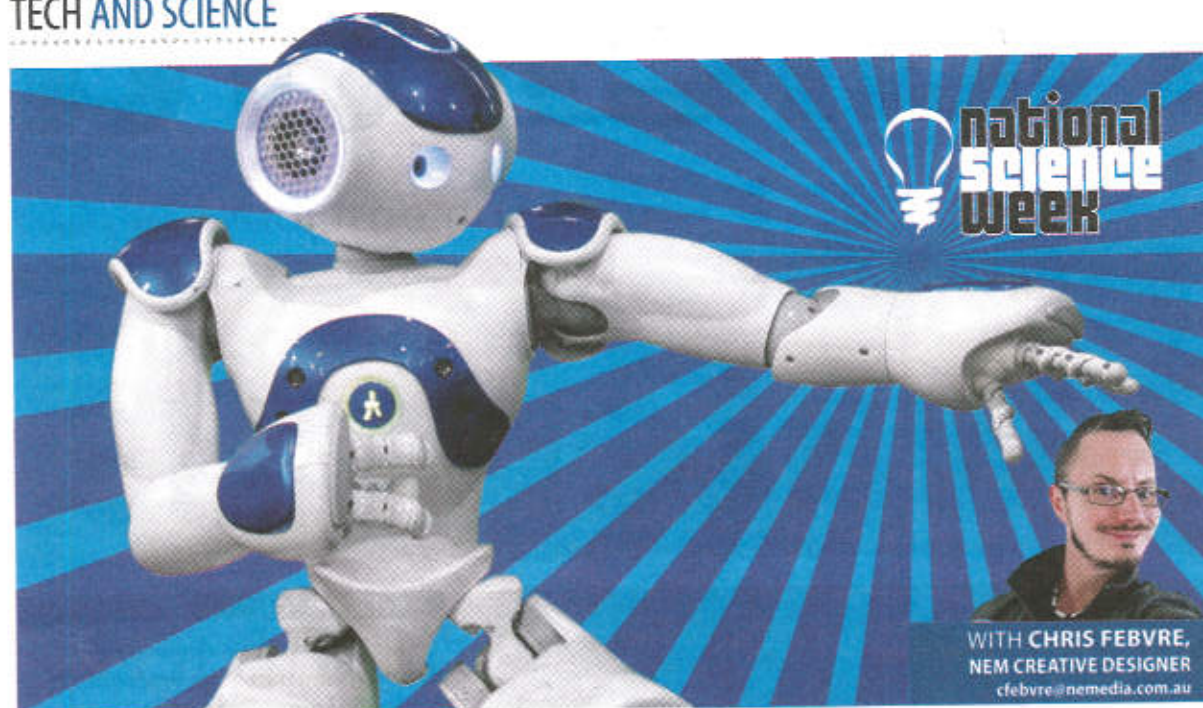


TECH AND SCIENCE



WITH CHRIS FEBVRE, NEM CREATIVE DESIGNER cfebvre@nemedia.com.au

▲ BUST A MOVE: The NAO Robot cutting the rug to Gangnam Style was just one of the many highlights at Galen Catholic College's STEM Expo.

STEM expo a huge success

EVER get the feeling like you're a kid in a toy shop? That's how I felt at Galen's STEM Expo, and I take my hat off to Marie Timms and the staff at Galen who helped organise the event.

It was the first of its kind at the college and I think it's more than fair to say it was a huge success.

The students all seemed to be having an absolute blast and the representatives from the universities and tech companies were all very enthusiastic and informative.

One of the displays that particularly grabbed my attention was Swinburne University's code teaching tool - the NAO robot, who was programmed to do the 'Gangnam Style' dance (which was absolutely hilarious, and excellently demonstrated the degree to which you can program the bots).

Another was the Auggd App - an application that, through the use of smartphone or tablet cameras, creates a variety of surreal virtual reality experiences that I could see absolutely revolutionising the multimedia industry in the coming years.

I also learned a thing or two about hydroponic gardens at one of GOTAFE's displays, and I absolutely want to try growing some hydroponic veggies myself now.

And I had a good chat to Sam McDonald, an engineering student from LaTrobe university, who has done some incredible work.

One of his pieces was a 3D printed prosthetic hand that was able to sense muscular movement and respond accordingly.

Yep, a cyborg hand, basically.

Very, very cool, Sam.

