Supporting and promoting science education internationally

The ICASE Newsletter April 2010

Newsletter of the International Council of Associations for Science Education.

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1. ICASE News

World Conference 2010, June 28-July 2, 2010 (www.icase2010.org)

Currently there are inputs from 46 countries and 276 individuals (excluding keynote and highlighted speakers and Estonian participants). The submission of presentations and posters for the conference is closed and everyone has been notified as to whether their paper has been accepted (*if this is not the case, please contact Miia Rannikmae to make sure there has not been an oversite*).

Conference paper presentation sessions are proposed on the following themes (*inclusion of papers into sessions will take place once participants have registered*)

1. Research into teaching and learning.
2. Research-based curriculum development.
3. Interaction between Research and Policy and Policy and Practice.
4. Interpretation of NOS (Nature of Science) and NSE (Nature of Science Education).
5. Networking and Partnerships for the Professional Development of Teachers.
6. Context-based teaching and Socio-scientific Issues.
7. ICT in Science Education.
8. Assessment in Science and Technology Education.
9. Innovation in Environmental Education.
10. Inquiry-based teaching.
11. New Trends in Science.

The Conference will also include:

A Primary Science Day covering presentations and workshops geared primarily at grades 1-6
A Globe Project Day looking at innovations involved in the worldwide Globe project
Special Symposium by an ICASE member organisation - CAST (China)

Special Symposium by an ICASE member organisation - STAN (Nigeria)
Special Symposium on PARSEL (An European funded project in which ICASE as a partner)
*** Special symposia (a set of 4-5 presentations by ICASE member organisations) can still be submitted, but I must know about this quickly (before the end of April) - contact jack@ut.ee.**

Further news
The earlybird fee has been extended until the 20th April, 2010. In case of any difficulties with registration, or any special requests related to accommodation, please contact the conference convenor – miia@ut.ee and copy to Regina Soobard (gina@ut.ee).

All requested modifications to abstracts and synopsis for papers and posters are due by the end of April 2010. The abstract will be included in the conference programme. The synopsis will be included on a CD for the conference (without modification). (*Please note - the full paper is not required unless you wish it to be considered for the conference book – see below*).

Conference book
Rather than proceedings, a conference book will be produced after the conference, including only selected papers. The papers will be selected (should authors so wish) based on evaluation by participants during the conference and following review by the editorial board. It is planned to externally publish the book under the title 'Innovations in Science and Technology Education.'

ICASE journal
Papers can also be considered for the ICASE online journal. In this case, participants will be asked to submit their paper separately (during or after the conference – deadline end of August 2010) and these will be refereed by the editorial board of the journal and published after modification (if this is appropriate). The ICASE online journal favours articles, based on research (original or literature-derived), which illustrates its effective applicability in practice at the primary, secondary or teacher education levels.

ICASE General Assembly, June 28 2010 (Tartu, Estonia)
ICASE is pleased to announce to all current and future member organisations that its General Assembly will be held immediately prior to the World Conference. All science teacher associations worldwide are urged to send a representative. The ICASE Executive Committee also announces that all member organisations are eligible to include items on the agenda for the General Assembly. Please contact the ICASE President on matters you would like to raise – jack@ut.ee

ICASE is all too aware that many member organisations, especially those in developing countries, have little financial support and are unable to support the travel of its representative to the General Assembly. ICASE will do its best to ensure minimal accommodation costs for such delegates, as well as try to facilitate their involvement in the World conference and to provide a meaningful experience. Sponsorship for delegates to the ICASE General Assembly needs to come via the member organisations

If as a last resort, member organisations are not able to support their delegate to the ICASE General Assembly, ICASE permits written submissions on issues of concerns (which if submitted at least 1 month before the 28 June will feature in the General Assembly) and also ICASE permits proxy votes on all voting matters raised by the ICASE Executive Committee or by member organisations. For more details on making submissions and ensuring proxy voting, please contact the ICASE President, Jack Holbrook, on jack@ut.ee.

2. Science Activities

These following activities are from a collection built up by ICASE through its former primary science newsletter (STEP) and other sources. They are put forward to bring attention to small activities which can be carried out in the science classroom with minimal equipment.

