Supporting and promoting science education internationally The ICASE Newsletter

June/October 2017

#### Welcome to the ICASE June/July 2017 Newsletter!

The ICASE Newsletter is a publication containing current information about ICASE initiatives conducted by ICASE member organisations, and 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 by leadership at the United Nations Educational, Scientific and Cultural Organization (UNESCO) to link national science teacher associations and to extend and improve science education for children and young people throughout the world. Today, ICASE is a network of science teacher education associations, institutions, foundations and companies, working together to promote science and technology education internationally. ICASE facilitates communication and cooperation at national, regional, and international levels. The ICASE Strategic Plan (2013-2023) calls for ICASE member organisations to adopt a position of Excellence and Leadership in Science Education.



http://www.icaseonline.net

Over the past 40+ years, over 200 organizations have been members of ICASE. Currently, there are 32 organizations from 30 countries contributing to the financial administration of ICASE.

www.icaseonline.net/membership.html

The ICASE Newsletter is distributed to Member Organisations and through them to their members



To be included on the listserve for notification of future newsletters please follow the guidelines at:
<a href="https://www.icaseonline.net/news.html">www.icaseonline.net/news.html</a>

Read or Submit a Manuscript to the ICASE Journal:

Science Education International



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

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## A book on Emerging Biology!

By Lady Sue Dale Tunnicliffe



I'm a biologist specialising in education (Reader in Science Education at UCL IOE, UK), started teaching Advanced level and university Entrance Zoology at the end if the sixties but always wanted to discover where students started to find out their basic biology capital. Thus, I taught lower secondary, middle school (96% non-Caucasian and for whom English was second language at least and had recently arrived in the UK, particularly from Africa and Indian subcontinent, to primary school, including infants and was as a parent helper in preschool when my children were young

Having written a number of books some of which focus on primary and early years. I have accepted a contract to write How *Young Children Learn About the Living World: Emerging Biology in the Early Years* with Routledge I have written two previous successful early years science texts.

This book considers the voice of the child not the biology that adult think they should be taught. It will discuss how a new child gradually develops and awareness and an understanding of themselves and the rest of the world. It will refer to simple, activities which children learn new things reconsolidate their learning as will as give references to some of the relevant research. I'm asking if there are any fellow ICASE colleagues who have observations of such voices of young (0-8 yrs but particularly under fives) children about biology?

#### Who is Lady (Dr) Sue Dale Tunnicliffe?

Sue Dale Tunnicliffe graduated with special honours in zoology (with botany and chemistry) from Westfield College, London University and then trained as a teacher at London's Institute of Education where she is now a researcher and lecturer in science education (formal and informal). She has taught for over 35 years, ranging from three year olds to university postgraduates, worked internationally and published many research papers in science education, particularly in the acquisition of biological concepts and informal learning. She was Curator of Education at the Zoological Society of London, worked at the BBC as an Education Officer for a short time and was science education adviser to the National Maritime Museum. She studied for her PhD in science education at King's College London. She is a member of the educational advisory panel for the Institute of Engineers and Technologists. She was a member of the Zoo Forum and has run workshops and lectures in Antigua, Trinidad, Jamaica, Pakistan, India, Bangladesh, Turkey, Germany and Malaysia, amongst other places. She has served for three terms at the Board of the Council for Elementary Science International in the USA. Dr Tunnicliffe is also the Associate Editor (primary) of the Journal of Biological Education and on editorial boards of the International Journal of Environmental and Science Education. She is Reader in Science Education at the University College Institute of Education. Sue Dale Tunnicliffe was the 2016 recipient of the NSTA Faraday award for science communication, the first foreigner to be so honoured.

#### S.tunnicliffe@ucl.ac.uk

(European Rep, instigator of ICASE presecondary)



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## **Chemistry Cross-linking Across the Academic Spectrum**

by Bob Worley

[Bob Worley (FRSC, MSc, BSc) is the (retired) chemistry advisor for CLEAPSS (www.cleapss.org.uk) in the United Kingdom. He is also Safety in Science Education chair in ICASE.]

