TECH'S GONE GIRLS

A gender disparity in the tech workforce inspires GirlTech – a programme that hopes to redress the balance. By **Joanna Mathers**

Many young women are put off a career in tech at school level by teachers who lack real-world experience and the enthusiasm to "sell" the industry.

THE SCIENCE, TECHNOLOGY, engineering and mathematics sectors have undergone unprecedented development in recent years. Technological innovation has spearheaded expediential growth, leading to demand for practitioners with the knowledge and experience needed to keep these industries flourishing.

But currently there is more demand than supply, with worker shortfalls both in New Zealand and overseas. Work in the technology sector is challenging and lucrative, but many students are put off at school level by teachers who lack real-world experience and the enthusiasm to "sell" the industries as desirable career choices.

This is particularly the case when it comes to young women. It's estimated that women make up only five per cent of the workforce in tech industries; put off by the "geeky", male-dominated reputation of computer science, mathematics, engineering, and technology, young women have traditionally veered away from these subjects at both high school and tertiary levels.

The shortage of women in the technology sector is no secret – the gender imbalance (and attendant sexism) of the world's tech capital Silicon Valley is the subject of much derision and debate.

A recent one-day programme in Auckland was set up in response to the gender disparity in the tech workforce. Run by AUT, GirlTech event was designed to put female Year 12 students in front of industry experts and offer them a fresh perspective on technology as a career choice.

Graham Bidois is programme leader at the School of Computer and Mathematical Sciences at AUT. He organised the GirlTech programme and says AUT is committed to redressing the gender imbalance in their technology programmes.

"In most countries the gender divide in technology is huge," he says. "We really need to attract more women to the disci-plines. GirlTech is one way in which we are trying to address this."

GirlTech took place at AUT's South Auckland campus in early September, with most of the students involved coming from the area. The day started with a range of female guest speakers from a number of related industries, including plant and food research and printing. The afternoon sessions were hands-on, with students having the opportunity to experiment with robotics, electronics, programming and computing.

Emma Timewell is the communications manager for Crown Research Institute Plant and Food Research and convener for the Association of Women in Science New Zealand. She was one of the guest speakers on the day, and says that having the opportunity to engage with young women in this way was very useful.
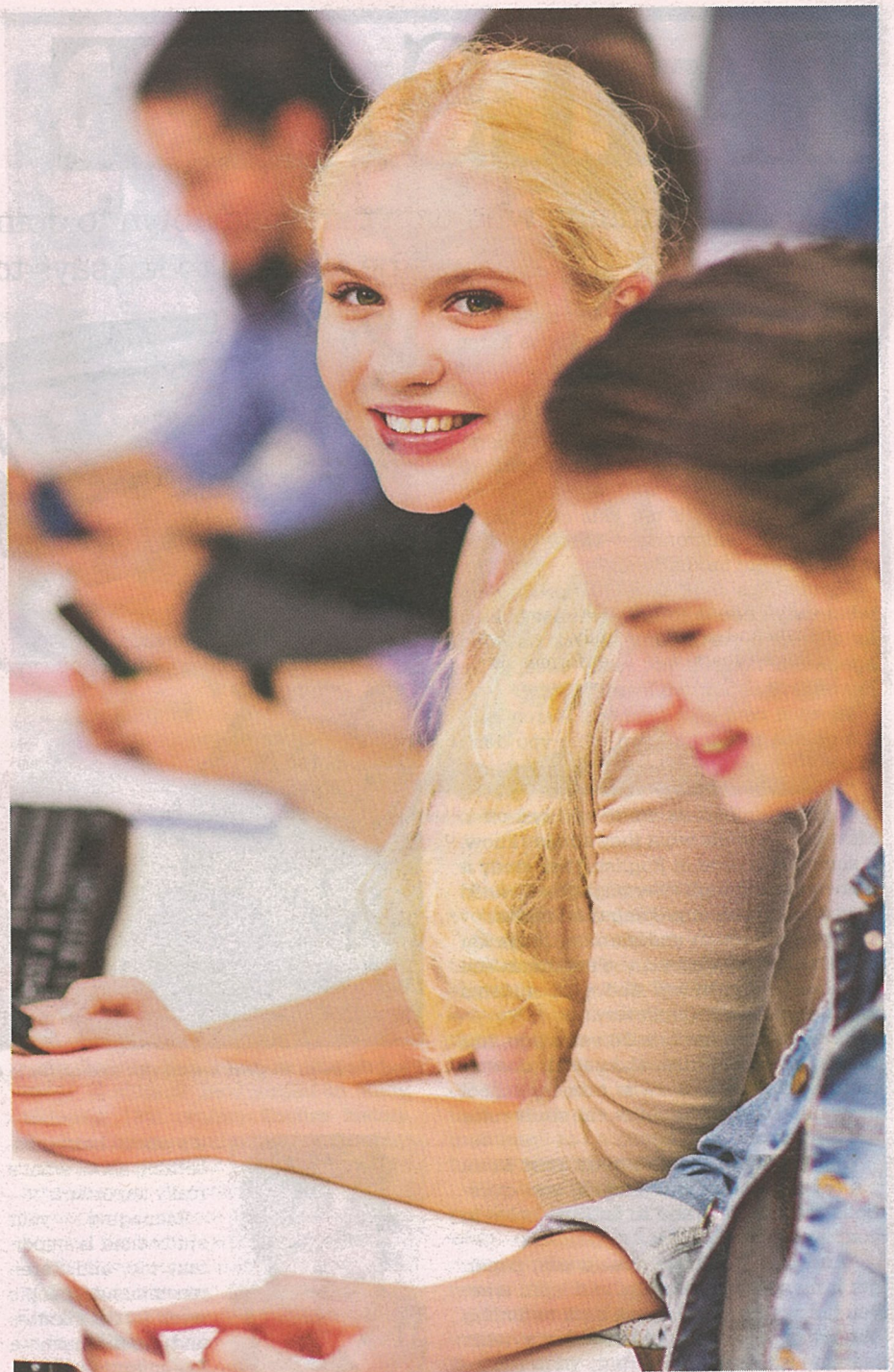
"Getting girls in front of scientists and people who work in the science industry is great. Without having access to real mentors and people who are out there, how can they make the right decision about their future jobs."