A) STEP ACTIVITY

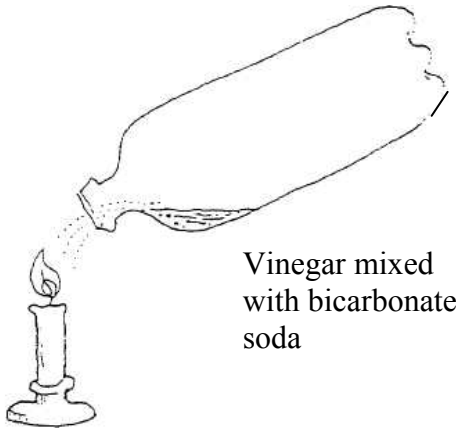
Simple fire extinguisher

Challenge: How can you make a simple fire extinguisher?

What you need
- clear glass bottle
- vinegar
- bicarbonate of soda (sodium bicarbonate)
- candle
- matches
- safe surface to work on

What to do

Use a glass bottle. If you use a plastic bottle, it may catch on fire if too close to the candle flame. Add a few teaspoons of vinegar to the bottle. Tilt the bottle as you add a teaspoon of bicarbonate of soda so that it stays half way down the side of the bottle. Make sure that the surface is safe to light a candle and then light it. Slowly tip the bottle so that the vinegar runs down the sides and reacts with the bicarbonate of soda. Be careful not to tip it out. Hold the mouth of the bottle over the candle flame as shown. What happens to the candle flame?



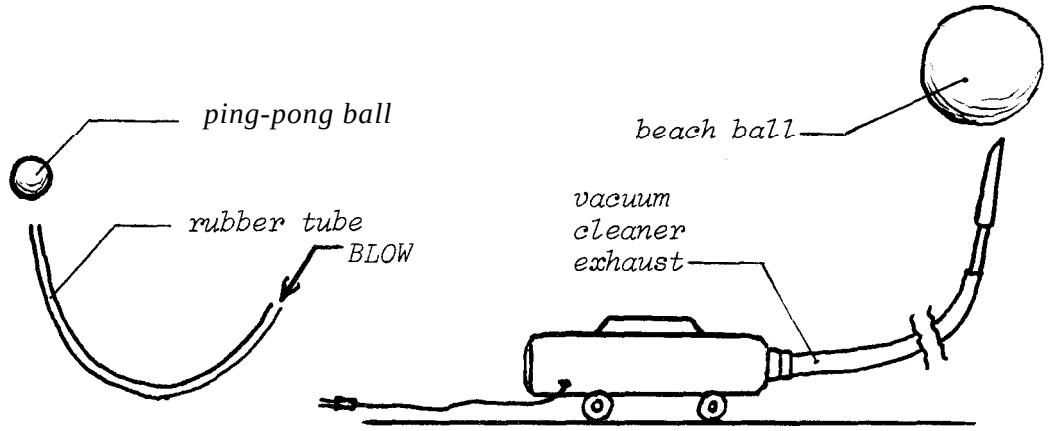
Vinegar mixed with bicarbonate of soda

More to do
- Light a number of candles. How many candle flames can you put out with the one bottle? Why does the bottle have to be held above the flame? Test your ideas by holding the mouth of the bottle below, or to the side of the flame
- Put a balloon over the neck of the bottle as soon as the reaction starts. What happens?

B) ADDITIONAL SCIENCE ACTIVITY

THE FLOATING BALL

Materials: 1. A ping-pong ball or a beach ball.
2. A 25 cm length of rubber tubing.
3. A small compressor to produce a constant air flow (optional
4. A vacuum cleaner (when using the beach ball).



Procedure:

1. Take the rubber tubing with each hand on one end of the tube.
2. Place the ping-pong ball on one end of the tubing and blow through the other end, and balance the ball in the air flow.
3. When using a beach ball, you will need a vacuum cleaner. Detach the vacuum cleaner hose and attach it to the exhaust end, so that it blows rather than producing a suction.
4. Blow air into the beach ball and let the ball hang in the air stream that the vacuum hose is producing.
5. When a small compressor is available, attach a small orifice to the exhaust tube and hang a ping-pong ball in the air stream.

