

Thanks for a great year!

IN THIS FINAL ISSUE of eNews for schools for 2007, the Futureintech team would like to thank all the schools around the country who have made the most of Ambassadors' support, enthusiasm and expertise throughout the last 12 months.

Futureintech has continued to grow over the past year, and currently has almost 300 Ambassadors active in primary, intermediate and secondary schools. New Facilitators in Hawke's Bay, Christchurch and Dunedin are rapidly making contacts in these areas and continue to enable the initiative to expand, while existing Facilitators have built on their experience and reached new records for the volume of school engagements.

The Futureintech approach is beginning to have a noticeable effect on students' choices at tertiary level. The enrolment figures for engineering degree courses increased by approximately 149 from

2006 to 2007, while in ICT, a subject which has been experiencing an alarming year on year decline in numbers, the decline appears to have been slowed, with a drop of just 64 this year compared with 193 the year before.

Recent Ambassador training sessions in Napier/Hastings, Auckland, Central North Island and Christchurch have ensured that plenty of enthusiastic, newly recruited Ambassadors are available and keen to be made use of in the new year. In addition to new people, a continuing output of new publications ensures that numerous fresh resources will be made available in schools for the start of term one.

Chocs, chocks & classroom crime

AMBASSADORS HAVE CONTRIBUTED to curriculum support and careers promotion in varied and imaginative ways across New Zealand throughout the year. Here are a few examples of how schools have embraced the possibilities.

North Auckland



In April Kitty Lai, an ESR forensic scientist, brought criminal investigation to the classroom by setting up a mock crime scene at Murray's Bay Intermediate. Demonstrating the real-world application of the study of genetics, the session included one student dressing up in the protective clothing worn by forensic investigators during the examination of a scene.

Kitty commented: "I had a really good experience and gained some valuable information from teachers about my profession. A public view of our work is always valuable to us for improving our work and communication skills."

Central North Island

Over the course of the year, Hamilton Girls' High School has developed a connection with Donovan's Chocolates through Liz Elvidge's Year 11 food technology class and representative of the family firm, Paul Donovan.

Students were involved in the profiling of new chocolate flavours, making a genuine contribution to the development of future products and adding an authentic context to their study of product development.

Continues overleaf...

2 Ambassador round-up

3 New resources for 2008

4 Futureintech news

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New resources for 2008

PUBLICATIONS HAVE BEEN A KEY FOCUS IN 2007, with a fully revamped website, new posters for use at careers events and new brochures for students. Many of these projects will continue to be expanded in 2008, and in addition Futureintech is happy to distribute material produced by other sources which meets our criteria and could be valuable for teachers.

Your Future in Chemical Engineering

The second in Futureintech's new series of careers brochures has gone to print. Available alongside the existing guide to careers in the food industry, the latest publication focuses on the breadth of possibility on offer in chemical and process engineering. Produced in collaboration with the Society of Chemical Engineers New Zealand, the brochure provides a glimpse of the sorts of careers available, profiles of young people currently working as chemical or process engineers, and advice on where to find further information.

Mind the gap – bridging courses available to Year 13 students

Promoting careers does sometimes yield moments of inspiration, when a student is exposed for the first time to a career path that captures their imagination and in which they can picture themselves being successful and fulfilled. But what happens when the epiphany comes at the end of Year 13, and the student is missing an essential subject? Back to the drawing board, with those brief dreams of being a surveyor or a forensic scientist put away for good?

Not necessarily, as a new Futureintech publication points out. Many tertiary institutions are keen to break down the traditional barriers of prerequisites. While clearly there

are core subjects without which a student will not have the necessary foundations on which to build, some of these can be taken as summer school courses, or alongside the less demanding first year classes. Bridging courses of some description are offered by most New Zealand universities and ensure that students need not find that their career options are limited by the academic decisions they make aged 17.

Professor Janis Swan, Associate Dean of Engineering at the University of Waikato, where bridging courses are well established, said "We are very appreciative of any way in which Futureintech can promote alternative pathways."

The Futureintech guide to bridging courses will be made available over the next few weeks.

But wait, there's more...

Further brochures on science, ICT, biotechnology and electronics are in production, developed in collaboration with the Royal Society of New Zealand, Tait's Electronics, the Canterbury Development Group, the Biotechnology Learning Hub and Telecom.

