

Meeting of the International Commission on Physics Education (2006)  
Tokyo, Japan  
Minutes  
August 17-18, 2006

Present: Pratibha Jolly (Chair), Mauricio Pietrocola (Vice Chair), Dean Zollman (Secretary), Diane Grayson, Hiroshi Kawatsu, Xingkai Luo, Elena Sassi, Hans-Joachim Schlichting, Vivien Talisayon, Ian Johnston, Takatoshi Murata, Tae Ryun, Hyodom Toshio, Lakshman Dissanayake (August 17 only), Junehee Yoo (representing Sung-Muk Lee).

OPENING FORMALITIES.....	2
REPORTS ON CONFERENCES AND OTHER EVENTS .....	2
“World Conference on Physics & Sustainable Development,” .....	2
9th Inter-American Conference on Physics Education .....	3
“Toward Development of Physics for All” .....	3
IUPAP Meeting of Executive Council and Commission Chairs .....	3
IUPAP General Assembly .....	3
FUTURE CONFERENCES.....	4
“Building Careers with Physics” .....	4
“Frontiers of Physics Education” .....	4
International Conference on Physics Education in Brazil, 2008 (Pietrocola) .....	4
Other Conferences .....	5
PUBLICATIONS AND WEBSITE.....	5
ICPE Newsletter.....	5
ICPE Website.....	5
WORKING GROUPS .....	6
Strategies for Increased Participation of School Teachers in Physics Education Meetings.....	6
Information about physics teacher education degree programs at various universities around the world .....	6
Publications on physics education research.....	7
FUTURE ACTIVITIES .....	7
Proposal for a Latin American Physics Education Network - LAPEN .....	7
ASPEN.....	7
Future-student activities.....	7
Women in Physics.....	7
YOUNG SCIENTISTS AWARD.....	8
ICPE BOOKS – REPORTS AND UPDATES .....	10
“Connecting Research in Physics Education with Teacher Education” .....	10
BUDGET .....	11
RELATION TO OTHER BODIES .....	11
ICPE MEDALS .....	11
ASSOCIATE MEMBERS.....	12
OTHER PROJECTS AND ACTIVITIES .....	12

ATTACHMENT A; IX Interamerican Conference of Physics Education San José, Costa Rica 2006/07/03-07/07.....	13
ATTACHMENT B: Temporary Report on International Conference on Physics Education 2006 Tokyo.....	15
ATTACHMENT C: E-mail to Khalid Berrada Concerning the Conference in Marrakech .....	17
ATTACHMENT D: ICPE Web site Statistics.....	18
ATTACHMENT E: Latin- American Physics Education Network (LAPEN).....	19
ATTACHMENT F: Citation for the Presentation of the ICPE Medal to Professor Jon Michael Ogborn of the Institute of Education, University of London.....	22

## **OPENING FORMALITIES**

Pratibha Jolly opened the meeting, welcomed and introduced Commission members, associate members and guests.

Minutes of the 2005 meeting in Delhi were unanimously approved as distributed and posted on the ICPE Web site.

The agenda for this meeting was unanimously approved.

## **REPORTS ON CONFERENCES AND OTHER EVENTS**

### ***“World Conference on Physics & Sustainable Development,”***

October 31 – November 2, 2005 Durban, South Africa Attended by Lakshman Dissanayake, Diane Grayson, Pratibha Jolly, Mauricio Pietrocola & Dean Zollman

Mauricio presented a plenary talk on teacher education.

The conference was summarized in the most recent newsletter. One outcome was a set of four recommendations. (See p. 3 of newsletter.) This conference was considered a flagship event of World year of Physics.

The Physics Education stream was the most popular. A result of the conference was the creation of workshops involving the Active Learning in Optics and Photonics (ALOP) program. A workshop was held in Marrakech, Morocco in the spring. Another is scheduled for Delhi in November. A third is planned for Latin America, probably in San Paolo next July. Mauricio is translating ALOP to Spanish so that it will be useful in Latin America.

The recent ASPEN workshop was also somewhat a result WCPSD.

The working group on teacher educator has been organized geographically into three subgroups -- Latin America, Asia & Africa.

The Mobile Physics project is moving forward as well.

Dianne suggested that we need to identify Web site, possibly ICTP that would contains the follow-up activities. It would be good to have an "open source" format. It was suggested that we need to decide if we want ICTP to host and then approach them. Several people suggested that we cannot ask ICTP until we have a better understanding of what we have and what we want. The minimum would be links. The group asked that Elena, Pratibha and Dean ask the ICTP Director what he needs to make decision.

### ***9th Inter-American Conference on Physics Education***

March 3-7, 2006, San Jose, Costa Rica (See Attachment A)

Mauricio reported that 150 participants from 13 countries attended. The participants were mostly teacher educators or physics education researchers. Discussions revealed similar problems in many countries. Some effort is being made to share teacher education materials.