Questions:

1. Will we be able to do the same thing with other round objects?
2. What property of the round object is critical for it to stay afloat?
3. What does the blowing do to the movement of the air molecules?
4. How does the pressure of flowing air compare to that of stationary air?
5. Why does the ball stay afloat in the air stream?

Explanation:

By blowing through the rubber tubing or by using the compressor or the exhaust of the vacuum cleaner, we are creating an air flow. This air flow causes the existence of a lower pressure area compared to the surrounding air, which is stationary or not moving as fast. *Bernoulli's Principle* states that: *the faster the flow or air, the lower the pressure.* This means that at the place of exhaust (end of the tube or hose), a cone of lower pressure is created. All the surrounding air is exerting a higher pressure and thus the ball is kept in the lower pressure area, which is the cone above the exhaust.

C) USING EXPERIMENTAL IDEAS IN SCIENCE TEACHING

This newsletter contains two experimental ideas. It is hoped that these are of interest.
But how to use these experiments in teaching ? Teachers need to be free to include experimentation as they feel best, but given below is ICASE thinking in putting forward the experiments in this newsletter. Teachers and science educators are welcome to comment.

1. Who does the experiment ?

Clearly these experiments can be undertaken as a teacher demonstration. However, the intention is that the students are involved, either working individually, or more likely, in small groups. The apparatus is kept as simple as possible and can often be brought from home, or made by the students themselves.

Why is student involvement preferred ? We note the old Confucius saying – I hear and I forget; I see and I remember; I do and I understand. The belief is that the more students are engaged, the more they learn. Teacher demonstrations, or large group experiments, limit student involvement and are thus not preferred.

2. Should instructions be given to students ?

The sections *'What to do'* and/or *'Procedure'* clearly spell out how to undertake the experiment. But it is not intended that the experiment must be used in this way. By following instructions, a *'cookbook,'* or *'follow a recipe'* situation is created. This highlights the **doing,** but **probably not** the understanding. Where instructions are provided, the student learning can be expected to be the explanation that follows. And the teacher is then focusing on students' explanatory skills. The questions have been added to the first experiment to encourage moves away from a 'cookbook' or 'do-and-forget' approach and towards a more exploratory approach. In the second experiment the questions seek understanding which can lead to modifications of the experiments for more novel effects. It will a pity if the teacher is the person who answers these questions. In fact it would be interesting to learn of situations where the students, themselves, are both asking and then answering the questions.

3. Inquiry learning

Can the experiments be used in an inquiry approach, whereby the students ***raise questions*** and **suggest the *purpose* and *procedure themselves* ?** This is very much an ICASE recommended approach. It means students put forward the investigatory question, plus the procedure to follow. It promotes science as the seeking of explanations to questions put forward rather than to a 'wondering why' approach, although perhaps this is appropriate for the younger students.

So what would be the investigatory questions for these experiments ?

This is a challenge left for you to consider.

3. Further Ideas for Greater Relevance of Science Teaching for the Enhancement of Scientific Literacy

Jack Holbrook, ICASE President

In the previous newsletter the questions posed were -

what are meaningful capabilities ?
And what is scientific literacy ?

Meaningful capabilities are usually suggested to be those that relate to everyday life. In this sense they represent a potential to be 'able to do' as well as possession of the abilities which are needed to be able to transfer learning to a new situation. Certainly meaningful capabilities relate to the utilisation of information and to the capability of applying cognitive learning to new situations. They can also apply to problem solving and the ways of going about this as well as applying to personal and social attributes. For example, developing the ability to persevere in tackling a problem, to apply creative thinking to ways of solving problems, to show initiative, leadership ability or integrity in dealing with any situation can also be considered meaningful capabilities. And if this is so, then they are suggested to be important components in the teaching of school science subjects.

Social capabilities can also be considered meaningful. On the one hand science teaching can develop teamwork in which students work together in a collaborative manner, whether this is in a problem solving experimental situation, or students working towards developing a consensus view on a particular issue (such as whether to take into consideration 'life cycle analysis' in determining the selling price of a product - life cycle analysis here refers to the cost of raw materials, the costs of production and also the costs associated with handling the product after its active life is finished).

