physics Education, San José, Costa Rica, March 3-7, 2006

Mauricio Pietrocola explained that the Inter-American conferences on physics education took place every three years, at locations in Latin America, and were highly valued by Latin American physics educators as a place to meet others and to share experiences, helping to build a Latin American physics education community.

Noting that the application fulfilled the IUPAP criteria, the Commission unanimously AGREED to recommend ICPE sponsorship.

3.1.2 GIREP – Modelling and Physics Education, Amsterdam, August 20-25, 2006

The organizer Ton Ellermeijer was invited to present the case for ICPE support of this conference. The conference is the regular biennial GIREP meeting, to be focused this time on

modeling in physics education, in the many senses of this term. The costs would be held down by using the University of Amsterdam as the venue.

Noting that the application fulfilled the IUPAP criteria, the Commission unanimously AGREED to recommend ICPE sponsorship.

### 3.1.3 International Conference on Physics Education, Tokyo, 13-18 August 2006

Toshio Hyodo presented plans for the International Conference on Physics Education, Tokyo, 13-18 August 2006. The dates had been altered to avoid a clash with the GIREP conference. Between 200 and 300 participants were expected, more than half from outside Japan. The theme is “Physics for All”, from the elementary school to the undergraduate level, the main focus being on school education rather than on informal education. The conference will discuss both teaching methods and the content of physics for all. Proceedings will be published on the Web and DVD, plus if possible in book form as a special (English language) issue of the Journal of the Physics Education Society of Japan. Public lectures and demonstrations addressed to students are planned.

Members discussed the need to attract high school teachers to the conference, both from Japan and from other countries. Mauricio Pietrocola offered to try to coordinate attempts to obtain financial support for high school teachers from other countries to attend this and later conferences, for example from their respective Physical Societies. Toshio Hyodo agreed to consider including a special event for high school teachers in the conference program. He expected at least 50 high school teachers from Japan to attend.

Noting that the application fulfilled the IUPAP criteria, the Commission unanimously AGREED to recommend ICPE sponsorship.

### 3.2 World Conference on Physics and Sustainable Development, Durban, October 31- November 2, 2005.

The Physics Education section of this forthcoming IUPAP conference is being coordinated by Priscilla Laws and Pratibha Jolly. There has been a lively and constructive international planning discussion by email list. The emphasis will be on local adaptation of resources, and on the identification and support of local resource persons. The goal of the conference is to formulate Action Plans, capable of being put into effect following the conference.

The Commission, led by Matilde Vicentini, discussed the need to provide translations of resource materials from languages other than English (for example resources from Italian, Latin American and German sources).

### 3.3 Other Conferences

Lakshman Dissanayake reported that there will be an ASPEN Active Learning Workshop in Tokyo, 10-12 August, 2006, just prior to the Tokyo Physics Education Conference.

## 4. ICPE Membership 2006-2009

### 4.1 Discussion of the proposals for ICPE candidates for the next three years.

Gunnar Tibell reminded the Commission that the General Assembly of IUPAP would meet in October to elect new members of commissions.

*The following current members will retire, having served two terms, or at their own wish:*

Toshio Hyodo (vice chair), Jon Ogborn, Ernest McFarland, Sung-Jae Pak, Gunnar Tibell (chair), Matilde Vicentini.

*The following current members are eligible for re-election, and have been nominated by the liaison committees of their respective countries:*

Diane Grayson, Pratibha Jolly, Xingkai Luo, Mauricio Pietrocola, Joachim Schlichting, Jacques Treiner, Dean Zollman.

*The following new nominations have been submitted to IUPAP:*

Pedro Goldman (Canada), Hiroshi Kawakats (Japan), Bob Lambourne (UK), Sung-muk Lee (Korea), Juan Leon (Spain), Andras Patkos (Hungary), Elena Sassi (Italy)

The commission discussed its slate of recommendations to IUPAP for members and officers for the period 2006-2009. Bearing in mind the need to balance international representation for all continents, and to encourage the participation of countries not now represented, the commission unanimously AGREED on the following recommendations to be sent to IUPAP:

*Officers:*

Pratibha Jolly (Chair)

Mauricio Pietrocola (Vice-Chair)

Dean Zollman (Secretary)

*For a second term:*

Diane Grayson (South Africa)

Xingkai Luo (China)

Joachim Schlichting (Germany)

*For a first term:*

Pedro Goldman (Canada)

Hiroshi Kawakats (Japan)

Bob Lambourne (UK)

Sung-muk Lee (Korea)

Juan Leon (Spain)

Andras Patkos (Hungary)

Elena Sassi (Italy)

Recommendations for Associate Members are a matter for the new Commission. Present associates are; Vivien Talisayon, Minella Alarcon, Eduardo Molto, Lakshman Dissanayake.

