



International Organization for Science and Technology Education

www.ioste.org

In this issue:

... **IOSTE XIII dates!**

... **Regional activities in Tunisia, Lithuania, Philippines & Australia,**

... **Can big dollar tourism reduce its ecological footprint? Lee Yuen Lew introduces 'Pangea World'**

... **Two new IOSTE regional symposium proceedings published**

Contents:

View from the Chair	1
IOSTE News	2
Conference Notice Board	4
STS News Clearinghouse	5
Feature Article	6
Hot off the Presses	8
About IOSTE	9
Executive Members of IOSTE	10

Welcome to the July 2007 newsletter. This edition announces the dates and theme for IOSTE XIII, describes a number of regional IOSTE activities and introduces two new IOSTE proceedings publications. Pierre Clément provides an account of the BioHead Citizen meeting in Tunisia and I report on the visit by board members to Turkey and on IOSTE representation at the recent World Conference on Science and Technology Education.

This issue features an article by our North American representative Lee Yuen Lew on *Pangea World* - a fascinating project which attempts to combine environmental principles, ecology education and tourism. You will also find the usual Conference Notice Board and the STS News Clearinghouse.

Thank you to all IOSTE members who contributed content to this

newsletter, and I would again like to acknowledge the support of the National Centre of Science, ICT and Mathematics Education for Rural and Regional Australia (SiMERR Australia).

As this newsletter goes to press, an IOSTE Regional symposium is beginning in the Philippines (www.rfhost5.com/upedu/pages/ioste.php). Good luck to Prof. Vivien Talisayon and her team!

This is my 5th newsletter and while I have enjoyed the experience, I think it is time to hand the job over to somebody else. If you would like the opportunity to produce the December 2007 newsletter, please email me.

*Editor, Terry Lyons,
SiMERR National Centre,
University of New England
Australia
terry.lyons@une.edu.au*

View from the Chair

The details of IOSTE XIII have now been finalised. Following a visit to Turkey by board members Jayshree Mehta, Angela James, Suan Yoong and myself, the local organising committee and the international board have agreed to the symposium being held in Izmir from September 21 - 26, 2008.

The Aegean coast around Izmir and Cesme is very beautiful and should be an attractive venue for delegates, with access to highly interesting excursion sites, including Ephesus. The board members visited possible venues, met with the organizing committee and potential sponsors. Our visit was hosted by the TAKEV School in Izmir - a very impressive science and technology primary school which will also be of interest to delegates. Suan, Jayshree, Angela and myself are very grateful to the staff of the TAKEV School for the hospitality and support we received during our visit. There is more



(L to R) Bulent Cavas, XIII Symposium organizer, with representatives from the IOSTE board Jayshree Mehta, Terry Lyons, Angela James and Suan Yoong, in Turkey.

detail about our visit on page 2. It was also good to meet the IOSTE XIII local organizing committee, led by Teoman Kesercioglu and Bulent Cavas. They very enthusiastic and well organized and we wish them luck. On behalf of IOSTE, I would like to thank Dokuz Eylül Üniversitesi Faculty of Buca Education for supporting the organizing committee.

*Terry Lyons,
IOSTE Chair,
University of New England,
Australia*

IOSTE News

IOSTE XIII set for Izmir, Turkey.

The XIII IOSTE International Symposium will be held in Izmir, Turkey, from September 21 to 26, 2008. The theme of the symposium is 'The Use of Science and Technology Education for Peace and Sustainable Development.'

