In2science UPDATE – June 2011
Edition 8.4

Welcome to the In2science newsletter for June. This is the last update for this semester as placements are now finished. Thank you for your hard work and congratulations of what has been achieved.

Participating in the **In2science** program this placement there have been 197 mentors from 7 universities in 86 schools. That's a lot of fun, a lot of learning and a lot of inspiration. We have even more mentors keen to be placed in schools next semester and look forward to reaching out to more schools and classes.

There has been a huge variety of activities going on, covering a range of topics from rocks to rockets, metals to mutations and earthquakes to electricity. Mentors have helped with a diverse range of activities including practical experiments, answering questions, giving talks and running tours and activities.

Well done and a huge thank you to everyone involved!

In2science News

Placement dates
Semester one placements have now been completed. Semester two placements start in the week commencing **1st August.**

Several In2science Mentors - past and present - received **awards** at the University of Melbourne's 2011 Dean's Awards. Congratulations to Andrew Chester, Dougal Davis, and Jinghan Xia.

In2science program Manager John McDonald spent two weeks in May visiting Canada and the UK. John attended the CUExpo 2011 conference on university-community engagement at Wilfred Laurier University, Kitchener, Ontario. While there, John presented the **In2science** program as an example of universities working together to help address a societal issue. In Canada he also met with the **'Let's Talk Science'** program team in London, Ontario. This is a national program which works to improve science literacy through innovative educational programs, research and advocacy which has been running for nearly 20 years. They have universities offering support to teachers and students through the use of Mentors. They also run some competitions and even develop materials on behalf of organisations wanting to create teaching resources for in schools. John met with Bonnie Schmidt who is the founder and president of the program. She has seen the program grow to having a staff of 21 managing a wide range of science engagement and literacy programs.


John with Bonnie Schmidt


John (centre) with Alan Evans (left) and members of the Aimhigher Merseyside Team

After Canada John went to the UK meeting with the National Coordinator of the **Aimhigher Associates scheme**; Alan Evans. **Aimhigher** is a nationally funded program in the UK supporting school students from low socio-economic areas making the transition to university by raising their aspirations and achievement across all curriculum areas. University students work as Associates (Mentors) helping school students through a range of programs in school and at the universities. John met with staff of the Aimhigher Greater Merseyside team and visited schools to see their Associates (Mentors) in action. *"It was a wonderful experience to meet school students working with their Associates from the local university. As with the*

In2science program, the Associates and school students gained much from the interaction with each other. The Merseyside team was fantastic and we spent a long time discussing how our programs operated and support local school" said John.

Long serving Mentors – This semester saw the following Peer Mentors complete their **third** round of placement. These students have been able to contribute their expertise in the classroom and have been good role models. Many thanks to each of you and we look forward to handing out your letters of commendation towards the end of this year.

La Trobe University
- **Alisha Van Vliet,** Animal & Veterinary Biosciences
- **Amanda Harrison (Wodonga),** Environmental Management and Ecology
- **Jade Fitzgerald,** Psychological Science
- **Brianna Lang,** Conservation Biology and Ecology
- **Lewis Adams (Bendigo),** BSc
- **Evrim Ulusoy,** Bach of Biomedical Science/Bach of Psychology

Monash University
- **Jessica Hammond,** BSc
- **Tim Smith,** BSc
- **Victoria Villagosh,** BSc/Law

The University of Melbourne
- **Vanessa Lo Nigro,** BSc

In addition to these students we also have several Mentors who completed a higher number of placements this semester which is fantastic:

7 placements – Lori Ferrins (La Trobe)
6 placements – Sophie Wayth (La Trobe)
Valli Chockalingam (Uni Melb)
5 placements – Josh Wayman (La Trobe)
Erin Benham (La Trobe)
Tenille Butera (La Trobe)

***Top**: LTU long serving Mentors with Dean of Sci, Tech & Eng, Prof Brian McGraw and LTU Coordinator Barbara Dinsdale (left).*
***Lower**: LTU Bendigo Mentors with Assoc Prof Katherine Legge (2nd rt), Dr Sabine Wilkens (3rd rt) and Dr Pauleen Bennett (2nd left)*

Finally, research has shown that using fonts such as Comic Sans which are harder to read actually have a positive effect on learning and retention. Apparently good displays and easy to read fonts make our brains lazy but if text is harder to read we can remember more. Check out ABC science for more information.

