



Supporting and promoting science education internationally

The ICASE Newsletter

May 2009

Newsletter of the International Council of Associations for Science Education.

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1. ICASE News

ICASE is a Non-Governmental Organisation, set up by its member National STAs, Science Societies, Science Centres, etc to form an International Science Education Communication Network. Are you a member of a national/regional organisation a member of ICASE ? And is your organisation a current member of ICASE ? It is possible for all organisations interested in international science and technology education to be part of the network. Contact Miia Rannikmaa, ICASE Secretary for more information (miia@ut.ee)

PARSEL Project

Following a successful final conference the project – PARSEL – has now come to an end. ICASE has been involved in the PARSEL project alongside 8 European Universities (IPN, University of Kiel, Germany (Coordinator), University of Tartu, Estonia, University of Lisbon, Portugal, Weizmann Institute of Science, Israel, University of Ionnina, Greece, University of Lund, Sweden, Frei Universitat Berlin, Germany, University of Southern Denmark, Denmark). The outcomes of the project are a set of teaching/learning materials, tested in a number of classrooms across Europe for greater student interest and relevance of science teaching. The outcomes were evaluated by teachers as very positive and teachers gained favourable responses from students. An important aspect was that teachers welcomed the teacher ownership aspect of the project, but realised that they needed careful guidance to appreciate how the philosophy behind the project could best be implemented. The September 2008 issue of Science Education International, the ICASE journal, was devoted to the project.

ICASE participated in a symposium on the PARSEL project as one of the presentations at the NARST annual conference in Los Angeles, USA 19th-22nd April 2009.

ICASE is now interested in working with member organisations or others in promoting this promising approach to raising scientific literacy and popularity of science teaching. Although materials exist in a

range of languages, further translations may be needed, but irrespective of language, it is important that teacher modifications are permitted so as to (a) better relate to the local situation/culture and (b) enhance teacher ownership of the actual teaching carried out.

Should you or your organisation have interest in knowing more, please contact the ICASE President, Jack Holbrook, on jack@ut.ee.

ICASE journal.

As mentioned last month, the ICASE Executive Committee at its last meeting in February decided that ICASE should move to producing an open source, online journal. The reasons for this were two-fold (a) the cost of the printed version was becoming too great, (b) an online journal held the potential for greater readership, especially in large or developing countries. ICASE wishes to thank the editor of the printed version of the journal for his efforts in developing the journal, but respects his wish not to continue as the editor of the online version. He requests that queries about the journal are no longer referred to him.

The journal will continue to be a peer reviewed journal concentrating on 'what research says to the science teacher'. ICASE hopes to get the new version up and running by June 2009 and welcomes submission of articles. As always, ICASE will publish articles in English and will help with the editing of English for those writing who are not native English speakers. Submissions from member organisations related to their operations which may interest an international readership are very welcome.

For more details and how to make submissions online and for other matters related to the journal, please contact, in the first instance, the ICASE President, or your regional representative (see section 7 of this newsletter).

ICASE website

ICASE is about to upgrade its website so this can better serve as an international information source and network. This process is now ongoing. Suggestions of what the upgraded website should include are very welcome and should be addressed to Dr Janchai Yingprayoon, the ICASE Immediate Past President (janchai@loxinfo.co.th). One suggestion is to include links to websites of member organisations, where we have permission to do so.

ICASE World Conference

This major ICASE event will take place in a little more than one year from now. The call for papers is out and very shortly online submission will be possible. The website is www.worldSTE2010.ut.ee Any difficulties, please contact Miia Rannikmaa, the conference convenor (miia@ut.ee).

The conference convenor is interested in STRAND submissions for presentations/workshops, etc from member organisations. A strand is a series of presentations put together by the member organisations across different conference sessions and submitted by the member organisation. The conference convenor will then work with the member organisation to best fit the strand into the conference. Presentations of papers, etc. by individuals are also accepted.

Please note that there is no need to scroll through the newsletter. Each item can be selected by clicking using the left mouse button on the content items on the front page.

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.