The later dates are a variation from our normal July fixture. September is preferred by the local organizers because it is outside the heavy tourist season and will therefore reduce travel and accommodation costs for delegates. It is also cooler and less crowded than in July. There has been extensive consultation about the dates with your regional representatives, the majority of whom agreed that these advantages will offset the inconvenience of holding the symposium in the teaching semester. The symposium website is nearly finished and will be uploaded in the next few days, so check the IOSTE website www.ioste.org for a link to the symposium site. Members of the Scientific Committee include:

Arif Altun, Turkey
 Nelio Bizzo, Brazil
 Graça Carvalho, Portugal
 Salih Çepni, Turkey
 Shu-nu Chang, Taiwan
 William Cobern, USA
 Omer Ergin, Turkey
 Peter Fensham, Australia
 Laercio Ferracioli, Brazil
 Paul Hobden, South Africa
 Angela James, South Africa
 Rizard Janiuk, Poland
 Edgar Jenkins, England
 Teoman Kesercioglu, Turkey
 Vincentas Lamanauskas, Lithuania
 Jari Lavonen, Finland
 Terry Lyons, Australia
 Bill Kyle, USA
 Ellen Mandinach, USA
 Jayshree Mehta, India
 Masakata Ogawa, Japan
 Susan Rodrigues, Scotland
 Svein Sjoberg, Norway
 Haluk Soran, Turkey
 Robert Yager, USA
 Yau-yuen YEUNG, China
 Suan Yoong, Malaysia

IOSTE presentations at TAKEV School

A visit to Turkey by Jayshree Mehta, Angela James, Suan Yoong and Terry Lyons was hosted by the TAKEV Science and Technology School in Izmir - www.takevilkogretim.k12.tr. The board reps presented at a conference hosted by TAKEV on the theme of 'New Trends in Science, Mathematics and Technology Education', which was attended by about 200 teachers, academics and university students. The conference attracted local and national media coverage for both TAKEV and IOSTE. According to XIII symposium organiser Bulent Cavas, "the meeting in Turkey was a great opportunity for us to inform Turkish people about IOSTE and its activities and also XIII IOSTE Symposium. After our meeting, approximately 25 different news outlets published on the local and national newspapers and TV. I am still receiving positive emails from different cities about contributing to the IOSTE symposium."



IOSTE presenters at the TAKEV School conference, April 28. (l to r) Bulent Cavas, Nur Yaras (TAKEV Founder), Angela James, Jayshree Mehta, Gönül Ketenci (Principal), Terry Lyons and Suan Yoong.

VI Symposium for Central and Eastern Europe

A very successful IOSTE regional symposium was hosted at Siauliai University, Lithuania from June 17 – 21. The theme of the symposium, chaired by the IOSTE regional representative Vincentas Lamanauskas, was 'Science and Technology Education in Central and Eastern Europe: Past, present and Perspectives. Photos from the symposium and copies of the proceedings can be seen at [www.gutcsu.lt/IOSTEi/IOSTE LT.htm](http://www.gutcsu.lt/IOSTEi/IOSTE_LT.htm)

*XIII
 International
 Symposium
 theme:*

*'The Use of
 Science and
 Technology
 Education for
 Peace and
 Sustainable
 Development'*

*Sept 21-26,
 2008*

Thanks to Vincentas for this information.



Some of the delegates to the VI IOSTE Symposium for Central & Eastern Europe

Tunisia symposium a great success

Critical analysis on science school textbooks. IOSTE & Biohead-Citizen meeting in Hammamet, Tunisia. 7-10 February 2007

IOSTE representative for Southern Europe, Pierre Clément, reports on a successful symposium.

This thematic international meeting attracted about 200 participants from 34 different countries. The presentations, in French and English, included nine plenary sessions featuring speakers from South Africa, Tunisia, Brazil, Canada, France, Portugal, and Italy. Discussions focused on textbooks in maths, physics, chemistry, technology, biology, sex and health education and environmental education, as well as on pedagogical styles, and sociocultural contexts). The 68 parallel sessions produced very interesting and fruitful discussions. There were also 41 posters.

Congratulations and many thanks to our Tunisian colleagues especially Mondher Abrougui. The organisation was excellent, very convivial and friendly (everybody easily accepted the traditional Mediterranean 15 minutes of delay!) Meals and accommodation were of a high standard and extra activities such as visits to Hammamet and Nabeul, and cultural dances were very enjoyable.