Peer Mentoring in Action

The **In2science Team** has had a fantastic time visiting schools to see the Mentors in action. It is wonderful to hear how the Mentors have helped out and inspired so many students; here are some examples of how they've made an impression.

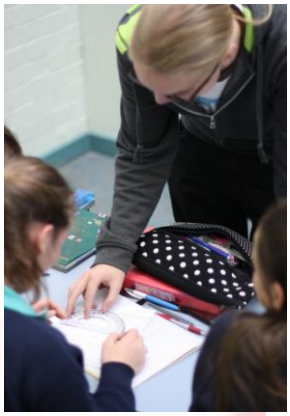
At **Mount Waverly SC,** Mentor Katherine, having finished exploring the solar system, got stuck in to some biology classification. She helped sort jars of worms, sharks, starfish and all kinds of creatures into groups according to their characteristics.

Clayton North PS Grade 5 & 6 students are working on a Natural Disaster theme this term. Mentor Victoria assisted them to make water tornados and led a discussion about what happens and why.

Mentor Bec has been having a great time at **Bendigo SE SC** where she has been working with students during their Community/Activity sessions each week. Bec has been able to help students with science activities and also offer support to students with their maths. Well done Bec, the students certainly valued your attention and support.

Mentor Stephanie has been in a Year 9 science class and has been helping them dissect their way through various animals and mammalian organs, most notably a kidney and they are planning for a brain dissection. Stephanie is on her first round of placements and has been mentoring at **University HS**.

Teacher Anuradha at **Brunswick SC** has loved having Mentor Jesse in her year 8 Maths class. He has been helping the students understand different concepts and Anuradha says that the students have learnt a lot from him.



Jesse getting stuck in to some geometry at Brunswick SC

At long term partner school **Northcote HS**, Mentor Dougal has been working with the teacher to make Year 7 geometry more interesting. He has been talking to them about more interesting ideas surrounding geometry which some of the students have become very excited about. Mentor Jane has also been in a maths class with Year 9s at the school. They have been working their way through algebra and Jane has been able to help students understand some of the more difficult rules and concepts. Finally, Mentor Amy has been supporting a year 9 science class. They have been working on a number of interesting topics, most recently on reflection. The students used light boxes and different lenses to measure angles of reflection to test their hypotheses. Great work all the Mentors at the school.

Mentor Mel presents at Lilydale Heights SC

Mentor Mel has been a big hit with the students at **Lilydale Heights HS**. Mel has been an active participant in all her classes and her teachers comment that she is an excellent role model to the young ladies in the class. Mel has made presentations about her studies at university and the passion she has for science. Mel has also organised some practical activities for the students to do based upon viewing slides of tissue samples. Awesome job, Mel.

Balwyn HS has Mentors Lori and Nicole attend classes on a Friday morning. Nicole has been supporting a Y9 class in the school's 'Explore' centre. She has made presentations to the students about the work or mining engineers and about her work managing landslips with Vic Roads. Mentor Lori has been working with Y8 students as they get to grips with chemistry for the first time. She has been a real asset to the students and teachers helping students feel confident about the subject. Well done both of you.

Visiting Mentor Grant at **Kew HS** was quite tiring as the students were all investigating homeostasis which involved monitoring their heart and breathing rate before and after exercise. Grant has a great rapport with the classes and was learning a lot about the teaching profession from the class teacher. Grant is currently training to be a science teacher.

Mentor Mwylie is truly a 'scientist' in the classroom at **East Doncaster SC**. He has been a real hit with the students and teacher who often turns to him for his expertise in chemistry. It was great to see him in action explaining the process of covalent bonding. Inspiring Mwylie!!

Mentor Dian has been working with students while they study for VCE Environmental Science at **Eltham HS**. Dian has had a good time with the students and especially enjoyed participating in climate change discussions. Well done Dian. Also at the school is Mentor Lana who has been conducting her placement with one Y11 class and helping them understand sexual reproduction. Students carried out discussions on why some offspring are abandoned and left to fend for themselves from the moment they are born, while others require considerable rearing from parents for years.