Next conference will be in Columbia

### ***"Toward Development of Physics for All"***

August 13-18, 2006, Tokyo, Japan

Takatoshi Murata provided a written document which is included here as Attachment B. The attendance was much larger than expected. Participants offered 160 posters. A problem arose when many of the poster presenters wanted to use computers. This would have created an electrical overload; presenters needed to use batteries.

The Commission offered its formal thank you to the organizers of the conference.

### ***IUPAP Meeting of Executive Council and Commission Chairs***

24-25 February, 2006, London, UK

This session was, in part, a new chairs orientation. The chairs of ICPE & C13 are now both on the Executive Council. (C13 is Physics and Development.) There may be an opportunity to link up with C13 in a bigger way. Other commissions also might be interested having ICPE represented on their commissions. The overall impression is that there seems to be a lot of interest in our work. The next Council meetings will be in Prague (2006) and Brazil (2007).

### ***IUPAP General Assembly***

The details of the General Assembly in Cape Town are available on the IUPAP Web site at <http://www.iupap.org/ga/ga25/index.html>. The next IUPAP General Assembly will be in Tokyo in 2008

## **FUTURE CONFERENCES**

### ***“Building Careers with Physics”***

Marrakech, Morocco, November 2007. We have approved sending this request forward to the Council e-mail. The Council will consider the recommendation in October. However that is too late for the organizers to have a summer meeting in 2007. Informal communications indicate that approval by the Council is likely.

This conference will be the first ICPE conference in North Africa. We discussed the time. It will be at the end of term for many people, particularly in the northern hemisphere. It also conflicts directly with the US Thanksgiving holiday. There was some concern that school teachers may have a problem attending a conference in November. We did agree that it is impossible to find one week that works for everyone. (Note: After our meeting Pratibha communicated with the organizers. The dates have been changed to 11 to 16 November 2007.)

The Commission discussed the content of the conference. Overall, members thought that the topics to be covered were appropriate and would provide a broad view of physics as a career. Commission members requested an increase in two areas: women in physics and the explicit involvement of students in the conference. Increasing the number of women in physics is a major goal of IUPAP. Thus, we should be sure that each of our conferences addresses that issue explicitly. How ICPE directly addresses students was a question raised at the General Assembly. Dean offered to write a letter to the conference organizers and request a specific session on Women and girls in physics and urge the organizers include student participation. In the discussion of the budget (see below), an issue concerning travel costs of the Commissioners was raised. Encouraging the organizers to consider Commissioners as plenary speakers was added to the letter. The e-mail that was sent to Khalid Berrada is included as Attachment C.

### ***“Frontiers of Physics Education”***

European Physics Education Conference jointly meeting with GIREP, Rijeka/Opatija, Croatia, 26-31 August 2007. This conference will be a merger of the GIREP-seminar and European Physics Education Conference (EPEC).

A primary effort of EPEC is to bring together physicists and physics educators. The Commission unanimously approved forwarding the request for €4,000 to the Council. We noted that our last request to support a GIREP conference was denied by the Council. We need to emphasize the international nature of GIREP and EPEC. We will ask GIREP officers for statistics

### ***International Conference on Physics Education in Brazil, 2008 (Pietrocola)***

Mauricio stated that he is considering a conference in San Paolo for 2008. The topic would be “Physics Education and Teaching Physics for Understanding.”

He believes that the local support seems good and that it could draw significant participation from Latin America. The best time would be last week of July which coincides with university holiday. While this is winter, the temperatures are in the range of 15-18C.

The Commission had previously invited Mauricio to plan a conference for 2007. The time has been postponed for one year, but the Commission agreed unanimously that it still supported this conference and that the invitation is still valid.

### ***Other Conferences***

As a follow up to WCPSD Dean, Elena and Pratibha are discussing a possible working conference on teaching physics with inexpensive equipment. The conference would be held in 2008 in Trieste if support is forthcoming. The primary participants would be physics teachers from developing countries. It was suggested that Japanese presenters at the Toyo be involved as resources. We would need to seek sources of funding for participants from developed countries.

Gernot Born wants to have a conference in Duisburg/Essen in 2009. The Commission encouraged him to move forward with planning

## **PUBLICATIONS AND WEBSITE**

### ***ICPE Newsletter***

Vivien Talisayon submitted her last financial report. She received the thanks of the Commission for long and excellent service.

Pratibha suggested that we create a database of recipients of the news letter.

Elena noted that the present distribution method of forwarding newsletters may lead to people getting multiple copies of newsletter.

Ian noted that he does not have University resources. Thus, all costs must be covered. Maintaining a database is expensive. Pratibha thought that she can maintain such a database in Delhi.

Ian proposed that the newsletter stay at 12 pages, with about ½ of the content being reports of conferences, related groups, etc. and the rest, articles about physics teaching. He requested that Commission members be on the lookout for articles that would be appropriate.

