Supporting and promoting science education internationally

The ICASE Newsletter July 2010

Newsletter of the International Council of Associations for Science Education.

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1. ICASE News

The 3rd World Conference 2010 (www.icase2010.org)

This was held June 28-July 2, 2010 on the theme - Innovation in Science and Technology Education: research, policy, practice. Besides keynote presentations and presentations by highlighted speakers, over 100 paper presentations, 20 workshops and interactive posters displayed, grouped into 4 common areas – Innovation in science teaching, Innovations in the Philosophy of Science Education; Innovations in Teacher Preparation/Development Innovations in Student Understanding and Materials for Teaching. Presenters of all types of presentations are invited to submit full papers for consideration in a conference book, or ICASE publications.

General Assembly

The 11th ICASE General Assembly was held on the 28th June 2010 in Hotel London conference room, Tartu, Estonia. This was chaired by the ICASE president and in attendance were members of the ICASE Executive Committee, representatives from 17 organisations and 28 observers.

The main items of business were to present the work of ICASE over the last 3 years, to consider plans for the future and to elect a new Executive Committee to take over 6 months after the General Assembly i.e. at the end of 2010. Ideas for future direction for ICASE covered: further developments of the newsletter, journal and website; ICASE centres and seminars; evaluated resources for teachers; international projects; regional developments and partnerships with existing member organisations.

The new officers who will take over in 2011 are:

(a) Management Committee

ICASE President	Ben Akpan	*Organisation:*	STAN	*Country:*	Nigeria
ICASE President-elect	Teresa Kennedy		NSTA		USA

ICASE Secretary	Beverley Cooper	NZASE	New Zealand
ICASE Treasurer	Peter Russo	ASTA	Australia

(b) Regional Representative

Africa	Mamman Wasagu	Nigeria	Asia	Azian Abdullah	Malaysia
Australia-pacific	*(to be determined)*		Europe	Declan Kennedy	Ireland
N. America	Michael Padilla	USA	Latin America	Christiane Gioppo	Brazil

ICASE Executive Committee Meetings

ICASE held an Executive Committee meeting on the 27 June where 10 of the 13 members were present (one not present because of flight delay and 2 apologises for non-attendance). The main business was to consider the General Assembly, the 3rd ICASE World Conference arrangements, as well as the draft of Declaration and matters arising from a previous Executive Meeting in Malaysia in 2009. The meeting confirmed an earlier decision that the 2013 World Conference would be held in Sarawak, Malaysia (dates to be decided).

A further ICASE Executive meeting was held on Friday/Saturday 2nd/3rd July, following the World Conference. The meeting considered matters arising from the General Assembly and ***appointments of Chairs of Standing*** Committees needed for future ICASE activities (and who also make up the membership of the ICASE Executive Committee). Besides maintaining the 3 previous standing committees (World Conferences, Pre-secondary and Informal Science Education, and Health and Safety in Science Education), the Executive Committee considered Environmental Education/Education for Sustainable Development; Publications Committee (covering Website, Journal and Newsletter); and a Committee for Developing and Interlinking ICASE Centres around the World. The first two were set up, the third is under further discussion. Further considerations reflected on

(a) involvement in Worldwide dissemination of a European Union project (PROFILES) on Professional (teacher) Reflection-Oriented Focus on Inquiry-Based Learning (by students) and Education through Science (as a philosophy)
(b) changes in the structure of ICASE to forge greater links to Universities/Institutes, Academies of Science, UNESCO, ICSU and other groups,
(c) a professional joint agreement between ICASE and Globe (The Global Learning and Observations to Benefit the Environment Program). More details in future newsletters.

Member organizations, who will receive full minutes of all meetings and the General Assembly, are very much invited to comment, make recommendations and to express interest in involvement. *Other readers of this newsletter* are also invited to comment and make suggestions, particularly where they are from a University, centre etc which may have interest in future involvement.