When he starts building Iron Man suits, I'll be queuing up to get one.

Given the renewed enthusiasm and emphasis for the STEM fields on an international scale, it's really great to see one of our local schools taking such initiative and bringing such opportunities to students who might well be inspired to take up a career in the science or technology fields.

I'm definitely looking forward to the next one.

GARDEN HINTS

Repotting container plants

WITH only a few days to go until spring, treat your potted plants to a spring makeover this week and give them a new lease on life.

Wash the outside of the container, weed and fertilise or pot up to the next size container.

Late winter into early spring is the ideal time to repot container plants as conditions are warming up ensuring new fresh growth.

Generally, most plants will need to be repotted every two years.

This is mainly due to tired or spent soil.

The soil literally runs out of nutrients, having been taken up by the plant or leached out.

The soil can become powdery or shrink away from the edges of the pot and become water repellent.

This in turn affects the general health of the plant which may develop yellow leaves and have little or no signs of growth.

Generally, only pot up one size larger, because if the pot is too big for the plant, the plants roots are not able to absorb all the moisture after watering and may rot.

The soil will stay too wet for too long leading to the development of bacteria, fungus and diseases.

Always use a premium quality potting mix, which is identified by the Standards Australia black ticks on the bag.

These contain composted media with added soil



WITH DEBBI GIBSON, HORTICULTURALIST

conditioners, wetting agents and slow release fertilisers.

There are various mixes available which are suited to a range of plants.

Remove the plant from the pot. Larger pots can be turned on their sides to remove a plant.

Sometimes the plant can be root bound and hard to remove.

Cut any roots protruding from the drainage holes and around the inside edges of the pot.

It may be necessary to break the pot.

Before replanting, slit through the sides and bottom of the rootball to encourage the roots to branch out into the new soil.

Partially fill the pot with potting mix so the plant sits at the correct level.

Centre the plant then fill the pot with mix to about 3cm from the top.

Water well and enjoy. Happy gardening.

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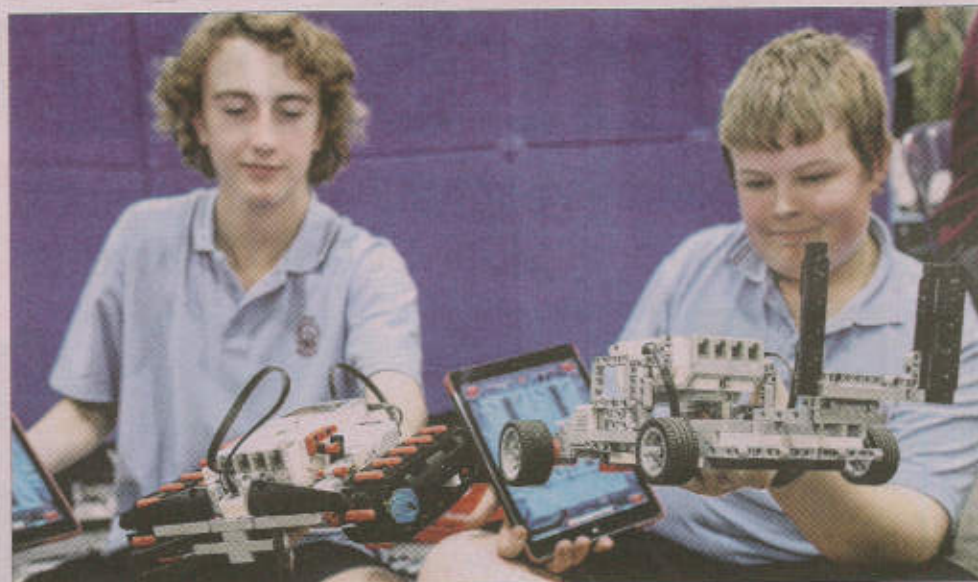
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PRACTICAL APPLICATIONS: Natalia Gavranic learns about technology used in the health education field from Goulburn Ovens TAFE educator Anne Leavett-Brown.



BUILDING FOR THE FUTURE: Galen College students Jesse Aguilera and Kyle Fry with examples of the Lego robotics models which were a hit with visitors to Wednesday's STEM careers expo. PHOTOS: Luke Plummer

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Unlock a world to new learning

"AWESOME" was the only word Maree Timms could find to describe the response to Wednesday's Science, Technology, Engineering and Maths (STEM) Careers Expo.