## **5. ICPE Finances**

### **5.1 Past, Present, and Future Situations; Change of IUPAP Council Policy**

Gunnar Tibell reported that C14 ICPE finances continue to be reasonably healthy. Due to a possible change in IUPAP Council policy, C14 may become eligible for an additional grant of up to US\$2000, in addition to the US\$3000 for the ICPE Newsletter. In December 2004 a sum of US\$1000 was granted. Support from UNESCO, with the assistance of Minella Alarcon, has also been very helpful, as well as the special IUPAP funding for the book "Physics Now".

Funding is now sufficient to pay for two nights hotel accommodation and two meals for Commission members at the current meeting.

The Commission ACCEPTED the Financial Report.

## 6. Publications

### 6.1 ICPE Newsletter

The Newsletter Editor, Vivien Talisayon presented financial statements for the October 2004, and April 2005 Newsletters, showing a net zero balance for each. The Editor stated that she wished to withdraw from the editorship after the October 2005 issue. The Commission thanked her for her hard work over the past few years, and discussed possible replacements. It was felt that ideally an editor would be found outside the ICPE membership, thus adding further expertise and geographical spread to the Commission. Dean Zollman agreed to approach one potential candidate.

Sources of material for the October 2005 Newsletter were discussed. It was suggested that some talks at the Delhi Conference might be abstracted, including the address by the President of India, which is already available on the Web. The CD distributed by Len Jossem could be another source.

The Newsletter financial reports were ACCEPTED.

### 6.2 ICPE Books

#### 6.2.1 “Physics Now”

The revised edition of “Physics 2000”, edited by Jon Ogborn and entitled “Physics Now”, has been well received. It has been published online at <http://web.phys.ksu.edu/ICPE/Publications/PhysicsNowText-A4.pdf>. 2500 paper copies have also been printed in India, at low cost, with the assistance of Pratibha Jolly. UNESCO has ordered 1000 copies, and the Indian Association of Physics Teachers has ordered 500 copies. Free copies have been distributed to participants at EPEC1 in Bad Honnef, and at the IYPT to all participating teams and team leaders. Copies are being sent to IUPAP Liaison Committees, and to and have been sent to all members of IUPAP Commissions.

#### 6.2.2 “Connecting Research in Physics Education with Physics Teacher Education”

Matilde Vicentini reported on her review of the present book. She concluded, and members of the Commission agreed, that it is not appropriate to think in terms of an update. Rather, there is a need for a second volume covering topics not discussed in the present book, many of which have become salient since the book was prepared. It was agreed that Matilde Vicentini will continue to work on this project, with help from members of the Commission (Pratibha Jolly, Vivien Talisayon, Mauricio Pietrocola, Joachim Schlichting) with a view to assembling a second volume..

### 6.3 ICPE Website

Dean Zollman continues to host the ICPE website at Kansas State University (URL: <http://web.phys.ksu.edu/icpe>). Commission members were encouraged to establish links to this site, so that it will show up on search engines. Dean Zollman reported that the two most popular resources on the site from July 2004 to June 2005 had been “Physics Now”, with 45% of hits (3801) and the Newsletter, with 33% of hits (2779). The Commission thanked Dean Zollman for his work in maintaining the website.

## 7. Working Groups

### 7.1 Working Group re: Publications on Physics Education Research

This group was established in 2003, and now includes Pratibha Jolly (Chair), Vivien Talisayon, and Dean Zollman. Work on this project will be restarted.

#### 7.2 Working Group re: Information About Physics Teacher Education Programs at Various Universities Around the World

Vivien Talisayon reported that a draft survey questionnaire has been produced. She is shortly meeting Deans of Asian Teacher Education in Korea. Work on this project will continue, with participation of existing members of the Commission and new ones who wish to join.

#### 7.3 Other Working Groups

Mauricio Pietrocola agreed to chair a new working group, "Strategies for Increased Participation of School Teachers in Physics Education Meetings". Dean Zollman, Joachim Schlichting and Lakshman Dissanayake agreed to join this group. Letters would be written to potential sources of funds, including national Physical Societies, with a view to sponsoring a number of high school physics teachers from each country participating in future ICPE-sponsored conferences. Dean Zollman undertook to provide appropriately headed stationery for this purpose. Such letters would be sent via the chair of the Commission. It was thought that the strategy needed two components: means to fund teachers from countries other than the host country to attend conferences, and the provision in conferences of a defined time (perhaps half a day) specially devoted to events designed to attract school teachers. The second could attract teachers from the host country who might be unable to attend the whole meeting.