A CD-Rom with all the full texts of communications and posters (and with the Program, and a presentation of IOSTE) has been given to each participant. I am coordinating the publication of the full texts, of which 11 were selected for a special issue of Science Education International (SEI), with a financial help of the project Biohead-Citizen), and the others are also submitted to referees for a publication in a special issue of the e-journal of INRP (France) "Documents et Travaux de Recherche / Research Documents and Works".

The reference of this free e-journal will be put on the IOSTE website before the end of 2007, with the list of the papers (when the papers will be published in SEI or in another journal, only the corresponding synopses will be in this e-journal).

For most of the participants, it was their first IOSTE meeting. We hope they will participate in others, starting with the 2008 IOSTE Meeting in Turkey!

*Pierre Clément,
Chair of the IOSTE Meeting in
Hammamet, Tunisia*

IOSTE mini-symposium held in South West Pacific region

An IOSTE regional mini-symposium was held in Perth, Western Australia on July 11, to coincide with the World Conference on Science and Technology Education. The theme of the regional symposium was *Science and Technology in Rural Schools*. Organized by Peter Fensham Terry Lyons and Debra Panizzon, it featured presentations on rural STE from Australia, New Zealand and Papua New Guinea.

IOSTE would like to thank Professor David Treagust of ASERA, and Professor John Pegg, of SIMERR Australia, for the financial support they provided to enable Steve Cutler (Otago University) and Pole Awei (Goroka University, PNG) to present at the symposium.

IOSTE and ICASE members meet at World STE Conference in Perth

Eleven IOSTE members attending the World Conference on Science and Technology Education in Perth last week met informally with ICASE board members prior to the conference. The get-together provided an opportunity for IOSTE and ICASE members to meet and discuss issues of mutual interest. I would like to thank ICASE organisers Elaine Horne and Robin Groves, and ICASE president-elect Peter Spratt, for facilitating the meeting. I would also like to congratulate Robin and Elaine on the success of the World STE Conference.
-Terry Lyons

IOSTE Regional Representative contribute to UNESCO forum

Shu-nu Chang (Far East Asia region) and Lee Yuen Lew (North American region) represented IOSTE at the UNESCO International Science Education Policy Forum in Perth, Western Australia on July 13. The purpose of the Forum was to develop a set of modern, concrete and practical directions for policy-making in Science and Technology Education (STE), which will assist STE policy-makers to develop their own national or regional policies or to improve existing ones.

Long time IOSTE member to establish S&T school in Zambia

Members may be interested to hear that one of our IOSTE colleagues since 1982, Cephas Yandila, plans to open a science and technology based school in Kazungula, Zambia. At the moment Cephas is in the process of applying for government approval, but hopes to begin building the school soon. Cephas welcomes any advice from the IOSTE community in setting up the school facilities as well as support, financial or otherwise for his endeavour. Cephas can be contacted at cdyandila@hotmail.com.

Conference Notice Board

IATED

The 10th IASTED International Conference on Computers and Advanced Technology in Education ~CATE 2007 ~
www.iasted.org/conferences/cfp-570.html
October 10, 2007, Beijing
calgary@iasted.org

Information and Communication Technology in Natural Science Education

December 2-5, 2007
Siauliai University, Lithuania
iktgu.projektas.lt/indexen.htm

ASE 2008

Association for Science Education
Liverpool
3-5 January 2008
www.ase.org.uk

NARST 2008

NARST Annual Conference
Sheraton, New Orleans
April 15 – 18, 2008
<http://www.narst.org/conference/default.html>

9th Nordic Research Symposium on Science Education

June 11-15, 2008
Reykjavik, Iceland
<http://symposium9.khi.is>

ASERA

39th Annual Conference of the Australasian Science Education Research Association
Rydges Hotel, South Bank
Brisbane, QLD. Australia
July 2-5, 2008.
www.smec.curtin.edu.au/asera/index.cfm

SAASTE

National Conference of the South African Association of Science and Technology Educators
July 1-4, 2008
Wits University

If you would like your conference, article or other STE activity mentioned in the December 2007 edition of the IOSTE newsletter, please send details to terry.lyons@une.edu.au

Even though we teach science subjects, we don't have a laboratory and we resort to teaching only theory - one of the reasons why it is difficult to have good passes. Besides, how can the pupils be expected to pass when they are supposed to share classrooms with primary school pupils and sometimes learn under trees?"