The Galen College science teacher said she was thrilled to see the enthusiasm shown by students from 12 schools who attended the expo during the afternoon, and the response when the doors were thrown open to the community later in the day.

"It's even bigger and better than we hoped it would be," she said.

Ms Timms began planning the event during Science Week last year, considering along with teaching colleagues ways they could organise "something big" to draw students back to the STEM subjects.

"I was disappointed that not many students were taking STEM subjects," she said.

"I've been a teacher for 28 years, and numbers in those subjects have steadily dropped over that time.

"We just needed something to boost the aspiration to do it, rather than having them think, 'That's too hard, I can't do that'.

"We wanted to enthuse them, and also make them un-



BY SIMONE KERWIN
skerwin@nemedi.com.au

derstand there are jobs in this sector, that it's not just the fun stuff, there are practical applications.

"When we realised the theme of Science Week this year was 'drones, droids and robots', we thought we could build something around that."

The Galen teachers decided to network with other local groups, and Charles Sturt University, Goulburn Ovens TAFE and NE Tracks LLEN came on board to help develop the idea into the successful model that saw almost 20 exhibitors set up displays in the Galen College Auditorium on Wednesday to help show students where STEM studies could lead them.

"The best thing has been the way everyone has worked together; the networking involved has been fabulous," Ms Timms said.

"The organisers are already talking about what we might do to plan for the next expo, whether that is next year or the following year."

Students from throughout

Wangaratta, and from Yea, Alexandra, Yarrawonga, Wodonga, Benalla and Myrtleford attended the expo between 12pm and 3pm, and hundreds of younger students, their families, and interested community members flooded the auditorium between 4pm and 6pm to get their Science Week fix.

Galen student Charlie McGrath said he enjoyed the opportunities the expo provided.

"I like being able to see what's on offer when I leave school, because I'd like to be an engineer," he said.

Goulburn Ovens TAFE vocational education and training (VET) in schools teacher Elise Newbound, who manned one of the exhibits, said the expo offered students a different perspective.

"They often don't realise how technology can be used in the workplace, and it's a good chance to show them," she said.

The hands-on expo also gave visitors the chance to play robot soccer; see a robot dancing to Gangnam Style and performing tai chi; try out augmented reality technology; learn about defence force careers; and see the practical applications of 3D printers.

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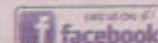


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TECH AND SCIENCE



◆ **BRIGHT SPARKS:** Across the nation, scientists and STEM field workers will be showcasing a host of great technologies and ideas for the future.

National Science Week 2016

IT'S National Science Week which means that all across the country various professionals from all the STEM fields (Science, Technology, Engineering and Mathematics) will be hosting a variety of events as well as showcasing a plethora of great exhibits.

In Wangaratta, Galen Catholic College will be hosting a STEM careers expo today, Wednesday 17th of August, which promises to be very exciting for those interested in pursuing a future in a whole gamut of industries and professions.

In robotics, CSU and GO TAFE will be exhibiting NAO the robot and SIM man - the robotic patient, respectively.

If coding or app design is your thing, the boffins from CoderDojo will be there to chat about all things coding, and the creators of the Auggd App, an augmented reality application, will be in attendance to speak about their program.

Can't get enough of drones?

Digital Falcon will be there to talk about their drone

company, and the terrific innovations they've made, specifically in the agricultural industry.

The locally designed and built disaster relief Firetail drone will also be zooming in for people to take a look and learn more about it.

And FPV Australia as well as Mongrel Gear will be hosting talks on drone piloting programs and training.

If you have a penchant for engineering, Spark engineering will be coming along to talk about their camps and activities as well.

This is a truly excellent opportunity for students looking at future careers in STEM, but even if you're just a bit of a geek like me this expo looks set to deliver some great spectacles.

The exhibition is open to the local public from 4pm to 6pm today at the Galen College grounds, and if you would like any further information you can email Maree Timms at maree.timms@galen.vic.edu.au.

Or visit www.scienceweek.net.au for other events.

GARDEN HINTS

As winter fades...

WITH the succession of cold fronts and cool temperatures, dumps of heavy rain and even flooding in some areas, it's hard to believe that it will be spring in two weeks.

The whites and yellows of daffodils and jonquils in full bloom herald the arrival of spring.

Forecasts indicate a wet spring, so make the most of this prediction and plant and transplant now giving plants plenty of time to settle and establish before the heat of summer.