### ***ICPE Website***

See Attachment D for statistics.

It was suggested that we register [www.icpe.org](http://www.icpe.org) or some equivalent domain name. This would save changing the web address every six years as the commission changes. (Note after the meeting. Dean checked domains names and found

that all variations of icpe.xxx where xxx is not associated with an individual country have already been registered. We will need to be more creative in a domain name. For example the following are available: goicpe.org, icpeweb.org and webicpe.org.)

## **WORKING GROUPS**

### ***Strategies for Increased Participation of School Teachers in Physics Education Meetings***

Pietrocola [Chair], Zollman, Schlichting, Dissanayake  
Strategies for Increasing Participation

Mauricio reported that a session for high school teachers was held as part of the Tokyo conference. He brought 4 Brazilian teachers. There were also 15 school teachers from Japan; 4 from Korea, 1 each from Morocco and Iran. 2 Pakistani teachers arrived very late,

For leaders of future meeting we need to write some suggestions to be put on the Website.

A good session is to exchange ideas on what it is like to be a teacher in each country. The working group will try to get teachers to Morocco and will request a session in Morocco. The working Group hopes to create a tradition to have HS teachers at ICPE conferences. Part of this effort will be to have a session for teachers and a time for teachers to meet.

One difficulty is raising money. Elena noted that at EPEC each National Physical Society was asked to support one teacher and one young researcher,

Mauricio stated that he had some funds to support teachers at the Tokyo conference. He asked teachers to propose some work, Two of the teachers obtained money from their schools, Only one teacher was able to go through all of the visa, etc issues and obtained the funds which Mauricio had raised.

Vivian stated that the problem is not getting high school teachers but attracting research physicists to ICPE conferences, she suggested that we should distribute announcements to all Commissions

### ***Information about physics teacher education degree programs at various universities around the world***

Talisayon [Chair], Alarcon, Luo, Pietrocola

Vivien presented a plenary talk at the meeting. The contents of that talk and its publication in the proceedings will represent a full report of the working group's activities. She is willing to continue collecting and disseminating the information. The general feeling of the Commission is that this work should continue.

### ***Publications on physics education research***

Jolly [Chair], Talisayon, Zollman

No progress to report. Elena noted that if something is produced soon, it could be part of the book on "Connecting Research in Physics Education with Teacher Education"

Dianne reminded us that ICTP has a program to make journal articles available to scientists in developing countries. A teacher can send e-mail to ICTP; then the article returned by e-mail

### **FUTURE ACTIVITIES**

#### ***Proposal for a Latin American Physics Education Network - LAPEN***

Mauricio relayed a request that Latin American Physics Education Network would like to be linked to ICPE. See Attachment E. LAPEN is planning an ALOP workshop for next year. It will be LAPEN's first activity. LAPEN representatives are also discussing with Mineola an affiliation with UNESCO

The following motion was moved by Dean Zollman and seconded by Dianne Grayson. ICPE encourages LAPEN to take the lead in physics education in Latin American and requests that the President of LAPEN make regular reports to the Commission meetings. It passed unanimously.

#### ***ASPEN***

Lakshman reported that last week ASPEN sponsored 3-day workshop with 35-participants. The next General Assembly will be held in either Thailand or Philippines. A decision will be made soon. An effort will be made to teachers from Cambodia.

ASPEN is planning workshop on low-cost equipment for 2008. Lakshman asked if ASPEN is likely to obtain funding from IUPAP for such a workshop. The general thought was probably not because it is not the type of conference that IUPAP supports. However, it could be possible to connect this effort with the proposed low-cost ICTP workshop. However, then it would need to occur in late 2008 to be after the other workshop and work as a dissemination effort for it.

Lakshman agreed to work with Ian so that news about ASPEN would regularly be in the newsletter.

#### ***Future-student activities***

Some folks at the IUPAP General Assembly felt that IPCE should be doing more for students. Sessions at meeting that are specially aimed at schools students would be useful.

#### ***Women in Physics***

IUPAP has a working group on women in physics. All of our future meetings should include a focus on attracting girls to physics. The general feeling of the

Commission was that we should inform conference organizers to have specific sessions on issues of attracting and retaining girls and women to physics. These sessions should include information on curricula and difference in treatment of males and females in physics teaching and related activities.

### **YOUNG SCIENTISTS AWARD**

We decided that we would continue to discuss the Young Scientist Award that has been approved by IUPAP. I promised to prepare a short summary of the issues involved and distribute them to a subcommittee of and Dianne Grayson, Mauricio Pietrocola, and , Luo Xingkai. The task of the subcommittee is to make sure that I stated the issues well and to add any other necessary comments. After I hear from the subcommittee, I will distribute the revised issues document to all of ICPE.

I had promised to get this note to you by 1 September. Unfortunately, GIREP seems to have erased my memory. I just remembered last night.

