

Welcome to the April issue of the **In2science** Update. After a hectic end to term one the Peer Mentors are back on their placements for Term 2. Hopefully there is less disruption for the placements this term. Our Peer Mentors have now made two or three visits to their schools and are starting to get to know the students and vice versa. Teachers and Peer Mentors are now working together to give the students a better experience of science and mathematics. Many teachers are utilising their Peer Mentor in innovative ways to help them engage the students and show the value of science. In some cases we have Peer Mentors sharing their subject knowledge with teachers who are teaching away from their specialism.



In2science prizes for teachers and Peer Mentors - REMINDER – this year we are trying to raise the profile of the program further by inviting companies and organisations to donate prizes that we can give away to teachers and Mentors who have participated each semester. This semester we are extremely grateful to the following who have offered prizes to get things started:

Nanotechnology Victoria Ltd – the offer of \$1000 each towards the costs of attending a nanotechnology-related conference in Australia for any two teachers who are able to show evidence of developing nanotechnology-based curriculum in their school during this semester. Submissions will be due to the Peer Mentoring Manager by the end of placements (**week of the 26th May**) for judging. This is open to school involved in the **In2science** program and those who have participated in the **In2nanotech** roadshow.

John Wiley & Sons Australia, Ltd – have donated several school science text books and teachers resources to be awarded to teachers who are hosting a Mentor and to Mentors undertaking a science teaching related degree program. These will be drawn from a hat at the end of placement:

1. **Nature of biology** VCE Bk1 – X2 teachers
2. **Physics 1 VCE** – X1 teacher
3. **Science Alive level 6 teacher support kit** – X1 Mentor studying education
4. **Science Quest 1&2** – X1 Mentor studying education
5. **Science Quest 3&4** – X1 Mentor studying education

Geoscience Australia - has donated several resources for teachers to help engage students in Earth Science. These will be drawn from a hat at the end of placement:

1. **Earth Echoes** – DVD of Victoria's crust and seismic survey – X2 teachers
2. **National Ocean Flythrough (3d footage), Uluru & Kata Tjuta a geological history, Silicate Chemistry – teachers notes**– X1 teacher
3. **ESRI Australia** – mapping package for education – X2 teachers

Many thanks to these companies and organisations for donating these to **In2science** to give away as prizes for people involved in the Peer Mentoring program.

In2science News

Five of our Peer Mentors will be supporting a trial curriculum project in the school at which they are placed. The Peer Mentors have been working with Y10 classes who are about to start the **STELR** project in their science lessons. Initiated by the Australian Academy of Technological Sciences and Engineering (ATSE) the Science and Technology Education Leveraging Relevance (STELR) program is being trialled in four Victorian schools. The main theme of the STELR program is renewable energy:

“This taps into the high level of concern about climate change in our community and engages the interests of students and teachers alike. In 2008, the units of work being developed are ‘Introduction to renewable energy’, ‘Photovoltaic cells’, ‘Wind turbines’ and ‘Biodiesel’, which will be combined into a six-week program on renewable energy.”

Extract from ATSE Focus, volume 148, February 2008

In2science partner school **Northcote HS** is one of the pilot schools and our Peer Mentors will be adding additional support to the teaching of this material.

To find out more about STELR contact Peter Pentland, Project Manager, tel: (03) 9340 1212, email: peterp@atse.org.au

In2science is keen to offer support for the teaching of new initiatives in the classroom as the Peer Mentors can provide an additional dimension for the students.

Peer Mentoring in Action



Mentor Stephen at Macleod Coll

Our Peer Mentors are getting actively involved in a wide range of activities. Here are a few examples of what they have been doing in our partner schools:

Mentor Erin has been helping Y8 students do research for their studies of Forensic Science at **Montmorency SC**. The school is new to the program this year and it is great to see them making the most of having the Peer Mentors.

At **Macleod College** Mentor Stephen has been helping Y9 students put together mind maps of how they learn. Stephen has built up a good rapport with the students. Well done.

Mentor Victoria has been helping her Y9 students identify different cells and cell structures using microscopes at **Northcote HS**. Also at Northcote, Mentor Yianni gave a brief presentation on plant adaptation as part of the students' study on evolution.