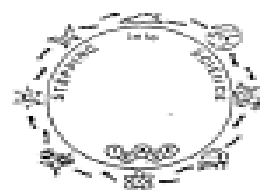
ICASE would be delighted to publish your favourite activities. Please send to jack@ut.ee

A) STEP ACTIVITY

STEP ACTIVITY

Wave generator

Contributed by Terry Groseclose, USA



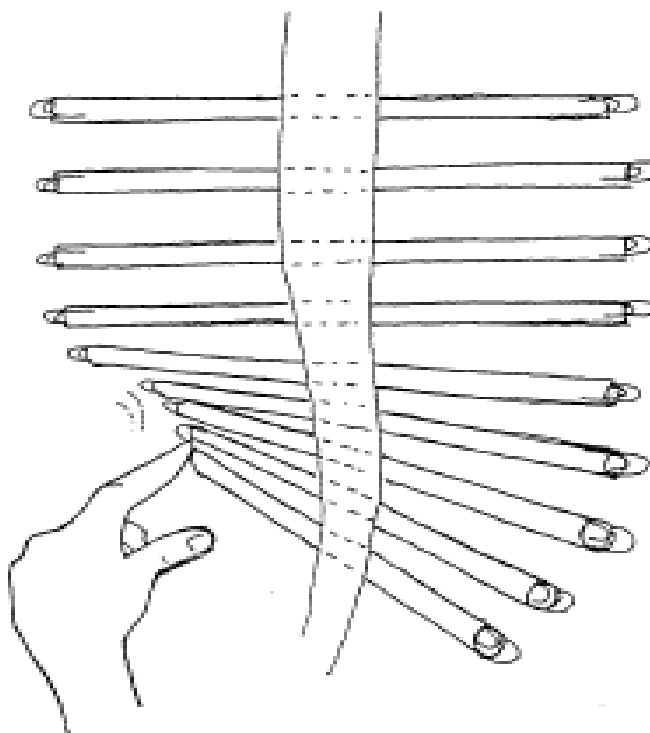
Challenge: How can you make waves using straws and paper clips?

What you need

- masking tape
- straws
- paper clips or plasticine

What to do

On a flat work surface, spread out a length of masking tape with the sticky side up. Stick the straws onto the tape about 1 cm apart. Push a paper clip in each end of every straw, or squeeze plasticine into each end. Place another length of masking tape over the first one to fix the straws in place. Hold the top of the tape with one hand as you push one end of the bottom straw. What happens?



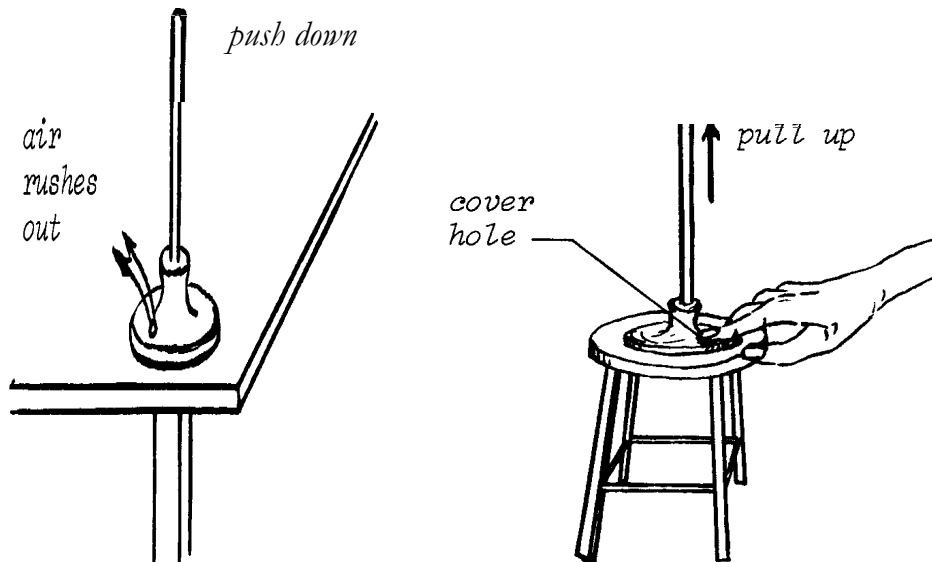
More to do

- Push one end of the top straw. What happens? Push one end of a middle straw. What happens?
- What happens if you make the straws shorter or longer?
- What happens if you add more weight to the straws?
- Instead of holding the tape with your hand, attach each end between two chairs. Push one end of a straw. What happens?