All perennials, annuals, trees and shrubs can be planted now. If you want to move plants, now is the time.

Larger trees have a better success rate when transplanted during winter as temperatures are much cooler reducing stress.

Think ahead to your spring and summer gardens and make plans. Long term plans can be made and implemented.

Basic landscaping can be done as the ground is softer from rain making digging easier.

New garden beds and structures can be created, paving and pathways laid and outdoor rooms fashioned.

Prepare the ground for a spring veggie patch by weeding and digging it over incorporating lots of organic matter, manure and compost.

Or construct raised garden beds for easier access.

Sow seeds of your favourite



WITH DEBBI GIBSON, HORTICULTURALIST

plants so they will be ready for planting in a few weeks.

Take hardwood cuttings to fill in bare spaces in the garden.

Clumping plants can be lifted and divided and replanted or potted up.

Weed control is an ongoing issue, but if dealt with now, they can be reduced or eliminated.

Spray to kill bindii in lawns and they won't be a problem on bare feet in summer.

Spray or hand remove invasive weeds like capeweed, sticky weed and Pattisons curse.

Prepare for the grass mowing season by getting the lawn mower serviced now when you don't need it.

Replace or sharpen the blades, clean the air filter and remove any dried grass from underneath the deck.

And think ahead to the warmth of summer and plant some summer flowering bulbs in the ground or in pots now.

Happy gardening.

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LOOKING TO THE FUTURE: Galen College science teacher and STEM (Science, Technology, Engineering and Maths) Careers Expo organiser Maree Timms, Goulburn Ovens TAFE youth engagement officer Kel Vincent, and year eight student Lachlan Carboon work on programming a brand new NAO robot.

Humanoid robot to join in careers expo

GALEN College student Lachlan Carboon was able to glimpse the future last week, as he helped program a NAO humanoid robot, ahead of this month's STEM (Science, Technology, Engineering and Maths) Careers Expo.

The robot will take centre stage at the August 17 expo being held at Galen, which will feature a range of exhibitors in the science, technology, engineering and mathematics fields.

Held during National Science

Week, the event will give students the chance to sample a range of STEM-based programs during the day, while the community will be invited to attend between 4pm and 6pm.

With a focus on science, technology, engineering and mathematics in education, the expo is set to be an engaging insight for students, teachers and parents alike.

"We decided to purchase NAO to be used as part of our engagement strategy," Goulburn Ovens

TAFE youth engagement officer Kel Vincent said.

"It will build on existing robotics programs, and particularly build upon the STEM initiative in schools."

Galen College science teacher Maree Timms said it was exciting to be able to bring such a wide range of exhibitors to Wangaratta through the expo.

"There will be something for young and old," she said.

"To have this opportunity for our students and community to see

the future right here in Wangaratta is such a bonus.

"We are sure it will bring new-found insight and engagement into the possibility of STEM careers."

"From electric cars and robots dancing to meeting air force pilots, drone pilots, and hearing about augmented reality in marketing, it is simply very exciting."

For more information on the expo, visit the expo website stem-expo2016.weebly.com.

Excellent range of photographic entries received

ENTRIES have closed for the My Environment Photographic Competition and organiser, The Centre for Continuing Education, is thrilled with both the number and the quality to be judged.

Chief executive officer Felicity Williams said entries were received from four year olds to 17 year olds living in Beechworth, Benalla, Euroa, Shepparton, Wangaratta, Whorouly, Wodonga, Yackandandah and all points in between.

She said all entrants had to submit a photograph depicting an aspect of their environment and write a short description of what it meant to them.

"The way the entrants have captured and interpreted their local environment is simply stunning," Ms Williams said.

All 99 entries are on exhibition at The Centre until August 25, and members of public are encouraged to attend and cast their vote on their favourite images.

The exhibition will be launched this Wednesday evening at The Centre by Tim McCurdy (MLA, Ovens Valley).

First prize will receive \$150, 2nd \$100 and 3rd \$50, with a \$100 People's Choice Award.

The competition is a partnership between The Centre and the Wangaratta Sustainability Network and is supported by the Alpine Valleys Community Leadership Program.

For further enquiries call The Centre on 5721 0200.



A THOUSAND WORDS: "Trike" by Kathryn Box, one of the entries in The Centre's My Environment Photographic Competition.

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