Please remember that Pratibha needs to tell the IUPAP Council something when it meets in the middle of October.

Please respond to me with your comments by next Monday, 18 September.

Issues:

One of the primary concerns is the difference between the type of efforts that ICPE attempts to encourage in the physics community and those of most of the other Commissions. Most Commissions focus on a relatively narrow area of physics. They can easily concentrate on research in a specific field. In our case we are attempting to foster high quality research in physics education and equally high quality teaching of physics at all academic levels. Thus, the question arises whether we should be offering an academic award for teaching, a professional award for research, or both.

During our discussions commission members expressed no clear view that the award should be only an academic one or only a professional one. Some members seemed to think that we should offer both, perhaps alternating between professional and academic. However, each has some issues related to it.

Good teaching is difficult to judge in many situations and particularly difficult to judge when one needs to compare teachers across cultures. Further, in some countries or cultures the type of innovative teaching that many of us advocate is difficult and may be impossible for young teachers. For example, in many places the government controls curriculum. Young teachers are not likely to break away from the curriculum. The control can sometimes be strict and old fashioned, but teachers can be punished for being innovative. Thus, many parts of the world could be eliminated from consideration.

Another issue is simply the selection of a single teacher from the entire world. To be fair we would need to broadly solicit nominations. Then we would have a major task selecting a final group of candidates. Because teaching – good or bad – is context dependent, we would need to establish some standards that could apply broadly but yet be specific enough to enable us to make some choices. Defining good teaching is difficult at the local level and seems overwhelming when considering many countries and cultures.

At the University level many young faculty would be left out because they need to concentrate on stabilizing their research program. Only when research is firmly established (usually after 8-10 years) do they have time to focus on teaching.

For a professional award, some of the criteria seem to be a little clearer. In this case research in physics education has some standards although these are not clearly stated anywhere. For an award of this nature we would need to establish some measurable and observable characteristics which would lead us to conclude that the young person was truly outstanding.

Some members expressed a desire to reward professional leadership. However, this type of leadership seldom is evident within 8 years of receiving a PhD.

In general, those who had served on national selection committees for these types of awards expressed some concern about the procedure. It is very difficult to distinguish candidates all of whom are rather good. So, the general approach is to rely mostly on publication record.

A concern about the nature of physics education research was also expressed. Unlike other areas of physics a young researcher is not likely to have a single break through which will quickly change the way a large number of people look at teaching. Because of the context dependence and the general nature of teaching, changes move slowly through the community and must be verified in many different situation before they can be generalized. Thus, young researchers may well make important contributions within the first 8 years, but the value of the effort may not be known for many years later.

For both academic and professional awards, we would need to establish criteria and standards. Ian Johnston suggested that we complete a concrete exercise as a first step toward this definition. Each of us could select someone who is deserving of the award and distribute his/her CV. We could abstract the criteria from those CVs.

We also had some discussion about defining “young.” However, the IUPAP criterion is up to 8 years beyond earning a PhD.

A point of general agreement is that the IUPAP statement that time for “maternity leave” should not be included in the 8 years is good. However, it is too narrow. We would hope that some of our cultures will enable young men to take family leave as well as young women.

Several alternatives to the Young Scientist Awards were mentioned. At this time we would need to ask IUPAP for permission to give such awards. We need first to respond to IUPAP about the Young Scientist Award before pursuing other options.

## **ICPE BOOKS – REPORTS AND UPDATES**

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

At the meeting we discussed the status of the chapters and made suggestions for possible authors. Subsequently Elena contacted several of the authors and received commitments from them. Below is the Table of Contents taken from her 12 September e-mail. I think that it is not necessary to record all of our suggestions here.

Connecting Research in Physics Education with Teachers Education"  
draft of table of contents (updated, September 2006)

Section A Introduction (reasons for Vol. 2 and relations with Vol. 1)  
(Matilde + Elena)

Section B About Physics

B1 The structure of physics Knowledge (Jon Ogborn, completed)

B2 The Language of Physics (specific attention to Mathematics) (M. Pietrocola)

B3 Physics in an interdisciplinary framework (S. Pak)

B4 Physics, technology, environment and development (D. Gil Perez, in progress)

Section C About learning (or Physics Learning)

C1 Update on learning model and conceptual understanding (L. Viennot, contacted)

C2 The development of skills and values (V. Talysayon)

C3 The image of science of students and teachers

C4 Learning form International Competitions (G. Tibell)

Section D About Teaching (or Physics Teaching)

D1 Communications skills for teaching (A. M. Pessoa, contacted)

D2 History of Physics as a tool for teaching (I. Galili)

D3 What physics should we teach?