B) ADDITIONAL SCIENCE ACTIVITY

THE BIONIC FINGER (I)

- Materials:**
1. One heavy rubber plunger (used to unplug a sink).
 2. A stool or chair with a smooth seat.



Procedure:

1. Make a small hole in the plunger with a scissor's point.
2. Show the students the plunger and ask: "What is under the plunger when I place it on the table?" (anticipated answer: 'nothing').
3. Ask one of the students to come up and put his/her cheek close to the hole in the plunger.
4. Push the plunger in: air rushes out and blows against the cheek! *AIR OCCUPIES SPACE:* (see left Sketch).
5. Show the students the plunger on top of a stool.
6. Tell them that you possess a bionic finger and that you can hold down the plunger against the stool with one finger.
7. Push down on the plunger and hold it down with one finger covering the hole (a wet finger will work better), and ask a student to come up and pull the plunger up (See right Sketch).
The whole stool will stick to the plunger and be lifted!

Questions:

1. What was under the plunger?
2. What was helping my finger to keep the plunger down?
3. How much force is pressing down on the plunger?
4. How heavy can the stool be and still be lifted up?

Explanation:

There was air under the plunger and it rushed out when it was pushed in. When holding the plunger down with one finger, the hole was covered and this prevented the air from coming back in under the plunger, causing a lower pressure under it. A moist finger works better to plug the hole, because the water acts as a seal. The force holding down the plunger is equal to the surface area of the plunger multiplied by 1 kg (about 75 kg for a plunger with a 10 cm diameter).

C) USING EXPERIMENTAL IDEAS IN SCIENCE TEACHING

This newsletter contains two experimental ideas. It is hoped that these will be 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 be a pity if the teacher is the person who answers these 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 appropriate for younger students.

So what would be the investigatory questions for these experiments ?

This is a challenge left for you to consider.

3. An Introduction to Ideas for greater Relevance of Science Teaching for the Enhancement of Scientific Literacy

Jack Holbrook, ICASE President

This column takes over from that written by Professor Robert Yager and will, over the coming months, look at ideas related to the philosophy of teaching science subjects. It builds on past efforts by ICASE, but looks into needs for the 21st century. However the views put forward do not necessarily relate to those accepted by the ICASE Governing Body and these views can be challenged and refuted.

It is very common to read that students find science teaching boring and science content both difficult and irrelevant. Yet teachers feel trapped by an overloaded curriculum, having to use an overtly academic style of textbook and trying to guide students to cope with a poorly formatted external, final examination system. They feel they have no choice but to teach 'to the test.'

ICASE has long been interested in seeking a more meaningful international focus for science teaching. Since the early 1990s, ICASE has labelled this focus the **promotion of student's scientific literacy (or scientific and technological literacy, labelled as STL)**. ICASE has associated meaningful teaching approaches linked to student centred learning, raising student interest in the learning and with placing greater demands on students to take more responsibility for their own learning. The last point is seen as particularly important for overloaded curricula

This series of article begins by focussing on two key hypotheses. The first hypothesis is that there is the need for *greater popularity of science lessons*, or science teaching, in school. (Note: This is not considered to be the same as raising the popularity of science in society – there is evidence that whereas the popularity of science can be quite high, school science teaching has the unenviable label of being unpopular).

The second hypothesis is that there is the need for *greater relevance of science teaching* in school and this need is particularly focussed on science teaching in the compulsory years of secondary school.

These two hypotheses, if shown to be true at a national regional or even international level, are put forward as *two key factors in striving for greater levels of scientific literacy* in students (the meaning to be attributed to scientific literacy is discussed in a later article).

What is meant by popularity ?

In this article it is suggested that making science teaching popular means:

- making the learning enjoyable, so that students like to be involved;
- making the learning interesting for all students;
- ensuring the materials are viewed as equitable by both boys and girls for their learning;
- ensuring the teaching provides an appropriate challenge for the students involved so as to motivate students to learn.

Popularity is thus an emotion component of science teaching/learning. It is an important requirement in raising meaningful student involvement.