I have just returned from Japan. I had been invited by Professor Kazuko Ogino (seated centre) along with Professor Jorge Ibanez from Mexico, Professor Supawan Tantayanon from Thailand (see Feb 2016 blog), Dr Abdulazziz Alnajarr from Kuwait and Dr Marie Dutoit from South Africa, who pioneered the MyLab chemistry kit. There were invited Japanese University lecturers and schoolteachers from Japan as well. What we had in common was a passion for the microscale approach to chemistry in both education and research.





Just to be in their presence is awe-inspiring; that they accept my approach and ideas in microchemistry in education is humbling and inspires me to deflect comments I hear in the UK such as;

- "I thought microscale was only for the less able",
- "It is not chemistry as we know it"
- "It does not train students to be chemists."
- "If it's not already written into a practical scheme of work as microscale my teachers will not consider any suggestions or deviations from the script.
- Teachers say that these techniques are not the ones that are specified in examination syllabus so students will be at a disadvantage if they are taught in a microscale way.
- "I suppose if a school were not to have sufficient funds to buy in the proper gear then this would-be way to go. In general, I feel if you have the right equipment then use it, don't dumb down science for the sake of it."

This is not dumbed-down chemistry at all. I take my lead on knowing that Jorge Ibáñez, from Universidad Iberoamericana, Mexico gave the plenary lecture "Greening Laboratory Experiments: Microscale Perspectives" at the 2016 Toronto IUPAC meeting"...

Please read the rest of Bob's blog: "Is this supposed to happen?" @ <a href="http://microchemuk.weebly.com/2-blog-is-this-supposed-to-happen">http://microchemuk.weebly.com/2-blog-is-this-supposed-to-happen</a>

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## **ASSOCIATION FOR SCIENCE EDUCATION (ASE) Annual Conference 2018 University of Liverpool** Wednesday 3rd to Saturday 6th January 2018

What's on at ASE Annual Conference 2018?

The ASE Annual Conference is a unique opportunity for all teachers of science.

The conference programme offers over 350 sessions, covering all phases and all levels from NQTs to Heads of Department. Common to every session is the focus on the resulting impact on students' learning and achievement including:

- Updates from the exam boards
- Assessment guidance
- Curriculum development
- Practical science ideas
- Research into teaching practice
- Insight into cutting-edge science

The conference has been invaluable CPD, so many options to choose from and inspirational speakers with practical ideas to share! I loved the pop up primary and met so many Science enthusiasts! Can't wait to come again next year - ASE Annual Conference 2017 Delegate

#### Subject-specific CPD for all phases

Build the ASE Annual Conference into your CPD planning. Take advantage of the early January dates and create a staff development or INSET day for the whole science department at the conference. This is unique opportunity to network with 2,500 science educators from schools and colleges across the UK and beyond.

#### **About ASE**

The Association for Science Education (ASE) is the largest subject association in the UK. It is an active professional learning community that has been supporting all those involved in science education from pre-school to higher education for over 100 years; members include teachers, technicians, tutors and advisers. It is a Registered Charity with a Royal Charter, owned by its members, independent of government and therefore a powerful voice for science education. ASE continues to make a positive and influential difference to the teaching and learning of science throughout the UK and further afield. Membership offers lots of unique benefits.

Europe's Largest Science Education Conference. One day registration starts from only £99.

https://www.ase.org.uk/conferences/annual-conference/

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## Safety in School Practical Science: Does It Scare You?

By R Worley
Brunel University Science Park, Kingston, UK, <a href="mailto:bob.worley@cleapss.org.uk">bob.worley@cleapss.org.uk</a>

The plenary talk given by Bob Worley at the 14th annual international conference on Hands-on Science, HSCI2017, held in Braga, at the Agrupamento de Escolas André Soares, Portugal, from July 10th to 14th 2017.

Abstract. Science teachers and educators are usually in agreement that teaching via practical work (not videos) enriches science education. Observation at the macro level, measurement of results, and treatment of data leading to interpretation and modelling at the invisible nano-level, and onward to further inquiry, teaches students the skills that academia, industry and commerce require. At this conference, I am talking to the converted but good practical work is often poorly directed or simply not done at all [1].

