International Council of Associations for Science Education

Supporting and promoting science education internationally
The ICASE Newsletter

JUNE 2011

Welcome to the ICASE June 2011 Newsletter !

The ICASE Newsletter is a regularly distributed publication containing current information about topics of interest in the field of science education. The table of contents for this issue is located in the right hand column.

The International Council of Associations for Science Education (ICASE) was established in 1973 to extend and improve science education for chldren and young people throughout the world. Today, ICASE is a huge network of science education associations, institutions, foundations and companies, facilitating communication and cooperation at the regional and international level.

International Council of Associations for Science Education

http://www.icaseonline.net

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Science Education International

For information please visit our Journal web page: http://www.icaseonline.net/seiweb

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ICASE News

Jack Holbrook, ICASE Past President

1. 2nd Consortium meeting for PROFILES

Parters from 20 European countries met in Tartu, Estonia for the second meeting on PROFILES, a European Commission FP7 project in the area of Science in Society.

ICASE is a major partner in this project involving the ICASE Past President, Jack Holbrook (4th from the right, in the last of 4 rows), The European Representative, Declan Kennedy (5th from left, back row), the Chair of the Publications Committee, Bulent Cavas and (2nd from left, front row) and the Immediate past Secretary, Miia Rannikmae (front row 1st left).

This project is wishing to promote continuous professional development for secondary school science teachers with a view to make science teaching (chemistry teaching, physics teaching, biology teaching or earth science/geography teaching) more relevant to students.

ICASE News (Cont.)

As ICASE has pointed out on numerours occasions both therough this newsletter and through the ICASE journal (Science Education International – viewable on www.icasonline.net/seiweb) science in school (as opposed to sciecne in society) is not popular for secondary school students, especially in Europe). This project sets out to address this , following up on the pioeering work by ICASE (working in conjunction with UNESCO and other international NGOs) in promoting Scientific and Technological Literacy for All.

ICASE is mainly involved in disseminating PROFILES ideas and developments and will keep readers aware of developments through this newsletter and presentations made in conferences, etc. However ICASE is delighted to work with Science Teacher Associations around the world to disseminate the ideas in PROFILES and at the same time seek developments undertaken/involvement by Science Teacher Associations in this area of making science teaching in school more exciting.

Whereas students in primary school find science exciting and interesting, the typical graph of interest and relvant for school science education at the secondary level, from the onset of puberty, takes a downward path. This well known phenomena means many students are not attracted to the learning of science, even though it is recognised science (or science and technology) plays an important role in everyday life and in seeking all types of careers.

What is the PROFILES approach to addressing the lack of interest in school science ? The answer is to address the issue of relevance and trying to persuade teachers that relvance is more important than content, the textbook offerings or the orientation portrayed in the curriculum (often unintentionlly). This aspect is further address in the article on PROFILES later in this newsletter.

As usual comments, expressions of interest and further ideas in this area are always welcome.

2. Special issue of SEI in the area of Science Careers

You are invited to submit an article to a Special Issue of SEI

Guest editor: Susan Rodrigues,
Professor of Science Education, University of Northumbria, UK

More more details see next page.

General Introduction to prospective authors

Exploring the impact of social capital (factors including the home, friends, other students, the community, society as a whole) on student career aspirations, with particular regard to science careers **is a priority** in many countries across the world.

Descriptions of reasons for why students opt out of science, and the various initiatives to encourage science uptake **have been researched and documented.**

However, there is a limited body of research offering theoretically informed critical accounts of the influence of social capital factors on student aspiration and on student choice with regard to careers based on science education. What are the problems/issues/factors that exist given the large number of initiatives, policy changes and activities that have been introduced over the last 6/7 years?

Possible topics, but not limited, are:

- Policy issues on science careers
- Impact of social capital on students' career choices
- Gender and ethnicity influences on student career choices
- International comparative studies reporting on students' Science career choices

Deadline for submissions	: June 30, 2011
Review process	: July – September
Notification of Review	: September 30, 2011
Revision of articles	: October
Publication of articles	: November/December

All articles should meet the general guidelines for SEI and be submitted online. The guidelines for the articles can be found on the journal web site: www.icaseonline.net/seiweb.

All submissions should be made online at the Journal Web site.

3. The June Issue of Science Education International

The latest issue of SEI is now on the ICASE website as given above. Articles in this issue cover -

Scientific Literacy through summer camps
Science versus religious faith
Effective Environmental Education
Assessing Scientific Literacy
Inclusive Classroom: Effect of a readability intervention

The Scientix Conference May 6-8, 2011

This conference on Science Education was held in Brussels, Belgium and organised by European Schoolnet under contract to the European Commission.