On the other hand, a meaningful capability is to be able to reason in making decisions, especially where science impacts on every day life and demands decisions to be made. Actual decision making is something undertaken every day, even if it is only what to eat for breakfast !! But in today's world, of the many issues confronting society, a number involving scientific aspects. For example, many countries find the plastic bag useful to use, but hard to dispose of. It is not easily biodegradable and burning plastic bags adds to the pollution. Some countries have decided to ban the plastic bag completely; others have imposed a charge in supermarkets for their use. Perhaps you may feel that the scientific input to issues related to this technological products are not high in this case, but what about issues generated by genetic engineering, cloning, or research into alternative forms of energy!

Noting the involvement of society in the decision making process in democratic societies (albeit via the elected politician in many instances), it is suggested that being able to put forward the scientific case is an important attribute, or if not possessing the prerequisite scientific conceptual appreciation, being able to interact with the views of 'experts' and recognise the value of their advice. For the average citizen, this points to an important area of learning in school science. It suggests that students need to be familiar with the need to reach consensus views and the need for argumentation skills in developing this process.

The goal of school science, put forward in a number of countries, is scientific literacy. Noting the need to develop a range of capabilities/competencies covering problem solving and decision

making abilities, it would seem that scientific literacy takes on a much wider meaning than acquiring science content and concepts. It suggests that the focus of scientific literacy is far from stating, explaining or even applying scientific ideas and far more into being able to utilise this science for the problem solving and decision making processes within society. And the goal for gaining and enhancing scientific literacy is raise the standards or quality of the lives of citizens with the society.

Understanding scientific literacy in this way relegates the gaining of science information, or scientific knowledge as part of school education to a very secondary role. More important is the use of such information, or the application of that knowledge to new situations. Viewed in this way scientific literacy has little to do with the amount of information one possesses but being able to seek information from appropriate sources when needed and, of course, being able to evaluate such information for its authenticity and appropriateness.

Currently being stressed, at least in Europe, is the need for inquiry teaching, or if you prefer, inquiry learning by students. The need here is for the students to ask the questions and then, with the appropriate guidance or scaffolding by teachers, to answer their own questions through an inquiry process. Both in inquiry learning and in its intention to enhance scientific literacy, the onus is on the student being involved and the student learning how to use knowledge, skills and information gained.

But there is still the issue of how students gain the knowledge and skills which are used, subsequently, in the problem solving and decision making processes. If these knowledge and skills are introduced first, prior to the problem solving, an issue of student motivation arises for this prior section of the teaching. On the grounds that isolated scientific learning is not seen as relevant by the student, the teaching of scientific information, knowledge and skills needed to undertake problem solving and decision making processes cannot come first. And hence this is more appropriate as part of the inquiry learning process, or the moves to enhance scientific literacy. Based on this, the expectation is that the process of gaining the scientific knowledge and skills is developed on a need-to-know basis and introduced as and when needed. It suggests that the idea of teaching science as discrete units, linking together associated conceptual ideas such as, for example, ionic and covalent bonding, is now being challenged. There is now the opportunity for a rethink, using ‘the society’ as the frame of reference, rather than taking the frame of reference as the logic associated with a ‘scientists’ approach.

This leads to the questions

How is the scientific knowledge taught on a need-to-know basis ?
What teaching approach can be put forward to enhance scientific literacy ?

4. SAFE SCI Be Protected

Article provided by Dr. Ken Roy – Director of Environmental Health & Safety, Glastonbury (CT), an authorized OSHA instructor and science safety consultant. Email: Royk@glastonburyus.org

MERCURY: It Is More than A Planet in our Solar System!

I. AWARENESS OF MERCURY VAPOUR

Two recent incidents have brought to light the importance of respecting mercury in the science laboratory. One was a safety incident, which recently transpired in a middle school. Two students duped a custodian into unlocking a door to a science laboratory so they could get a "forgotten textbook that was needed for homework." The custodian, thinking he was doing a good deed, allowed the students to enter. While one student kept the custodian entertained, the other quickly secured a bottle of mercury from the teacher's desk drawer. Some time later, the students were rushed to the hospital with mercury poisoning. It was unclear how this happened, but mercury easily forms an amalgam with metals such as those used in coinage and, unfortunately, with gold bracelets or other jewellery.

