

# ASE International

No 5 ■ January 2019

## *Cross-curricular science*

- Living history
- Two for the price of one
- It's not just games

## *Practical science*

A plant-watering device

## *Assessment in science*

Questions in class

## *STEM*

Why it's important  
to make STEM  
learning purposeful

*Science education  
and teacher education  
across the nations*

Science education in  
the Republic of Ireland



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

An ASE publication for international members of the Association

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## ASE International: About the journal

ASE International is sent to all international members of the Association for Science Education (ASE), as well as non-member delegates attending the most recent ASE Annual Conference.

## Partners

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In addition to their generous funding, Gratnells will be providing editorial pieces in each issue to help and support international teachers and technicians in their work.

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## Submission details

ASE would welcome submissions from anyone interested in teaching or working in school science internationally. Articles and short news pieces should be sent to Jane Hanrott, Executive Editor, at [janehanrott@ase.org.uk](mailto:janehanrott@ase.org.uk) in the first instance, as a Word document, and should be no longer than 4000 words.

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# Editorial

■ Chris Harrison



Happy New Year to everyone from the ASE International Special Interest Group!

2019 promises to be a special year for ASE as we start to utilise the capacity and flexibility of our new website;

please check it out if you have not done so recently ([www.ase.org.uk](http://www.ase.org.uk)). Not only does it look more interesting visually, but also our communications team has worked hard to put on resources, links and up-to-the-minute news so that it is easy to locate and use by our membership. One of the items we will be discussing at our next meeting is how we can use the new website to provide better communication links and useful material for our overseas members. We would like to get your views on what you would like to see on the website and ways in which you would like to use it. If you have any good ideas, please e-mail me at [Christine.Harrison@kcl.ac.uk](mailto:Christine.Harrison@kcl.ac.uk)

This issue of *ASE International* pulls on a few themes – cross-curricular, inquiry and international knowledge-sharing. We have three cross-curricular articles adding to those we looked at in the last issue. The first by **Rachel Linfield** looks at a history/science approach to learning, where children visited Wimpole Hall near Cambridge UK and took part in a ‘role play day’ as servants in a big stately home. From trying to work out how to keep the books in the library from becoming dusty to making butter from cream, the children raised questions,

investigated their ideas and brought science into a historical and everyday context through the various activities in which they engaged. One aim within the current National Curriculum for Science in England is to ‘*develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them*’, and they certainly would have gained first-hand knowledge of this through an historical look at science in everyday life.

A second history/science approach is outlined in **Deborah Wilkinson and Mary Kinoulty’s** article on the Mary Rose Museum in the UK. In their article, inquiry is again central to the work that goes on in the Portsmouth Museum where the 1545 ship, *Mary Rose*, is on display. The authors put great value in working with artefacts to stimulate children’s curiosity and carefully unpack the wide range of inquiry skills that it is possible to enhance through this approach to learning. While a trip to that particular museum may not be on your agenda, there are likely to be interesting historical exhibitions or sites near to your school, where similar approaches can help children develop those inquiry skills that sit at the heart of science.

**Paul Tyler’s** article draws together science and sport and, as well as looking at the human biology and physics that underpin sport, he also highlights the growing demand for sport scientists and broadens the career horizons of science. Paul offers some interesting ways of engaging learners with science through sports, and lists many useful resources and websites that can develop this area.

At secondary level, **Steven Weir** provides an article on a plant-watering device, which is basically a water spike intended to deliver water to plants over a few weeks, perhaps while the gardener is on holiday. This could provide an interesting and useful project for students to try on their own or in a school garden. While the technology is relatively





# Editorial

■ Chris Harrison

simple and therefore low-cost, there are many variations in the size of the water tank, the number of water delivery holes and the depth to which one places the spike and its water tank. There is also a need to consider local factors to adapt the system to local conditions. While this is more of a problem-solving approach to inquiry than the control and manipulation of variables, it provides a great way of focusing students on manipulative skills, recognition and interpretation of evidence, and places science in an everyday context.

The article by **Sarah Longshaw** on questioning provides a useful reminder of the many ways in which questions can be used in the science classroom. Sarah developed this article from a session she gave at the 2018 ASE Annual Conference in Liverpool. She focuses on assessment and particularly HingePoint Questions, which are useful when teachers need to check how many of their class have grasped a particular concept or idea. If you are interested in finding out more about this approach to questioning, then, as well as reading Sarah's article, you might want to sign up for the various Assessment for Learning MOOCs that are offered free by the National Stem Learning Centre through the Futurelearn website ([www.Futurelearn.com](http://www.Futurelearn.com)).

Another, original, article looks at the work of the **British International Educational Association (BIEA)** and highlights some of the work they

do to interest and engage young people in STEM (Science, Technology, Engineering and Maths). Included are useful ideas and a considered reflection on the growing importance of STEM worldwide.

Part of the work we want to do as the ASE International Group is to share with others how different countries approach teaching and learning in science. We would be very interested in receiving articles from colleagues as to the successful and possibly unique and innovative ways that science teaching and learning works in your country, from primary through to tertiary phase and including the training of teachers. To start that off, we have an article from **Declan Kennedy**, who writes about science education in the Republic of Ireland. This is an interesting and in-depth look from Declan and, while useful in its own right, may possibly persuade you to write about science teaching and learning in your domain. Further articles from England and Scotland on this topic will follow in future issues of the journal.

Our thanks go to our sponsors for this year, Gratnells, who have provided us with a useful editorial on '**creating spaces for creative minds**'.

I hope you enjoy this issue of *ASE International*.

**Chris Harrison**, Editor of *ASE International*.  
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