Moreland PS students have enjoyed having mentors Vanessa and Ashley for their Science classes over the last few weeks. They have been looking at body systems and learning things like how long it takes for food to get to the stomach (6-8 seconds) and how big the stomach is (the size of your fist).

Ashley and Vanessa discussing the digestive system at Moreland PS

Mentor James has been working with Y8 students at **Baden Powell College** - new to the In2science program. James has been a great asset to their science teachers and has a great rapport with all the students. In one of their last classes with James, they all got to make cheese to explore and understand chemical reactions.

Mentor Paul has been helping Yvonne's Y7 Maths class at **Sunshine SC**. They have been looking at volume and capacity and Paul helped the students build a one metre cubed shelter out of newspaper to see how many students would fit in. Depending on size, approximately 5 students can fit into one metre cubed.

Mentor Alex has been working at **Grovedale College** in Geelong. Alex has been supporting students predict the solubility of substances then investigating their predictions by dissolving the substance in test tubes of water. Great work Ales

At **Grovedale West PS**, Mentor Hayley has had her sleuth hat on helping out in Forensic science with grades 5/6. She brought in some fingerprinting powders including some magnetic powder and a forensic light source from her university for the students to play with. Sounds like they had a lot of fun, well done Hayley.

Forest Hill College has Mentor Alysha helping year 8 students with an investigative task on their computers looking at acids and bases.

At **Mill Park SC** Mentor Ayah has been helping the Y7 class learn about the laws of gravity. Students have been looking at what the properties of gravity are, and how free fall is reduced in a body at motion when gravity is no longer the only acting force upon the object but an aerodynamic drag is applied to the object in the form of a parachute. The students designed their own parachute and attached it to an egg which was dropped from a height. The best design allowed the egg to land without breaking.

Y8 students at **Rosehill SC** have been learning about the 3 classes of levers and making catapults with Mentor Robert. The students designed their own catapults (class 3 leaver), each student pair changing the position of their fulcrum, length of lever and hinge type. The catapult deemed the most successful was that which could launch their load (gooey marshmallows) furthest across the room. Also at the school is Mentor Dom who has helped another Y8 class learn about digestion. Once the theory was understood, students designed board games to test fellow classmate's knowledge. Well done both of you.

At **Roxburgh College** Mentor Ben has been at hand to help Y10 students learn Mendalian patterns of Inheritance. Students learned about the principals of dominance, principals of segregation, and principal of independent assortment.

Catapults from Roxburgh College

Mentor Simaima has been helping the Y5 & 6 class at **Charles La Trobe College** - **Bellfield Primary campus** learn about crystals … what they are, what they are used for, and where they are found. The class was broken up into groups, with each rotating to do different activities including crystal making, and crystal artworks. Great work Simaima.

Excellent work Mentors!

Information for Schools

Many thanks to all Link Teachers and class teachers for your hard work and enthusiasm throughout this round of placements. We're keen to hear your feedback and comments on how you have found the placement and we look forward to working with you again next semester.

Placement Dates:
The next placement block will start in the week commencing 1st August.

In2science Evaluation documents have been sent out to schools. Please contact us if you have not received anything either electronically or in the post.

School students will need to complete a **hard copy** which then needs to be returned to **In2science** coordinators by **June 15th.**
This semester we are trialling **online questionnaires** on Survey Monkey for class teachers to fill in. You should have received an e-mail with links to follow. It should only take a few minutes of your time but is important to get your feedback if we are to keep improving the **In2science** program so everyone gets the most out of it. Teachers have been asked to complete an online *'feedback to Mentors*' survey to provide some feedback to Mentors about the skills they have developed and a '*Feedback on In2science*' questionnaire on the program in general.

It is only by undertaking evaluations that we can determine how successful the program is and the benefits being achieved so thank you for taking the time to do this. Please try to get these **completed by 15th June.**

Do contact the **In2science Team** if there is anything you would like support with in schools, where staffing and resources allow, the universities are keen to help. The Mentors can also be an excellent link between the university and the school so do talk to them if you have any ideas.

