



Supporting and promoting science education internationally

The ICASE Newsletter

May 2008

This is the newsletter of the International Council of Associations for Science Education.

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1. ICASE endeavours

Rather than link individuals, ICASE is an umbrella organisation forming a communication network between national and regional science teacher organisations involved in science education at the primary and secondary levels. Most specifically the ICASE link is between non-Governmental science teacher associations, but also includes other organisations interested in science education such as science societies, science institutes. In recognising the important role played by Universities in pre- and in-service education and the interlinking with other science education bodies, ICASE also strives to form a link with institutions, complementing the role of UNESCO.

The ICASE role is to:

1. *extend and enhance the quality of formal and non-formal science and technology education for all, with particular reference to the children and youth of the world.*
2. *provide and support activities and opportunities that will enhance formal and non-formal science and technology education throughout the world.*
3. *assist and support all members and other organisations throughout the world which are involved in formal and non-formal science and technology education.*
4. *establish and maintain an international communication network for member organisations and their members involved in formal and non-formal science and technology education.*
5. *encourage and support the establishment and development of professional science and technology organisations, especially teacher organisations in all countries.*

Information about organisations joining ICASE can be obtained from the Secretary, Dr Miia Rannikmaa (miia@ut.ee)

2. Science Activities

For a number of years ICASE produced a pre-secondary newsletter which often contained one page of science activities (STEP activities – activities designed to allow young children to take a step into science by direct experience). The newsletter has been disbanded as a publication, but the ideas, strongly supporting inquiry teaching, are still valid.

Below is included a step activity plus an activity for lower secondary level Give them a go !

A) STEP ACTIVITY

New England magnet sticks

The Challenge associated with the activity.

How can you investigate whether or not the magnet will attract all of the items ?

What you need:

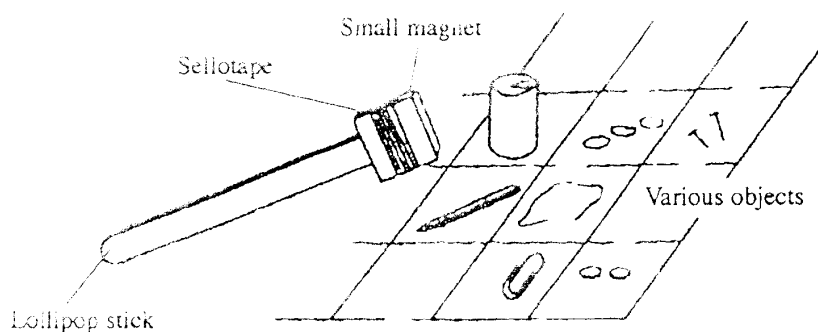
- clean lollipop sticks
- clear tape or glue
- small round or square magnets
- squared paper or similar grid
- things to test such as toy cars of various materials, pebbles, cloths with metal fastenings, coins, tin cans, paper clips, screw, nails etc.
- a recording sheet

What to do:

1. Show students the lollipop sticks and invite them to design and make a magnet stick to use in their item testing.
2. Ask them to plan a fair test and organise how they will do the testing and how they will record their results
3. Let them do their investigation.
4. Is there any pattern in their results? Do certain materials attract magnets while others do not?
5. Make sure that you have plenty of non-magnetic materials available for children to test.

More to do :

- * Suggest children walk around the classroom and predict if furniture and fixtures are or are not magnetic. After writing down their predictions with reasons, test each item with a magnet and record the result.
- * Compare these with their predictions.