Tartu Declaration

A declaration on Innovation in Science and Technology Education (where technology education was seen as integral to science and technology education) was agreed by participants in the 3rd World Conference. This declaration will appear in full in the next ICASE newsletter, but will also be on the ICASE website. ICASE intends to give strong consideration to implementation ideas on the substance of the declaration in the future, especially in conjunction with developments in the decade for Education Sustainable Development (ESD) - ESD being the conference theme from which emanated the Perth declaration. More will appear in future newsletters.

The next ICASE newsletter will appear in September. There will be no ICASE newsletter for August.

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

Water wheel

Challenge: How can you make a simple water wheel?

What you need

- bucket
- balloon
- water tap

What to do

Blow up a balloon and tie the neck so that it fits loosely in the bottom of the bucket.

Place the bucket underneath a water tap. Turn the tap on so that water falls gently on one side of the balloon. What does the balloon do?
Move the bucket so that the water falls on the other side of the balloon.
What happens now?

More to do

What happens if the tap is turned on so that more water falls on the balloon. How does the speed or amount of water affect the balloon?

Find out what energy changes are taking pace as the water falls on to the balloon.
Making it turn like a wheel.

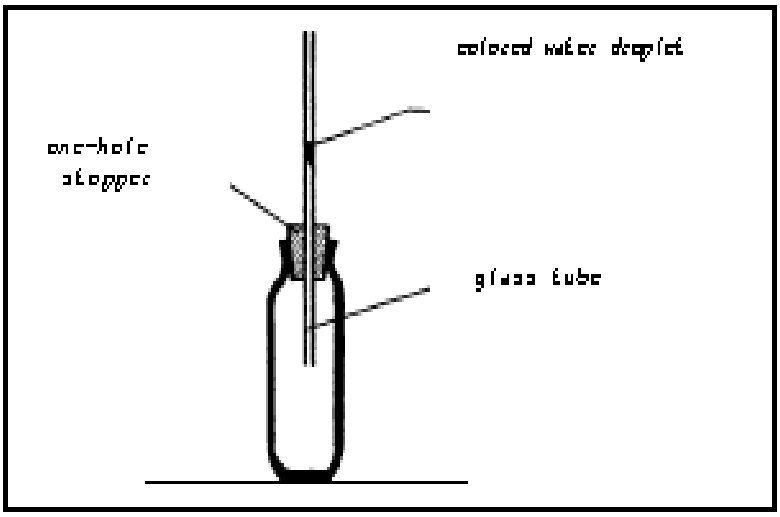
Design and build other types of water wheels. How can you make a water wheel which will do some useful work?

B) ADDITIONAL SCIENCE ACTIVITY

A GLASS BOTTLE Thermometer

Materials:

1. An empty glass bottle.
2. Glass tubing (about 30 cm) fitting with a 1-hole stopper.
3. Water & food colouring in a small beaker.



Procedure:

1. Colour a few millilitres of water with food colouring in a beaker.
2. Dip the end of the glass tubing in the coloured water and close the other end off with a finger. Take the tube out of the water, hold the tube horizontal and let the water drop ride in the tube until it is close to the stopper (close off the end again with the finger).
3. Place the stopper in the bottle neck and insert tightly (water drop move up some).
4. Mark off the position of the water drop with a grease pencil, masking tape, or rubber band.
5. Hold bottle in both hands: what happens to the water drop?
6. Let the bottle stand on the table: what happens to the water drop?

Questions:

1. What is in the bottle?
2. Why does the water drop not slide down into the bottle?
3. Why does the water drop move up when inserting the stopper?
4. What made the water drop move up when the bottle was held?
5. How can we get the water drop to move down the tube?

Explanation:

The 'empty' bottle is, of course, filled with air. In closing off the bottle with the stopper and tube, the water drop was pushed upwards by the air. It is because of the presence of air inside the bottle that the water drop in the tube cannot slide down by itself. It is actually held up in the tube by the air. By holding the bottle in our hands, our body heat is warming up the bottle, which in turn warms the air. This air expands and pushes the water drop up the tube. By cooling the bottle with cool water and blowing, the water drop can be made to move down the tube.

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 were raised -But is this all there is to learning in science lessons ? What else need the modules encompass?

