



# NEWS BULLETIN

WINTER 2007 EDITION

## Letter From IUPAP President

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Since the General Assembly in Cape Town in October 2005, IUPAP has been actively engaged in implementing new initiatives. In this Newsletter we share the details of some of them with you.

The Young Scientist Medal and Prize program approved by the General Assembly has been launched, and a number of awards were already made in 2006. We anticipate that eventually practically all of the commissions will adopt the program, and the medal and prize will become much sought after. As a consequence the profile of IUPAP will be raised significantly.

The nations, which are members of IUPAP, are mostly “developed”. Using the World Bank’s categorization, approximately 89% of our members are from the high income or upper middle income groups of countries. The IUPAP Council had felt for some time that an effort should be made to extend the impact of IUPAP to include more developing nations, whilst not disadvantaging our existing members. A tentative proposal involving three categories of membership was explored at the meeting of Council and Commission Chairs (C and CC) in London in February 2006. This was further refined, and approved at the Prague C and CC meeting in October 2006. In the last months candidate nations have been identified and invitations extended.

Increasingly the best place to find information on IUPAP, its commissions, working groups and meetings, is through a visit to the website [www.iupap.org](http://www.iupap.org), where navigation is reasonably easy. Since July 20, 2006 we have been able to monitor the numbers and details of our visitors through a service provided by Google. In the body of this Newsletter we provide the URL and password, which will enable you to see in detail the characteristics and geographical locations of our visitors. You will see that they are truly international.

IUPAP came into existence charged with enhancing the development of physics and exchanges of physicists via the organization and sponsorship of the most appropriate international conferences. Access to these

conferences was to be assured for all; an issue that IUPAP still monitors closely. Commission C2, (known then as SUN—Symbols, Units and Nomenclature) was formed in 1931 to provide a common framework for the communication of results. Over time, as physics developed, other commissions were added to ensure that within a sub-discipline the best conferences were proposed for support. The business of conferences still forms the bulk of the work of the commissions. We begin to have preliminary discussions at C and CC as to whether our method for the selection of conferences, much of which is historical, could be improved.

For many years IUPAP has worked under the auspices of the International Commission of Scientific Unions (ICSU), where it is a member within the group of Scientific Unions (29); ICSU also has National members (111). In 1998 ICSU was re-branded as the International Commission for Science, but retained its old acronym. IUPAP has worked hard within ICSU to emphasize the importance and benefits, which can flow from fostering basic science. At the same time we have not ignored the application of physics to the world’s problems, witness the strong sponsorship given by IUPAP to the World Conference on Physics and Sustainable Development held in Durban, South Africa, October 31 through November 2, 2005.

ICSU has established Regional Offices in Africa, Asia Pacific, and Latin America and the Caribbean. We look forward to working with the offices to understand better the strength of physics within the countries of these regions. This information will augment the knowledge which we routinely receive from our commissions, which are really the eyes and ears of IUPAP.

Finally, as with all organizations, IUPAP is very interested to receive feedback on any of our activities, suggestions of new initiatives, and comments on our performance within existing programs.

*Alan Astbury*  
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## New IUPAP Medal and Prize for Young Physicists