There are many reasons why schools do not offer practical work in science, a shortage of suitable rooms, relevant teacher training, lack of professional development and, of course, money. Added to which is poor student behaviour, ever increasing workload with government concerns with position in the PISA tables. Safety though is often cited as the main hurdle with scares about civil action from parents with too much bureaucracy and poor interpretation of State-government, National government and European law.

In this talk, I will show how CLEAPSS [2] in the UK, using a sensible approach to risk assessment and working closely with our National Enforcement agency, the Health and Safety Executive [3] has enabled our teachers to continue to offer enjoyable and safe practical work in their school science lessons. This is not a recruitment campaign; CLEAPSS is a small organisation which can barely cover the UK. Although much of CLEAPSS published material

is available only by subscription, there are many freely obtainable video clips on the You Tube video channel [4]. The speaker is about to take over the chair of ICASE [5] safety.

Information on how safety in school practical science is organised and monitored in other countries would be welcome.

Keywords. Control measures, hazard, risk, safety References

- [1] http://www.scoreeducation.org/media/3668/report.pdf [visited 26-June-201
- [2] http://science.cleapss.org.uk/ [visited 2626-June-2017].
- [3] http://www.hse.gov.uk/services/education/ [visited 2626-June-2017].
- [4] https://www.youtube.com/user/CLEAPSS [visited 2626-June-2017].
- [5] <a href="http://icaseonline.net/safety.html">http://icaseonline.net/safety.html</a> [visited 2626-June-2017].





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## CASTME took part in The Maltese Council for Women event; Mothers' and Children's STEM

Lady Sue Dale Tunnicliffe, chair of the Commonwealth Association for Science (CASTME)

Lady Sue Dale Tunnicliffe, chair of the Commonwealth Association for Science (CASTME), was in Mauritius from 19 to 22 June to conduct science workshops for educators at the Rajiv Gandhi Science Centre. She also gave an interview for the News on Sunday. The highlights from the interview can be found below.

## LADY (DR) SUE DALE TUNNICLIFFE:

# "Science is not only in a lab or book, it is everywhere"

lameela Jaddoo

#### 'SCIENCE IS EVERYWHERE'

She strongly believes there is a misconception that science only takes place or is only learnt in labs and books. "The public still seems to perceive that a scientist is a person in a white coat, with funny hair and in a laboratory. Science is present in our everyday life and it is everywhere, breathing, eating, the temperature and many simple things that we take for granted. If you talk about the everyday use, you are actually helping in preparing children to be citizens who have scientific literacy," she says. She reveals that head teachers came up to her following the workshops thanking her for saying that science does not only happens in labs. "You do not need labs and expensive equipment to teach science. What you need is human resources and low cost equipment, for example plastic water bottles, batteries, cardboards, coat hangers, spoons, among others."



The researcher and the lecturer highlights that the cross-disciplinary approach to learning science is important. "For example you could use what the students have learned in maths to teach science, for example. There are transferable skills. Far too many schools teach in little compartment but they should be doing it across. I often tell Maths teachers in England that when they do maths they could do science. And all the basic maths equipment you have in a classroom is actually what you need to do the science." Talking about the Mauritian context, she trusts that the syllabus for the upper forms should be adapted locally. "You cannot have one size for every country. Mauritius should set up its own syllabus for the upper forms."

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## FENÖDER Organized Science Fair for All

Yasemin Ozdem Yilmaz

Dr. Ozdem-Yilmaz is a member of FENODER, which is a Scinece Teachers' Association in Turkey

FENODER organized Karsiyaka (One of the counties in Izmir, Turkey) Science Fair for all. The theme of the fair was "A Jiruney to Science with my Family". The event lasted 3 days long between 12-14 October 2017. The overall goal of the project was to promote scientific processes by spreading scientific curiosity into the family, to bring family and children together with scientists. The project provided families with their children the opportunity to participate in scientific activities, to talk about science with them, to design activities together, to create cause-effect relationships through activities, and to use them in their everyday life. With the help of multidimensional content and activities in the festival; co-operation, co-achievement, personal peace, self-esteem, feeling of social value, crossing prejudice against other age groups in different environments and breaking stereotypes were aimed. In addition, the intertwined structure of science and technology was strengthened by activities that were organized in a structure integrated with different disciplines.