Surely this is not so hard to do !! But it will be, of course, if the students are required to '*fit to the teaching*', rather than the teaching '*fitting to the students.*' Most teachers know this. It is really common sense. So why is it that so many teachers talk about '*I must finish the syllabus/curriculum*'? Will this really lead to student enjoyment and appropriate student challenges? Why should it? And is it so important that **the teacher finishes** the syllabus/curriculum? Is the *achievement gained by students* really determined solely by the actions by the teacher and independent of any emotional appeal to students?

The message here is surely – let's make science teaching popular. Let's put effort into this. But alas – having students doing 'fun things' is not the answer to more popular science lessons either. While we wish education to be fun, we cannot claim that *fun is necessarily education*. And we must remember that education is the rationale for students to attend school. It is on this premise that teachers are paid. We as science teachers need to be prepared to take a further step.

Raising the Relevance of Science Teaching

A further hypothesis is '*Science teaching becomes more popular for students when it is perceived as being relevant to their needs.*' This is taken to mean that there is a need to strengthen the 'relevance of learning science,' especially for grade 7 students and upwards.

The preferred approach to promoting relevance is to enhance students' intrinsic motivation so that students want to learn, based on their own cognisance.

What is meant by Relevance in science teaching?

It is accepted here that relevant teaching relates to important and meaningful society happenings in the lives of students, as perceived by the students.

This article puts forward the notion that science teaching relevance is determined by:

- an acceptance of the learning from the point of view of the learner;
- the degree to which it enables learners to see the learning provision as meaningful, applicable to themselves, important, purposeful and useful for their lives, especially outside the school;
- the degree to which the learning promotes intrinsic motivation in the learners.

Although popularity and relevance are put forward as important components of science teaching, they are not, themselves, the actual target. They are the means to guide teaching to its intended goals. **That goal is the enhancement of scientific literacy.**

The word enhancement is used because it is recognised everyone possesses some degree of scientific literacy. Hence it is suggested that the purpose of science teaching is to build on the existing scientific literacy and develop this further.

But now two key questions – what exactly do we mean by scientific literacy ?

And - how do we teach, in a popular and relevant manner, to enhance scientific literacy?

These questions also raise the issue - what is the relationship, if any, between scientific literacy and the goals of education? This last question is important as I hope it is generally agreed that the purpose of teaching all subjects in school is provide education to students.

4. SAFE SCI Be Protected

Article provided by Dr. Ken Roy – Chairman of the ICASE Standing Committee on Safety in Science Education. He is also Director of Environmental Health & Safety, Glastonbury (CT), an authorized OSHA instructor and science safety consultant. Email: Royk@glastonburyus.org

HOW SECURE IS YOUR SCIENCE LABORATORY AND SCHOOL? (PART II)

III. CREATING AND/OR UPGRADING SECURITY – THE LABORATORY (continued)

- L. Laboratory Hygiene – No drinking, eating, smoking, etc. should be permitted in the laboratory, save exceptions approved by the chemical hygiene officer.
- M. Appliances – All appliances such as refrigerators, microwaves, ovens, etc., should be appropriately labeled for intended use.
- N. Ventilation – Laboratory and preparation rooms should have “negative pressure” relative to corridors.
- O. Housekeeping – Appropriate housekeeping must be secured to reduce or eliminate trip/fall hazards, provide adequate clearance of sprinkler systems, provide access to emergency equipment, have an unobstructed means of egress, etc.
- P. Emergency Lighting – Emergency lighting should be available to assist evacuation in power outages as appropriate. The lighting should be inspected periodically to ensure operation.
- Q. Evacuation Plans – Evacuation plans should be posted in appropriate sites, in addition to emergency numbers. All laboratories, preparation rooms and storerooms should have communication access in cases of emergency.

IV. CREATING AND/OR UPGRADING SECURITY – THE FACILITY

The school building or facility should also have security needs addressed. This is the first “line of defense.” These simple recommended procedures will not guarantee a 100% secure workplace. However, they will raise everyone’s level of awareness and help the building become more secure – both physically and psychologically! The recommended procedures include:

- A. Designated Reception Area – The building should have a designated entrance and receptionist area to control access. All remaining entrance doors should be locked.
- B. Visitors – Once signed in, visitors should be escorted to designated work areas by employees.