If you have read the previous column in the June newsletter, I hope you were able to answer the questions posed above.

I hope you indicated that there is more to ensure student learning and that a further, important consideration is student feedback to the teacher. I use the term feedback, rather than assessment, to indicate that important information can be gained by the teacher both during the progress of the lesson as well from any written work by the students which can be checked after the lesson.

Feedback, or assessment if you prefer, can be described as formative or summative. It is usual to consider this as coming from the student to the teacher, but it is also very appropriate to consider this from a peer to peer point of view. The latter involves the students more and can be considered important in building up leadership skills.

Whereas formative assessment is intended to inform the teaching and learning and is thus intended to guide the teaching/learning situation as it takes place, summative assessment takes place after the event and serves a different purpose. Whilst the former can utilise observations, oral as well as written forms of feedback as a matter of procedure and change the emphasis in line with the needs of the situation, summative assessment is very expensive to operate in any format other than written. And even here it is limited to being based on criteria, of which the students were aware beforehand. Although summative assessment can be a useful predictor for future learning, or for selection of students meeting measureable criteria, formative assessment is able to cover all cognitive aspects of learning and determine potentially inhibiting personal intra- or inter-attributes, self-efficacy, self-determination, or the strength of motivational factors.

In enhancing scientific literacy, the range of valid feedback strategies related to formative assessment, must surely be key ingredients of any teaching, so much so that summative assessment is really only useful as reinforcement, and perhaps mainly as reinforcement in determining how students operate when put under pressure. Unfortunately, formative assessment is far too expensive, unless handled by the teacher in the teaching situation and hence inter-rater reliability from teacher to teachers is a major factor of concern for across-schools, or state-wide comparisons. This can be reduced through specifying very clear criteria and guiding teachers to appreciate how these are to be interpreted. But it is appreciated that this is no easy task.

But also of importance is how is it possible to assess student interest, the degree of intrinsic motivation possessed by students, the learning in terms of person and social development, or even student gains in terms of better appreciating the meaning of ‘science?’ The learning indicated in the previous sentence is very different from the usual aspects put forward for assessment, such as knowledge of understanding of the conceptual science ideas, explanations of phenomena, interpretations of observations, calculations related to symbols or formulae. And all of this is very different from making a presentation, putting forward valid, well expressed arguments, or the strength of reasoning behind socio-scientific decision making. Yet all are within the learning

being described as enhancing science literacy, which in turn has been put forward as the components in meeting the goals for science education.

Our experience tells us that where learning components are not assessed, these components are not taken to be important and all too often neglected. How else do you explain the heavy stressed place on the use of textbooks by teachers in many countries, even though teachers are aware that textbooks provide a one way transmission of that which can be conveyed by the written word (plus diagrams, drawing, graphs, etc). Textbooks cannot be expected to determine intrinsic motivation of students, students' self efficacy in terms of self-confidence and competence, yet these are both powerful indicators of likely success.

Through feedback from students to the teacher, however, it is possible to obtain a measure of all of the above. The measure may not stand up to high levels of reliability (peer assessment by different students being the same, or even student assessment against teacher assessment), but if is measuring the range of attributes considered to be important for enhancing scientific literacy, it can be considered valid (obtaining a measure of that which is deemed relevant).

So which is better - high validity, but variable and perhaps low reliability, or a high level of reliability, but the measure used is not sufficiently wide to claim that it is a meaningful attributes related to enhancing scientific literacy? This is a dilemma that faces many Ministries of Education around the world. Currently many systems place stress on reliability, but unfortunately giving insufficient attention to validity. And yet through this series of columns, it is being suggested that it is validity which is the key to intrinsic motivation of students and which, in turn, triggers student effort through which a more meaningful measure of learning can take place. Relevance of the learning is seen as a powerful motivator. Once established, student feedback (assessment), related to the range of teaching deemed necessary for science learning, can play its role in developing the competencies as stated in the national goals of education. Valid assessment is put forward as an essential component of 'education through science.' It is essential for enhancing scientific literacy – the proposed goal of teaching science subjects in school.