A new DVD introducing students to the work of quantity surveyors is

**YOUR FUTURE IN...
CHEMICAL/PROCESS ENGINEERING**

"The areas you can work in seem boundless, with no limits to where you could end up. The job is full of variety, challenges and opportunity for growth – that's why I love it."

Isamette Redstone, Process Engineer now working in Canada

**YOUR FUTURE IN NEW ZEALAND'S
FOOD INDUSTRY**

The food and beverage industry in New Zealand generates around \$15 billion a year – over half of our export earnings – and involves over 20% of our workforce. Career opportunities are enormous, particularly for food science, technology and engineering graduates, of whom there is a world-wide shortage. This brochure explains these careers, who they suit and how to get there.

Much of New Zealand's food export income comes from relatively unprocessed foods. To make more money from our food and beverage exports, we must continue to come up with new ways that we can add value to them. We can only do this if we have more scientists, technologists and engineers.

Next time you go into a supermarket, check out the huge range of processed foods on offer. With a food science, technology or engineering degree, you could be involved in producing the next new food products.

Opportunities for employment within the food industry continue to grow, as the supply of graduates is not keeping pace. The food industries in Australia and the UK are also short of graduates.

WHAT JOB OPPORTUNITIES ARE THERE?

With a food science, technology or engineering degree, you'll have the choice of working for large multinational companies such as Cadbury, Ferrero and Herta-Wallie's, small food processors such as Hubbards and Cookie Time, research organisations such as HortResearch and Crop & Food, and government agencies such as the New Zealand Food Safety Authority, to name just a few.

NEW ZEALAND IS A WORLD LEADER IN FOOD SCIENCE & TECHNOLOGY. We've a reputation for producing top quality, highly innovative products – our graduates in this area are in demand around the world.

The industry is continually improving existing or producing new products, and processes so there are always exciting things happening. It covers a huge range of areas and requires a large number of people doing different jobs. Anyone is sure to find something to be passionate about.

ABBY THOMPSON, RESEARCH SCIENTIST, MASSEY UNIVERSITY

THE PATHWAY TO A CAREER

To get into a food science, technology or engineering degree programme you'll need NCEA Year 13 Calculus and Chemistry. Depending on the course you want to do, you may also need Statistics, Physics, Technology or Biology. You'll find the requirements for each course at www.nzifst.org.nz.

You have a choice of 12 degrees in food science or technology – at Auckland, AUT, Massey, Auckland or Palmerston North, Lincoln or Otago universities. For food engineering you could go to Auckland, Massey Auckland or Palmerston North, Waikato or Canterbury.

Check your options at www.nzifst.org.nz.

now available through Futureintech. Produced by the New Zealand Institute of Quantity Surveyors it presents a snapshot of surveying: the career possibilities, a day in the job, and the international demand for people with surveying qualifications. For a copy of the DVD for use in your school, please contact your local Futureintech Facilitator.

Futureintechnews

Napier-based business **Vectek Electronics** is taking seriously the need to raise the profile of careers in electronics. To sustain its current period of high growth, the company is keen to ensure that local students are aware of the rewards offered by electronics as a career option.

To spread this message Vectek worked with Futureintech to host a recent visit from physics and electronics teachers to the company's manufacturing facility. Staff and physics and electronics teachers discussed possible ways of encouraging students into the field, as well as identifying and supporting those students who would most benefit from industry contact.

In addition to this, Vectek has discussed possible forms of collaboration with Bright Sparks and provides Futureintech Ambassadors. One of these, electrical engineer Nick Butcher, recently talked to Year 12 physics students at Taradale High. Nick discussed particularly impressive feats of engineering, such as the Millau Viaduct, Hoover Dam, Thames River barrier and Aptera electric car, and described how structural, civil, geotechnical, mechanical and electrical engineers work in collaboration to design these structures. He finished his talk by showing the class a video of what can happen when things go wrong – an attempt to open a switch at a power substation in the USA which resulted in a spectacular arc when one of the two gas-filled switching elements failed to open.

Ambassador groupies

New approaches to Ambassador visits are underway in Central Auckland, where Meadowbank School is ensuring that 210 students



Ambassador Nick Butcher, electrical engineer at Vectek, at work and in the classroom at Taradale High.

make the most of next week's visit from three Ambassadors. The students will be split into three groups, each of which will spend 10 minutes hearing about career experiences and technological innovations from Amelie, a civil engineer, Husain, a software engineer, and Ashley, a transportation planning engineer.

Futureintech wishes you a calm and successful end to the school year, and we look forward to working with you in 2008.