D4 Pedagogical content knowledge versus content knowledge (D. Grayson)

Section E Technologies for learning and teaching  
E1 The aims and strategies of laboratory work  
E2 The didactical uses of ICT- based approaches and tools (R. Thornton)

Section F Commented Bibliography  
Publications

## **BUDGET**

Pratibha reported that funds are available to meet every year. Our budget is very high compared to other commissions. We have a rolling budget of \$3000 over a 3-year period. However, we have received \$4000 in past two years. Judy Franz provided \$2000 for this meeting. \$3000 is budgeted for news letter.

Elena noted that the cost of travel to Commission meetings is very expensive. She asked if the conference organization could help by providing some funds. Mauricio suggested that sometime national councils, such as the British Council; may provide funds: Elena asked that we just remind the local organizers. Diane suggested that Commission members could be plenary speakers.

Elena suggested that we write a letter to organizers of future conferences about specific sessions related to gender issues. Dean agreed to write a letter and include both gender issues and participation of students.

## **RELATION TO OTHER BODIES**

Pratibha reiterated that IUPAP treats us well

We maintain close contacts with UNESCO. Several of our members are involved in dissemination of the UNESCO produced ALOP materials. Minella Alarcon works closely with ICPE on a variety of common interests.

Elena is a member Education Division of the European Physical Society which will be meeting next week-at GIREP. However, the Education Division has no money

Pratibha suggested that we seek endorsement of scientific bodies.

We need to increase ties with the Arabian Physics Education Network (AraPEN) and the Collaboration of Physical Societies of Latin American

## **ICPE MEDALS**

The Medal for 2006 was presented at the Tokyo meeting to Jon Ogborn. The citation is included as Attachment F.

We need to invite nominations from a broader segment of the physics education community than we have at the present. We will post a nomination form on Web and include an article in the newsletter. Commission Members are encouraged to both nominate and solicit nominations from others. The deadline is November.

## **ASSOCIATE MEMBERS**

Laksham Dissanyake will continue as an Associate Member in his role as President of ASPEN.

Ian Johnston, new Newsletter Editor, will replace Vivien Talisayon. Eduardo Molto-(Cuba) has no money. If he continues as an Associate Member, we must seek funds to bring him to a meeting. However, no one had any ideas for a source for those funds. Cesar Mora was mentioned as a good possibility for an alternative to Molto.

Other underrepresented geographical areas are Africa north of South Africa and the Middle East. If we are allowed to add additional Associate Members we should consider physicists from these areas.

Minella Alarcon (UNESCO) will continue as an ex officio member.

## **OTHER PROJECTS AND ACTIVITIES**

Pratibha suggested a webpage on how to organize conferences.

Takatoshi wanted to have recommendations for what should happen after the conference; didn't have time.

It was suggested that we collect recommendations of back conferences. Everyone agreed that this would be a good idea, but I have no record that anyone agreed to take on the task.

Dean reported on the PhysWiki Development – See <http://web.phys.ksu.edu/physiki/>. This effort is an outcome from WCPD. However, the participation by WCPD attendees or others has been essentially zero. Dean agreed to write a short article for the next news letter in an attempt to increase interest and participation.

Meeting adjourned mid-afternoon 18 August 2007.

Submitted by Dean Zollman, ICPE Secretary

**ATTACHMENT A; IX Inter-American Conference of Physics Education**

San José, Costa Rica

2006/07/03-07/07

Leda María Roldán Santamaría

WWW = <http://www.efis.ucr.ac.cr/vari0s/ixconfenfingle.htm>

**1. BASIC INFORMATION**

**Name of relevant IUPAP - Commission** C-14

**TITLE OF CONFERENCE** IX Interamerican Conference Physics Education

**Location** San José, Costa Rica.

**Start and End Dates (YYYY/MM/DD-MM/DD)** 2006/07/03-07/07

**Name of Organizer/ Contact Person** Leda María Roldán Santamaría

**Phone** (506)308-3598

**Fax** (506) 207-5382

**E-mail** lroldan@ice.co.cr

**Conference WWW Address** <http://www.efis.ucr.ac.cr/vari0s/ixconfenfisica.htm>

**Type of Conference:**

A. General    x B. Topical     C. Special

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**2. PLEASE ENTER THE NUMBER OF:**

a. Attendees	99
b. Women participating	41
c. Women giving invited papers	60
d. Countries participating	14
e. Participants from outside the host country	77
f. Scientists from developing/disadvantaged countries receiving travel assistance	1/5

**3. TRAVEL ASSISTANCE**

a. Amount of individual assistance	\$350
b. Total funds used to support travel of scientists	\$4000

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#### 4. ADDITIONAL INFORMATION (OPTIONAL)

- a. **New work:** describe any new and important work that was presented at the conference.