Inevitably formative assessment, obtained by the continuing feedback from students during the teaching/learning process leads to greater validity. It allows for cognitive growth through *utilising* science learning to reflect on, and for students having the opportunity to suggest, ways to solve problems. It allows for growth in terms of self-efficacy of students e.g. being able to appreciate new situation, consider how the complexity of the situation can be broken down and knowledge and skills acquired brought to bear on the situation. It allows for development in inter-personal interactions so that social values can be developed, as well as consensus decision making, based on well reasoned judgements. And it allows for an appreciation of the nature of science and hence the role science can play in promoting advancements in a knowledge-based society for the future. In short, formative assessment is essential for enhancement of true scientific literacy. Furthermore, great care is needed in utilising summative assessment strategies that these do not undermine 'education through science' and impose an emphasis on narrow learning with poor validity. This, it is claimed, will place too much reliance on extrinsic motivational factors for learning at the expense of students' intrinsic motivation. There the validity could be in the gaining of a certificate, not enhancement of scientific literacy. The goals of science education in supporting the goals of education as a whole are undermined.

This ends this series of columns in the newsletter. In its place is a more practical consideration of the teaching and ideas for the professional development of teachers, both focussing on education through science so as to enhance students' 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

PRUDENT PRACTICES AND REGULATIONS!

THE NEED TO UNDERSTAND PRUDENT PRACTICES & LEGAL REGULATIONS

Today, more than ever, teachers need to have an understanding of prudent safety practices and legal regulations. With the continued emphasis in science education on process, inquiry and hands-on instruction, the need for safety is a top priority. The teacher has the "duty of care" in establishing and maintaining a safe working environment for all laboratory occupants. This is not just for protecting students, but also for protecting teachers as employees – in a legal sense. Should something go wrong and a student gets hurt, the teacher can be charged with negligence if appropriate safety preparation and monitoring were not effected.

Unfortunately, most university and colleges do not provide basic laboratory safety instruction for pre-service teacher candidates. Most science teachers learn about safety in the trenches through trial and error. Until that approach changes, teachers need access to a quick reference which addresses both prudent practices and legal regulations. Two such resources were commissioned to be developed by this columnist with the Connecticut State Department of Education in Connecticut, USA. The resources titled CONNECTICUT HIGH SCHOOL SCIENCE SAFETY: Prudent Practices and Regulations and CONNECTICUT MIDDLE SCHOOL SCIENCE SAFETY: Prudent Practices and Regulations are free and easily downloaded/printed. (See the Internet site below under references!)

THE INSIDE SAFETY STORY!

So what makes this resource so useful and what does it contain? This resource is designed primarily around the U.S. Department of Labour's Occupational Safety & Health Administration's Laboratory Standard (29CFR1910.1450) and other governmental legal standards and professional associations' best professional safety practices. There also is a section titled "National Consensus." It represents professional/prudent practices and therefore provides guidance from the originating organizations. The OSHA Laboratory Standard is examined as it is considered the "bedrock for secondary school science safety." This also includes numerous definitions appropriate to understanding laboratory safety. Next, basic standard operating procedures or SOPs are listed. Additionally, general science laboratory safety specifications including engineering controls (environmental settings/considerations), prudent work practices/administrative procedures and personal protective equipment are addressed in detail. Examples of topics presented include:

Environmental Settings and considerations include the topics:

laboratory footprint
ventilation
alarm sensors
safety shields
fire blankets
electrical safety controls.
fume hoods
utility controls
eyewash/shower
fire suppression
goggle sanitizers

Prudent work practices include the topics:

acids	animal care
authorised access	behaviour
chemical spill control	chemical storage
evacuation procedures	first aid
glassware	heating
housekeeping	hazard rating system
inventory	labelling
microwaves.	

The last section includes personal protective equipment addressing the following sample topics:

Personal Protective Equipment include the topics:
eye protection
face protection
hand protection
foot protection
full body protection.