A second incident involved a general malaise in a classroom by the students and teacher. After countless series of tests on indoor air quality, it was determined that occupants were being exposed to mercury vapour. The wooden floor in the aged structure served as a reservoir for mercury from broken thermometers. The room had to be isolated from the building and the floor replaced.

Mercury filled thermometers, manometers, psychrometer and barometers which, when broken, expose occupants to mercury vapour. Students and employees are also often exposed to mercury vapour resulting from chemical reactions in laboratory experiments, or observing the properties of the metal in a classroom demonstration. Inhaled vapour can affect functions of the nervous system, in addition to the kidneys, skin and lungs, although this is in fact a fairly slow process as the vapour pressure of mercury is not very high.

II. WHAT IF THERE IS A SPILL?

If there is a mercury spill in the science laboratory or classroom, the following need to be done:

1. Put powdered sulphur on the spill. This will reduce exposure to the vapour.
2. Be cautious about tracking the chemical to other parts of the building, thus expanding the zone of contamination.
3. Commercial mercury spill kits can be used to remove small spills.
4. For larger spills, contact the government's safety or environmental agency. A commercial environmental clean-up company may also be considered.
5. Vacuuming the spill with a regular vacuum cleaner only exacerbates the situation by causing the vapour to dissipate in the air. Wait at least 2-3 days after the spill and clean up before attempting to vacuum with a regular vacuum cleaner.
6. In uni-directional air handling equipment, turn on the ventilation to help evacuate the vapour molecules from the facility. In air handling units which recycle air dampers need to be adjusted to provide for exhausting of the area.

7. These cleaning recommendations are for hard surfaces such as tiles or linoleum. Carpets or other porous surfaces should be discarded if at all possible.

8. Use a stiff material such as plastic or cardboard to pick up all pieces of glass and beads of mercury. An eyedropper can be used to suck up the beads. Plastic bags can be used to collect the glass/mercury, etc and disposed of in the regular trash.

9. If you have a floor with cracks or seams, you may wish to consider having an air quality test done to determine in mercury are at unacceptable levels.

III. CONSIDERING ALTERNATIVES:

One method of avoiding these types of problems is to consider alternatives to using mercury in the laboratory. For example, use non-mercury type thermometers for laboratory experiments or computer temperature probes sensors. The physics experiment showing atmospheric pressure can support of column of mercury which is about 760 mm high (depending on the actual air pressure) should be avoided (it is probably more spectacular to illustrate that air pressure can support a column of water which is about 10 metres high - I leave teachers to consider how and where to set this up, but I strongly recommend that if a vacuum pump is used to make sure a water trap is used to ensure there is no possibility of water entering the pump !!). Although the use of mercury is not considered prudent safety practice, some science instructors are still insisting on its use. If this is the case, limit student access to mercury by only having a display container which is kept in a secured area under lock and key. If use of mercury is required, make sure proper storage is used (avoid contact with or storage near ethyne (acetylene), fulminic acid, or ammonia). Also, storage must be in a secured area, as is the case for all hazardous chemicals.

IV. FINAL THOUGHTS!

Mercury is quite expensive and for many teachers it will not be a chemical available in large quantities – broken thermometers is likely to be extend of any contact with the liquid metal, But for further assistance or help in cleaning up a mercury spill, consider contacting one or more of the following agencies: Local fire department, public health department, poison control centre, government environmental protection agency, or department of public health. Also remember that non-certified employees, such as para-professionals and custodians who work in the science laboratory area, also need special training in dealing with hazardous chemicals as part of their job.

5. Teacher- Scientist – Partnerships (TSP)

A TOOL FOR PROFESSIONAL DEVELOPMENT IN SCIENCE EDUCATION

Michael Schallies, University of Education Heidelberg, Germany

Teacher - Scientist Partnerships (TSP) was a European project (Comenius-Programme 2.1) designed to improve student learning by:

- involving students in practical tasks in authentic research environments;
- improving the teaching methodology by teachers;
- designing innovative learning environments, and
- integrating external learning into the school situation on a regular basis.