The event took place with the participation of 3000 students, about 10000 parents, all the schools attached to Karsiyaka District National Education and guest schools, in different cultural centers and conference halls.











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## **Upcoming Events**

## Barcelona will host HSCI2018

The next annual conference on Hands-on Science will take place in Barcelona.

The 15<sup>th</sup> annual international conference on Hands-on Science, HSCI2018, will be held in Barcelona, at the University of Barcelona, Faculty of Biology, from July 16th to 20th 2018.

This year the main moto of the conference is:

http://hsci.info/news.php?a=23

Advancing Science. Improving Education



# ERIDOB2018: XII Conference of European Researchers in Didactics of Biology

Zaragoza, Spain, July 2-6, 2018

Organized by

#### Universidad de Zaragoza & Universidade de Santiago de Compostela

The Academic Committee invites researchers in Didactics of Biology/Biology Education to take part in the Twelfth Conference of European Researchers in Didactics of Biology (ERIDOR). The aim of the conference is to give researchers the opportunity to present and discuss their research work the Zaragoza University, Spain, from July 2<sup>nd</sup> to July 6<sup>th</sup> 2018.

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## **Upcoming Events**



International Zoo Educators Association
The 2018 IZE Conference will be held at the Al Ain Zoo in the UAE.

\* The IZE is an association dedicated to expanding the educational impact of zoos and aquariums worldwide.

http://izea.net/





#### MISSION

Engaging our members worldwide to achieve biodiversity conservation by encouraging sustainable behaviors in people that visit zoos and aquariums.

#### VISION

Conserve global biodiversity through effective zoo and aquarium programs

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#### ICASE Journal - Science Education International

The ICASE quarterly journal is now about to enter its 26<sup>th</sup> year. From humble beginnings in 1990 when it was created to serve as the dissemination channel for ICASE, the journal has now grown to be a major English language international science education journal, receiving articles from science educators around the world. Thanks to its team of volunteers, the journal follows a strict review process to ensure the research and philosophical articles meet the ICASE criteria as relating to primary or secondary science education, or to preservice teacher education at the tertiary level. Since 2008, the journal is available as open access, online only, although limited copies of occasional issues are published and distributed to interested science educators.

THE ICASE JOURNAL IS A MAJOR DISSEMINATION CHANNEL FOR ICASE MEMBER ORGANISATIONS AND THEIR MEMBERS. AS SUCH, ICASE GIVES PRIORITY TO ARTICLES SUBMITTED VIA ICASE MEMBER ORGANISATIONS AND IS VERY WILLING TO ASSIST MEMBER ORGANISATIONS IN PREPARING ARTICLES FOR THE JOURNAL (especially with respect to written English).

A major attraction of SEI is that there is no payment for those wishing to publish in the journal. And ICASE welcomes submissions by teachers, higher degree students or science educators in general from around the world. ICASE will do its best to assist authors whose native language is not English.

Before making a submission, please consult the Author's Manual for SEI located at <a href="www.icaseonline.net/seiweb">www.icaseonline.net/seiweb</a> for information related to the following topics:

(a) Copyright

(b) Plagiarism

(c) Language

(d) Material submission

(e) Formatting

(f) Artwork & Photos

(g) The Review Process

(h) Non-native English authors

And we very much appreciate referencing articles previously published in SEI in your submissions.

ICASE also welcomes new reviewers. If you are interested please contact Dr. Baohui Zhang, Chair, ICASE Research and Publications Standing Committee at <a href="mailto:baohui.zhang@snnu.edu.cn">baohui.zhang@snnu.edu.cn</a>.

Please refer to www.icaseonline.net/seiweb for the full articles.

SCIENCE EDUCATION INTERNATIONAL
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Science Education International is now indexed in

- AE Global Index Master Journals List 2015 <a href="http://aeglobalindex.com/?page\_id=264">http://aeglobalindex.com/?page\_id=264</a>
- European Reference Index for the Humanities and Social Sciences (ERIH Plus) https://dbh.nsd.uib.no/publiseringskanaler/erihplus/periodical/info.action?id=480336

In addition to 6 international indexes, including ERIC, The Asian Education Index, Education Research Complete Database, Index Copernicus Journals Master List, DOAJ Directory of Open Access Journals, and The Education Research Global Observatory.