- C. Employees – All employees should wear employee photo identification.
- D. Strangers – Employees should challenge any unaccompanied stranger(s) in the workplace.
- E. Mail – Employees should be trained and be provided with personal protective equipment (e.g., latex or vinyl gloves) to sort mail. Protocols should be in place to deal with suspicious items.
- F. Lockdown/Evacuation Procedures – Employers should develop both lockdown and evacuation procedures for employees and students. Appropriate drills should be exercised.

In the U.S., the Occupational Safety & Health Administration or OSHA requires emergency preparedness plans for employees in its 29 CFR Part 1010.30 and 29 CFR Part 1910.165 standards (Available at www.OSHA.gov). These standards mandate that employers provide emergency action plans and fire prevention plans. These plans are only an example of proactive preparation. Readers should consult their own government's standards or regulations. OSHA's include:

- A. Emergency escape procedures and escape route assignments.
- B. Procedures for employees who remain behind to operate essential operations.
- C. Procedures to account for all employees after an evacuation are completed.
- D. Rescue and medical duties for employees with those responsibilities.
- E. Procedures for reporting fires or other emergencies.
- F. Names and titles of persons to contact for explanations or further instructions.

3. FINAL THOUGHT

Remember - "AAA" - Awareness, Assessment and Action are keys to safety and security – be prepared!

LIVE LONG AND PROSPER SAFELY!

RESOURCES:

<http://www.ccohs.ca> – Canadian Center for Occupational Health and Safety

<http://www.osha.gov> – Occupational Safety and Health Administration

<http://www.epa.gov/> - U.S. Environmental Protection Agency

<http://www.ema.gov.au/agd/ema/emainternet.nsf/Page/RWP8068B438E9360F4FCA256C8700361BAF> - Emergency Management Australia

5. Janchai Corner

Here are further examples of simple home-made pieces of equipment.

Making a simple Compass and a Current Meter



We can make a simple compass by rubbing a needle with a permanent magnet for a couple of times.



Put a needle on a piece of paper and place them on the surface of water in the bowl. Turn the bowl to different directions. Notice the position of the needle.



What do you see? Why does it behave like that?



Place a wire over the bowl but close and parallel to the needle. Connect the wire to the dry-cell battery.

Look at the polarity of the battery and the direction of the bending needle when connecting to the battery. Notice the effect.



From this experiment, can you identify which direction is north or south?

An alternative to placing the needle on a piece of paper on water is to suspend the needle using a length of cotton thread.

Do you have favourite home-made equipment of your own ? Why not share this with others. Contact Dr Janchai (janchai@loxinfo.co.th).

*Janchai Yingprayoon is the Immediate Past President of ICASE.
He is based in Thailand.*

6. Calendar of Events

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

This African regional symposium is being organised under the auspices of STAN (Science Teacher Association of Nigeria).

The theme of this major African regional conference is - Meeting the Challenges of Sustainable Development in Africa through Science and Technology Education.

The Venue is the Abuja Sheraton Hotel and Towers, Abuja, Nigeria.

What are the challenges for Sustainable Development in Africa ?

Well, first is - what is meant by sustainable development in such a continent? Is it really only about the environment ? What about poverty alleviation, food supply, peace and human rights ? Are these to be omitted ?

And if sustainable development has a wider need, then what does this mean for Education for Sustainable Development and especially Science and Technology Education for Sustainable Development in Africa ?

Come and join in the discussions and deliberations.

The Conference Conveners are Dr. Ben B. Akpan, ICASE African Representative and Executive Director, Science Teachers Association of Nigeria (Email: ben.akpan@stanonline.org) and Professor Peter Okebukola, Faculty of Education, Lagos State University, Ojo, Lagos, Nigeria. (Email: peter@okebukola.com)

For more details please visit the website <http://www.stan.org.ng/ICASE-2009>

CONASTA 58 – The Conference of the Australian Science Teachers Association 4-7 July 2009 at the Hotel Grand Chancellor in Launceston, Tasmania, Australia

The theme for the conference - A Bridge to the Future. Within the theme will be highlighted

Science – future problem solver

Educational change and the national curriculum

Science in a rural context

Science and literacy

You are invited to submit an overview of a presentation for the CONASTA 58 conference. Presentation summaries are due by Friday 20 February 2009. Abstracts can be submitted through the website via the Speaker's Zone (www.cdesign.com.au/conasta58).

Registration fees Full registration before April 2009 (member A\$450; non member A\$650). After April (member A\$550, non member A\$750). More details on the website.