*-Senior teacher,
Kumuka
Secondary school,
Zimbabwe*

<http://web.wits.ac.za/NewsRoom/Conferences/SAASTE/Programme.htm>

Marissa.Rollnick@wits.ac.za

ICCE

20th International Conference on Chemical Education

University of Mauritius

August 8, 2008

www.uom.ac.mu/20icce.htm

STS News Clearinghouse

Japan to conduct first audit of student academic ability in 43 years

(April 21, 2007) The Japanese education ministry will conduct its first National Assessment of Academic Ability in 43 years. The nationwide test is designed to check academic achievement in elementary school sixth-graders and third-year junior high school students.

The test is a response to public concern over the deterioration in academic skills seen since 2002, when textbook content was reduced 30 percent and the school week was shortened from six days to five. The full article can be viewed at

<http://search.japantimes.co.jp/cgi-bin/nn20070421f1.html>

Zimbabwe - Rural education falls victim to economic decline

(April 17, 2007 Reuters) Education delivery in Zimbabwe's rural communities has all but disintegrated, and experts warn that any gains made after independence are rapidly being reversed in the continuing economic meltdown. "Evidence on the ground shows that the standards of education among rural communities are falling sharply, and one does not rule out the possibility of a collapse if there is no active campaign to

revitalise schools in these areas," Gordon Chavhunduka, former vice-chancellor of the University of Zimbabwe, told IRIN. The full article can be viewed at

www.crin.org/resources/infoDetail.asp?ID=13102

India: New ideas to invigorate science education

(July 11, 2007) 'The Hindu' reports that undergraduate education 'has increasingly become single-field oriented, neglecting vital support subjects. Many PhD degree holders in India today in, say biology, have not learnt physics, chemistry and mathematics beyond high school level, and are ignorant in economics, sociology, geography or languages.

The article argues that Indian society and governments have 'concentrated too much on professional education at the cost of vocational, scientific and general education ... and need to amend and invigorate it so that it becomes an effective tool for the making of a just, vibrant and advancing society'. The full article is available at

www.hindu.com/seta/2007/07/12/stories/2007071250031500.htm

SOUTH KOREA: 'A Strong Voice' for Course Reform (Science, July 6, 2007)

The journal *Science* reports the on the stark reality of science education in Korea. The article quotes Lee Duckhwan, a chemist at Sogang University reporting that 'two-thirds of students now avoid science altogether in 11th and 12th grades.' Lee points to the curriculum reform of the 1990s as reducing the emphasis on science.

The article reports that the ratio of science to liberal arts majors has flipped from 6:4 to 3:7 in the past decade. The full report can be read at

www.sciencemag.org/cgi/content/full/317/5834/76

Feature Article

Pangea World: Combining Tourism, Science and Environmental Education

Lee Yuen Yew, IOSTE Regional representative for North America Long Island University, New York

Environmental education has long been part and parcel of the science curriculum. I have taught science from kindergarten to university levels, with over 20 years in school systems in three different countries. Like other classroom teachers around the world, we deal with topics of greenhouse effects, acid rain, deforestation, recycling, erosion, conservation, and so forth; topics which many text-books often portray as almost isolated and separate entities, delving mostly with the science content with limited connection to personal social responsibilities.

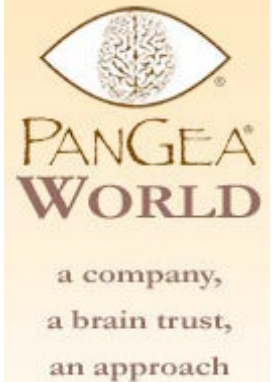
Yet making classroom lessons relevant and connected to the real world should not be too difficult for any reputable science teacher these days, if they stay current. Almost daily one reads of governments, private and public bodies (including businesses and industries) as well as individuals, and the various innovative ways they strive to meet the various global challenges of 21st century earth. However, helping students, our future leaders and decision makers to navigate the vast and often contradictory information and debates in order to achieve the highest level of personal social responsibility pertaining to the environment, is a related but far more complex challenge. How could we achieve this?