The project started in 2006 as an innovative systemic approach to teaching and learning science and finished in September 2009. TSP has been organized as a professional partnership between teacher education, science research and schools, starting as a bottom-up approach according to teachers' and students' needs.

TSP partners were: Antonio Raschi, Fondazione per il Clima e la Sostenibilità in Firenze (Italy); Martin Goedhart, Rijksuniversiteit Groningen (Netherlands); Monika Strömgren, Sveriges Lantbruksuniversitet, Uppsala (Sweden), and Wolfgang Kohl, Hochschule Mannheim, Institut für Energie- und Umweltmesstechnik, Mannheim (Germany).

In the course of the project, activities identified were - evidence-based best practice for integration of teacher development, student learning and school development into innovative project work with research institutions. The focus was on meeting the needs of science teachers so as to prepare them for teaching authentic science according to national and local conditions.

TSP has been organized, along common guidelines for life-long learning proposed by Sterling (Sterling, 2000), at 4 different locations in the Netherlands, Sweden, Italy and Germany. Project activities have been closely connection with two large European research projects on climate change, called CarboEurope and CarboOcean. TSP is also connected to CarboSchools+, an initiative whereby schools promote partnerships with global-change scientists, secondary school teachers and their students, encouraging the students to discover scientific research and to act locally to reduce emissions of greenhouse gases.

Outputs from TSP activities are now available for downloading at http://www.teacher-scientist-partnerships.eu/

6. Calendar of Events

20th International Symposium on Chemistry and Science Education "Contemporary Science Education – Implications from Science Education Research about Orientations, Strategies and Assessment" will be held May 27-29, 2010 at the University of Bremen
(Building of the Department of Chemistry and Biology, Leobener Str. NW2, 28359 Bremen, Germany).

This Symposium continues a long tradition stretching back to 1981. In the past, symposia repeatedly raised the question of how science education research can help to improve chemistry and science teaching and learning. But the question of how to promote successful science learning automatically implies a further question: Which are the objectives to be reached? Is science teaching primarily aimed at learning the content and theories of science? The 2010 symposium simultaneously maintains and further develops the topics of the past symposia from 2002-2008, in which we discussed the orientations and methodology of science education research, questions of teacher education and successful science learning. In one way or another, all symposia touched upon the question of valuable orientations in chemistry and science education.
Main questions will include:
- How and where do we see the balance between the learning of science facts and theories vs. more general education objectives derived from educational theory?
- What conclusions must we draw when more deeply reconsidering the essential elements of the scientific literacy debate, activity theory and the German concept of "*Allgemeinbildung"?*
- Which answers can be obtained from general and science education research when considering different approaches towards science teaching?
- Which issues and strategies obtained from science education research can be seen as valuable tools to apply to chemistry and science teaching?
- What is state-of-the-art in context-based and/or STS-oriented science curriculum development and what do we know about the effects of these respective approaches?
- What do we know from research about attitudes, motivation and PCK of practicing teachers concerning different approaches towards chemistry and science teaching?
- Which research-based strategies do we have for implementing changes and for teacher education towards modern approaches to chemistry and science teaching?

The conference language will be English and the conference will be chaired by
Prof. Dr. Ingo Eilks, Institute for Science Education (IDN), Didactics of Chemistry, University of Bremen *ingo.eilks@uni-dortmund.de*
Prof. Dr. Bernd Ralle, Department of Chemistry, Didactics of Chemistry I, Dortmund University of Technology, *bernd.ralle@uni-dortmund.de*

Further information
The final program with abstracts, information on travelling and accommodation will be published on the web at *http://www.chemie.uni-bremen.de/eilks/symp2010/index.html* by January 2010.

Conference fees and registration
There is no conference fee. Costs for travelling, accommodation and social events are covered by the participants. All information and the registration form will be published on the web accompanying the final program in January 2010.