The conference brought together European Union projects for Teachers and Researchers and reflected on science education research, initiatives in the field of inquiry-based science eeducation and school collaboration. Altogether 25 European projects were on display, one of which was PROFILES (see ICASE news). The photos below illustrate the PROFILES presentation (by Claus Bolte, the coordinator of the project, based at the Freie Universitat of Berlin, Germany) and the PROFILES stand in the conference manned by Miia Rannikmae (University of Tartu, Estonia) and Jack Holbrook (ICASE).

The welcome address was given by Robert-Jan Smits, Director-General of Directorate-General for Research and Innovation of the European Commission and the keynote speech on “Science Education: critical for Europe’s future” by John Holman, University of York, UK.

Optical Illusion Experiments

Materials

Thick paper	Tracing paper	Drawing pencil
Black poster colour	Ordinary wooden spinning top	Bright source of light

(i) Stare at the drawing of the pile of cubes in the diagram.

After you have stared at it for a few seconds, count the number of cubes. How many are there? Six or seven? Sometimes the white surfaces will look like the top of the cubes and the number of cubes is six.
The picture can thenl suddenly seem to change and you see the white surfaces as the bottom of the cubes and their number is seven. Why does this happen?

Could similar experiences happen with scientific observations? Is it possible that 'what you see, is not what you get'? Let's look at another drawing.

(ii) Look at the second diagram above. Does it look like a white vase on a black background or two black profiles on a white background? Stare at the drawing for several minutes. The picture changes from vase to profile and profile to vase and so on.

(iii) Copy the black and white circular design on to a circular disc of thick paper of radius 5 cm. Use poster colours or black ink to blacken the relevant parts. Make a hole at the centre of the disc and fix it to the rod of a spinning top with the design side facing upwards, Illuminate the disc well, preferably under a tube light. Spin the top. What do you see?

Although the disc is black and white, you will see colours if you stare at it while it spins. The longer you stare the more colours you see. Try and make another type of black and white design that will give the same type of illusion.

Be careful with your scientific observations. Maybe you are seeing an illusion !!

SAFE SCI: Be Protected!

By Dr. Ken Roy
Director of Environmental Health & Safety
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Glastonbury, CT &
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Elementary Science: A Safety Standard Resource!

On 28 August, 2006, The Boston Globe newspaper had an article by Stephen Smith (http://www.boston.com/news/globe/health_science/articles/2006/08/28/back_to_safety_in_school_science_labs/) about what seemed to be a perfectly safe elementary school experiment – the slicing and dicing of owl pellets. Oh the excitement of it all – remembered for a life time.

Unfortunately in this case, the investigation was done in the wrong place without any personal protective equipment. About five dozen elementary school students in a town elementary school came down with salmonella poisoning as a result of dissecting owl pellets in the cafeteria without using gloves or eye protection and then eating their lunch without the required soap and water hand washing ritual! Given the inappropriate environment, activities effected, and lack of safety protocols/practices, it was a miracle that more students did not get sick. Fortunately, the state of Massachusetts Health Department did take note and send out warnings to other school districts. Prudent practices and legal standards note that science activities should not be done in places where food will be eaten. Owl pellets should be sterilized before used and not taken out of the wild. Students should be wearing gloves, aprons and eye protection. Hands should be washed with soap and water at the end of the activity. Tables should be disinfected. Where was the balance between elementary science and safety, i.e. – doing science in a safer way?

It is a well known fact based on firm science research that students learn better by doing science, not simply reading about science. The hands-on, process and inquiry based approach to elementary science is both an exciting and motivating vehicle for student learning.

Unfortunately, little preparation is found on the part of many tertiary teacher preparatory programs to meet this challenge. In addition to the anemic status of affairs (with few exceptions!), almost no preparation is made for elementary science safety. Be it life science, physical/chemical sciences or earth space sciences, teachers need to have an understanding and awareness on how to prepare for a safer working environment for their students and themselves.

An Elementary Science Resource To The Rescue!