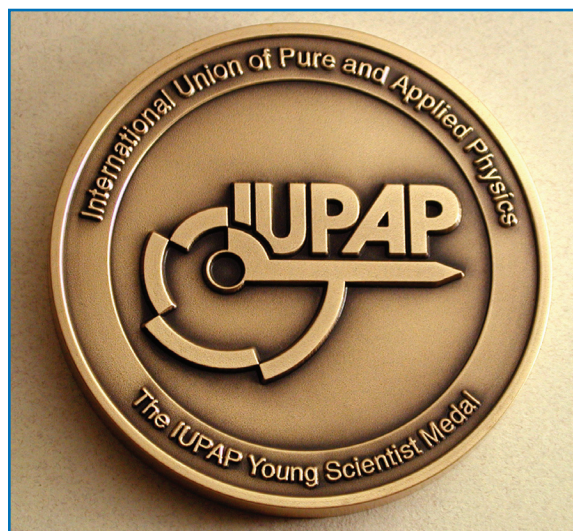
IUPAP has put in place a program to recognize and encourage outstanding young physicists. It will be administered through the commissions, who will organize the appropriate selection committees. The young physicist should be within eight professional research years of having received a PhD. There can be gaps in the sequence of years for leave. It is felt that this arrangement leads to a more symmetric and fairer framework in which to accommodate female and male physicists. The award consists of a prize of \$1000 and a bronze medal as illustrated. The reverse side identifies the commission, and is engraved with the name of the recipient. There is also a certificate with a brief citation indicating the reason for the recognition. Each commission can give up to three awards in any three-year period, but the frequency is decided by the relevant commission. The presentations will occur at major international conferences, where the organizers are encouraged to find time for the young physicists to give plenary talks describing their work.

The following commissions have so far adopted the program, Statistical Physics (C3), Cosmic Ray Physics (C4), Low Temperature Physics (C5), Biological Physics (C6), Magnetism (C9), Particles and Fields (C11), Nuclear Physics (C12), Atomic Molecular and Optical Physics (C15), Plasma Physics (C16), Mathematical Physics (C18), Astrophysics (C19), Computational Physics (C20), and the Affiliated Commission on Medical Physics (AC4).

In 2006 four awards were made; Medical Physics, (Ali Mowlavi, Iran), Magnetism (Siddharth Shanker Saxena, UK, and Satoshi Okamoto, USA), and Astrophysics (Marta Burgay, Italy).

## Developing Nations

The scheme for enabling more developing countries to join IUPAP, discussed at the 2005 General Assembly has now been finalized. Through this we hope to involve far more developing countries in IUPAP activities and to help physics in these countries. Countries fall into three categories:



IUPAP Young Physicists Medal

- A. Those of at least moderate wealth and good scientific productivity. These will be approached and encouraged to join IUPAP with at least one share.
- B. Countries of less wealth and moderate scientific productivity. These will be offered membership for three years at €925 per year (half the full rate of €1850 for one share) provided they can get an expression of interest from a national organization that would pay for their membership. They will get one vote and paid travel for one person to attend the General Assembly. At the end of three years they could opt to join IUPAP at full (1 share) dues and keep their vote and paid travel to the General Assembly or keep with their reduced membership fee for one more three-year period. If they have paid full dues IUPAP will, in addition, pay up to \$1000 for a young (45 years or younger) physicist to attend an IUPAP-sponsored conference each year.
- C. Developing countries with some physics productivity. The Council will choose five countries (the most IUPAP feels it can afford at any one time under this scheme) and offer them a three-year membership for €200 per year with one vote and paid travel for one person to the General Assembly provided they can get an expression of interest from the national organization that might eventually pay for their membership. For the second three years, they would need to pay half of one share, but in addition to the vote and travel to the General Assembly, IUPAP

would pay up to \$1000 for a young (45 years or younger) physicist to attend an IUPAP-sponsored conference each year. If they do not pay the half share, they would be dropped and another country would be offered this membership.

In addition IUPAP will support, at the \$15k level one international workshop per year in a category B country. This would be on a competitive basis for the eligible countries.

## Follow-on from the World Conference on Physics and Sustainable Development

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Money remaining from the World Conference on Physics and Sustainable Development (WCPSD) has been used to sponsor follow-on activities from the concrete outcomes of the four themes of the conference.

**Physics education:** Leaders of the WCPSD Education Theme working with UNESCO have organized two workshops on Active Learning in Optics and Photonics in Marrakech in April 2006 and in Delhi in November 2006. A further such workshop is planned for Latin America in 2007. A program is being established for the development of low-cost equipment for basic and advanced “hands-on” physics education in developing countries. A workshop for teachers from developing countries is planned for 2008 and will be held at Abdus Salam International Centre for Theoretical Physics (ICTP) in Trieste. A multidisciplinary mobile science community has been established to provide support to practitioners through a website at [www.mobilesience.info](http://www.mobilesience.info).