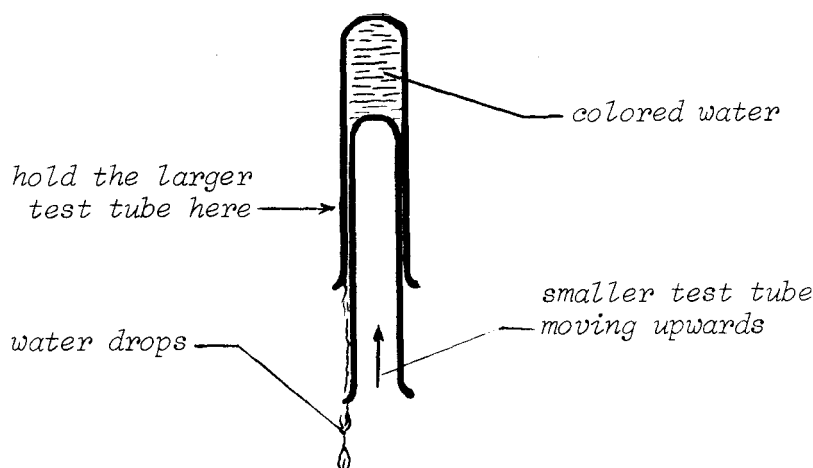


B) Lower Secondary Activity

Teachers sometimes find it difficult to find activities that promote enquiry learning which do not use sophisticated apparatus. In the news letter ICASER puts forward a collection of possible activities that can be tried out or modified to suit the situation.

AIR EXERTING PRESSURE THE UPWARDS FALLING TEST TUBE

- Materials:
1. Two test tubes, one just fitting into the other
 2. A little coloured water.



Procedure:

1. Fill the larger test tube about half way with coloured water.
2. Add the smaller test tube and allow it to float on the water
3. Push it a little further in so the water will overflow.
4. Now invert both test tubes over a small container to catch the dripping water and hold only the larger test tube (you may need to push the smaller tube up to start the motion).

Questions:

1. What happened to the volume of the water after inverting?
2. What made the smaller test tube move upwards?
3. What would be the total force pushing the test tube upwards?
4. Would this 'falling upwards' also succeed with a much smaller test tube floating on the water of a much larger test tube and then inverting it? Why? Why not?

Explanation:

The smaller test tube has to be pushed a little further into the larger until the water overflows, so that no air is left between the two test tubes. After inverting the test tubes, water starts to drip out *decreasing the volume of the water*. Since there is no air above the smaller tube, the outside air pressure is pushing it up with a pressure of 1 kg per cm^2 . For a test tube with about 1.2 cm diameter this upward force is about 1 kg. NOTE: This event of 'falling up' will not succeed with two test tubes that have a larger difference in diameter, because the air will be able to replace the dripping water and thus equalize the pressure above and under the smaller test tube.

Other thought questions could be:

- Would this event work on the surface of the moon?
- Would this event work in a pressurised satellite around the earth?

3. International Conference on Science and Mathematics Education, Oct 27-29, 2008

FIRST ANNOUNCEMENT AND CALL FOR PAPERS

Theme: *Meeting the Challenges in Science and Mathematics Education: Innovations in Action*

The University of the Philippines National Institute for Science and Mathematics Education Development (UP NISMED) in cooperation with UNESCO's International Bureau of Education (IBE – Geneva), **International Council of Associations for Science Education (ICASE) – Asian Chapter**, Department of Education, Commission on Higher Education, and Department of Science and Technology – Science Education Institute will hold an international conference on science and mathematics education on October 27 – 29, 2008 at UP NISMED Complex, Diliman, Quezon City, The Philippines.

Held in conjunction with the centennial celebration of the University of the Philippines, the conference will feature plenary sessions, paper presentations, poster presentations, and workshops that aim to:

- Give an opportunity for teachers, researchers, and educators to share innovative and creative solutions to problems/challenges in the teaching and learning of science and mathematics
- Provide a forum for the exchange of exemplary practices and research results
- Facilitate working group discussions among researchers, educators, and classroom practitioners
- Generate local programs of action to improve science and mathematics teaching and learning.

Science and mathematics teachers, preservice faculty, researchers, and textbook developers are invited to submit papers/posters in any of the following sub-themes:

- Technology Integration
- Assessment of Student Learning
- Curriculum Reform: Processes and Policies
- Action Research
- Professional Development Models
- Education for Sustainable Development

Abstract for paper/poster presentation should not exceed 500 words. Please include title, author/s, institution, postal and email address, contact numbers, area of your paper (science or mathematics education), the theme of your paper, and the school level your topic falls (elementary, secondary or tertiary) at the beginning of the abstract.