The remaining sections look into additional specific safety specifications relevant to physics, chemistry, biology and earth/space science in the high school version and physical, life and earth/space sciences in the middle school version. Topics are spectral and include such items as:

Physics/Physical Sciences Topics: lasers, radiation, mechanics, vacuum systems and more.

Chemistry Topics: chemical hazards, purchasing chemicals, storing chemicals, using chemicals, disposing of chemicals, labelling chemicals, tracking chemicals, and more.

Biology/Life Sciences Topics: animal care, biohazards, dissection, electrophoresis, field activities, heat sources, plants, refrigerators and more.

Earth/Space Science Topics: astronomy, geology, water studies and weather studies and more.

THE FINAL WORD!

Although legal standards may vary from one organisation, town, state, province, and country, professional best practices are fairly consistent no matter where one teaches. Always research your legal standards for your school in appropriate governmental locations. The contents in the website, however, will still be a major help in establishing and maintaining a safer working and learning environment!

LIVE LONG AND PROSPER SAFELY!

RESOURCES:

Connecticut State Department of Education (USA) Safety Resource:
http://www.sde.ct.gov/sde/lib/sde/pdf/curriculum/science/safety/science_safety.pdf

U.S. Department of Labor, Occupational Safety & Health Administration or OSHA:
http://www.osha.gov/SLTC/laboratories/index.html

5. The STAN Place

STAN Commissions its new Office Building

By Dr Ben Akpan, Executive Director, Science Teachers Association of Nigeria

The Science Teachers Association of Nigeria (STAN) commissioned its new Headquarters building on 3 June, 2010. Located in Kwali in the outskirts of Abuja, the three - storey building, comprising seminar rooms and offices, was constructed through a grant from Nigeria's Education Trust Fund (ETF) as well as funds raised from state governments, STAN members and a professional colleague, Professor Napoleon Bryant Jr. The entire building is named after ETF. Upon completion, further support was provided by a World Bank-assisted Nigerian Science and Technology Post-Basic Education (STEP-B) project which has led to the installation of several facilities including those for web and video conferencing. The Association named the rooms housing those facilities after the World Bank and STEP-B. UNESCO, which had the mini-museum in the building named after it, was honoured for its assistance in the conceptualisation of the facility. The STAN Place, as the facility is called, is designed for execution in phases into a modern STEM resource/training centre. And so part of the highlight of the day was the laying of the foundation stone for the next phase of the project, comprising an auditorium and ancillary conference rooms. This phase of the project is supported by the Ajumogobia Science Foundation and the building will, upon completion, be named after the founder of STAN, Feniobu Ajumogobia, who by popular consent is referred to as the Father of STAN.

Cutting of the tape so as to commission 'The STAN Place' building by the representative of the Minister of Education, Mrs Ann Okonkwo

Presentation of the Appreciation Award to UNESCO by STAN President Dr Lawrence Achimugu. Dr Joseph Ngu, Director of UNESCO Abuja, receiving the award on behalf of the organization

6. Calendar of Events

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

Guangxi Normal University
广西师范大学

ICASE Asian symposium, Guilin, China

The Third International Workshop on Innovative Science Teaching

Aug. 16-18, 2010

Guangxi Normal University, Guilin, China

International Council of Associations for Science Education
国际科学教育协会理事会

Organized by ICASE-GNU Guilin Teacher Training Center (GTTC)
Research Institute of Science Education (RISE), Guangxi Normal University□GNU□

Developing Quality Resources and Creative Classroom Utilization to Make Science Teaching Innovative and Effective.
OBJECTVES: Following the success of previous two workshops of the ICASE Guilin Teacher Training Center, this workshop will combine with the Eighth Sino-Japan Workshop on Using Hands-on Experiments for Education Innovation. It is hoped this will provide more & better opportunities for science teachers and educators to meet together in order to:

Learn 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 improvement on science leaning and teaching.
Share ideas and experiences with each other in science teaching practices.
Visit and discuss with RISE and it's partner schools on developing featured science teaching resources.