### 8. Future Activities

#### 8.1 World Year of Physics (2005)

Activities to celebrate the World Year of Physics in 2005 have taken place in many countries (Sweden, UK, Japan, Brazil, Philippines, Sri Lanka, Korea, India, Germany, China, USA, Canada, Italy, etc.). It is planned to report some of these in the October ICPE Newsletter (deadline for reports September 20, 2005).

#### 8.2 Other Projects and Activities

##### 8.2.1 Latin American Physics Education Network (LAPEN)

Mauricio Pietrocola reported on initial steps that have been taken to establish a Latin American Physics Education Network (LAPEN), which will work to improve the teaching of physics in middle-grade education and in preparing teachers at this level. The first meeting will include Brazil, Mexico, Cuba and Costa Rica.

##### 8.2.2 ASPEN

Lakshman Dissanayake reported on the meetings planned for ASPEN (Asian Physics Education Network) in the next two years. They will be held in Japan, India, Bangladesh and Malaysia, with an emphasis on promoting and developing Active Learning in Physics.

### 9. Links to Scientific Bodies

#### 9.1 IUPAP

Gunnar Tibell stated that he will report to IUPAP on the activities of C4 ICPE during the past three years under his chairmanship. Jon Ogborn mentioned that, judging by remarks made at a UK meeting of all UK representatives on IUPAP commissions, C14 appears to be amongst the most successful, and active commissions. The next General assembly of IUPAP in Cape Town in October 2005 will elect the new members of all commissions.

## 9.2 UNESCO

Good relations continue to exist with UNESCO, through Minella Alarcon. UNESCO helps to fund the ICPE Newsletter and the ICPE Conferences in Durban and New Delhi, has bought 1000 copies of "Physics Now", and continues its work in developing countries, especially in Africa, in part through support of and joint action with ASPEN. A new UNESCO teacher-training project focused on Optics and Photonics is now underway in collaboration with the Abdus Salam International Centre for Theoretical Physics (ICTP), SPIE-The International Society of Optical Engineering, and the Optical Society of America.

## 9.3 EPS

As reported under agenda item 2.1a, the Physics Education Division of the European Physical Society held its first physics education conference EPEC1 in Germany in 2005. The chair and several other commission members attended.

## 9.4 EUPEN and STEPS

Gunnar Tibell reported that EUPEN has ceased activities for lack of funds. It is being superseded by a new Thematic Network Project, STEPS (Stakeholders Tune European Physics Studies), being organized by Hendrik Ferdinande. In a newsletter of 16 August 2005 it was announced that STEPS has 161 Physics departments from 37 countries as 'partners' and 10 regional, national or European associations as 'associated partners'. It was AGREED to place STEPS on the agenda for the ICPE meeting next year, to review progress.

## 9.5 AAPT/APS

Dean Zollman reported that the International Committee of the AAPT had given its support (without funding) to the Delhi conference. He also reported that the APS has a Physics Teaching Project, run from the APS Education office, in which US universities will collaborate to collect and share teacher training resources.

## 9.6 GIREP

GIREP continues to arrange biennial international conferences, with GIREP Seminars in the intervening years. Jon Ogborn noted that one of its strengths was its tradition of substantial interest from Eastern Europe.

## 9.7 ESERA

It was AGREED to place a discussion of ESERA (European Science Education Research Association) on the agenda for next year. It would be useful to get the email addresses of presidents or chairs of ESERA, GIREP, EPEC and any other bodies organizing physics education activities, so that the commission could assist in coordinating these activities, especially to help avoid clashes of dates.

# 10. ICPE Medal

## 10.1 Presentation to Svein Sjoberg

The ICPE Medal was presented by the President of India to Svein Sjoberg at the ICPE Delhi Conference.

## 10.2 Future Medal Recipients

Commission members were reminded that nominations for ICPE medal recipients must be sent to the Chair with supporting materials not later than two months before the following ICPE meeting. Discussion of possible recipients must remain confidential, and names of persons considered will not appear in the minutes of ICPE meetings. It was AGREED to

recommend to the next Commission that former members of the Commission should be invited to submit recommendations.

### **11. Other Business**

Mauricio Pietrocola said that he was thinking about organizing an ICPE Conference in Brazil. The Commission strongly encouraged the idea of a future ICPE Conference in Latin America, for example in Brazil, perhaps in 2007.

The Commission unanimously thanked Gunnar Tibell (Chair), Toshio Hyodo (Vice Chair) and Ernest McFarland (Secretary) for their active participation and hard work over the past three years.

### **12. Next ICPE Meeting**

It was AGREED that the next ICPE meeting, subject to the agreement of new members of the commission, should be held for one or two days immediately before or following the conference in Tokyo, Japan, in August 2006.

### **13. Adjournment**

The meeting adjourned at approximately 2 p.m. on August 27, 2005.