Abstracts should be **sent by email** in Microsoft Word format using Times New Roman 12-point size and single spaced to nismed@up.edu.ph Final manuscripts are due by July 31, 2008.

The Official language of the conference is English.

4. Report of the Planning Meeting for the ICASE Regional Conference, May 2009

On the 18 and 19th April, members of the planning committee for the African regional conference on “**Meeting the Challenges of Sustainable Development in Africa through Science and Technology Education**” gathered at the National University Commission building in Abuja, Nigeria. Thanks go to Dr Ben Akpan Executive Director of STAN and ICASE regional representative and to Prof Peter Okebukola, immediate past ICASE African regional representative, a fellow of STAN and a notable science educator in Nigeria for making the arrangements for the meeting.

The planning committee members considered all aspects of the conference by working in 3 sub-committees:

Sub-committee I covered funding, attendees, mobilisation and sponsorship.

Sub-committee II considered the venue, transport, social activities, welfare issues, field trips.

Sub-committee III deliberated on the call for papers, the development of background concept papers, identification of keynote speakers, publicity, publications, protocol, conference pack exhibitions and advertising of the conference.

Of particular note is that the conference will operate for 3 days with the 24th May 2009 and 28th May 2009 being travel days or for tours. The conference will be held in the capital city of Nigeria – Abuja. This is a modern city with a number of top class hotels. Strong support was gained from the Ministry of Science and Technology for Nigeria and also the Ministry for Education.

The conference plan calls for **participants to attend from all sub-Sahara African countries**, whether English is the dominant language, or French, or another language. However, the main working language of the conference will be English with interpretations available into English.

The organisers of the conference, under the notable coordination of STAN, plan to seek concept papers on the main theme of the conference and also each of the sub-themes. These will be supported by keynote speakers each making their address in the conference. And all participants will be encouraged to discuss the issues involved. All sponsored participants will be expected to present a paper, or poster and hence contribute to the proceedings of the conference.

Concept papers needed on:

1. Meeting the Challenges of Sustainable Development in Africa through Science and Technology Education
2. Meeting the challenges of food security in Africa through S&T education
3. Poverty alleviation through science and technology education
4. Enhancing relevance of science and technology curriculum and curriculum delivery
5. The role of the teacher and teacher professional development
6. Strengthening peace building through science and technology education
7. Combatting HIV and AIDs through education, prevention, care and support
8. Strengthening partnerships
9. Nanotechnology for sustainable development

To best encourage strong background concept papers, it is planned to produce a book on 'Education for Sustainable Development through Science and Technology Education'. Anyone interested in developing a background concept paper on any of the following are asked to contact Ben Akpan by e-mail (benakpan1@yahoo.ca)

This is expected to complement the outcomes from the world conference on **Education for Sustainable Development Moving into the Second Half of the UN Decade** 31 March – 2 April 2009, Bonn, Germany (http://www.bne-portal.de/coremedia/generator/unesco/de/06_UN_Dekade_International/01_Weltkonferenz_202009/World_Conference_2009.html). The world conference is organized by UNESCO and the German Federal Ministry of Education and Research, in cooperation with the German Commission for UNESCO. Further details and a call for papers will appear on the conference website..

5. Calendar of Events

This section draws attention to events that may be of interest to science educators/teachers. ICASE is very pleased to include all events organised by its member organisation. Please send details to the ICASE President (jack@ut.ee)

CONASTA 57 2008 Conference of the Australian Science Teachers Association 6-9th July 2008 at Griffin University, Queensland.

New featured speakers include Dr Alex Cook from the Queensland Museum talking about Queensland dinosaurs and Dr Dion Weatherly a computational seismologist from the University of Queensland, a talking on cutting edge modeling for earthquakes and tsunamis.