For all enquiries contact - Conference Design Pty Ltd, 228 Liverpool Street, Hobart, Tasmania 7000. E-mail Info@cdesign.com. Tel (international) +61 3 6231 2999

International Congress of Science Education, 10 years of the Journal of Science Education (Cartagena, Colombia, 15 - 18 July 2009).

The main aim on this Congress is to discuss international experience in science education. The venue in Latin America presents a special opportunity for our community, and your participation would create a high interest and impact for this international event.

The Journal of Science Education, JSE, has an international character and publishes articles about the science education (Physics, Chemistry, Biology, Mathematics, etc.) for the university and secondary or high school levels. Authors from 53 countries have published more than 320 full peer evaluated articles in previous issues, various authors are from your country. Our authors are: from Europe (47%), America (45%), Asia (7%), Africa (1%). About 46% of published works have been about research in science education.

We invite you to take part in this International Congress. We are very interesting in if you can organize a symposium or workshop about one of the several topics to be talked about at the congress.

Two important dates were:

* Preliminary registration: 15 December 2008

* Sending the abstracts: 10 February 2009 but you can still participate !

Please see the website for more details <http://www.colciencias.gov.co/rec/cong>

ESERA 2009 Conference, Istanbul, Turkey

The next European Science Education Research Association conference will be held in Istanbul, Turkey from the August 31st - September 4th 2009. The venue is the Grand Cevahir Hotel and Conference Centre. For more information consult the ESERA website or contact M. Fatih TAŞAR : mftasar@gazi.edu.tr or Gültekin ÇAKMAKÇI : cakmakci@hacettepe.edu.tr

ICASE Asian Symposium XI, 1-3 November 2009, Guangxi Normal University, Guilin, P.R.China.

The 11th ICASE Asian Symposium will be organised by the ICASE-GNU Guilin Teacher Training Center (GTTC) with the Research Institute of Science Education (RISE) at Guangxi Normal University, from the 1-3 November 2009. The theme of the symposium is Bridging the Gap between Formal and Informal Science Education and is a founding event for the newly established ICASE Guilin Teacher Train Center. The symposium will provide an opportunity for science teachers and education to meet in order to

- Learning from and interact with invited science education experts on how to create and wisely use high educationally valued teaching materials in order to make genuine improvements in science learning and teaching;
- Share ideas and experiences with each other related to science teaching practices
- Visit and discuss RISE and its partner schools on developing featured science teaching resources.

The symposium venue will be the Yuchai Campus of Guangxi Normal University and all academic activities will take place within the RISE facilities. The language of the symposium will be English

Registration fees – Overseas participants 2000¥ (students 1000 ¥)

Local participants (rate to be decided) 7.5 ¥ = 1 US\$

Updated details will appear on the RISE website www.risechina.org

For more information please contact the secretariat – Miss Handan Huang, Research Institute of Science Education, Guangxi Normal University, Guilin 541004, P.R. China

E-mail gxnuusc@sohu.com

National Science Teachers Association (NSTA), Philadelphia, USA

The next NSTA National Conference will be held in Philadelphia, PA from March 17-21, 2010.

Please consult the NSTA website for more details

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.

Conference theme - **Innovation in science and technology education: research, policy, practice.** The Call for Papers is now announced for each of the sub-themes – *research; policy and practice.* [See attached call for papers]

Introducing the conference title

Innovation and Education are heavily interlinked. As countries move along the path of development (and really this is their destiny; unknown is the pace at which this takes place), education is a key factor in promoting meaningful progress. Whether this factor is identified with values such as equity, human rights, tolerance, or preparations for a knowledge-based society, education has been recognised as an essential component in a country's development.

But as movement within a country takes place along the development path, so education itself needs to develop; it needs to be in tune with the moving platform. For this, not only is innovation a hallmark of development, but it is a key ingredient in the required developments in education. Such innovation needs to have a **research underpinning**, guided by **policy makers** towards intentions and introduced at the **level of practice** by the implementation attributes within the country (unfortunately under a heavy threat of distortion by the assessment practices in many countries, unless these are also an essential part of the innovation).

Science and technology education has a crucial role in this innovation. Not only is it involved in preparing innovative citizens within society, but also as part of the education provision within countries, it is at the forefront of educational innovations, undertaking this from within a science frame.