Engineering student and Mentor Ravi was a little out of his area of expertise when helping Y9 students at **Kew HS** extract DNA from wheat germ. Both he and the students were able to learn a lot and get some good samples. Well done Ravi.

At Mac Robertson Girls' HS Mentor Zoe is having a great time with her Y9 class. They have been doing a range of practicals investigating metals and other reactions. Great work Zoe, you and the teacher are working well together.



Mentor Yianni talks about natural selection.



Tempering metal at Mac. Rob.

Long term Mentor Vincent who has been at a few of our schools has broken his ankle and is therefore unable to continue mentoring this term at **Kew HS**. Hope you have a speedy recovery Vincent.

Mentor Fidan is back in her old school of **Strathmore SC** to mentor, helping students in physics get to grips with different types of waves. Many of our Mentors go back to their old schools and really enjoy giving something back and working with the teachers that taught them.

Long term Mentor; Alisa (now on her fifth placement) is also back at her old school. **University HS** is new to the program this year and it is great to have experienced Mentors like Alisa who can quickly demonstrate the benefits of the program.

At **Reservoir District SC** Mentor Monica has been helping the class she is working with prepare for a *Science and Engineering Challenge* event.

New school to the program; **Collingwood College** has two Mentors placed. Mentor Philip has been helping Physics students get to grips with light and optics.

At **Fitzroy HS** Mentor Blaire has been getting back to basics with maths helping students feel more confident about tackling questions. Also at the school, Mentor Marilyn has been helping Y7 students test various household items to see if they are acids or basis. The class teacher commented how good it was to have the extra pair of hands helping in the practical. Well done.

Several of the Mentors have been talking to the teachers about organising a visit in to their respective university. Mentor Victoria at **Footscray CC**, Mentor Yagmur at **Preston Girls College** and Mentor Amanda at **Mill Park SC** have already got things going to see if they can facilitate such visits.

Information for Mentors

Congratulations on settling into your placements so quickly. There were a few hiccups at the start for some of you though these seem to have been ironed out.

By now your initial nervousness will have gone and you can start to build a rapport with the students. Try to think about how you engage with them and the sort of questions you ask them. Hopefully you will find yourself moving from answering questions (being reactive) to having more in-depth discussions with the students about what they are doing and the place of science and/or mathematics in the wider world (being proactive). Also try to learn names (can be difficult) and challenge their thinking on the topics being studied. Keep trying to engage with all the students and if you have any concerns talk them through with the teacher. Often having a chat at the end of each lesson about what has happened and how you found your role is extremely valuable in preparing for the next time you are there.

Let us know if you want any help with any aspect of your placement (visits to the uni, activities, presentations etc) Remember we have some resources you may find useful or you may have some yourself or at uni. Offer to do some 'show and tell' activities if you are feeling confident. Also keep us informed about activities you are doing in the classes and feel free to send in a summary of what you have been doing to share in the newsletter – we are always on the look out for photographs of Mentors in action.

The next few weeks should be much less disrupted though remember that **ANZAC Day is on the 25th April so no classes that day.**

Information for Schools

Many thanks to all those teachers who are planning lessons to involve the Mentors and utilise their skills. Many teachers have been able to change the sequence of topics for term 2 to link to the Mentors subject specialism.

During recent placement visits, some teachers were a little unsure of how they can use the Mentors. It is important that they have read the [*'maximising the benefits of having Peer Mentors in the classroom'*](#) document.

Having Peer Mentors in the classroom is an ideal opportunity to deliver the curriculum in a different way. If the Mentor is a specialist in the field the students are studying then try to involve them in the sessions by talking about what they do. Very often they know more than the teacher!!