We now have a series of 'conferences within a conference' to provide substantial opportunities for teacher professional development. Currently, Monday will be a Primary Science Day, Tuesday will include the Royal Australian Chemical Institute Chemistry Interface and an afternoon program on 'New approaches to secondary science'. Wednesday's program will showcase the 'Scientists in Schools' program. The laboratory technicians have a two-day program on Monday and Tuesday. Registration is now open. Click [here](#) to register or visit <http://www.astmanagement.com.au/conasta57/>

SLASME (Sri Lanka) The 24th annual general meeting, scheduled for May 2008, has been postponed until July 19 and 20, 2008. This is particularly because of the prevailing situation in the country due to war and bombs. Planned are lectures and presentations of science investigatory projects by those interested, including secondary school students.

20th ICCE 3-8 August 2008, Mauritius .20th International Conference on Chemical Education. Theme: Chemistry in the ICT Age. Venue: Le Meridien Hotel. In conjunction with a satellite conference 11-12 August 2008, University of Nairobi, Kenya. Website <http://www.uom.ac.mu/20icce.htm>

XIII IOSTE Symposium 21-26 September 2008 Izmir, Turkey
Symposium theme "The use of science and technology education for peace and sustainable development" For further information consult <http://www.ioste2008.org>, <http://www.ioste13.org> or <http://web.deu.edu.tr/ioste13/index/index.php>

International Conference on Science and Mathematics Education, October 27 – 29, 2008, UP NISMED, Quezon City, The Philippines

The University of the Philippines National Institute for Science and Mathematics Education Development (UP NISMED), in cooperation with UNESCO International Bureau of Education (IBE – Geneva), International Council of Associations for Science Education (ICASE) – Asian Chapter, Department of Education, Commission on Higher Education, and Department of Science and Technology – Science Education Institute will hold an international conference on science and mathematics education on October 27 – 29, 2008 at UP NISMED Complex, Diliman, Quezon City.

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- Facilitate working group discussions among researchers, educators, and classroom practitioners
- Generate local programs of action to improve science and mathematics teaching and learning

Abstract for paper/poster presentation should not exceed 500 words. Please include title, author/s, institution, postal and email address, contact numbers, area of your paper (science or mathematics education), the theme of your paper, and the school level your topic falls (elementary, secondary or tertiary) at the beginning of the abstract.

For further details, see SECTION 3 of this newsletter or contact the Conference Secretariat, UP NISMED, Diliman, Quezon City, Philippines 1101 Email: nismed@up.edu.ph Telefax: (632) 928- 3545

The 22nd Biennial Conference of the Asian Association for Biology Education November 21-24, 2008 Osaka, Japan

This will be held at the **ANA Gate Tower Hotel, Osaka, Japan**, under the joint sponsorship of AABE and SBSEJ, the Society of Biological Sciences Education of Japan. The theme for this biennial conference is “The Role of Biology Education in Society Today.” And sub-themes - Sub-theme 1. Biology Education for Realizing the Preciousness of Life; Sub-theme 2. Biology Education in “The UN Decade of Education for Sustainable Development (UNDESD)”

Country reports will be included as usual. General papers on biology education are also accepted. The Organizing Committee of the AABE 22 strongly encourages participants to send in their Registration Form by **July 31, 2008**.

Contact person:

Dr. Nobuyasu Katayama, The Director of the AABE 22, Department of Environmental Sciences, Tokyo Gakugei University, Koganei, Tokyo 184-8501, Japan. E-mail: katayama@u-gakugei.ac.jp, Facsimile: +81-334710354

Registration fee: **JPY 13,000** for an ordinary attendant and **JPY 9,000** for a student. For accompanying persons, the registration fee is **JPY 9,000** which covers above-mentioned (3), (4) and (5).

The deadline to apply for oral and poster presentations is **July 31, 2008**. The application must include an abstract of the paper. Due to time constraints, only a limited number of papers will be selected for oral presentation by the Organizing Committee of the AABE22.