Last year, the Laboratory Safety Institute published its second edition of *Safety Is Elementary – The New Standard for Safety in the Elementary Science Classroom.* This unique guide to a safer elementary science experience was first published by the Alabama Science Teachers Association, given the high level of need realized over approximately two decades ago. Having been developed by teachers, it is very user friendly. Topics were designed and listed in alphabetical order from "Accidents" to "Zoo!" Additional sample topics include Bacteria, Burners, Electricity, Eye protection, Ground Fault Interrupters, Heat Sources, Labeling, Liability and Negligence, Model Rockets, Pets, Plants, Science Fairs, Signage, Storage, Vermiculite and much more! Each topic was developed based on legal standards and professional best practices. The information provided is concise, direct, simplified and no nonsense. For example, the topics on Glues and Mushrooms are as follows:

GLUES

*Do not use any of the instant glues, including epoxy, Superglue, and airplane glue. These contain harmful organic solvents that can cause toxic effects when inhaled. You should use rubber cement and preferably low volatility rubber cement thinner only in open and well ventilated areas. Keep the containers of rubber cement tightly closed when not in use. White glue, school glue, Elmer's glue, carpenter's glue and wheat paste are safer to use. (**Safety Is Elementary,** Pg. 28)*

MUSHROOMS *www.mycology.cornell.edu/fmush.html*

A mushroom is really a large edible fungus. However, its close relative is not edible and these are called Toadstools. There is no single characteristic that will allow one to distinguish between a mushroom and a toadstool. Therefore, you should never collect these on field trips into the woods. If you need mushroom specimens, for your science activities, obtain them only from a science vendor or grocery store. (Safety Is Elementary, Pg. 38)

Some topics such as "chemicals" require a more lengthy discussion which is provided in a well developed Appendix. Other expanded topics include but are not limited to Common Chemicals from the Grocery, Drug and Hardware Store, Poisonous Plants, sample Material Safety Data Sheets, Minimum Safety Guidelines for Chemical Demonstrations, Sample Rules Acknowledgement, A Safety Quiz, Useful Websites and more.

BOTTOM-LINE!

The bottom-line is – any elementary teacher who is assigned science instruction needs to have an understanding of how to make the doing of science safer. Unfortunately, without the knowledge and/or experience, it is hard to know what to ask or look for to even begin considering the safety piece. *Safety Is Elementary* is one of those references which can provide the basics of safety for teachers in a quick to access format with a spectrum of topics.

Reference:

Roy, K., Markow, P. and Kaufman J. (Eds.). (2010). Safety is elementary: the new standard for safety in the elementary science classroom (2nd Ed). Natick (MA), The Laboratory Safety Institute, Inc. (http://labsafetyinstitute.org/WebStore.html)

Looking Ahead: Science Education for the Twenty-First Century (extracts from a report from the Prime Minister's Chief Science Advisor in New Zealand)

A recent report (April 2011) from the Prime Minister's office in New Zealand looks ahead and reflects on science education for the 21st century. This newsletter article focusses on one area of interest highlighted in the report - the purpose of science education. It tries to open the debate and guide science teachers to think about - where science teaching is heading in the future – a key area of interest to ICASE.

In the report it suggests "There is no doubt that the role of science in modern society is changing. It is very different to that of a generation ago." It further suggests that many of the challenges we face today are dependent on science – climate change (at the global level), problems of environmental degradation or enhancing economic productivity (at the local level), or more specifically for New Zealand and many developed countries – the issue of an ageing population.

In fact the report suggests "there is no challenge affecting our society which does not have science and technology associated with finding an appropriate solution." (italics added). These are powerful words and must draw attention to reflecting on whether we are teaching science in school in an appropriate manner. This report, of course, is not alone in considering these aspects and other articles (Millar, Turner, Fensham) have also questioned whether the promotion of scientific facts and explanations in school sciedcn lessons is carrying the important it did of yesteryears. In fact, the report points to the issue of the growth of the internet. It recognizes that it is a fantastic source of information which cannot be ignored, but that at the same time carries information that may or may not have creditability. The report puts it this way - "what is seen to be 'information' is not necessarily dependable or useful or even safe."

But the report also indicates that the nature of science itself has changed. "Rather than dealing with simple systems, increasingly science is dealing with complex issues such as interrelated physical and biological changes in the environment. Science has moved over the last 100 years from being a method that yields certainty and exactitude to a process by which complex systems are studied and modelled and knowledge is expressed in terms of increased probability and reduced uncertainty, but never in terms of absolutes." (italics added).

It is expected that few will argue with the above. But it seems it is not universal hat this realization affects the teaching of science in school. One obvious realization that must be grasped is that science is taught in school as part of education and hence it is not simply a question of taking 'new' science and incorporating this into the classroom curriculum. There is a need to move beyond the science itself (important as it is) and re-consider the purposes of science education (the science or science subjects taught in school).

