

## Water-feature-ologists win Award

Ten Year 5 and 6 pupils from Elm Park Primary School, Pakuranga, Auckland, calling themselves the Water-feature-ologists, took out a \$2,000 first prize, one of a possible three in this year's Transpower Neighbourhood Engineers Awards.

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The water feature is proudly displayed above – it's a fountain to improve the appearance of the International Students' Office at the school. The students designed and created it with the help of chemical engineer and Futureintech Ambassador Eleanor Marks, of Beca Amec.

As well as the major prize, merit prizes of \$500 were awarded to each of three other schools.

At Otatara School, Invercargill, a group of six Year 2 and 3 pupils created an outdoor chessboard for their school playground.

Lucy Guernier (*right*), a Year 13 student at Diocesan School for Girls, Auckland, researched, designed and produced a go-kart with the assistance of Julian Glyn, an engineer at Harrison Grierson.

At St Oran's College, Lower Hutt, Year 10 student Emma Hillman designed a Speedy Scanner to spare local librarians from bending to scan books.

In each case the students researched the issue they decided to address, whether it was a need for more options in the playground, or the strain on librarians' backs. They analysed possible responses and took their ideas from the initial brainstorm through to the finished model.

Launched in 2000, the Transpower Neighbourhood Engineers Awards recognise and encourage projects which meet a

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## Ambassador highlights for 2006

In 2006, Futureintech continued to expand, with an additional Auckland Facilitator, Rod Hare, joining the team in September and Ambassador numbers rising to 158. Some Ambassador highlights of 2006 include:

### Keeping students grounded

Electrical engineers Suzanne Whyte of NIWA and Craig Brown from Meridian Energy worked with Elmwood Normal School students on a project to design a device to make a household task easier.

Suzanne and Craig worked with students to examine their ideas, discuss the practicalities of bringing them to fruition, and to help design and plan construction.

"The students learned a lot," said Canterbury Facilitator Neil Potter. "Many had to make modifications while ensuring the designs still met the required needs and expectations."

"With the support of the Ambassadors, they managed to overcome a number of significant technical problems."



### Nice and natural learning

Natalie Macbeth, a food technologist from Auckland company Nice and Natural helped Tamaki Primary School teacher Colleen Wills plan an innovative food technology unit.

Natalie took Colleen around the factory to enable her to compile a Powerpoint presentation to give the children an insight into the way food technologists work. Colleen recognised the parents of two of her pupils working in the factory and featured them in the presentation.

The presentation was delivered by Natalie, who also brought ingredients donated by the company

so that students could each make a muesli bar. Students then compared recipes, made their own muesli bars and also created the packaging, using materials donated by an Ambassador at Amcor Flexibles.

The unit gave students a hands-on, multifaceted view of the role of a food technologist, and an understanding of the wide range of career opportunities in food.

### Enthusiastic ethics

The ethical considerations of product development were brought into focus for a technology class at St Kentigern College, Pakuranga.

Joanna Stewart, a product developer at Fisher & Paykel Appliances, and Caroline Allison, regularity affairs technologist for Cerebos Gregg's, spoke to the class about the moral and ethical constraints of New Zealand law and the way that these, together with company policy and  
*more...*



*Above: Nice and Natural food technologist Natalie Macbeth with students from Tamaki Primary School*

*Left: Fisher & Paykel product developer Joanna Stewart talks to a St Kentigern College technology class*

their own personal viewpoints impact on the development of products within their companies.

"These two Ambassadors are so enthusiastic," said Futureintech Facilitator Gay Watson, "and their presentations really made the kids think!"

### Sharing a love of the land

Bruce Frith, a land surveyor at Fraser Thomas Ltd, Auckland, described his career to the extension Mathex students at Bucklands Beach Primary School. They were enthralled by his presentation, which involved maps and GPS systems to demonstrate the procedure and importance of measuring the land.



*Land surveyor and Futureintech Ambassador Bruce Frith engaging with Bucklands Beach Primary students*

### Female engineers to the fore

In June an Engineering Day was held for the Year 10 Accelerant Camp at Hamilton Girls' High School, with seminars held by young female engineers, representing the fields of transport, food, fire and environmental engineering. In the afternoon the group visited the Westfield Shopping Mall construction site, Borman Road Subdivision Development and Donny Reserve and River Road, joined by young engineers from Maunsell.

