

welcome to issue 15

December is upon us, so this is a good time to wish you all a very Merry Christmas! To those of you with exams in January we send our best wishes for successful revision as well.

2007 was *ChemNet's* first complete year and it was certainly a busy one. Over 600 people attended *ChemNet* events around the country; the unique *Meet the Universities* event took place in Birmingham. Nearly 700 schools and teachers are now affiliated to *ChemNet* and many of our first *ChemNet* members have now become Chemistry undergraduates.

We are well into the planning of new events and activities for 2008 and *ChemNet* is certainly set to grow even more, so we look forward to seeing you or hearing from you during the year.

With this edition of *ChemNet News* you'll find a unique careers DVD which also includes some very practical tips for working in a lab. Enjoy it and as always, let us know what you think!



Analytical Chemistry

CAREERS SPOT

Analytical chemistry, the backbone of everything that chemists do. Want to make sure a new drug that has just been manufactured meets its legal requirements? You'll need an analytical chemist. Want to make sure food or water is safe to eat or drink? You'll need an analytical chemist... Yep, that's what analytical chemists do. They measure how much of x is in y. They use the latest technology and most up to date techniques. They even get called to court to give

evidence in criminal cases – for either the defence or the prosecution. Chemical analysis is at the heart of chemistry – if you can't measure something and analyse something, how do you know what you've been working with? It's not just about measuring what's there, it's also about finding out what x or y actually is. That calls for the precision of a watchmaker married with the detective skills of Sherlock Holmes, and the answer is not always elementary, it could be a compound!

Website of the month

www.push.co.uk

As it describes itself – 'the ruthlessly independent university guide'. While I'm not qualified to comment on its ruthlessness (for example, would it throw a cute puppy out of a hot air balloon to raise it over a mountain and thus save its own life? I'm not so sure), if you're starting to think about university for 2009 entry (wow that seems a long way away doesn't it?) this site does make an excellent starting point. If you've already applied, it offers an excellent opportunity to learn more about your chosen universities.

They have a whole range of different league tables offering a plethora of facts and useful information. Beer prices in Bristol? Rent in Reading? Drop out rate at Durham? It's all there. There's even a jargon busting section in case you come across any words you're not sure of. Handy if you want to tell your Ents (no, not the big talking trees in Lord of the Rings) from your Socs (and no, not a misspelling of your smelly footwear).

TEXT US
ON 07825
186 304

free stuff!

Given our analytical musing this month, I thought I'd offer up a copy of *'Crime Scene To Court'* as a prize. It's published by the RSC - so you know it's quality and it has nearly 450 pages covering the essentials of forensic science!

Whilst it may not contain many pictures of the CSI team looking cool in shades and carrying big handguns, it does contain a lot of information about the essentials of forensic science and is a course book on some forensic science degree courses. It also details some of the analytical chemistry tests which are carried out by Grissom and the gang "*back in the lab*".

Here's the question: *What would you use ninhydrin for in a forensic science investigation?*

Email your answer to chemnet@rsc.org by 15th December.

Winners for November were: Georgina Marsh from Ipswich and Elvis Maduli from Northampton. Your prizes are on their way!



chemistry on the web



The Chemistry Olympiad

If you enjoy a chemistry challenge and want the chance to travel abroad then the Chemistry Olympiad could be for you! For those of you in the upper sixth the competition begins next January and finishes with the successful team travelling to Budapest to represent the UK in this major international competition. Find out more at <http://www.rsc.org/olympiad> or ask your teacher for more information.

<http://blogs.nature.com/>

thescepticalchymist

This is a great site if you're interested in chemistry - the blog of a sceptical chemist from Nature. It's got interviews with chemists and a wide range of links to other chemistry related blogs and articles. It must be good, it's even got a link to the *Chemistry World* blog and podcast.

Chemistry in the news

How old is chocolate and for how long have humans been eating it?

Well, turns out it's been over 3000 years, according to these articles in the Guardian and on the BBC: <http://www.guardian.co.uk/science/2007/nov/13/archaeology.sciencenews> <http://news.bbc.co.uk/1/hi/sci/tech/7087899.stm>

The residue found in a mug that was over 3,000 years old contained extracts from cocoa beans. The vessel was shown to contain traces of theobromine, and will have been analysed using analytical chemical techniques, probably High Performance Liquid Chromatography (HPLC). So you see, chemistry can take you anywhere, even into archaeology and back in time to the peak of the Mayan civilisation. Recent developments in analytical techniques are really bringing the past back to life.

X-rays have been used to analyse the dead sea scrolls

<http://www.guardian.co.uk/science/2007/sep/12/deadsea>

Archaeology has shown our Neolithic ancestors chewed gum and chemistry showed that it was made from birch bark (hmm tasty!)

<http://www.guardian.co.uk/science/2007/aug/20/archaeology>

And that's the great thing about analytical chemistry - you could be asked to analyse just about anything by anybody.

Chemistry is also helping archaeology through DNA analysis. It has been used to trace the spread of human population around the world, since the dawn of mankind and also to explore things as diverse as the history of farming and the spread of the bubonic plague. Analysis of organic residues on archaeological finds around the world has contributed hugely to our knowledge of the past. A pot or amphora is just a piece of pottery. Analysis of organic residues from that piece of pottery though, can tell so much more; i.e. what was in the pot and this can be extrapolated to what was traded. From whether the pot was found on shipwrecks to what was cooked and eaten at home. This in turn can lead to an understanding of diet, nutrition and even early farming and industrial practices. The science of tomorrow is shining a spotlight on our past.



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

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

chemnet events

We had a variety of events going on during Chemistry Week. A number of lectures, the national tour events and another three schools got hands-on with nanotech at Liverpool University. November also saw a visit to the University of Hertfordshire observatory at Bayfordbury and there are still spaces for the pizza and quiz night in Bradford on 4th December.

It isn't a *ChemNet* event, but you might be interested in the *Even Bigger Bang!* Show at Brighton Dome. It comes with a new script, and newer, bigger, better and louder chemistry. Presented by Dr Hal Sosabowski, and, from ITV's *Ministry of Mayhem*, his old science sparring partner 'The Doc'. On Wednesday 12th December there is an afternoon show at 1.30pm and an evening show at 7.00pm and of course anyone can go to either. Tickets cost £5 @ 1.30pm, £7 @ 7.00pm with discounted family tickets in the evening (family of four for £21). *To book please contact Brighton Dome directly on 01273 709709.*

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

The only letter not appearing on the Periodic Table is the letter J.



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