In the report it suggests "science education academics identify four broad purposes for school science education." These are given as:

1. Preparing students for a career in science (labeled as pre-professional training).
2. Equipping students with practical knowledge of how things work (seen as a utilitarian purpose).
3. Building students' science literacy to enable informed participation in science-related debates and issues (meeting a democratic/citizenship purpose).
4. Developing students' skills in scientific thinking and their knowledge (perhaps this can be labelled - learning to learn).

The purposes point to two major objectives for science education (the teaching of science in school – particular considered with particular references to the secondary school level). These are indicated as

- "the first is that of pre-professional education which is traditionally for careers needing science, usually arranged around mathematics, physics, chemistry, biology and perhaps general science. "
- "the second is the citizen-focused need for all children as they mature to have a clear understanding of the complex world of science that they will confront as citizens over the next 60 years of their lives."

The report adds "Whether these two sets of objectives can be met with one pedagogical approach and one curriculum is uncertain."

This is a major dilemma. Taking the dilemma of one or two different courses further, comments by the advisor to the Prime Minister indicate "My belief is that this difference between pre-professional education and the more citizen focused objectives of science education has grown in importance and will do so even more in the coming decades, such that radical changes in the nature of the science education curriculum will be needed."

And with this "It is likely, in my view, that there will be, at some time in the not too distant future, a separation of curricula for the citizen-focused objectives from those for pre-professional science education throughout secondary schooling. This is required to enable the majority of students to continue to engage in science education beyond year 11, addressing the challenge of creating a scientifically literate population."

The rationale for teaching 'citizen science' is argued as "One requires students to discuss issues such as climate change from the perspective of understanding its implications, understanding the various strategies that might be used to mitigate or adapt to it, and understanding the complex choices which they as citizens are going to have to make in a world that is warming."

Added to this a related issue mentioned by the advisor, but not considered by the reference groups, is that of life skills education. For example, much of what happens to people in their lives depends on their understanding of their own body – what they eat, whether they take drugs, how they use alcohol, whether they smoke, how much they exercise, when they choose to reproduce.

And for the other (pre-professional) "In contrast, those in pre-professional training also need to understand issues such as the physics and chemistry of the atmosphere and the biological mechanisms by which global warming will have effects on health and biodiversity."

A final extract from the appendix of the report indicates that the purpose of science education is different for students at different stages of the school system.

For Years (grades) 1-6 (primary), the emphasis is on stimulating students' interest and curiosity, and in developing literacy skills.

For Years (grades) 7-10 (middle school), the emphasis in these years would be on socio-scientific issues. There would also be a focus on increasing students' awareness of the possibilities of future careers in science.

For Years (grades) 11-13 (senior secondary), students continue to study an issues focused programme, but they also take courses in either pure or applied science that are more focused on preparation for careers in science.

And, at all levels, students are challenged to develop deep understanding through strategies that emphasise student questioning, exploration, and engaging with significant ideas and practices. There would be much greater interaction between schools and the science community and more emphasis placed on students' active engagement in their own learning. The different stages of this model are described in more detail in the report to the Prime Minister.

What all this tells us is that understanding what good science education looks like – that is, science education that is educative, that represents science accurately, and that is engaging for students – is very challenging, and that, despite much effort, it continues to be very challenging.
Comments from readers are very welcome/

References

Fensham, P. (2008). Science education policy-making: eleven emerging issues. Paris: UNESCO.

Millar R. (2006) Twenty First Century Science: Insights from the Design and Implementation of a Scientific Literacy Approach in School Science. International Journal of Science Education 28(13), 1499-1521.

Prime Minister's Office (2011). Looking Ahead: Science Education for the 21st Century. Retreived from (31st May) www.pmca.org.nz

Turner, S. (2008). Why We Teach School Science, and Why Knowing Why Matters
Keynote Address to the CRYSTAL Atlantique Annual Colloquium, Fredericton, Canada, May 20-21, 2008.

Mini-symposium, Reading, 20-21 June 2011, UK

20-21 June 2011 (welcome reception on 19th)

Contemporary Issues in Science and Technology Education

The symposium is open to all working in the field of science and technology education, including established researchers, Masters and Doctoral students, and practising teachers in schools.

We invite papers on completed empirical research and theoretical issues in science and technology education.

In the first instance, send a 1000 word abstract in Word format to the coordinator, John Oversby (j.p.oversby@reading.ac.uk) including the frame for the research, the research questions, methodology, outline data, analysis, interpretation, implications, and selected references, for empirical papers and parallel areas for theoretical papers by December 31st 2010. Abstracts will be blind reviewed and invitations for full papers up to 12 pages sent to successful authors by January 30th 2011, to be received by March 30th 2011. We intend to seek a publisher for presented papers.