SPECIAL NOTICE to Science Teacher Associations and Science Education Organisations

The conference organisers invite you to put forward conference 'strands' which are a series of presentations by members of your organisation. They are included across the conference programme. The purpose is to provide an opportunity for organisations to disseminate innovations on the world scene to others in line with the thrusts of their organisations. For more details please contact Miia Rannikmae e-mail miia@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). We kindly invite all academicians, doctoral students, science teachers, and researchers to take part in these events.

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 (DidSci) 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. Topics include:

- Results of science/chemical education research and reports on evidence-based and/or research informed practice at all levels in the fields.
- Teaching and learning chemistry/science at all level of education (from elementary schools to universities, general and vocational schools).
- Life long learning in chemistry/science.
- New technologies in chemical/science education.
- Laboratory work (Micro Scale Chemistry, safety issues etc.).
- Chemistry/science teachers' education (pre- and in-service training).
- Teaching chemistry/science to students with diverse abilities (teaching gifted student, teaching students with learning difficulties).
- Critical analysis of chemistry/science textbooks and curricula.
- Green chemistry and environmental chemistry education.
- Ethical issues in chemistry/science education and research
- Chemistry and Society, public understanding of chemistry.
- History and philosophy of chemistry/science.
- Chemistry/science and industry.
- International programmes and projects in chemistry/science education.

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 Nodzinska DIDSCI 2010 secretary at e-mail address: didsci2010@ap.krakow.pl



The Conference of the Australian Science Teachers Association CONASTA 58
4-7 July 2009
Hotel Grand Chancellor
Launceston, Tasmania

Registration Brochure

Registrations can be submitted online
www.cdesign.com.au/conasta58



Launceston, Tasmania
Launceston, Tasmania's second oldest and second largest city, sits at the junction of the North and South Esk rivers. The city is compact and pretty with colourful Victorian and Edwardian homes lining the hillside along the river banks.

The Cataract Gorge Reserve, which includes the first Basin and the Cliff Grounds, form extensive recreation spots just 15 minutes walk from the heart of Launceston. The reserve is ideal for walking, viewing historic gardens and exotic plants or simply relaxing in the restaurant or tearooms.

Launceston is a good base for exploring the vineyards of the Tamar Valley and from Launceston you can also explore national parks such as Narawentapu (known for wildlife spotting) and Cradle Mountain-Lake St Clair, or the historic colonial villages of Evandale and Longford.

It is also worth spending time in the Queen Victoria Museum and Art Gallery, and Launceston's first-class arts and crafts outlets, including the Design Centre and the Ritzier Mill complex.

Venue
The Hotel Grand Chancellor
32 Cameron Street Launceston
Hotel Grand Chancellor Launceston is the city's premier 4½ star hotel. Hotel Grand Chancellor Launceston is only a short stroll from the main central business district, shopping mall in Brisbane Street and Yorkdown Square. It is the ideal base from which to explore the beauty and variety of the north east – the handsome Georgian architecture of the municipal buildings of Launceston, the heritage farmsteads, the serenity of a cruise up the Cataract Gorge, or driving the beautiful Tamar Valley with its numerous vineyards including Tamar Ridge, Iron Pot Bay, Helm Dam, Rossvears Estate, St Martin's and Providence Vineyards.

Theme
The main theme is Science Education: A Bridge to the Future. Within this theme we will highlight:
• Science – future problem solver
• Educational change and the national curriculum
• Science in a rural context
• Science and literacy

Call for Presentations
You are invited to submit an overview of a presentation for the CONASTA 58 Conference. Presentation summaries are due by Friday 20 February 2009. Abstracts can be submitted through the website via the Speaker's Zone www.cdesign.com.au/conasta58. Authors are invited to submit abstracts for:
• Seminars (30-60 minutes, including question time)
• Workshops (75 minutes or 150 minutes)
• Poster displays (1 metre wide x 2 metres high board)

The 200-word summary should outline the aims and content of the presentation. All presentation summaries are to be submitted electronically via the Conference website's Speaker's Zone. You will be asked to indicate your target audience – early childhood, primary, secondary, pre-tertiary (11-12), all (K-12), or lab technicians. While you will be asked to indicate your preferred presentation format the Conference Committee may request an alternative format be considered.

