

welcome to issue 29

What do Bill Bryson, the Royal Society, Brainiac and James May have in common? They all do a great job in communicating science or writing about science. This month I've included details of the 2009 *Bill Bryson Prize* for science communication. There's no theme for the competition this year so you can write about any part of science that interests you. I'm sure you can think of something! The reason he gave for wanting to write his book "*A Short History of Nearly Everything*" was to learn more about the world and the universe we live in. Many of the topics he writes about are related to chemistry. Wanting to understand more about the world we live in is a great reason to study chemistry.

We have a great line-up of events for the first part of 2009, including university visits and industry visits. Make sure you read the information opposite. Good luck if you are expecting an offer from a university following your UCAS application, you should be starting to get the offers soon.



Robert Bowles – Editor



Science Writing



Fancy swapping a pipette for a pen? With the explosion of science content on the internet, the popularisation of

science through TV shows such as *Brainiac*, and the fragmentation of TV following the introduction of digital services, there has never been a better time to get into science writing. Jobs in science writing tend to take one of two forms: science journalism, which is generally writing news articles about science, and science communication,

which explains science to non-scientists. A chemistry degree and then a postgraduate journalism qualification can be a good route in. More detailed info can be found here:

www.absw.org.uk



Website of the month

Google™ The daddy of them all! What other website can offer a better insight into chemistry than this one? I'm sure you have used it every now and then but are you using it to its full potential? The RSC library has a list of a few tricks and tools which may help refine and improve your

search using Google.
<http://www.rsc.org/Library/Researchers/Tips/Google.asp>

chemnet events

Many *ChemNet* events have been confirmed for 2009 so far. These can be viewed at the *ChemNet* events page. Just go to www.rsc.org/chemnet. Click on *ChemNet* events on the left hand side and then click on forthcoming events for the full listings and check whether we have a *ChemNet* event near you. There isn't room for them all in this newsletter so here's a selection of the first ones:

Careers in Chemistry event at **The RSC, Cambridge** part of *Cambridge Science Week*
12 March

Lecture on atmospheric chemistry
The National Space Centre – Leicester
24 March

ChemNet meets ChemSoc
Chemistry careers event
Sheffield University
31 March

Undergraduate taster day
Imperial College London
limited to 30 places for *ChemNet* members
22 April

More details about these events and many more can be found on the *ChemNet* events pages at www.rsc.org/chemnet. To book your place on any of them email us as soon as possible at chemnet_events@rsc.org. Remember they are free to *ChemNet* members.

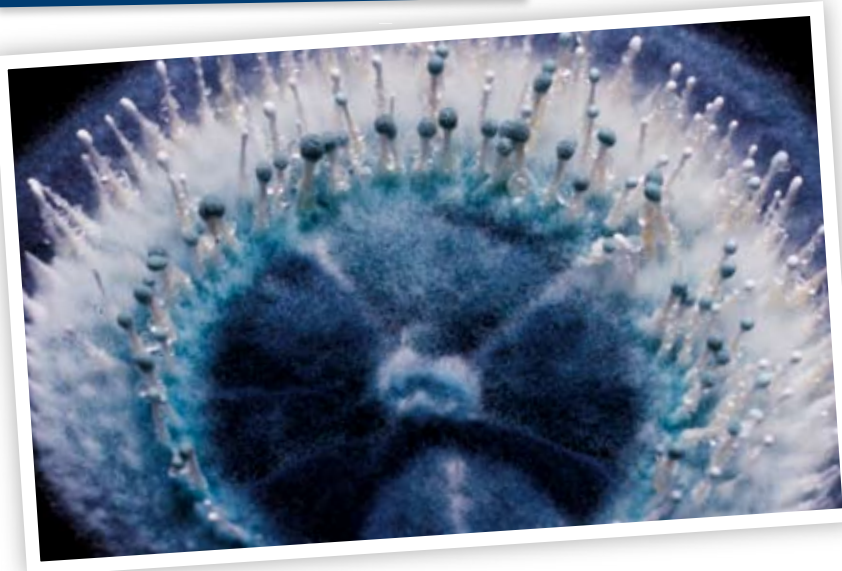
chemistry on the web

This link has a great video of molecules moving within a living cell. <http://blog.wired.com/wiredscience/2008/12/realtimemolecul.html> How cool is that? The imaging technique is called *Stimulated Raman Scattering*. The technique involves hitting molecules using laser beams, which causes them to vibrate. The vibrations are then tracked to produce a sequence of molecular maps.