**Please note: 720 characters max (12 lines, 60 characters)**

The IX Inter-American Conference on Physics Education (IX IACPE) was held at the Universidad de Costa Rica, San José, Costa Rica, July 3 to 7, 2006. The IX IACPE was organized by the Inter-American Council and a Costa-Rican committee in coordination with the Physics Department and the School of Teacher Education of the Universidad de Costa Rica, the Physics Department of the Universidad Nacional, the Science Department of the Universidad Estatal a Distancia (University for Distance Learning) and the Ministries of Science and Technology, and of Education. The theme of the Conference was "Teaching Physics in the New Millennium" and its goal was "new ideas for the teaching of physics with virtual and electronic instrumentation equipped laboratories for the education and development of physics teachers". The IX IACPE was endorsed by the Latinamerican Center of Physics (CLAF), the International Commission of Physics Education of the International Union of Pure and Applied Physics (ICPE/IUPAP) and the Ministry Science and Technology of Costa Rica. About 100 delegates from 14 countries attended the IX IACPE, with 22 of these delegates coming from Costa Rica.

- b. **Comments:** Please provide any comments on IUPAP sponsorship from the viewpoint of the organizer (e.g. problems that arose, timing of the availability of funds, communication with the secretariat, etc.)

**Please note: 720 characters max (12 lines, 60 characters)**

Contrary to Inter-American Conferences past experiences, funds were made available to the Costa Rican Organizing Committee of the IX IACPE one month in advance of the Conference. This timely funding made it possible for us to efficiently organize the even. We are pleased to note that there was a vast improvement in the communications quality between the Organizing Committee and the sponsoring.

## ATTACHMENT B: Temporary Report on International Conference on Physics Education 2006 Tokyo

Reported by Takatoshi Murata  
Chair of Steering Committee  
August 17, 2006

### Scale of the Conference

Number of Participants: 434

Number of Countries: 25

Japan	319	China	20	Korea	18	Pakistan	13	India	10	US	9
Brazil	8	UK	5	Philippines	6	Mexico	3	Italy	3	Finland	3
Columbia	2	Belgium	2	Australia	2	Malaysia	2				
France, Iran, Sri Lanka, South Africa, Czech, Kenya, Germany, Nigeria, Thailand	1 each										

### Outline of the Conference

The International Conference on Physics Education 2006 was held from August 13 to 17 at National Olympic Memorial Youth Center in Tokyo organized by The Physics Education Society of Japan as a main organizer. Joint organizers are IUPAP, The Physical Society of Japan, The Japanese Society of Applied Physics, Association of Physics Education of Japan, British Council, The Organization for Educational Development of The University of Tokyo. The organizing committee was formed under the chair of Professor Toshio Hyodo, professor of the University of Tokyo with active members of high school teachers and university staff in the physics education field. International and domestic Advisory Committees were formed with leading scholars in the field. Under the organizing committee, three committees were organized namely, Program committee chaired by Professor Akira Akabane, professor of Saitama Medical School, Conference Steering Committee chaired by Takatoshi Murata, professor emeritus of Kyoto University of Education.

The program structure of the conference is as follows:

Subjects of sessions:

Curriculum, Teacher training, Teaching process, Teaching materials, Popularization, and Others

Special lecture by Dr. Akira Tonomura of Hitachi Ltd.

8 plenary talks by leading scholars in the field.

Nearly 15 invited papers selected from submitted abstracts.

11 oral sessions, each including 1 or 2 invited talks

Poster sessions in 3 rooms.

5 Workshops of each subject

Teachers' session

Demonstration by Japanese teachers

About 380 abstracts were submitted excluding those of plenary talks. All the abstracts except plenary lectures were refereed by the members of program committee. Papers for oral presentations were selected independent of author's preference in the abstract submission form. One of the program committee's policies of the selection of oral presentations is to homogenize the presenter's countries, and minimize Japanese presentations. The number of papers assigned as poster presentation was 106.

The proceedings will be published in CD-ROM form as a special issue of the Journal of the Japan Physics Education Society. The deadline of the paper is set at the end of September, and the proceedings will be published (we hope) by the end of this year.

Budget status (temporary)

Total budget: approximately 24M JPY (~ 207k USD)

Support of organizers

The Physics Education of Japan

IUPAP 11,000 USD (5,000 USD for the support to participants from developing countries)

British Council

Sponsors

Commemorative Organization for the Japan World Exposition '70

Foundation for Promotion of Material Science and Technology of Japan

Several private companies

The main income is the participation fee (28,000 JPY for early registration, 33,000 JPY for others.)

We tried to support extensively participants from developing countries as well as teachers and students (including domestic people.)

Reward and support for plenary speakers were minimum.

No waiving of fee and lodging for domestic committee members.

**ATTACHMENT C: E-mail to Khalid Berrada Concerning the Conference in Marrakech**

**From:** Zollman, Dean  
**Sent:** Monday, September 18, 2006 8:45 AM  
**To:** 'Khalid Berrada'  
**Cc:** Pratibha Jolly  
**Subject:** ICPE Conference in 2007 in Marrakech

Dear Mr. Berrada,

Thank you for agreeing to host an International Conference on Physics Education in 2007. As you know, the Commission discussed your proposal for the conference during our recent meeting in Tokyo. We are grateful that you have been able to change the dates so that the conference does not conflict with any major holidays. We think that the change is likely to increase the participation at the conference.