Oral papers at the symposium will have 20 minutes followed by 10 minutes discussion. If there is sufficient response, we will also accept posters for a special session.

Reading is close to Heathrow and Gatwick airports by frequent public transport, and easily accessible from budget airline Stansted and Luton airports.

IOSTE home page: www.ioste.org . Symposium home page http://ioste-nwe.wikispaces.com/

The registration fee is about 75GBP

The International Conference on Teaching Science and Mathematics using Toys and Hands-on Activities, 4-7th July 2011, Thailand

THEME

Teaching Science and Mathematics using Toys and Hands-on Activities

OBJECTIVES

The conference provides an opportunity for science, mathematics and technology educators from schools, universities, scientists to meet together in order to:

- Share ideas and experiences in using toys, games and out-of-school activities for teaching
- Interact with educators from different fields with interest in science, mathematics and technology education at all levels
- Recognise approach to promote scientific and technological literacy for all

DATE

4th – 7th July 2011

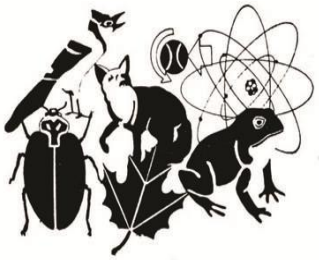
VENUE

The conference will take place at Nong Nooch Garden & Resort, Pattaya, Thailand
http://www.nongnoochgarden.com/home.html

ACCOMMODATION

Special room rate at Nong Nooch Garden & Resort, Pattaya, Thailand will be reserved upon requested.

The International Conference On Teaching Science and Mathematics using Toys and Hands-on Activities



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- International Council of Associations for Science Education (ICASE)
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- Science Teachers' Section, Science Society of Thailand

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The International Conference On Teaching Science and Mathematics using Toys and Hands-on Activities

4th – 7th July 2011,
Nong Nooch Garden & Resort,
Pattaya, Thailand

Organised by
International College,
Suan Sunandha Rajabhat University

The International Conference on Teaching Science and Mathematics using Toys and Hands-on Activities, 4-7th July 2011, Thailand

TOPICS

The conference will cover abroad range of topics on the use of toys and hands-on activities in scientific and mathematical research and teaching. The topics include, but are not limited to:

- Folk toys
- High-Tech science toys
- Using a laser beam in teaching science and mathematics
- Using a data-logger for science experiments
- Digital equipment for teaching science
- Environmental science activities
- Multimedia Learning in Science and Mathematics
- Science Exhibitions and museums
- Science Show
- Application of The Geometer's Sketchpad and Graphics Calculators

Etc.

TENTATIVE PROGRAMME

DAY 1: Monday July 4, 2011
- Registration
- Opening Ceremony
- Keynote Address
- Plenary Lecture 1
- Workshop 1: Environmental Science
- Workshop 2: Pottery and gardening
- Reception dinner

DAY 2: Tuesday July 5, 2011
- Plenary Lecture 2
- Plenary Lecture 3
- Presentation of Papers / Posters
- Concurrent workshop 3 and 4
- Exhibitions of Science Toys

DAY 3: Wednesday July 6, 2011
- Plenary Lecture 4
- Presentation of Papers / Posters
- Concurrent workshop 5 and 6
- Poster session
- Concurrent workshop 7 and 8
- Farewell Dinner

DAY 4: Thursday July 7, 2011
- Cultural Show
- Science Show
- Exhibitions of Science Toys
- General Discussion
- Closing Ceremony

PROGRAMMES

There will be keynote, plenary lectures, conference, paper presentations, poster displays and exhibitions. Details of the programme will be available from **http://www.ssruic.com**

CALL FOR PAPERS

Contributed papers highlighting news and recent development in the areas covered by the conference theme are invited.

THE CLOSING DATE

The closing date for submission of titles and abstracts (not exceed one page) is May 6th, 2011.

On request, the secretariat of the conference will send a personal invitation for participation in the conference. It should be understood that such an invitation is only meant to help participants raise travel funds or obtain visas, and is not a commitment on the part of the organizer to provide any financial support.

LANGUAGE

The language of the conference will be English.

REGISTRATION FEE

4000 Baht (Inclusive: Lunches, Refreshments, Reception and Farewell dinner, Workshop materials, Excursion and Cultural shows)

The organizer will arrange a special exhibition corner for Science Toys and Hands-on Activities from all around the world. The participants who would like to bring some folk toys or activity works from their homeland are very much welcome.

