

Welcome to the sixth issue of *Science in School*



In our feature article, we share with you the thoughts of Nobel Prize winner Tim Hunt as he talks to Philipp Gebhardt

about his passion for science, the importance of pure research, the influence of enthusiastic colleagues – and the role of serendipity in scientific discovery.

Scientific research is important, but some fields of research are seen as more important than others. ‘Biodiversity’ is now a popular word in the media, but why do we hear so little about the biological wealth of our seas? Iris Hendriks, Carlos Duarte and Carlo Heip investigate. Diversity at a different level is also the key to the work of bioinformatician Nicky Mulder. She is looking at differences between bacterial genomes to find out what makes *Mycobacterium tuberculosis*, the cause of tuberculosis, so dangerous.

An understanding of how mutations arise and spread through populations is fundamental to Nicky’s research. This is a surprisingly difficult concept to teach, but Pongprapan Pongsophon, Vantipa Roadrangka



and Alison Campbell show how it can be demonstrated with little more than a bag of buttons. However, genetic information does not spread only through populations: Russ Hodge reviews some recent research that demonstrates how important RNA is in communicating information at a cellular level.

Teaching is such hard work; wouldn’t it be nice to get outside help? Marc van Mil’s DNA labs employ university students to bring genomics (including all the necessary equipment) directly into the classroom. If that sounds too ambitious or expensive, you could follow Sheena Laursen’s lead and train keen teenagers to share their knowledge and enthusiasm with their fellow students.

Even students who are less enthusiastic about science can be inspired by a project like Karen Findlay’s. She and her students researched, wrote and produced a film about the ethics of a controversial medical condition. Another unusual approach to science education is the ‘Imagine’ project: Daan Schuurbijs and Marije Blomjous describe how Dutch



school students work with scientists to turn scientific proposals into business plans and make a difference in the developing world.

How far would you go in pursuit of the perfect lesson? Stripped (nearly) naked in a giant freezer, Phil Avery is preparing for an educational trip to the Antarctic. Why not send him your suggestions for sub-zero experiments? From the ends of the Earth to the ends of the galaxy and beyond: Örs Benedekfi takes us on a trip to the stars. In the fourth part of our 'Fusion in the Universe' series, he investigates how a star dies and what a nearby supernova explosion would mean for us on Earth.

In 79 AD, the inhabitants of Pompeii faced a catastrophe of a different kind. In an article linking art, chemistry and physics, Montserrat Capellas explains how modern analyses are shedding light on Pompeii. Gianluca Farusi likewise looks to the past for inspiration, demonstrating the interaction of chemistry, art and botany with a classroom activity to produce mediaeval ink from galls.

Also focusing on chemistry are two very different articles about the effects

of chemicals on our bodies. Katie Wynne explains how her research into oxyntomodulin may provide a new therapy for obesity. If you think this doesn't apply to you, why not try Angelika Börsch-Haubold's scented classroom activities: how does the structure of organic compounds affect their smell?

If none of these articles have satisfied your scientific curiosity, help is still at hand: Halina Stanley reviews some of her favourite 'ask a scientist' websites.

Finally, thanks to all of you who completed our online questionnaire. It was very helpful to learn which articles you most liked and why. We also received many useful ideas for future content: watch this space as we follow some of your suggestions!

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