Visit the website for full details regarding the submission of presentation.

Important Dates	Abstract submission opens	OPEN NOW
Abstracts due	20 Feb 2009	Abstract acceptance emailed 6 Mar 2009
Professional program available	Mar 2009	Early-bird registration closes 24 Apr 2009

www.cdesign.com.au/conasta58 3

A Bridge to the Future
CONASTA 58

Invitation to Participate
The CONASTA 58 Convenor and Organising Committee are pleased to invite your participation in the 2009 conference of the Australian Science Teachers Association. CONASTA 58 offers excellent targeted professional learning opportunities for Science teachers, Science educators, preservice teachers and the scientific community. Between 350 and 500 delegates from around Australia as well as some international delegates will gather in Launceston for what will be an exciting CONASTA 58. The conference theme is 'Science Education: A Bridge to the Future', and the program includes keynote speakers, seminars, workshops, field trips, highlighted sessions, trade displays, happy hours and social functions as well as post-conference excursions.

We look forward to your participation.

Who should attend
• Primary Teachers
• Secondary Teachers
• Lab Technicians
• Tertiary Science Educators
• Undergraduate Science Teachers
• Pre-Service Teachers

Hosts
CONASTA 58 is organised by the Science Teachers Association of Tasmania on behalf of the Australian Science Teachers Association



Contact details
For all enquiries please contact the team at Conference Design for assistance
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A Bridge to the Future
CONASTA 58

Keynote Speakers

Dr Ken Tobin
Dr Ken Tobin is Presidential Professor of Urban Education at the Graduate Centre, City University of New York and author of numerous publications in the areas of science and urban education.
Before he began his career as a teacher educator, Ken taught high school science and mathematics in Australia, where he was involved in curriculum design. His research interests are focused on the role of science in urban schools plagued by poverty.
Presentation: Teachers collaborating with urban youth to produce higher levels of participation and attainment in high school science and social life in out-of-school settings.

Bernie Hobbs
Bernie Hobbs is a multi-award winning science writer and broadcaster with ABC Science Online. While Bernie's background is in medical science and teaching, she's also interested in how science and big ideas fit into real life – culturally, socially and environmentally, and she gets to explore that territory regularly as a judge on ABC TV's 'The New Inventors'.

Professor Ian Cameron
Professor Ian Cameron is an inspirational and dedicated teacher from The University of Queensland's School of Engineering. In 2003 he won the Prime Minister's Australian Award for Individual University Teacher of the Year, and the award in the Physical Sciences and Related Studies category.
He also won a University of Queensland Award for Excellence in Teaching in 2002.
Presentation: Smooth chocolate, silky hair and Opal gasoline: Science's yuletide in Engineering

Dr Peter Binks
Dr Peter Binks is the Chief Executive Officer, Nanotechnology Waiver Ltd. He is the CEO of Nanotechnology Waiver and was the 1963 Rhodes Scholar for Tasmania.
Peter is a leader in the development of Australia's nanotechnology strategy, and is currently Chairman of the Australian Nano Business Forum (ANBF) the peak industry body for nanotechnology in Australia.
Presentation: Nanotechnology Opportunity for Australia and for Science Education

Professor Barry McGaw AO, PhD
Professor Barry McGaw is the Director of the Melbourne Education Research Institute at the University of Melbourne and a consultant.
He holds BSc, DipEd and BEd(Hons) degrees from the University of Queensland and EdM and PhD from the University of Illinois, received an Australian Centenary Medal in 2003 and was appointed an Officer in the Order of Australia in 2004.
He was the 2005-2006 recipient of University of Illinois Alumni Award for Exceptional Achievement.

NASA Representative
We have secured a commitment for a NASA representative to speak at the conference. The speaker will be confirmed in early 2009 once the space schedule is known.
We will then post details on the conference website.

Please refer to the website for presentation summaries for the Keynote Speakers.

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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 for 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

Adrian Fenton

E-mail Adrianfenticase@yahoo.co.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

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

E-mail: gabrela_inigo@hotmail.com

(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 Ken Roy

E-mail: Royk@glastonburyus.org

World Conference

Dr Robin Groves

E-mail grovesr@ozemail.com.au

Pre-secondary and Informal Science Education

Ian Milne

E-mail I.Milne@auckland.ac.nz