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Communicating Communications Technology

ICT often seems to be the hidden sector of Futureintech's remit. Stakeholders are sometimes surprised to find that our mission to promote careers in technology, engineering and science incorporates such jobs as game developers, software programmers and web administrators. But actually, ICT sits squarely in the centre of Futureintech's aims.



ICT TICKS ALL THE BOXES TO QUALIFY FOR THE Futureintech approach. It makes use of skills honed in math and science. Its continuing growth is vital to New Zealand's economy and infrastructure. And it currently fails to attract sufficient people because of negative stereotypes and misconceptions.

Countering the negative image some people have about ICT is crucial to increasing the number of future employees in the industry. Futureintech Ambassadors can play an important role in this. Research suggests that children and teenagers are far more responsive to something they are told face to face than to information they receive through other methods. Personal encounters with dynamic young ICT professionals who enjoy their jobs are a powerful counterbalance to the frequently inaccurate perceptions acquired elsewhere.

Paul Matthews, chief executive of the **New Zealand Computer Society**, acknowledges that ICT has some way to go before it is universally viewed as 'cool'.

"There's a real perception problem," Matthews says. "ICT is an exciting field. The perception is that it's low-paid, when it's actually quite highly paid; the perception is that there aren't enough jobs, when actually there's a shortage of people. We need to change the image – and that starts at school level."

Matthews is keen to encourage ICT professionals to take responsibility for changing these perceptions by working with Futureintech. In particular he is anxious to broaden the way in which ICT is defined as an industry. Too many people, he claims, are unaware of the range of jobs which it incorporates.

Futureintech Ambassador **Dan Kyles** (pictured) is a game developer and programmer at **Straylight Studios** in Dunedin. His experience so far is of a dynamic industry with plenty of opportunity.

"I'm in a growing company with great things on the horizon, where I learn a lot and where my skills are constantly challenged. I find what I do to be very positive, creative and interesting."

Dan decided to become a Futureintech Ambassador "because the opportunity presented itself" and because he liked the idea of being able to assist students in choosing a similar career.

"I like to pass on knowledge and think it's cool to give others a foot up in the world. I think that not everything needs to be learned the hard way; the younger guys can learn from people like me."

With an increased focus on ICT related careers throughout 2008, Futureintech Facilitators are always looking for new Ambassadors. If you or your employees work as ICT professionals in any sector and would be willing to promote the field by sharing your experiences with students, please contact your local Facilitator.

Futureintech and the New Zealand Computer Society are also collaborating over the next few months to produce a brochure for careers advisors and secondary students on the diversity of careers included under the umbrella of ICT. We look forward to making these available to schools as part of Futureintech's range of career information.

Surveyors in the classroom

Surveyors can be a valuable resource in the classroom when teaching maths and, in particular, trigonometry – a notoriously difficult subject area for students to relate to the real world.

SURVEYING IS A RELATIVELY RECENT ADDITION TO Futureintech's scope, but is increasingly an area on which teachers and Facilitators are keen to focus. This is in part because it is a sector which is crucial to New Zealand's infrastructure and surveying companies are reporting difficulties in finding the staff they need.

From a teaching perspective surveying has an additional benefit: the reliance of surveyors on maths, and particularly trigonometry, makes them a valuable resource in the classroom when teaching a subject area which is notoriously difficult to relate to the real world.

But there seems to be a discrepancy between the demand from industry for more young surveyors, and the limited number of available university places, with Unitec and Otago both over-subscribed in 2008.



Gay Watson, Futureintech Facilitator for South/East Auckland, reports huge difficulty in finding surveyors in her region to act as Ambassadors. "There don't seem to be any land surveyors under 30 in South Auckland," she says.

Brian Daly of The Surveying Company in Hastings agrees that it is difficult to find graduates to employ, but points to the shortage of available places on surveying courses as the cause.

"Promotion is not necessarily the problem," he says. "There is only one graduate survey course in Dunedin and it only pumps out about 70 students out a year and many are lost straight overseas. They are very well regarded overseas and so are poached easily."

Professor John Hannah of the University of Otago's School of Surveying says that the undergraduate surveying course received 102 applications for this academic year, of which 77 met the full entry criteria, and 68 offered places. In the same period Unitec had just 19 students graduating in Surveying, and turned away 20.

"Based upon the numbers of students at 100-level, we anticipate a considerably more competitive entry situation at the end of 2008 when we anticipate that we will have about 95 – 100 students who will be eligible for entry," Professor Hannah predicts.

But increasing the capacity of the course is not a realistic option.

"At this stage we don't have any plans to increase our intake – we do not have the physical resources to cope with an increase beyond where we are now."

So, if enthusiastic students are unable to gain entry to the necessary courses, is the promotion of surveying a lost cause?