The **ARC Centre for Excellence in Free Radical Chemistry** is running a great community art competition this year which we are sure your students would like to get involved with. Called Concept Radical it invites artists impressions of free radicals. There are some great prizes to be won and it is a great way to show the connection between art and science.

If you are starting to plan for **National Science Week**, then maybe the Mentors can help out. Science week takes place during the next block of placments for semester two so let **In2science** know if there is anything you would like to do and we will see if we can help out.

National Science Week
August 13 – 21
Theme: ***React to Chemistry***

The **In2science Team** will be in touch with you towards the end of Term 2 regarding Mentors for Term 3/4.

Information for Mentors

Congratulations on all you have achieved during your placements. It has been great working with you and seeing all you have achieved during the semester.

Take some time to reflect about all the things you have learnt and skills you have developed during your placement and be proud of yourselves.

Semester 2 placements will start in the week commencing **1st August**. The placement block will be 11 weeks in length.

Would you like to mentor again **next semester?** If 'yes', make sure you let us know and keep us up to date with you availability. You can choose to stay at the same school, or move on to new pastures and explore a different school or class. Mentors undertaking a second placement are offered an **In2science** polo-shirt while those who complete three semesters of placement receive a letter of commendation from their respective Dean.

No worries if you are unable to participate - we wish you well in the future.

In2science mentor training will be running at all participating Universities in July for new Mentors. If you have already completed a placement maybe you could help out and share you experience with the new recruits. Contact your University coordinator for more information.

We have begun recruiting for semester 2. If you have friends who are interested, get them to contact one of the **In2science Team** or apply online directly

In2science on Facebook
Don't forget the Facebook group which is for you to share their experiences and support each other. The focus is on sharing your experiences and seeking possible support for ideas in the classroom. The senior/support Mentors will be checking it regularly to generate discussions and help answer queries. The more you use it the more everyone else will use it too. Access the group through Facebook, search for "In2science group".

Evaluations – you should have been sent the link to the evaluation questionnaire on Survey Money, if not please contact your coordinator. Please complete these as is it is your feedback and insights that help **In2science** improve and grow. Please try to get these **completed by 15th June.**

News from the Institutions

La Trobe University

Top Ten List of New Species – Dr Susan Lawler

As if classification wasn't tricky enough, new species are being discovered all over the world and new Latin names are being made up to identify them. Some like the T. Rex, which was discovered up the nose of a little girl in Peru, has been named to show that is vicious, but the T stands for Tyrannobdella as it is a leech, not a dinosaur. Others include the bacterium H. titanicae which lives at the bottom of oceans and feeds on rusty ship wrecks, and the batfish, which was discovered in the Gulf of Mexico just before the disastrous oil spill poisoned its habitat, and may have been found just before it is wiped out.

Open Day Dates and Information for La Trobe Campuses

Melbourne	Shepparton	Mildura	Albury-Wodonga
Sunday 7 August	Friday 12 August	Sunday 14 August	Sunday 21 August

Bendigo
Sunday 28 August

The University of Melbourne

EVENTS

The University if gearing up for its annual **Festival of Ideas** being held from 13-18 June. It is not too late to attend keynotes and workshops. This year's theme is 'The Pursuit of Identity: Landscape, History and Genetics'. Keynote speakers include Chris McAuliffe, Matt Ridley and Professor Robert Saint. For more information and to register visit http://www.ideas.unimelb.edu.au/

Open Day 2011

The University of Melbourne's Open day will be **Sunday 21st August** 2011. Visit http://openday.unimelb.edu.au/

Monash University

Monash Science Centre 2011 Lecture Series

Wednesday 22nd June
Myth Busting: Philosophy and Politics Talk to Science
Dr. Rob Sparrow

Wednesday 27th July
Intelligent Robots in the Real World
Professor Ray Jarvis

Venue Monash Science Centre, Building 74 Normanby Rd, Monash University Clayton
Time 7pm **RSVP Places are limited.** Call Jenny 9905 1370

Open Day Dates and Information for Monash Campuses

Berwick, Gippsland, Peninsula	Caufield, Clayton, Parkville
Saturday 6 August	Sunday 7 August

RMIT University

Wool fibres enhance bullet proof Kevlar

Textile researchers from RMIT have found that adding wool to Kevlar makes it more effective at stopping bullets, especially when wet. This means that bullet proof vests in the future can have less layers of Kevlar making them lighter and easier to wear. Water acts as a lubricant in Kevlar meaning that there is less friction to stop the bullet. Wool helps to absorb the liquid which helps the vest to stop the bullet.