Around 50 Year 12 girls attended the programme, many of them Maori and Pacific Island students. This is another demographic underrepresented in technology, and Bidois was pleased to see these groups strongly represented.

One of these students was Papakura High School student Danii Rawiri; she says that GirlTech gave her a very useful insight into the technology industry. "I particularly enjoyed the interactive components of GirlTech," she says. "It was great being able to create our own robots!"

She found out about the day through the careers advisor at her school and thought it would be worth checking out. She found the day informative and interesting and particular liked the hands-on component in the afternoon.

She says that she would definitely rec-ommend the programme to young women with an interested in technology. "It's a good experience for girls who want to train in this area in the future."

GirlTech has been met with much interest from the secondary sector, and Bidois says that there is a demand for a similar programme for Year 9 and 10 students. "The feedback we have been getting is that schools are keen for

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female students to choose STEM (Science, Technology Engineering and Maths) subjects in their later schooling, and GirlTech will encourage them to do so."

He says that AUT is likely to develop a similar course in the near future that will cater to this age group, and that further GirlTech courses for Year 12 students will take place both at the South Auckland and Central AUT campuses.

There are other initiatives that have been put in place by AUT to help encourage young women move into the technology sector.

Bidois feels that one of the reasons that young women are put off STEM (science, technology, engineering, and mathematics) subjects is because they are perceived of boring and irrelevant. He says that in order to change this perception there needs to be a change in the way these subjects are taught.

To this end AUT will be running block courses for teachers in situ to help make them more aware of how to engage students in these fields, raise awareness of the knowledge they will need for tertiary training in these subjects.

"Teachers need to look at their methodologies and contextualize what they are teaching," he says. He feels that practical, real-life projects in the classroom can enliven STEM subjects and engage students, encouraging them to into further training and eventually careers in these areas.

"It's also important for students to have teachers who are passionate about what they are teaching – this creates a totally different vibe in the classroom," says Bidois. **ec²**

STEMing gender disparity

STEM-TEC (the Science, Technology, Engineering, and Mathematics Tertiary Education Centre) at AUT is another initiative aimed at changing the perception of technology sector and encouraging excellence in these fields.

One of its key mission statements is to ensure equity and create opportunity via social and community engagement. The center formalises the initiatives that have been in place and provide more opportunities for the university to encourage diversity in the technology classroom and help bring in more females to the sector.

AUT offers tertiary courses in engineering, computer and mathematical science, and technology. They also offer a year-long foundation course Certificate in Science and Technology, which allows students without the requisite grades the opportunity to prepare for tertiary education. Completion of this course means automatic entry into the School of Computer and Mathematical Science.

For more information see www.aut.ac.nz.