On March 7th I had the privilege of attending the launch in Washington DC, USA, of 'IQ Resorts' a project of *Pangea World*. We all know of *Pangea* - the super-continent formed about 250 million years ago. On the other hand, I believe few educationalists have yet heard of *Pangea World* or of the work of its

Chief Executive Officer, the passionate environmentalist and scientist Dr. Hana Ayala. *Pangea World* is a Pan-Pacific 'Tourism for Conservation through Research' (TCR) corporation founded by Dr. Ayala in 1998. The principal goal of TCR is to enrich the performance of two major sectors of the world's economy- hospitality and science-by bringing them into a mutually reinforcing relationship that yields formidable benefits for both (www.pangeaworld.com). It aims to transform the international hotel industry into a leading benefactor and beneficiary of the advancement of science for enhancing environmental security and to engage world-class research as a prime safeguard of conservation areas and heritage sites.

It is Dr Ayala's belief that 'the international resort industry can become the strongest conservation force in the world' (*Hotels*, May 2006, p. 12). The concept of *Pangea World* is based on beliefs that:

- knowledge mobilized through scientific research is the ultimate inexhaustible resource;
- the world's most spectacular, marvel-dense landscapes and seascapes are prime reservoirs of the knowledge resource that, in turn, holds the key to the economic security of those extraordinary places;
- webs of ecological, evolutionary, historical, and other relationships can be drawn among - and boost in value - these 'knowledge banks' across geographies and political boundaries; and
- the international resort industry - with its global ambition and growing preference for mind-stimulating travel experiences - has greater business interest and capacity than any other industry to partner with science to chart the 'knowledge infrastructure' for economic development that both nurtures and is nurtured by the world's premier heritage reserves.



It is Dr Ayala's belief that 'the international resort industry can become the strongest conservation force in the world' (Hotels, May 2006, p. 12)

' revenues (from IQ resorts) could in principle help to fund a major biological research institute in the region and serve as a major training station for young African scientists."

The Washington opening of 'IQ Resorts' was attended by about 50 specially selected invitees including ambassadors, executives of academic institutions, and business leaders from the USA, UK, Germany, Panama, Fiji, Indonesia and Papua New Guinea, among others. The IQ Resorts, which is one of the latest of Pangea's endeavors, was first announced by Dr. Ayala at the Headquarters of AAAS in Washington DC in March 2006. 'The emphasis is on presenting the IQ Resorts endeavor as a catalyst and engine of new, long-term creative linkages between the corporate world and the world of science and conservation.' (Ayala, 2007). It aspires that science and the hotel enterprise can partner in a Hospitality-Science Union with major benefits for both, ensuring the economic security of the world's natural and cultural legacies. Each IQ Resorts Project is expected to engage hotel and academic partners into full integration of hospitality management and knowledge management, from planning and design through development and operation. Each aspires to be an original and each will be international. Pangea's TCR economic-development model has been endorsed by the American Association for the Advancement of Science (AAAS), the Smithsonian Tropical Research Institute (STRI), and other international agencies.

Among the distinguished guest speakers in the March 7th Washington DC meeting were Dr. Anthony Coates, Scientist Emeritus and former Director for Scientific Research Programs of Smithsonian Institutions, Washington DC, and Dr. Adam Wilkins, editor of *BioEssays* in Cambridge, UK. Dr. Coates referred to the IQ Resorts concepts as 'a vision, a milestone, (and) a symbol' while Dr. Wilkins, who has worked extensively with the flora and fauna in East Africa, compared IQ Resorts with more traditional 'Ecotourism' approaches to conserving the rich but endangered biodiversity of the East African Indian Ocean area. He

concluded that:

"The IQ resorts should be much less destructive of the local environment while generating more revenues for the regional economy. Furthermore, these revenues could in principle help to fund a major biological research institute in the region and serve as a major training station for young African scientists."