Fortunately Barry Davidson, national manager of the New Zealand Institute of Surveyors, doesn't think so. Across the country as a whole, he says, the number of places available on first year surveying courses is rising year on year. He is currently also looking at alternative ways of delivering the National Diploma of Surveying, beyond the institutions which currently provide it. "The employment situation for graduates remains extremely strong."

Ambassadors in action

FUTUREINTECH AMBASSADOR AND MECHANICAL engineer **Cameron Blackburn** was able to tear himself away from the hydro dams he is developing for **ABB Ltd** in Hamilton to visit his old school last week. At Fraser High School, Cameron's technical expertise was a welcome support to the Technology department, where he gave a presentation to two senior classes and one junior class, as well as meeting the Technology Academy students.

In North Auckland fellow mechanical engineer **Rob Holland** of **R.J. Nelligan and Associates** is working towards a Transpower Neighbourhood Engineers Awards project with students at St Joseph's Primary School. The aim of the project is to design a cat proof sandpit, and after helping students at Greenhithe Primary School to design a fitness track last year, Rob knows what he's letting himself in for.

"I love being a Futureintech Ambassador because I get to work with children in developing a design for something which will benefit them," says Rob.

"I get a real buzz out of watching them come up with the ideas, developing the design and finally realising the finished product. The ideas the Greenhithe kids came out with, and their intelligence in seeing good and bad points of their various designs was a constant surprise to me. I haven't actually started working with the St Joseph's children yet, but can't wait until the day when we brainstorm ideas to keep the cats out of their sandpit."



GIS analyst **Reuben Williams** of **Abley Transportation Engineers** kicked off a landscaping project with students at Casebrook Intermediate School last week by looking at landscaped architecture around Christchurch.

"It was a brainstorming activity to give the students examples of the difference between a successful and unsuccessful landscaping," explains Reuben. "The landscaping project at Casebrook involves elements of planning, landscape architecture, GIS and will include cost benefit analysis as well. It's really good to introduce the practical and creative processes involved in a project like this one to kids of this age. There seems to be no limit to the ideas they have for use of the space they have to work with."

At Sancta Maria College, Auckland, students influenced the development of a new ice cream flavour learned about the importance of sensory testing the enjoyable way. Food technologist **Johanna Catoto** of **Emerald Foods** (above) gave presentations to two senior technology classes and directed the students in performing a sensory evaluation of a product in the pipeline: New Zealand Natural Kiwi Pavlova ice cream. As a result of the students' responses the amount of kiwifruit is to be increased.

"The students gained a better understanding of what a food technologist is, what they do and the impact they have in the food industry," says Johanna. "They also gained a better knowledge about the stages involved in developing a new food product."

About Futureintech

Funded by NZ Trade and Enterprise, Futureintech is an initiative of the Institution of Professional Engineers New Zealand (IPENZ). Established in 2003, Futureintech is a practical attempt to increase the number of young New Zealanders choosing careers in technology, engineering and science – crucial sectors for the infrastructure and social and economic growth of the country.

Futureintech Ambassadors

Futureintech Facilitators around New Zealand work to develop links between schools and local industries. Central to this work is the recruitment of Ambassadors – young people working in technology, engineering and science who are trained by Facilitators to volunteer in schools. Their contribution includes giving presentations, explaining their work, supporting projects, providing a real-world perspective and demonstrating the practical applications of the curriculum. There are currently 350 trained Ambassadors working with Futureintech, representing a wide variety of industries. Their support and that of their employers is greatly appreciated.

Futureintech partnerships

Futureintech maintains partnerships with over 200 companies, representing a diverse cross-section of New Zealand industry. Partners work with Futureintech in a variety of ways, from encouraging staff members to become Ambassadors to providing expert information for publications or promoting Futureintech to a wider audience. Futureintech's work would not be possible without their generosity and commitment.

Futureintech publications

Futureintech produces an ever-increasing range of print resources for teachers, students, careers advisors, caregivers and industry, all of which are available free of charge by request from head office.

www.futureintech.org.nz, a regularly updated website offering profiles of Ambassadors and their employers, a database of relevant tertiary courses and monthly regional news, is another key component of the initiative.

Futureintech's monthly newsletter **enews** is distributed in alternate months to schools and industries, and aims to ensure that all stakeholders are kept fully informed of Futureintech's activities and of the resources we provide.

Futureintech Facilitators

Futureintech's regional Facilitators promote and maintain relationships with schools and industry employers. This involves recruiting and training Ambassadors, advising teachers on how Futureintech can best support their programmes, arranging, planning and supervising Ambassador visits and distributing resource materials.

Facilitators are supported by Host Partners, who provide the office space which enables them to work remotely from the Wellington head office. Host partnerships ensure that Facilitators not only benefit from a collegial atmosphere but also have daily exposure to an industry-related workplace.

If your staff might be interested in volunteering as Ambassadors, or your business benefit from being involved in any way with Futureintech, please contact your local Facilitator to discuss how we can work together.



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