Commission members also discussed the content which you have proposed for the conference. In general the members thought that the different topics were appropriate for a conference which will focus on "Building Careers with Physics." We expect that you will attract many interesting and excited talks and posters.

I was asked by Commission members to bring three issues to your attention.

First, a major goal of IUPAP is to increase the number of women with careers in physics. As a Commission of IUPAP we are committed to this goal. The topics in your conference may attract some papers and posters related to girls and women in physics. However, we would like to assure that this topic receives significant attention. Thus, we ask that you add "Women and Girls in Physics" as a specific topic and have at least one session that is devoted to that topic.

Second, IUPAP has asked our Commission to work directly with students whenever possible. We hope that you will be able to include student participation in at least one part of your conference. For example, at the Delhi conference, a large number of students attended the opening session where the talks were aimed at a general audience.

Third, some members of the Commission have difficulty obtaining funds to attend an International conference in a distant location every year. As you are thinking about invited and plenary speakers, please include members of the Commission in your consideration. If any of them might be appropriate, it could be helpful financially if they can be invited as plenary lecturers.

Again, thank you for the effort that is needed to host this Conference. I look forward to meeting you in Marrakech next year. In the meantime, if you have any questions, please contact me at any time.

Dean Zollman  
Secretary  
International Commission for Physics Education

## ATTACHMENT D: ICPE Web site Statistics

Topic	2005			2006
	April-June	July-Sept	Oct-Dec	Jan-Mar
ICPE Home Page	5902	3405	8175	20980
No frames home page	124	28		151
Conferences index	146	94	89	267
History	60	23		
History - Kelly	31			
Medalists Index	28	22		
Medals Vienott	28			
Members		30	87	
Minutes 1999	31			
Minutes 2002	45			
Minutes 2005			105	
Minutes index		24		
Newsletter 33	37			
Newsletter 38		32		
Newsletter 38		23		
Newsletter 39	35			101
Newsletter 40		23		
Newsletter 41		31		
Newsletter 42				205
Newsletter 43	85		87	
Newsletter 44	31	53		
Newsletter 45	34	32		
Newsletter 46	48	36	80	
Newsletter 48	141	76	161	232
Newsletter index		22		
Organizing a Conference		24		
Physics Now	776	806	1511	933
Proceedings Durban 2004				491
Publication index	127	47	97	116

## **ATTACHMENT E: Latin- American Physics Education Network (LAPEN)**

### **I. Introduction**

This network is constituted by working groups on Physics Education that exist in different countries of the region. The creation of LAPEN has been inspired and warranted by the members of the International Commission on Physics Education of the International Union of Pure and Applied Physics. LAPEN was constituted in the International Meeting on Teaching Physics and Professor Training (RIEFP 2005) which was celebrated in Matanzas, Cuba in November 2005. Delegates from Mexico, Brazil, Uruguay, Colombia, Peru, Spain, Argentine and Cuba participated in this constitution. The creation of LAPEN was also warranted by the general assembly of the IX Inter-American Conference on Physics Education held in San Jose, Costa Rica from 3 to 7 July 2006

LAPEN has a Coordinator Committee integrated by a President, a Vice-president and an Executive Secretary and the coordinators of the network in the different countries where the working groups decide take part of LAPEN. The functions of these responsibilities are distributed by the members of the Coordinator Committee. The persons elected in the constitution meeting for the mentioned responsibilities during 2006-2009 were:

President: Dr. Mauricio Pietrocola. Sao Paulo State University, Brazil.

Vice-president: Dr. Eduardo Molto Gil. Pedagogical University "Enrique Jose Varona", Cuba.

Executive Secretary: Dr. Cesar Eduardo Mora Ley. National Polytechnical Institute, Mexico

### **II. About the identification of the network.**

2.1 LAPEN is identified by the abbreviation in initials of its name in English.

### **III. General goals.**

3.1 Contributing to the improvement of Physics Education and the teachers of this subject in the different educational levels.

3.2 Divulging the results of physical education research and in advance experiences, scientific meetings and other important events in Physical Education.

3.3 Promoting the exchange with other networks, working groups and scientific society related to Physical Education.

3.4 Contributing to the organization of working groups in LAPEN in order to integrate different activities about Physics Education in the region.

### **IV. Members of LAPEN**

4.1 Any working group on Physics Education in Latin-American region which is interested in its goals can belong to LAPEN.

4.2 A Physical Education Working Group that want to belong to LAPEN must do the following:

4.2.1 The responsible of the working group should contact with a member of LAPEN coordinator committee and expose to him the desire of participate in the network. Also, the following aspects should be sent:

4.2.1.1 Institution or organization which the working group belong.

4.2.1.2 Name, surname, academic or scientific grade, electronic and, postal address of the head of the working group, and his curriculum in no more than 250 words.