The Washington meeting culminated with the release of The IQ Resorts Inaugural Publication, which can be downloaded from www.IQResorts.com. There is of course an element of compromise in *Pangea World* between purist environmental ideologies, scientific rationalism and the pragmatism of the business world. According to enviro-philosopher Stewart Brand of the Whole Earth Catalog project (Tiery, New York Times, 2007), environmentalists are divide into two groups, the Romantics and the Scientists with the former being the majority. Traditional conservation methods in the form of preservation of regions rich in flora and fauna as virgin forests or oceans - 'left pristine and untouched by man' would probably appeal to romantic environmentalists who may immediately disdain the very idea of the term 'tourism'. I am convinced however that models such the Tourism through Research for Conservation (TCR) approach of Pangea World would eventually allow the scientific minority in the environmental movement to persuade the romantic majority of the model's benefits for faster achievement of global sustainability. Likewise, delving into such real-life and current examples in classroom debates would be effective tools for an educationist to guide his or her students' ability to think and be able to make good decision on what's reliable information pertaining to the environment in order that they become 'more rational and less romantic.'

IQ Resorts also makes good ethical

sense in the context of the current global warming debate. Following the release of the report by the Intergovernmental Panel on Climate Change, an article in the New York Times (Revkin, April 1 2007) noted that the world's richest and developed countries, which have contributed by far the most to atmospheric changes linked to global warming, will suffer the least while the poorest countries, for examples those around the equator, will be the ones to suffer the most. Not only will the richest and most developed countries be least affected by climate change (at least for several decades), they are also the ones with the money and resources to start (and have in fact started) on ways to protect themselves from the effects of warming, rising sea levels, etc. The reverse is true for the poorer, smaller countries. Yet, many of these poorer countries are extremely rich in terms of flora and fauna; resources which they want to use but lack the funds to do so. Then there's the

eternal tension between economic growth and the damage that development may cause to the environment. For the global community, we stand to lose the most if no help is given to those beautifully rich heritages for sustainable development. IQ Resorts proposes the carefully planned development of areas which are financially poor and vulnerable to climate change, but rich in flora and fauna. It is about time that decision makers of funds contributed to endeavors such as IQ Resorts, because everyone, both rich and poor, will stand to benefit.

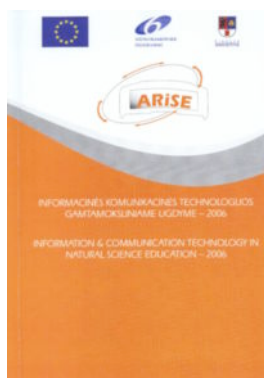
Bibliography:

IQ Resort by Pangea World, a Master Plan, a Portfolio, a Journey. (2007). The Williard InterContinental, Washington DC. (March 7).
 Revkin, A. (2007). *Poor Nations to Bear Brunt as World Warms*. New York Times, April 1.
 Tierney, J. (2007). *An Early Environmentalist, Embracing New 'Heresies'*, February

Hot off the presses

Information & Communication Technology in Natural Science Education, 2006

Proceedings of the International Scientific Practical Conference, Dec. 1-2, 2006, Siauliai University.
 ISBN 9986-38-711-6



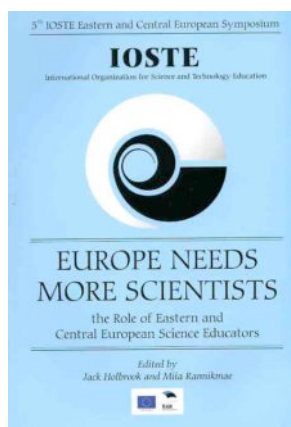
It appears the Central and Eastern European region of IOSTE is a very productive one, with two proceedings publications recently coming out of the region (and another about to be released). This

collection of papers from the ARISE project conference in Lithuania provides an insight into current research on ICT and science education in Eastern and Central Europe. Seven institutions from five European countries – Germany, Lithuania, the Czech Republic, Romania and Malta- were represented. The papers can be accessed at www.iktgu.projektas.lt/Konf_2006content_en.htm
 Thanks to Vincentas Lamanauskas for this information.