ChemEd conference New Zealand, Palmerston North, 17-20 July 2011

2011 is the International Year of Chemistry and what better way to celebrate it than to join with chemistry educators and researchers from across New Zealand and abroad. ChemEd 2011 *Celebrating the International Year of Chemistry* seeks to do exactly this, bring together chemistry educators and researchers from across sectors to share together, learn from each other and celebrate the wonders of chemistry.

The 2011 conference will be held in Palmerston North, a hub of scientific endeavour and research. Alongside important tertiary institutes such as Massey University and UCoL Palmerston North is home to a wide variety of research institutes and scientific companies, providing a perfect atmosphere of discovery and enterprise. The venue for the conference will be the modern and architecturally inspiring Universal College of Learning (UCoL) located in the heart of city centre. The facilities here will provide a perfect environment for a conference such as ChemEd2011 and allow for easy walking access to town, local accommodation, restaurants and bars.

Confirmed key notes speakers so far include Jonathan Hare (UK) and Dr. Tony Wright (Aus). Jonathan carried out his PhD working on buckminsterfullerene with Prof. Sir Harry Kroto and he is well known for his television work in series such as *Rough Science* as well as his involvement in the development of the Creative Science Centre. Tony has strong connections with Palmerston North, having worked at Massey University prior to working at the University of Queensland. Tony has had a long and passionate interest in Chemistry education and the use of information and communication technologies to support learning.

The value of chemistry educators coming together in times of continual change cannot be overstated. As changes to Level 1 NCEA take place in 2011 and further changes to Levels 2 and 3 in subsequent years it is important we join together, share our knowledge, hear from experts and provide a voice to contribute positively to the changes taking place. Not only that, it also allows to continue building links to both.

http://www.chemed2011.co.nz

Early bird registration is now open. The process is very easy and there is an option to generate a GST invoice for your school so that you don't have to front up with the money – assuming your school has agreed to fund it of course.

The Future of Science Education, 22-24 July 2011, Singapore

Blending traditional conference formats with 21st century technology, Science Singapore 2011 will be a unique meeting where the latest research and best practice in science education come together, presented by educators from around the world. There will also be multiple opportunities for social gatherings and sightseeing in this fascinating city and surrounding countries!

Features of Science Singapore 2011:
Three parallel presentation strands consisting of
Keynote speakers in science education, web-based technology, and inspiring lives;
Continuous short (20 minute) talks—two per hour with breaks,
45 minute presentations and 90 minute double sessions for interactive, practical workshops.
Session strands scheduled as one block and repeated during the conference for more attendance opportunities;
• Internet networking to promote the conference via Twitter, Facebook. Google, and Email;
• Long distance interaction with breakout groups via internet chats;
• Forums via Skype;
• Live online streaming of sessions;
• Technology mentors for participants;
• Download session videos;
• One half day devoted to "un-conference" format of posted topics, participant voting and flexible scheduling of most popular choices;
• Electronic and traditional message boards;
• "Viewing party" prospects for distance discussions in small local groups;
• Live and eight-hour delay broadcasts of sessions.
Coordinators: John Stiles, Bangkok, Science Educator and Consultant; and Rob Newberry, Singapore, Educational Technology Consultant who organized the first TEDx conference in Bangkok. Conference information: http://sites.google.com/site/scisg2011/

6th Science Centre World Congress, 4-8 September 2011, South Africa

6th SCIENCE CENTRE WORLD CONGRESS
4 - 8 SEPTEMBER 2011
CAPE TOWN, SOUTH AFRICA
Science Across Cultures

Science Across Cultures

The 6th Science Centre World Congress will be held in Cape Town, South Africa, 4-8 September 2011. Enjoy stimulating congress sessions, challenging workshops and lively debates. And enjoy all that Cape Town and South Africa have to offer - whale watching, wine tasting, a unique floral kingdom, big game safaris, beautiful beaches, unparalleled scenic beauty, and a friendly and diverse culture. With the theme "Science Across Cultures", the 6th Science Centre World Congress will encourage reconciliation between different cultures and a greater appreciation of the role that science centres can play in highlighting each culture's unique contributions to science, technology and science education.

Registration Fees and Information

Registration for 6SCWC will be opening in September 2010.
Congress Registration Fees
Registration – Early (until 3 June 2011) ZAR 5,525.00
Registration – Standard (until 19 August 2011) ZAR 6,525.00
Registration – Late ZAR 7,525.00
*Registration - Discounted (until 3 June 2011) ZAR 4,250.00
* Residents of low-GNI (gross national income) countries are eligible for a discounted registration fee.
If you would like to make your own accommodation arrangements at a B&B, hostel or guesthouse, the 6SCWC

Congress Secretariat recommends www.capestay.co.za. Please note that the Congress Secretariat can only make bookings at the designated congress hotels and cannot be responsible for accommodation booked independently by delegates.