**Physics and economic development:** A very successful workshop on economic development (i.e. entrepreneurship) for physicists from developing countries was held at the ICTP in Trieste in November 2006 under the auspices of IUPAP, ICTP, the Institute of Physics and the European Physical Society. This was well over-subscribed with 140 applicants for 40 places. An internet forum has been set up to enable participants and lecturers to share their views and experiences. A further workshop is planned for spring 2008. Internet forum on nanoscience and on physics and agriculture

for physicists from developing countries are being established.

**Energy and environment:** A further study of projects on energy issues for developing countries is being planned.

**Physics and health:** A series of courses have been set up for training medical physicists in developing countries.

## Conferences

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IUPAP sponsors conferences on the basis of the scientific content of the conference and its international nature in terms of speakers, participants and changing venue of the content. IUPAP also ensures that women are properly represented both on the organizing committees and the lists on invited speakers. IUPAP sponsorship is of value to the organizers, not just through the financial contributions, but also through the endorsement of the conference.

In October 2006 the IUPAP Council approved the sponsorship for 2007 for nine type-A, general conferences each with \$12k + \$5k travel (and one further such conference from the International Commission on Acoustics but with no money attached); eight type-B topical conferences each with \$7.7k and for one in a developing country and additional \$5k for travel; and travel grants of \$5k for five type-C specialist conferences. Details of the conferences can be found on the website at [www.iupap.org/conferences/index.html](http://www.iupap.org/conferences/index.html)

Guidelines have been drawn up to help conference organizers seeking sponsorship for conferences and have been included with the revised document on Policies on Sponsorship of International Conferences on the website.

## An Analysis of Hits on the IUPAP Web Site

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Full details of the frequency, source, and location of the visits to the IUPAP website can be examined by visiting <http://www.google.com/analytics/> and logging in under the username [iupap.stats@gmail.com](mailto:iupap.stats@gmail.com) with the password **iupap100**.

## ICSU Regional Offices

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ICSU has established three regional offices, which have the charge to:

- Promote increased participation of the developing country scientists and regional organizations in ICSU programmes and activities; and
- Assist ICSU in Strengthening science and capacity building in developing countries through South-South and North-South collaboration.

### **Africa, Pretoria, South Africa**

Exec. Director Prof. Sospeter Muhongo

### **Asia Pacific, Kuala Lumpur, Malaysia**

Executive Director Prof. Mohd Nordin Hasan

### **Latin America and the Caribbean, Rio de Janeiro, Brazil**

Executive Director Prof. Alice Abreu

The contribution from ICSU to each office is \$25,000 per year, with the bulk of the costs borne by the host nations. A further office is planned for the Arab region.

## IUPAP Meetings

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As is traditional in the year following the General Assembly IUPAP held two meetings of the Council and Commission Chairs in 2006.

- February 24-25, London, England, hosted by the Institute of Physics, UK.
- October 13-15, Prague, Czech Republic, hosted by the Faculty of Mathematics and Physics, Charles University.

The next meeting of the Council and Commission Chairs will be held on:

- October 5-6, 2007, Rio de Janeiro, Brazil.

**The 26th IUPAP General Assembly will be held on October 15-18, 2008, Tsukuba, Japan, preceded by a meeting of Council and Commission Chairs.**

## IUPAP Officers

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### **Alan Astbury**

*President*

### **Sukekatsu Ushioda**

*President Designate*

### **Yves Petroff**

*Past President*

### **Judy Franz**

*Secretary General*

### **Peter Melville**

*Associate Secretary General*

## Contact Information for the IUPAP Secretariat

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### **Jacquelyn Beamon-Kiene**

*IUPAP Administrator*

c/o American Physical Society

One Physics Ellipse  
College Park, MD 20740

**Beamon@aps.org**

Phone: (301) 209-3269

Fax: (301) 209-0865

[www.iupap.org](http://www.iupap.org)