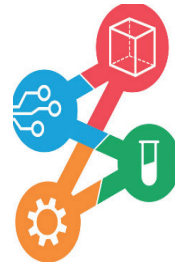




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**Volume II, Issue 2**

**Riverside Girls Leads STEM across the State as a STEM Action School**

One of eight schools across the State and one of only three metropolitan schools, Riverside has been recognized by the NSW Department of Education for its innovative student engagement, curriculum development and professional leadership in STEM education. We have been acknowledged for our clear STEM vision, exemplary teaching practice, innovation in student enrichment and engagement, commitment to student STEM career development, outstanding leadership in professional learning along with our high quality and effective partnerships with leading STEM universities and industries.

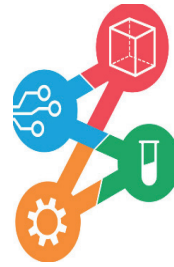
As a result, our accomplished Riverside STEM team will inform future Department initiatives and will provide professional learning, advice and assistance to fledgling STEM schools along with mentoring pre-service and early careers teachers and thus lead a community of practice in the teaching of STEM across NSW.

Congratulations to the STEM Team: William Moran HT Science, Lisa Wark HT TAS, Brian Hatcher, Lisa Trapnell and Angela Mihailou; led by Tracey Warzecha HT Curriculum.





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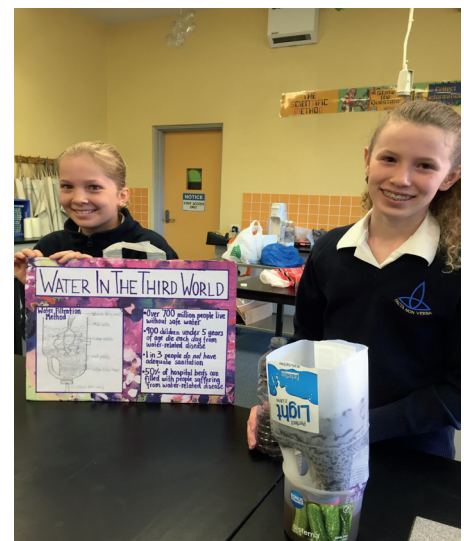
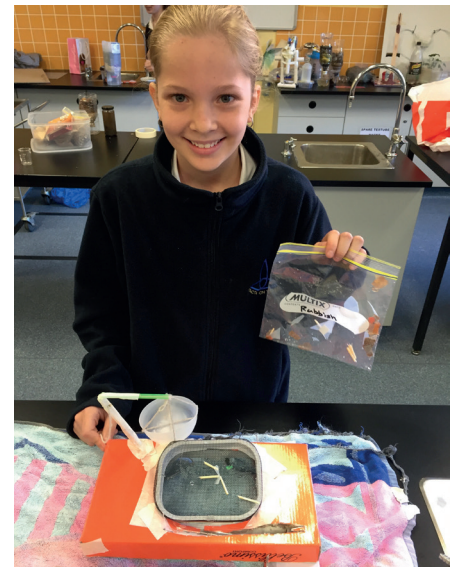


**Year 7 Young STEM Engineers - Innovators of the Future**

Developing Engineering Skills in Year 7: STEM experts of the future Year 7 Science & Ms Warzecha have been exploring separation techniques in medicine, water quality and mining. Their design brief required them to research the theory and then create a dynamic model from recycled materials to demonstrate the principles involved.

The following pictures show:

- A portable net system to protect the river banks of the Murray-Darling River from erosion by introduced European carp.
- an artificial kidney dialysis machine using a tennis ball to pump 'glitter blood' which is filtered to extract urine!
- A distillation kit to purify water.
- An ocean-skimmer to extract flotsam from the Pacific Ocean.
- A 'sea-boat' to remove rubbish from Parramatta River.
- A portable water filter to purify contaminated water.
- A centrifuge to separate blood components with 'simulated blood'.



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**Isn't it great to see comments such as these in a Year 8 reports for the subject ICT:**

This semester, (student name) was introduced to programming and robotics. Working collaboratively to programme a dance routine for a Lego Robot, (student name) used problem solving and computational thinking skills to satisfy the design criteria and work within the parameters of a dance challenge. (Student name) and her team were introduced to algorithms when they expressed their dance routine in pseudocode and a flowchart. Exposure to the Google environment was also a focus for semester one. Work was shared on Google Drive and (student name) and her team created a Google Doc Slideshow which documented their design thinking and programming. (Student name) worked collaboratively and was a valued member of her group. (Student name) worked enthusiastically and productively; producing sound results in all areas of work.

Thank you Ms Karbic for providing such detail to parents.



Microsoft *IT for Girls* Seminar

*"It opened my eyes to new career pathways" - Claudia*

*"It was a fun opportunity and we learned a lot" - Olivia*

*"I really enjoyed the experience" - Isobel*

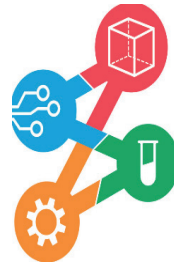
Microsoft *IT for Girls* Seminar - Year 9 and 10 students.