Rates quoted are per room, per night, including breakfast, including 14% VAT, excluding a compulsory 1% Government Tourism Levy.

More details from the website www.6scwc.org

International Symposium on Science Education (ISSE):

Strategies to engage students for learning

Dear Colleague,

It is our pleasure to welcome you to the forthcoming international ISSE symposium to be held in Porvoo, FINLAND (close to Helsinki) from **10th to 13th September 2011** organized by Finland's Science Education Centre, LUMA.

We welcome Science Teachers from Elementary to Senior High School Level, Future Teachers, Teacher Educators and Researchers in Science Education to gather in this symposium and share your ideas and research.

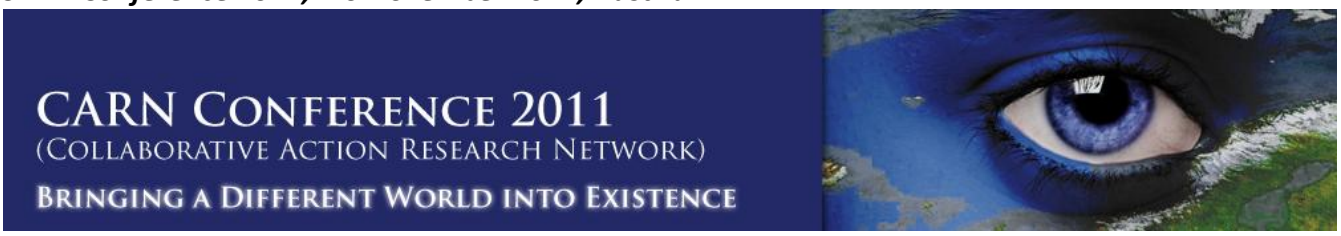
The symposium is based on plenary lectures, hands on activities, poster and discussion sessions.
Keynote speakers: Prof. Brian Hand, USA; Prof. Arlyne Sarquis, USA; Director Lynn Hogue, USA and Prof. Murat Gunel, Turkey.
e.g. Professor Brian Hand's research focuses on two major areas: " The first is on how we can use language as a learning tool to improve students' understanding of science. The second area of research is the development of scientific argument through the use of the Science Writing Heuristic (SWH)."
(see more: http://www.education.uiowa.edu/people/facstaffs/bhand.htm)

To see the program and registration details, please go to: http://www.helsinki.fi/kemma/english/isse.html
Registration fees: none. You'll pay yourself for travel, accomodation, lunches and dinner (see pages: Venue and accomodation).

For any other questions, please contact the coordinator - Marja Happonen (marja.happonen@helsinki.fi).

Maija Aksela
Chair of the ISSE Symposium, Head of the LUMA Centre, University of Helsinki, Finland

CARN Conference 2011, 4-6 November 2011, Austria



Bringing a Different World into Existence

The Collaborative Action Research Network (CARN) was founded in 1976. Since that time it has grown to become an international network drawing its members from educational, health, social care, commercial, and public services settings. CARN aims to encourage and support action research projects (personal, local, national and international), accessible accounts of action research projects, and contributions to the theory and methodology of action research. In line with the tradition, we would like to invite academics and practitioners by welcoming a diverse range of contributions, no matter what stage the research is at (from initial ideas through to completed reports and papers). There will also be opportunities to consider methodological issues.

Keynote Speakers
Peter Posch Herbert Altrichter Ingo Eilks Katherine Froggatt

Indicative Themes
- AR for unity and diversity
- AR for coping with the challenges of a knowledge society
- AR and workplace cultures
- AR in teacher education and professional development
- AR in palliative care and in nursing homes
- AR in health promotion
- AR and community development
- AR methodology and methods
- AR and Participatory Research in fields of social work
- AR in science education, environmental education/education for sustainable development
- AR in curriculum development, school development, networking and system intervention

Indicative Dates
30th April 2011 deadline to send a proposal
20th June 2011 answer for the approval of a proposal
1st July 2011 deadline for early bird registration
Call for papers and posters end of January 2011. Participative workshops are particularly welcome.