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## Science Education International, Official Journal of ICASE

#### Editor

# Dr. Steven Sexton College of Education, University of Otago, New Zealand

Science Education International (SEI), the journal of ICASE will publish its third issue this year in September. The June issue was a special edition from selected papers presented at the 2016 WorldSTE Conference in Antalya, Turkey. In addition, the June issue was the first issue under the new online Open Journal System.

Please refer to www.icaseonline.net/seiweb for the full articles.

SEI is the quarterly journal of the International Council of Associations for Science Education (ICASE). This journal provides a means for associations, institutions, centres, foundations, companies, and individuals concerned with science education to share perspectives, concerns, ideas, and information that will foster cooperative efforts to improve science education, and which will serve as a chronicle of the advancement of science education throughout the world.

The 2nd issue saw articles from Europe, Asia, Africa and Australasia. The 3rd issue is expected to include articles from America, Africa and Australasia. The 4th issue of 2017 will be special issue on the *Ark of Inquiry* Project.

Authors are able to submit manuscripts to the journal directly through the journal's website. The Author is asked to upload a submission file and to provide metadata or indexing information. The Author can upload Supplementary Files, in the form of data sets, research instruments, or source texts that will enrich the item, as well as contribute to more open and robust forms of research and scholarship. The Author is able to track the submission through the review and editorial process — as well as participate in the copyediting and proofreading of submissions accepted for publication — by logging in to the journal's website.

To track your submission's progress through the review and editorial process, you will need to log into the journal web site and choose your role as Author. Click on the linked title to go a particular submission record.

From the resulting 'Summary' page, you will see links to Summary, Review, and Editing pages. Each of these pages will provide details about your submission.

Authors wishing to submit articles to SEI should now go to:

http://www.icaseonline.net/journal/index.php/sei/user



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#### **ICASE Executive Committee 2017-2020**

ICASE membership spans the world led by an Executive Committee, with a Management Committee (President, President-Elect, Immediate Past President, Secretary, and Treasurer) responsible for the day-to-day administration and working closely with Regional Representatives and Chairs of Standing Committees. Presidential terms are noted below.



President (2017-2020) Dr. Bulent Cavas Associate Professor Department of Science Education Dokuz Eylul University Izmir, Turkey E-mail: bulentcavas@gmail.com

\*Also Webmaster/Web Communications



**Immediate Past President** (Presidential Term: 2014-2017) Dr. Teresa Kennedy, Assistant Vice President for Intl. Programs and Professor, STEM Education University of Texas at Tyler Tyler, Texas, USA E-mail: tkennedy45@gmail.com



President-Elect (2017-2020) Dr. Baohui Zhang Professor at Shaanxi Normal University in Xi'an, China The National Association for Science Education, The Chinese Society E-mail: baohui.zhang@snnu.edu.cn



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Secretary Ms. Yasemin Özdem-Yilmaz Assistant Professor, Gaziosmanpasa University, Turkey E-mail: <a href="mailto:yasemin.ozdem@hotmail.com">yasemin.ozdem@hotmail.com</a> **ICASE Newsletter:** 

http://www.icaseonline.net/news.html



**ICASE** Website: http://www.icaseonline.net/ The ICASE Constitution, Strategic Plan and World Conferneence Declarations can be viewed at: http://www.icaseonline.net/const.html

#### Regional Representatives (2013-2016)



Regional Representative for Africa Mr. David Itamah, Science Teachers Association of Nigeria (STAN) Director of Education, Chair of the STAN Board of Trustees; Chair of the Board of Directors of The STAN Place Ltd, the official publishers of STAN books. E-mail:



Regional Representative for Europe Dr. Sue Dale Tunnicliffe Reader of Science Education Leadership, Commonwealth Assc Science, Technology and Mathen Educators - CASTME, United King E-mail: lady.tunnicliffe@mac.con



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**Regional Representative for North America** Dr. Jim McDonald department of Teacher Education and Professional Development at Central Michigan University E-mail:



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\*ICASE Past President (2004-2007)



Sustainability and Environmental **Education** 

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