I found this video on the fantastic wired science chemistry blog here: <http://blog.wired.com/wiredscience/chemistry/index.html> This blog is well worth reading. It covers topics as diverse as using solar energy to make ice and also a long forgotten experiment which is being looked at again and which could explain the origins of life – another example of making use of old or discarded research. www.sciencestage.com A great resource for getting chemistry video clips and other resources from leading scientists. I even found clips from James May's *Big Ideas* series on here.



Chemistry in the news



Failure can be a good thing!

No, I'm not talking about in exams, but in scientific research. Ever had an experiment go wrong? Ever spent one of your chemistry lessons working really hard, following the instructions to the letter and then – bam! – nothing happens or the data is all over the place? Now imagine you've been working on an experiment for 13 years (from when the project was first approved) and it has cost about 6bn Euros. And it went bang! That's exactly what happened to the scientists working on the Large Hadron Collider which I mentioned earlier in this newsletter in 2008. <http://www.guardian.co.uk/science/blog/2008/dec/14/particlephysics-cern>

That experiment is going to take six months to fix (hopefully) and then they'll try again, building on what they have learnt from their previous work – the very essence of the scientific process.

One thing you quickly learn in doing research of any kind is that some failure is to be expected – it is all part of the learning curve. As long as you learn something from the failure, it can pave the way for later success. Sometimes you can learn more by failure than from a quick easy success.

Traditionally only the science that yields a "good" or "positive" result gets published.

But the rest of the data, the data that shows no correlation or which shows a low yield for an organic synthesis for example is rarely allowed out of the researchers drawers and that's a shame.

There's a great article here advocating the publication of that unpublished data – it certainly makes you think!

http://www.wired.com/science/discoveries/magazine/15-10/st_essay

It's also worth thinking about why the data doesn't get published. Quite often science is self correcting and if the experiment is unsuccessful a researcher may publish anyway if there are good reasons and that publication can help others in the field. Also doing a meta-analysis of hundreds of different research studies can provide a better overview of the research of a particular topic than a single paper. Sometimes discoveries are made by accident. I'm sure you've heard the story of Alexander Fleming's discovery of penicillin. Here's a more recent example of an accidental discovery. Geologists drilled into a magma chamber by accident, presenting them with a fantastic chance to learn more about the chemistry of the liquid magma that the earth's continents rest on:

<http://blog.wired.com/wiredscience/2008/12/magmaobserver.html>

free stuff!



The winner of December's competition was *Lou Stowell from Ross-on-Wye* who correctly pointed out that oxygen makes up most of the body mass. She wins a MolyMod kit.

The winner of January's competition was *Rebecca Morgan from Fakenham* who identified Iron as the catalyst used in the Haber Process and received copies of *The Science of Chocolate* and *The Science of Ice Cream* from RSC. This month we have a £20 HMV gift voucher to win. Text us on **07825 186304** with the answer to this question: *What was released from the first zeolite that Axel Cronstedt discovered when he heated it?* You can also answer by email chemnet@rsc.org Closing date 7th February.



“To book a place on a ChemNet event email: chemnet_events@rsc.org or call 01223 432340”

If you want to register to use the discussion board email chemnet@rsc.org

HAVE YOUR SAY!

Would you like to see your article in the next issue? If it's good enough we'll print it! Submit your article to chemnet@rsc.org

CHEMISTRY FACTS

Zeolites are naturally occurring minerals which can be used as catalysts in some reactions. They were discovered in 1756 by the Swede, Axel Fredric Cronstedt. They came to prominence as catalysts in the cracking of relatively strong carbon bonds in the hydrocarbons which make up crude oil. There are about 30 naturally-occurring zeolites and chemists have now produce more than 150 synthetic zeolites.