VENUE *The workshop will take place at the Yuchai Campus of Guangxi Normal University, Guilin, P. R. China. All the academic activities will be accommodated by RISE facilities.*
ACCOMMODATION *will be reserved upon request. Special room rate will be arranged in nearby hotels, details of which are available from the secretariat.*
PROGRAMME Tentative program is attached below. The updated information about workshop arrangement will be available in the RISE website: ***www.risechina.org***
INVITATION FOR PARTICIPATION AND VISA APPLICATION On request, the secretariat of the workshop will send an official invitation for participation in the workshop.
LANGUAGE The language of the workshop will be English & Chinese.
REGISTRATION FEES The registration fees are as follows: Active participants 800 ￥. Accompanying person 400￥ (7￥≈1$) Payments collected in RMB￥ in cash on registration day.
SECRETARIAT
Miss Handan HUANG, Research Institute of Science Education, Guangxi Normal University, Guilin 541004, P. R. China E-mail: gxnucsc@sohu.com

The 8th Sino-Japan Workshop on Using Hands-on Experiments for Education & the 3rd International Workshop on Innovative Science Teaching & Innovation

Program Schedule

Date	Time	Content	Venue	Take Care/Chair
Mon.16 Aug.	08.30 - 09.40	Opening Ceremony	RISE Meeting Hall (6th floor of No.2 Science Building)	LUO Xingkai
		Welcome Addresses by GXNU Vice president		
		Opening Address by ICASE past president Dr. Janchai Yingprayoon		
	10.00 -12.00	Keynote Session No.1 Plenary Lecture 1: Plenary Lecture 2: Plenary Lecture 3:	RISE Meeting Hall	LUO Xingkai
	14.30-17.30	School visit & special session on school-based curriculum development	Guilin No. 1 Secondary School Near GXNU Yuchai Campus	LUO Xingkai etc.
Tues.17 Aug.	08.30-10.00	Keynote Session No.2 Plenary Lecture 4: Plenary Lecture 5: Plenary Lecture 6:	RISE Meeting Hall	Janchai Yingprayoon
	10.30 -12.00	Demonstration Session	RISE Meeting Hall	HAN Changming
	14.30 – 19.30	**Excursion at Guilin City Spots** Severn Star Park; Ming Dynasty Mansion of Jingjiang King & boat excursion on "Two Rivers and Four Lakes"(Dinner at the restaurant in downtown pedestrian street)	Downtown	RISE office & Local Travel Agency
Wedn.18 Aug.	08.30-12.00 (participants	Twice-Taking Workshops Session: Creative Hands-on Activities for Improving	RISE Meeting Hall	Presented by Dr. Janchai Yingprayoon

	exchange rooms at 10:00)	Science Teaching		&
		Twice-Taking Workshops Session: Learn Science by Inquiry in Order to Teach Science by Inquiry	RISE Inquiry Learning Center (5th floor of No.2 Science Building)	Presented by faculties & students of RISE
	14.30-16.00	Visit RISE Inquiry Learning Center--- An Innovative Resource Developing and Exhibition Facility for Supporting Inquiry-based Science Teaching & learning.	RISE Inquiry Learning Center (5th floor of No.2 Science Building)	RISE faculty & Graduate Student Union
	16.00-17.30	Participants' Presentation & Discuss Session		Janchai Yingprayoon, LUO Xingkai &
	18.00-21.00	Closing Ceremony and Farewell Banquet	RISE Meeting Room	RISE office & Graduate Student Union
Thurs.19 Aug.		**Optional Tour** Li River Boat Tour & a special opera show in Yangshuo in the evening (lunch on board & dinner at a beer-fish restaurant in Yangshuo)		Local Travel Agency

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
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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/

Welcome to Science Singapore 2011

The Future of Science Education

22-24 July 2011

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:

- Keynote speakers in science education, web-based technology, and inspiring lives;
- Three parallel presentation strands consisting of
    - 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/

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@loxinfo.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.org
(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: gabriela_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 James Kaufman
E-mail: jim@labsafetyinstitute.org

World Conferences
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Pre-secondary and Informal Science Education
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