

ICT – A call to action

Think of a senior computer scientist. Go on, picture one. It's almost impossible to resist. Even if you work in ICT yourself, you probably conjured up a man in his late 30s, with thick glasses, receding hair, no life and no dress sense.

Unfortunately this image is almost universal, including among students choosing their degree courses. Who wants to be that man?

New Zealand is desperately short of ICT graduates, largely because of the tenacity of these negative stereotypes. According to a recent report by Simon McCallum of Otago University, there has been a 50% drop in the number of enrolments in Computer Science degrees in the last four years. This problem is widespread across the developed world.

The current low status of ICT careers in the minds of many New Zealand students can be put down to one thing: a lack of understanding of what ICT is. ICT affects us all, virtually every hour of every day. Students constantly use computers, the internet, mobile phones, video games, iPods. They pride themselves on their ability to personalise these things, to make the most of them. But few consider this to be what ICT is all about.

As well as telecommunications (applications development which spans everything from games to business software) and electronics, careers in ICT can involve working in the IT department of almost any company in the world. The opportunities are endless, but parents and teaching staff are frequently



Futureintech Ambassador Scott Abernethy has visited and worked with many schools in the Wellington region. "Scott has been fantastic," says Wellington High School Information Science Teacher Vince Brannigan. "He presents the real, human side to the industry that the kids really relate to. We have a lot of good students here and people like Scott are making a real difference to the decisions they are making about tertiary study and careers, at what is probably the most important times of their lives."

unaware of the variety of careers available. Often they regard the prospects as short term and precarious. The prominence of out-sourcing overseas gives the mistaken impression that there are declining opportunities in the area in New Zealand.

Between the opposing clichés of geeks with no social skills, and self-made millionaires riding the dot-com rollercoaster are many thousands of articulate, educated people working in satisfying, well-rewarded jobs. They, the genuine, multi-faceted face of the ICT industry, are the key to recruiting the next generation.

There are many ways ICT companies can help secure their own future and the prospects of their industry. *Continues...*

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One highly effective strategy is for companies to encourage their employees to become Futureintech Ambassadors. The Ambassador scheme facilitates volunteer professionals into the classroom, where they can directly engage with the next generation.

Futureintech currently has 135 engineering, technology and science Ambassadors in schools, assisting with classroom projects, describing their jobs, and providing inspiration as positive role models.

If you have staff you think would be interested in becoming an Ambassador

and are willing to enable them the time to do this, talk to them about it, and contact your local Futureintech Facilitator – for contact details, see www.futureintech.co.nz.

ICT is an essential, but under-represented, part of this campaign. By becoming Futureintech Ambassadors, young ICT workers can ensure high school students know the real options available to them – beyond the cliché and myth.

Companies can also help by offering targeted scholarships to ICT students. Scholarships are of mutual benefit: while they lessen the financial burden

of university study for the student, they can enhance your company's reputation among potential employees, and encourage bright young people into your area of business.

Another important front is PR. Good PR is essential for the ICT industry as a whole, and something companies can undertake individually to boost their own standing and to transform the image of this creative, dynamic, necessary field. Positive mentions in the media have a far-reaching impact on the way a company is perceived.

For fact files on PR or scholarships, see www.futureintech.co.nz.

Secure student skills with scholarships

Scholarships are a crucial way to encourage more of our bright students into essential technology, science and engineering careers. They can be life-changing – the key to a personally satisfying, rewarding career – and have many advantages for the benefactors.

With the current downturn in first-year tertiary students entering these departments, the pressure is on industries to give them a reason to change their minds, and to persuade people of the viable career options in these fields.

Students tend to take what are perceived as 'safe' tertiary subjects and degrees with supposedly clear and well-rewarded career paths, such as law and business studies.

For many this choice is made without the awareness of the extremely wide and varied range of satisfying and financially rewarding occupations in technology, science and engineering, and how increasingly important such careers are becoming to New Zealand's economy.

Scholarships are an increasingly important way to get this message across and to attract first-year tertiary students into these subjects. A range

of Government scholarships has been introduced in each of the last few years to target a broadening range of specific industries in this group.

Reinforcing this government initiative, and reflecting the increasing partnerships being formed with industry, tertiary institutions too are offering an increasing number of scholarships in these areas, while there has also been a marked increase in individual corporate funding of scholarships over the past few years at all levels of tertiary study, including entry level.

Many employers find that offering scholarships is an excellent way to identify and recruit talented staff at an early stage, while companies find their corporate awareness and reputation among a wide but targeted catchment of students and teachers is greatly enhanced, often much more effectively than through traditional promotion.

Scholarships also ensure more students consider subjects relevant to their industries. They provide the opportunity to emphasise that engineering, science and technology teach knowledge and skills that have never been more needed.