The XIV IOSTE International Symposium on Socio-cultural and human values in science and technology education will be held June, 13th to 18th, 2010 in Bled, Slovenia and hosted by the University of Ljubljana, Slovenia. Details on submitting papers and other information please see the conference website - http://www.ioste14.org. For additional information, contact Dr. Slavko Dolinšek, Director of the Institute for Innovation and Development, University of Ljubljana, Slovenia E-mail: dolinsek.slavko@fs.uni-lj.si

ICASE World Conference, 28th June – 2nd July, 2010, Tartu, Estonia

The 3rd ICASE World Science and Technology Education Conference will be held at the University of Tartu. All science educators, including science teachers, are cordially invited to participate. Conference theme **- Innovation in science and technology education: research, policy, practice.** *[See website for more details on programme, registration and accommodation - www.icase2010.org]* Following the conference, tours are being arranged to St.Petersburg, Russia; Riga, Latvia, and Vilnius, Lithuania.

Associated with this conference will be the ICASE General Assembly to which all ICASE member organisations are kindly asked to send a representative. The ICASE General Assembly will be held on the 28th June and this important meeting will plan the work and direction for ICASE over the coming 3 years. For further details on the General Assembly please contact the ICASE President - jack @ut.ee

10th ECRICE and 4th DidSci conference, Krakow, Poland, July 4 – 9, 2010

The organizing committee cordially invites you to attend and participate in the 10th European Conference on Research in Chemistry Education (ECRICE) and 4th International Conference Research in Didactics of the Sciences (DidSci). Based on a long tradition, ECRICE is organized under the auspices of EuCheMS (formerly FECS), in relation to the activity of the Division of Chemical Education. This meeting follows successful conferences held in Istanbul (2008), Budapest (2006), Ljubljana (2004), Aveiro (2001) etc. This Conference is an opportunity to exchange experiences on research in chemical education (ECRICE) and research & practice in natural science education (DisSci) carried out at every education level from primary school to graduate studies. The aim of the conference is to familiarize participants with the most recent achievements in the various scientific centres. The programme will feature a wide variety of plenary, invited and contributed lectures, as well as poster sessions. For more details please see the website - http://ecrice2010.ap.krakow.pl/

Abstracts of oral contributions and posters will be peer reviewed. The language of ECRICE will be English, whereas the language of the DidSci component of the conference will be English, Polish, Czech, and Slovak. For more information contact: Iwona Maciejowska ECRICE 2010 secretary at e-mail address: ecrice2010@ap.krakow.pl or Małgorzata Nodzynska DIDSCI 2010 secretary at e-mail address: didsci2010@ap.krakow.pl

21st International Conference on Chemical Education (ICCE), Taiwan, August 8-13 2010.

The theme of the 21st ICCE is Chemistry Education and Sustainability in the Global Age. The deadline for proposals is March 31, 2010. For further details contact :

http://icce2010.gise.ntnu.edu.tw

GeoSciEd VI: Geoscience Education - Developing the World, Johannnesburg, South Africa, August 29 - September 3, 2010 **Abstract Submission Deadline: 31 March 2010**

Abstracts are now being accepted for the sixth IGEO conference "Geoscience Education – Developing the World" in Johannesburg, South Africa on August 29 to September 3, 2010. Oral, poster, and workshop presentations on all aspects of geoscience education are welcome. Presentations from the broader science education research community with relevance to geoscience education are also encouraged.

The International Geosciences Education Organisation (IGEO), an affiliate to the IUGS (International Union of Geological Sciences), is dedicated to developing the field of geoscience education and to promoting strong earth and environmental science education throughout the world. The IGEO conference, held every four years, is a forum for geoscience educators at all levels (preK-adult) and disciplines (earth, atmosphere, ocean, space) in both informal and formal contexts to collaborate and discuss best practices in teaching and learning, geoscience education research, and curriculum and technology development.

GeoSciEd VI will feature an array of outstanding field trips that showcase South Africa's world-famous geoscience sites, including Tswaing Meteorite Crater, the Cradle of Humankind, the Witwatersrand Goldfield, the South African Large Telescope, Simangaliso Wetland Park, and Kruger National Park.