For more information please visit: http://ius.uni-klu.ac.at/carn


CoSMEd 2011
4th International
Conference on Science and Mathemathics Education
Transforming School Science and Mathematics Education in the 21st Century
15-17 November 2011
SEAMEO RECSAM, Penang, Malaysia.
Organised by:
Southeast Asian Ministers of Education Organisation
Regional Centre for Education in Science and Mathematics
(SEAMEO RECSAM)
In collaboration with:
The Ministry of Education, Malaysia
Penang State Education Department, Malaysia
Universiti Sains Malaysia
Universiti Pendidikan Sultan Idris, Malaysia
important dates
Deadline for Submission of Abstracts 1 June 2011
Notification of Acceptance of Abstracts 15 June 2011
Deadline for Submission of Full Papers 1 July 2011
Notification of Acceptance of Papers 31 August 2011

The Association for Science Education
Promoting Excellence in Science Teaching and Learning

Call for Papers

Science Education Research

ASE Annual Conference 2012 @ University of Liverpool

Wednesday 4th - Saturday 7th January 2012

Research Seminar Series Promoted by the ASE Research Committee

We welcome papers or poster presentations on science education research topics.

The contributions can include:

- teacher education
- early years education,
- primary education
- secondary education
- curriculum development and evaluation
- pedagogy
- learning and assessment in science

We hope to have contributions from teacher educators, teachers, higher education degree students and from colleagues involved with curriculum development and evaluation.

Submissions

Please submit an abstract of no more than 500 words (in PDF format) to the ASE at researchseries@ase.org.uk setting out your aims and rationale, background to the study, methods, findings and references (references are not included in the word limit).

All submissions will be peer reviewed and accompanying papers published in an on-line **Conference proceedings** and we welcome work in progress and contributions from across the world.

Format for submissions :

The oral paper presentations should be 20 minutes with an additional 10 minutes for questions.

Poster presentation should be on A1 and include a brief background, methods, findings and a brief discussion and conclusion. There will be a poster seminar session at which you will be available for discussion of your poster.

Initial submissions by **May 31st**. Final conference seminar papers to be submitted by **30th September 2011**.

The deadline for abstract submission is May 31

21st Symposium on Chemistry and Science Education to be held at the TU Dortmund University, 17-19 May 2012

Issues of Heterogeneity and Cultural Diversity in Science Education and Science Education Research

The 21st Symposium on Chemistry and Science Education will continue the long tradition begun in 1981 with the first symposium on chemical education organized by Hans-Jürgen Schmidt. The 2012 symposium is titled **"Issues of Heterogeneity and Cultural Diversity in Science Education and Science Education Research"**. Heterogeneity and cultural diversity are becoming increasingly important challenges for educational systems worldwide. Growing rates of migration and higher numbers of multi-cultural societies mean that educators must achieve a broader spectrum of competencies among their young people. Science and chemistry teaching are not untouched by these developments, challenging the practices and methodologies in these areas. Answers are demanded from science education research in the areas of understanding potential problems and providing impulses towards more effective practices.

The symposium's main questions will address:

- Which science teaching problems are connected to different areas of heterogeneity in science classrooms? How can they be overcome?
- Which influences do learners' multi-cultural backgrounds have concerning the learning of science?
- What types of problems arise due to different linguistic abilities or a background including a different native language? How can we best deal with linguistic heterogeneity in science classrooms?
- How can we teach the domain-specific language of science in classes containing students with different native languages?
- How do we cope with students with special needs in science, e.g. in lab environments?
- What are the challenges in and potential innovations involved with teaching gifted children in science classes?

Which changes can examples of good teaching practices in different countries suggest for bettering science teaching with respect to issues of heterogeneity and cultural diversity?

All contributions will be presented by invited lecturers. There will be key-note lectures and short presentations. Suggestions for appropriate lectures are welcome by May 2, 2011. Please contact Dr. Silvija Markic, University of Bremen: *smarkic@uni-bremen.de*.

Conference chairs: Prof. Dr. Bernd Ralle, TU Dortmund University, *bernd.ralle@tu-dortmund.de;* Prof. Dr. Ingo Eilks, University of Bremen, *ingo.eilks@uni-bremen.de;* Dr. Silvija Markic, University of Bremen, *smarkic@uni-bremen.de;* Prof. Dr. David Di Fuccia, University of Kassel, *difuccia@uni-kassel.de*

Further information: *http://www.chemiedidaktik.uni-bremen.de/symp2012/index.html*.
A second announcement will follow in Autumn 2011.
Conference fees: None. Travel costs, accommodation and social events are the responsibility of the participants.

ICASE Executive Committee 2011-2013

The ICASE Executive Committee is persons who make decisions on behalf of the ICASE Governing Body. The ICASE Governing Body is the **ICASE member organisations**.

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