NEW FUTUREINTECH WRITER/RESEARCHER

Futureintech writer/researcher Sam Sheppard has taken on a new role as a cameraman for TVNZ. Sam has been replaced by Laura Fergusson, who will be writing and editing Futureintech's website, print publications and promotional material. Laura can provide information about the activities of Futureintech for industry publications, and will also write and publicise case studies of good industry practice.

Laura can be contacted on lfergusson@futureintech.org.nz.

Food, glorious food!

Futureintech's Ambassador initiative is an essential aspect of our mission to encourage young people to consider careers in science, technology and engineering. In the case of the Hawke's Bay area, the programme has recently focussed on increasing the prominence of food technology, a vital local interest.

The Ambassador initiative in Hawke's Bay began in September 2005 when NZIFST invited Carol Rimmer, Head of Technology at Havelock North High School, to meet with food technologists to discuss how they could help technology teachers at Hawke's Bay high schools teach food technology. The aim was to help raise the profile of a career in the food industry with local students, and get more thinking about relevant tertiary courses.

"The industry support this year has been amazing," Carol says. Since we began, technology teachers have been overwhelmed with the positive support, time and expertise offered by NZIFST members and the local food industry in general."

"The food industry is critical to the Hawke's Bay economy," says Jane Libby, General Manager of Food Hawke's Bay. "The involvement of the local food industry in teaching our students about this industry is certain to benefit the region as a whole."

Kelly Bullock, Adelle Crombie, Rachel Johns and Sophie Taylor have been Futureintech Ambassadors since February – volunteering to share their experiences and expertise as industry professionals in classroom projects. Initially they were working with teachers and students at three local high schools – Havelock North High School, Tamatea High School and Woodford House – but word has spread and the list now includes Hastings Girls High School and Karamu High School as well.

At Havelock North High, Rachel Johns has been helping a class work with a real client on a new product development project. The brief from the client, Wattie's Product Development Manager Sandra Chambers, was to develop a product using surplus berries, to be made on existing equipment at Wattie's. Rachel took on the role of technical consultant, teaching the students how to brainstorm and screen ideas, make

prototypes in the lab, use sensory evaluation to optimise the recipes, and write product, quality control and process specifications. The students also learnt about testing methods, food regulations and packaging. Each student presented their finished prototypes to the client, who chose one product – a two-berry jam. This was then made by the whole class in the pilot plant at Wattie's, with everyone rewarded for their hard work with samples to take home.

At Hastings Girls High, Ambassadors have worked on sensory evaluation with a Year 10 class and provided guidance to students on the product development projects they did for local businesses.

At Karamu High, they talked to students about food technology as a career, and explained the product development process to a Year 9 class. Ambassadors also provide technical support to teachers via email.

The four Futureintech Ambassadors put their experiences to good use at the Hawke's Bay Food Industry Big Day Out in September. Organised by the Hawke's Bay branch of NZIFST and Massey University, the Big Day Out enabled teachers and students to spend a day with the Ambassadors touring local food and food packaging companies (Heinz Wattie's, McCain Foods, The Goodtime Food Company, HortResearch, Amcor Food Cans, Amcor Kiwi Packaging). The Ambassadors then spent time explaining their career paths – what they had studied at university and what they have done since.

Heinz Wattie's Product Development Manager Ian Mackay has no doubt of the benefits. "This initiative is one of the few opportunities we have to reach the scientists and technologists of the future before they make their major career choices," he says.

A student at Heinz Wattie's, Hawkes Bay



Futureintech Ambassadors

Futureintech's most important resource is the Ambassadors who volunteer to take time out from work to visit schools. They are essential to our success, and their enthusiasm is the key to sparking the enthusiasm of the next generation. We would like to thank all of the Ambassadors who have worked with us in 2006, and their employers who enable them to give their time.

ABB James Ravenscroft	Dunedin City Council Julian Watts	Harrison Grierson Consultants Sarah Herbert	Nestle Penelope McKenzie	Tonkin & Taylor Sarah Stapleton
Air NZ Rochelle Meehan	ERMA Brent Martin	Healtheries Corey Wyatt	Nice & Natural Natalie Macbeth Bruce McInnes	Traffic Design Group Megan Angell Matthew Hickson Eliza Sutton
ANZCO Foods Melanie Wong	ESR Gareth Campbell Maui Hudson	Heinz Wattie's Kelly Bullo Adelle Crombie Rachel Johns John Hagen Sophie Taylor	NIWA Suzanne Whyte	Transfield Services Parizad Khambatta
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If your company can see the benefits of supporting the Futureintech Ambassadors initiative and you would like to find out more, contact your local Facilitator. For Facilitator contact details, see www.futureintech.co.nz