Europe Needs More Scientists: The Role of Eastern and Central European Science Educators.

Edited by Jack Holbrook & Miia Rannikmaa. ISBN 978-9949-11-567-9

This book, published last month, contains 19 of the papers presented at the 5th IOSTE symposium for this region.



It is the first fully peer reviewed collection of IOSTE conference papers from this region, and Jack Holbrook and Miia Rannikmae have done an admirable editing job. Many of the papers deal with key issues raised by the 2004 European Union report of the same name. Contact Miia at miia@ut.ee for further information.

To download previous newsletters, go to www.ioste.org

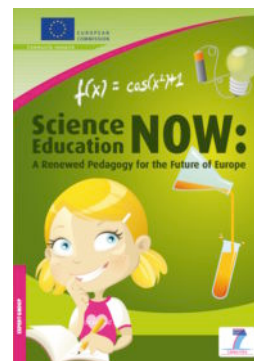
About IOSTE

The International Organization of Science and Technology Education (IOSTE), founded in 1979, identifies science and technology education with the real and changing needs of humankind as a whole and with specific needs of its component communities and nations. IOSTE wants to continue to strengthen its tradition and considers that S&T education should:

1. highlight S&T education for citizenship and for informed, critical, and active participation in democracy;
2. stress the relationship between science, technology and society;
3. emphasize the cultural and human values of S&T;
4. promote equity in S&T and S&T education;
5. advance S&T education for a just and sustainable development and consider how S&T education can contribute to the fight against poverty, discrimination and injustice;

Science Education Now: A Renewed Pedagogy for the Future of Europe. Michel Rocard et al. 2007

ISSN 1018-5593



This report includes the findings and recommendations of the European Expert group on Science Education.

ec.europa.eu/research/science-society/document_library/pdf_06/report-rocard-on-science-education_en.pdf

6. encourage the peaceful and ethical use of S&T in the service of humankind;
7. encourage cultural diversity and international understanding through S&T education;
8. stimulate international collaboration in the domains of research and development and promote cooperation with other international organizations.

The International Organization for Science and Technology Education (IOSTE) is an organization comprising individuals with the common aim of advancing the cause of education in science and technology as a vital part of the general education of the peoples of all countries. Such education should include knowledge of the fundamental concepts of science and technology, the development of scientific and technological creativity, and awareness of the interrelations of science, technology and society.

A reflective account of the 25 year history and philosophy of IOSTE by the organization's first Chair, Charles McFadden, can be found at www.unbf.ca/education/ioste.html Professor McFadden notes that "from the outset, IOSTE's organizational structure, based on regional representation, has ensured a distribution in its leadership across all regions of the globe."

Below is a list of IOSTE board members elected in August 2006.

Current Executive Members of IOSTE

Chairperson

Terry Lyons
University of New England,
Australia
terry.lyons@une.edu.au

Deputy Chairperson

Laercio Ferracioli
Federal University of Espírito Santo,
Brazil
laercio@npd.ufes.br

Secretary/Treasurer

Angela James
University of KwaZulu-Natal,
South Africa
jamesa1@ukzn.ac.za

Past Chairperson

Nelio Bizzo
Sao Paulo University,
Brazil
bizzo@usp.br

Forthcoming Symposium Organizers

Teoman Kesercioğlu
Bulent Cavas
Dokuz Eylul University,
Turkey
cavasbulent@yahoo.com

Past organizer IOSTE XI

Suan Yoong
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IOSTE MEMBERSHIP

Membership of the International Organization for Science and Technology Education is open to all who subscribe to its Constitution. The fee for membership is US\$20.00 and covers the period between two symposia.

Inquiries about membership can be sent to the Secretary of IOSTE:

Angela James
School of Science,
Mathematics and
Technology Education
University of KwaZulu
- Natal (Edgewood
campus)
Private Bag X03,
Ashwood, 3605
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jamesa1@ukzn.ac.za