The day was organised by Krystle -Jayne Ng, an Ex-Riverside student who on completing Year 12 won a UTS Co Op scholarship in Information Technology. In her final year at UTS Krystle was voted Australias' "Most employable Graduate" by Graduate Connection Magazine, Krystal is now a Technical Account Manager with Microsoft.

Thank you Mr Blundell for taking our keen IT students to this seminar.



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**What is happening across the school every day to promote STEM?**

1. Students engage with tasks that enable them to be hands on.

In Science, Ms Nikic recently introduced the STEMSEL electricity kits which the P & C recently purchased. Students managed to program 'smart' street lights that come on when the light dims, in this case a hand covering the sensor. This simulates low natural light and darkness situations in the real world.

Not all went to plan in the lesson I observed, which sometimes happens with software / technology, but the students are still keen to explore more possibilities with these programmable electricity circuit kits.

It was inspiring to see the students challenged in this way.

Belinda Kelly



Photography students in Year 10 are studying stop motion animation and working through their lunchtimes to attend to the detail of this very challenging work.



**8 experienced design thinking for a day, culminating in many ideas to solve the challenge:**

A critical part of the design thinking process, is the ability to empathise with the user.

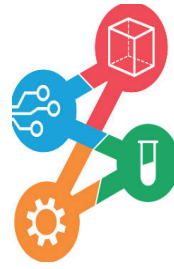
The teachers, led by Ms Wark, Head Teacher TAS, have been exploring the Design Thinking process implemented in many of Australia's biggest companies through their use of a consultant, Nathaniel Gomez. He is world renowned in bulidng brand identity. Fortunately his current employer encourages Gomez to give 10% of his time back to community projects. He is training our teachers to use the design thinking process as it is meant to be used to have impact in brand development. So, the TAS teachers used their design thinking training with Year 8 and here are some of the results.



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**Riverside: A School of Outstanding Opportunity**

Our TAS teachers are involved in the train the trainer model to develop teacher skills in putting the principles of design thinking directly into the new digital technologies syllabus.

Nathaniel Gomez, has conducted two long workshops with our Technology and Applied Studies staff using design thinking principles along with lean UX practices, in organisations and teams to help define and build useful products and solutions. He has worked with Start ups, Finance and Banking, Insurance, Telecommunications, Media and Government and now Riverside Girls High School. See [www.gomez.com.au](http://www.gomez.com.au) for more on Nathaniel.

How did this opportunity come about?

Because our great TAS teacher, Ms E J Tao is a fantastic networker, knowing who to involve in what we do and want to do in the future at Riverside.



*“Capturing the future and bringing it back today, that’s the essence of innovation”*  
 Adrian Turner CEO Data61

Our great teacher team in design thinking – Young Change Agent Style.

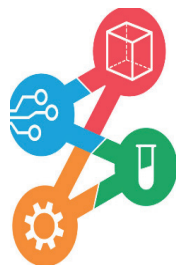
This is a newsletter for parents to show them how they made the best choice for a school that is forward thinking and provides opportunity for female students to aim high and in the fields in traditionally the domain of young women.

Therefore it is wonderful when parents help us to provide opportunities to extend the interest of students in Science, Technology engineering and Maths.

This is such an exciting initiative and one creating a link between a parent, our careers teacher Mr Michael Blundell and other keen teachers who jumped at a chance to be involved in opportunities like this – they want to support all students to have the best access possible to a fulfilling future.



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Many universities are now talking about STEM - science, technology, engineering, mathematics and medicine.

Women account for only one quarter of the (STEM) workforce.

At Riverside we are doing our best to increase this percentage. Watch out for “Future You” our initiative for years 10 and 11 where STEM industry people and entrepreneurs will talk how to get into and succeed in STEM jobs.

Pictured above is Lauren Martin from the Sydney Opera House with two teachers from our technology and engineering facility. This opportunity came from a parent, Jessica Gooch who was keen to have Riverside part of the action at the launch of the Sydney Opera House Collection on the Google Cultural Institute. (see previous Currents).

**Save the Date: September 9, Week 8 Term 3 2016.**

**“Future You” - an initiative to find the passion and ignite curiosity within Years 10 and 11 for their future careers.**

Inspired by parent Mr Sam Hamrosi, a judge at the pitch of the Young Change Agent, entrepreneurs and successful business owners, strategists and great thinkers will present for 15 minutes each in a ted talk format, to students who in a future event will be able to explore the talk with the person who has inspired them the most.



The last STEM morning tea which was presented by Tracey Warzecha, Head Teacher Curriculum (relieving) was exceptionally well attended.

Our next STEM morning tea is on week 4 of Term 3, Friday, August 12th, from 9.00 am to 10.00 am.



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