For more information and to submit an abstract, please see the conference website at http://web.wits.ac.za/NewsRoom/Conferences/GeoSciEd

Participants are encouraged to secure accommodation and register as soon as possible. Registration (ZAR 5000 early bird) includes all sessions; mid-conference field trip; daily lunch, supper and teas; transport to venues from hotels, and evening social events.
Enquiries can be sent to: Dr. Ian McKay (witsgeoutreach@gmail.com) or Prof Gillian Drennan (Gillian.Drennan@wits.ac.za)

The IVLA2010 conference will be held in Cyprus September 23- October 3, 2010

A Warm Welcome to IVLA 2010

Welcome to the website of the 42nd Annual Conference of the International Visual Literacy Association (IVLA). IVLA 2010 will be hosted by the University of Cyprus in Cyprus from September 29th to October 3rd, 2010. The conference venue will be the **Atlantica-Miramare** hotel in **Limassol**, Cyprus.

IVLA is an international, eclectic and non-profit organization of researchers, educators, designers, media specialists, and artists working toward a fuller understanding of the way we derive meaning from what we see and the way we interact with our visual environment. We invite you with pleasure to participate in the conference and celebrate with us the legacy of IVLA and its welcoming circle of friends and community of exceptional professionals.

IVLA 2010 will take place in Cyprus for the first time. Cyprus is the third- largest island in the Mediterranean and is a country of cultural richness and diversity, since it lies at the crossroads of three continents where East meets West. It is known for its welcoming sun, the inviting beaches and the breathtaking mountain trails located in Troodos Mountains. The island is also famous for its exceptional Mediterranean cuisine and its long tradition in wine making. Cyprus' long history has brought innumerable findings over the years resulting in a variety of priceless collection of

artifacts displayed in various archaeological museums and spectacular monuments, hosting among others, the prehistoric Choirokoitia settlement, Roman villas, tombs and theaters, and churches constructed and painted during the Byzantine years. Limassol, the host city for IVLA 2010, is the second largest city in Cyprus after Nicosia - the capital of Cyprus. Limassol is a famous tourist destination throughout the year and is the biggest port in the Mediterranean transit trade. Limassol is well-known for its long cultural tradition, and a wide spectrum of activities and a number of museums and archaeological sites are available to the interested visitor.

We are excited to be hosting IVLA 2010 and we do look forward to meeting you all in Limassol for a productive and fruitful conference. We will do our best to enjoy your stay in the island!

Deadline for Proposal Submission: May 30th, 2010.
For more information please contact us at:
Email: ivla10@ucy.ac.cy/
http://www.valanides.org/ivla
Fax: +357-22894487 (c/o Nicos Valanides)
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The 23rd Asian Association for Biology Education will be held in Singapore, from 18-20 Oct, 2010, at the National Institute of Education, Singapore. The theme of the conference is: **Biology Education for Social and Sustainable Development**. The 3-day conference will have 6 plenary speakers, oral and poster presentations, country reports, a workshop on Problem Based Learning in Biology, and mid-and post-conference tours.

The conference is jointly organized by, the National Institute of Education, the Asian Association for Biology Education, Singapore Institute of Biology, and Science Teachers Association for Singapore.

The website for the conference is http://www.nsse.nie.edu.sg/aabe2010/

In preparation

ICASE Asian symposium, Guilin, China

ICASE African symposium in Namibia (2012)

ICASE seminar in conjunction with RECSAM, Malaysia

7. 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 under the Governing Body)**

President
Prof Jack Holbrook
E-mail jack@ut.ee

Past President
Dr Janchai Yingprayoon
E-mail janchai@loxinfor.co.th

Secretary
Prof Miia Rannikmae
E-mail miia@ut.ee

Treasurer
Peter Russo
E-mail ceo@asta.edu.au

Regional Representative for Africa
Dr Ben Akpan
Executive Director of STAN, Nigeria
E-mail: ben.akpan@stanonline.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
E-mail: bcooper@waikato.ac.nz
(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
Prof Norman Lederman
E-mail: ledermann@iit.edu
(Member Organisation - Council of Elementary Science International - CESI)

Chairs of Standing Committees
Safety in Science Education
Dr James Kaufman
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World Conferences
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Pre-secondary and Informal Science Education
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