Open Day 2011
Sunday 14th August, City and Bundoora campus

Swinburne University of Technology

Robot Ruby breaks Rubik's Record
The world's fastest Rubik's Cube-solving robot has been developed by students at Swinburne University of Technology. The robot, named Ruby, can solve the scrambled puzzle in just over 10 seconds, including the time taken to scan the initial status of the cube.

It was built from scratch by six students as their final year project .The team comprised identical twin computer whiz kids David and Richard Bain, Daniel Purvis, Jarrod Boyes, Miriam Parkinson and Jonathan Goldwasser. They are applying to have Ruby's Rubik's-solving skill recognised by Guinness World Records. The current human world record for single time on a 3×3×3 Rubik's Cube is held by Feliks Zemdegs who had a best time of 6.24 seconds at the Kubaroo Open 2011. *As of October 2010*, the world's fastest Rubik's Cube solving robot, the Cubinator, was able to solve a scrambled Rubik's Cube in 18.2 seconds.

See the robot in action completing a Rubik's Cube in 10.69 seconds.

The robot will be on show at Swinburne's Open Day on 21st August.

EVENTS
Public lecture – Into the heart of darkness
Dr Darren Croton will talk about supermassive black holes at the centres of galaxies. **15th June @ 6:30pm**

This lecture is free though you need to book. Further information including booking details and directions to the venues can be found here.

Open Day Dates and Information for Swinburne Campuses
Hawthorn, Lilydale and Prahran
Sunday 21st August

Deakin University

Travel light, save at the pump: magnesium takes the weight off cars
As the price of petrol fluctuates dramatically and consumers become increasingly environmentally savvy, the automotive industry is searching for new ways to make cars lighter and more fuel-efficient.

Among those working to find a solution is Deakin University's light metals group, which has developed a new lightweight magnesium alloy it believes is ideally suited to replace aluminium parts.

Although magnesium is the lightest metal available for use in structural applications, with a density two-thirds that of aluminium, the latter is preferred by industry as it is easier to use in production.

Open Day 2011

Warrnambool	**Geelong Campus**	**Melbourne Campus**
Sunday 14th August	Sunday 21st August	Sunday 28th August

The University of Ballarat

Open Day 2011
Mt Helen
Sunday 28th August

Websites to try

In2science now has a useful list of websites full of ideas and resources on a whole host of topics. Check them out to see how they could help you.

Schoolscience is a UK website full of activities and information arranged by age group. Check out some of the podcasts like will the washing dry outside in winter? If you prefer doing to listening you could plan a kitchen science experiment.

The Department of Education and Early Childhood Development operates multiple Specialist Science Centres for schools to visit and participate in some amazing activities. Check out their websites if you have not already done so:

The Victorian **Gene Technology Access Centre** - Based at University HS, this centre not only has resources for teaching the science of genetics, it also guides students and teachers through the process of debating the ethics of genetics.

Ecolinc – Based in Bacchus Marsh this ecology-based centre offers a great range of onsite activities relating to sustainable environmental development practices.

Victorian Space Science Education Centre – Based at Strathmore SC this centre offers a range of onsite programs related to space science.

Quantum Victoria – Based at Charles La Trobe College, is a new centre that will become fully operational later in the year.

Additional centres opening soon are:
Victorian Bioscience Education Centre, - Based at Belmont SC, Geelong
Earth Science Education Centre - Based at Mount Clear SC, Ballarat

As 2011 is the International Year of Chemistry try getting involved, for example by taking part in the Australian national chemistry quiz. Also look out for events near you.

The In2science Team

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