4.2.1.3 Main working aspects of the group..

4.2.1.4 Main results of the working group in the last three years.

4.2.1.5 WEB site, in the case that working group has.

4.3 The Coordinator Committee will send a notification with the acceptance of the working group in LAPEN.

4.4 The working groups of LAPEN in each country should be organized in chapters with the name of the country. Each chapter should have a coordinator who represent it..

## **V. Duties and rights of the member groups of LAPEN**

5.1 The member groups of LAPEN will be represented by its responsible person. If the groups are organized in a national chapter, they will be represented by the coordinator of this chapter.

5.2 The member groups of LAPEN should keep actualized the information about the group.

5.3 The member groups of LAPEN will receive all kind of information in relation to LAPEN.

5.4 The member groups of LAPEN should find support for project, celebration of meetings and so on.

5.5 The member groups of LAPEN should divulge the information that they receive from LAPEN in its countries..

5.6 The member groups of LAPEN should communicate to the Coordinator Committee of LAPEN when they decide to let it.

5.7 The papers of the member groups of LAPEN will have priority in order to be publish in the review and other publish of LAPEN.

## **VI. The different direction organs of LAPEN are:**

6.1 The coordinator committee integer by: the president, the vice-president and he executive secretary and the coordinators of LAPEN in each countries. .

6.2 The general assembly constituted by the representing of the member groups and the Coordinator Committee.

## **VIII. Generals**

7.1 LAPEN works generally through:

7.1.1 Meetings (congress, workshops, symposiums, seminars, training schools and courses and so on.)

7.1.2 The publication of an on-line review.

7.1.3 Its WEB site.

7.2 LAPEN should meet its general assembly each three years.

7.3 LAPEN will give special distinctions to Physics professors with a relevant work in Physics education in Latin-American region.

**VIII. Electronic address of the regional coordinators of LAPEN.**

8.1 President: Dr. Mauricio Pietrocola: mpietro@usp.br

8.2 Vice-president: Dr. Eduardo Moltó Gil: lacpe@fisica.uh.cu, emolto@info.isctn.edu.cu

8.3 Executive Secretary: Dr. César Eduardo Mora Ley: cmoral@ipn.mx, ceml36@hotmail.com

## **ATTACHMENT F: Citation for the Presentation of the ICPE Medal to Professor Jon Michael Ogborn of the Institute of Education, University of London**

### **Tokyo - 2006**

Jon Michael Ogborn, Professor Emeritus of the Institute of Education, University of London, is awarded the ICPE Medal in recognition of his many contributions to physics education, which have been outstanding in their nature and international in their scope and influence.

After studying Natural Sciences at the University of Cambridge, Jon Ogborn obtained a Post Graduate Certificate of Education from the Institute of Education in the University of London, and became a physics teacher at the William Ellis School. Within a few years he was Head of Science at the Roan School, and a few years after that he joined the academic staff of the Worcester College of Education. While there, he was appointed, along with Paul Black, to lead the Nuffield Advanced Physics Project, which produced a radically new physics course for 16 to 18 year-old students.

In 1971 Jon moved to Chelsea College in the University of London, initially as a Senior Research Fellow, then as Reader in Physics Education. He was appointed Professor of Science Education at the Institute for Education in 1984; a position he held until 1997. From 1997 to 2001 he was Professor of Science Education at the University of Sussex, and since 2001 he has been Emeritus Professor of Science Education at the University of London Institute of Science Education.

In a long and distinguished career, Jon Ogborn has been a participant, often a leader, in many educational research projects, and has guided many students to the successful completion of their doctoral studies. He has worked on students' conceptions, computer modelling, data analysis and images in science education. The teaching of energy and thermodynamics have been particular interests of his. Such is the extent to which he has gained the respect and trust of those who have worked with him, that he was the natural choice to lead the *Advancing Physics* project funded by the UK Institute of Physics in 1997. This very large and complex project involved another radically new approach to the teaching of Advanced Level Physics, and resulted in a course that is now followed by about 25% of all the students who progress to that level. Jon's ability to inspire confidence and generate enthusiasm amongst classroom teachers was vital to the success of that project.

At the international level, Jon Ogborn is well known for his involvement with GIREP and ESERA, and for his work with George Marx on the Danube Seminars on Physics Education. He has lectured in more than 25 countries, encouraging the educators of many nations with his helpful and supportive attitude and broad cultural view. He has been involved in EU research projects, and has advised the EU on research grants. He also spent six years as a member of ICPE, during which time his many activities included editing the second edition of their publication *Physics Now*.

Jon Ogborn already holds the Bragg Medal of the UK Institute of Physics, and is both a Medallist and an Honorary Member of the Roland Eötvös Physical Society, Budapest. It is wholly appropriate that to those honours should now be added the 2006 ICPE Medal.