Here are a few hints and tips from the above document about using the mentors for general class activities:

- *The Mentor becomes an **extra** person offering advice and support and sometimes alternative explanations. Mentors are trained to **focus** on helping students who are **'on task'**. This acts as a good motivator to the students; if they want the Mentors attention they need to be talking about the work.*
- *Try where possible to ensure the Mentor has the **information in advance** of a lesson so they can be familiar with what you are trying to achieve – usually best done by **email**.*
- *Allocate the Mentor to a group of students who may need more help or who may need stretching (they could sit together on a separate table).*
- *To avoid the Mentor's time being monopolised by certain individuals help by checking they have **genuine** questions for the Mentor.*
- *Be aware that sometimes students will ask for help from the Mentor instead of you. Students have said they are sometimes reluctant to ask the teacher, who they see as assessing/judging them, especially if it they are unsure about something that has been explained in a previous lesson.*
- *Some teachers have found they are able to **focus** on working with certain students while the Mentor looks after the others who are asking for general help.*
- *Try to include a **discussion phase** in the lesson, going through the answers that the students have done. This way the Mentor can be actively involved in the feedback process and contribute their views to the class as a whole. Mentors often comment that they would like to contribute to whole class discussions more often.*



Mentor Marilyn at Fitzroy HS

Several teachers have asked about excursions to the university campuses and elsewhere – this is great. The Mentor is the person to talk things through with initially as they can start contacting the staff at the university. **In2science** is happy to help in any way we can and we do have some funds to help schools make such excursions with their Mentor if the expense is a barrier.

In2science is looking to acquire **resources** that would enhance the Mentors placements. Mentors could bring them to the school and do a '*show and tell*' session. Please contact us if you have any ideas of resources that would be beneficial. Think about items that are portable and are things that schools would not necessarily have.

Website to try

In the school holidays, the **Dept of Chemistry** at La Trobe University ran a session for teachers to support them with the instrumental analysis component of the new VCE curriculum. **Prof Bob Brownlee** who ran the session has put his **VCE NMR lecture** presentation on his [website](#). Well worth a look.

The [SDBS \(Spectral Database for Organic Compounds\)](#) website has lots of great images that teachers can utilise to enhance their teaching of this area. Certain copyright conditions apply to their use as explained on the home page.

The [Centre of the Cell](#) is a new education centre opening in the UK later this year. They have a good website that is starting to have a range of resources that both teachers and students will find interesting – try out the 'build a body part section'.

News from the institutions

La Trobe University

Molecular Plant Breeding CRC - offer a **FREE** genetics education program "[Get into Genes](#)". This program has been very successful and bookings are being taken now.

Alternatively you can contact Belinda Griffiths:

Tel. 9479 5185, email: belinda.griffiths@getintogenes.com.au

[Science Teachers Assistance Program \(STAP\)](#) - aims to assist teachers by providing a range of activities for students and teachers within select areas of Science, Technology and Engineering.

Annual Medical Research Tertiary Careers Evening, Tuesday 20th May – of interest to Y12 science students.

Presented by The Australian Society for Medical Research during Medical Research Week@2008. Hear from speakers with biomedical science degrees about:

What can you do with a biomedical degree or a PhD in medical research? How work can take you overseas.

Careers in science communication, biotech, public health and much more!

Where: BUNDOORA CAMPUS - WEST LECTURE THEATRE 2LA **Time:** 6.30 - 8.30pm

Free: Plus free pizza and drinks.

For more information contact bkgriffiths@optusnet.com.au

The University of Melbourne

The University is now including a copy of [Voice](#) in the Education Age on a monthly basis. This is a great way to find out what is happening at the University.

The **School of Botany** has recently appointed a schools liaison officer, with the aim of providing students and teachers with access to the School and its resources. Activities focused on plant science are being developed for students from primary school to Year 12. Two days of teacher Professional Development were held late in 2007 (and are planned again for 2009), a group of Year 10 students will be doing work experience in the School in June, and a one-day mini-conference on climate change for Year 11 students is being planned for later this year. These activities are free of charge. For further details, contact:

Marie Thorpe, Community Liaison Officer, [School of Botany](#), The University of Melbourne.
P: 03 8344 5071 E: thorpem@unimelb.edu.au

RESEARCH

A new physics discovery explores why there is more [matter than antimatter in the universe](#).

The latest research findings, which involved significant contributions from physicists at the University of Melbourne, have been recently published in the prestigious journal Nature.

The paper reveals that investigation into the process of B-meson decays has given insight into why there is more matter than antimatter in the universe.

Monash University
RESEARCH

Ant colonies might seem to have little in common with terrorist attacks and emergency evacuations of sports stadiums. But [research](#) underway at Monash University is showing how the behaviour of tiny Argentine ants might help humans engineer crowd control and traffic behaviour in panic situations.

John McDonald
In2science Manager