ICASE African Regional Symposium 24-28 May 2009 , Abuja, Nigeria

The theme of the conference - Meeting the Challenges of Sustainable Development in Africa through Science and Technology Education. Venue: Abuja Sheraton Hotel and Towers Conference Conveners: Dr. Ben B. Akpan, ICASE African Representative and Executive Director, Science Teachers Association of Nigeria Email: ben.akpan@stan.org.ng and Professor Peter Okebukola, Faculty of Education, Lagos State University, Ojo, Lagos, Nigeria. Email: peter@okebukola.com or visit the website <http://www.stan.org.ng/ICASE-2009>

ICASE June 2010 Tartu, Estonia 3rd World Science and Technology Education Conference. Contact person: Miia Rannikmae (miia@ut.ee). At this time the conference organiser is initiating the planning stage and all member organisations are very much invited to put forward ideas for inclusion in the conference. (also see the ICASE website www.icaseonline.net)

FISER'09 May 22-24 2009, Famagusta, Northern Cyprus

A forthcoming international conference on Science and Mathematics education research; *Frontiers in Science Education Research 2009* (FISER'09) will be held May 22-24 2009. The official website of FISER'09 could be accessed via <http://fiser.emu.edu.tr>.

The conference is organised by the Eastern Mediterranean University, Faculty of Arts and Sciences.

The Conference aims to bring together scholars from all around the world who are involved in various aspects of undergraduate science and mathematics education research, and will cover a wide range of topics such as undergraduate curricula and design, teaching and learning strategies, technology in teaching and learning, faculty development, teacher training and contemporary issues in the field including native language vs. foreign language of instruction and misconceptions in science.

Well-known researchers in the field including Lillian McDermott, Professor of Physics from University of Washington USA, David Hestenes, Professor of Physics from Arizona State University USA, and Cedric Linder, Professor of Physics Education from University of Uppsala Sweden are confirmed keynote speakers for the Conference. FISER'09 will be open to professional science and mathematics education researchers, educators, students and all others who are interested. The conference will start on the 22nd of March 2009 and will continue through 24th of March 2009 at Salamis Bay Conti Resort Hotel, one of the well located hotels in the shores of Famagusta.

Further information can be obtained from Mehmet Garip, Ph.D. Chair, Organising Committee (fiser@emu.edu.tr)

6. ICASE Executive Committee 2008-2011

Based on the ICASE constitution, the ICASE Management committee as well as Regional Representatives are elected by member organisations. These elected members, in turn, nominate chairs of relevant standing committees. Together these persons form the ICASE Executive Committee and are the persons who make decisions on behalf of the ICASE Governing Body. The ICASE Governing Body is the **ICASE member organisations**.

The Executive Committee (the decision making body working for the Governing Body)

President

Jack Holbrook*

E-mail jack@ut.ee

(Member Organisation; Association for Science Education (ASE), UK)

Past President

Dr Janchai Yingprayoon

E-mail janchai@loxinfor.co.th

(Member Organisation; Science Society of Thailand- Science Teachers Section)

Secretary

Dr Miia Rannikmae

E-mail miia@ut.ee

(Member Organisation; Estonian Association of Chemistry Teachers (EACT))

Treasurer

Dr Adrian Fenton

E-mail Adrian.fenticase@yahoo.co.uk

(Member Organisation; Association for Science Education (ASE), UK)

Regional Representative for Africa

Dr Ben Akpan

Executive Director of STAN, Nigeria

E-mail: ben.akpan@stan.org.ng

(Member Organisation – Science Teachers Association of Nigeria)

Regional Representative for Asia

Dr Azian Abdullah

Director, RECSAM, Malaysia

E-mail: azian@recsam.edu.my

(Member Organisation – RECSAM)

Regional Representative for Australia/Pacific

Dr Beverley Cooper

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(Member Organisation – NZASE, New Zealand)

Regional Representative for Europe

Dr Declan Kennedy

E-mail: d.kennedy@ucc.ie

(Member Organisation – Irish Science Teachers Association (ISTA))

Regional Representative for Latin America

Gabriela Inigo

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(Member Organisation – Albert Einstein Club, Mar del Plata, Argentina)

Regional Representative for North America

Dr Norman Lederman

E-mail: ledermann@iit.edu

(Member Organisation - Council of Elementary Science International (CESI))

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