The day was coordinated by Futureintech Ambassador Bridget Doran, and gave both students and teachers a far more comprehensive understanding of professional engineering.

### Tunnel visionary

In Wellington, pupils from Tawa Intermediate School visited Mt Victoria tunnel with Futureintech Ambassador and civil engineer from Transit, Hannah Hyde.

Students were shown the fan houses at each end of the tunnel, which supply fresh air for pedestrians and motorists. The students then climbed to the top of the hill where Hannah explained the workings and history of the tunnel, before being shown the exhaust house.

Wellington Facilitator Phil Sadgrove said: "The visit fitted in very well with the group's focus on how the



*Tawa Intermediate students exploring Wellington's Mt Victoria tunnel*

landscape and cityscape has been changed over time."

### Creating different energy

With the help of Futureintech Ambassadors, Tahuna Normal School, Otago, Year 8 students came up with their own solutions for an alternative energy source for their school for a technology unit on sustainable energy, and then designed and built models.

This was the second year of the project, and models were judged by Reuben Caldwell, a mechanical engineer from Farra Engineering.

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perceived need or opportunity in a school or local community. They are open to all New Zealand primary and secondary schools, and entries can involve just one student, a group or a whole class or school.

The Awards encourage students to work towards a goal with evident application and benefit in the

world beyond the classroom, and support the technology curriculum by emphasising the processes of planning, design and creation. They reward teamwork and cooperation between students, teachers and volunteer engineers from industry.

To help promote next year's Transpower Neighbourhood Engineers Awards, a new brochure

has been produced with case studies of previous winners, the responses of teachers and engineers, details of the benefits of involvement and guidelines for entry.

For more information, or to request a brochure, contact the Awards Coordinator, tel 04 473 2021, email [neawards@ipenz.org.nz](mailto:neawards@ipenz.org.nz) or visit the new website: [www.nea.org.nz](http://www.nea.org.nz)

## Futureintech news

### Futureintech trains its 150th Ambassador!

Twenty-five new Ambassadors were trained at a session in Auckland on 21 November, bringing the total of Futureintech Ambassadors to 158.

Schools can make use of Futureintech Ambassadors in different ways to support different areas of the curriculum.

Gay Watson, former technology teacher and Futureintech Facilitator for South Auckland, explains how food technologists and mechanical engineers, among others, have enlivened technology classes by explaining and demonstrating the process of design of products as diverse as iPods and puppets.

Year 13 students have benefited from the chance to discuss the ethics of product development and branding, including the issue of fair trade, with someone who incorporates these concerns into daily business. Younger students have been assisted with projects such as building a drinking fountain and looking at how to save energy in the home.

The real-life experiences of Ambassadors can be invaluable in making this relevant and comprehensible to students.

In ICT, Canterbury Facilitator Neil Potter suggests that Ambassadors can be made use of in supporting Achievement Standard 3.1 and 2.1, both of which require students to understand the ideas of client consultations and working according to contracts.

Food technologists in particular

can be a fantastic enhancement to a science class, according to North

### [www.futureintech.co.nz](http://www.futureintech.co.nz)

Futureintech's website contains a wealth of information for students, parents, teachers and careers advisors. It has profiles of young people working in technology, engineering and science, and the companies they work for, along with information on different courses, careers and scholarships available.

Auckland Facilitator and former science teacher Rod Hare, as their expertise can tie into both chemistry and biology.

"At junior levels it is great to have the involvement of food technologists in the material world strand as they can demonstrate permanent and temporary change really well and relate these changes to everyday situations," says Rod.

"At senior levels they can bring a breath of fresh air to the NCEA in describing aspects of biology."

Ambassadors can also provide ongoing support for projects and give advice on issues raised at a later date, after an initial involvement. In other cases a one-off presentation may be more effective.

### Website upgrade

The Futureintech website is in the process of being fully updated to ensure that we provide you with clear, concise relevant information on careers in technology, engineering and science.

The website includes snapshots of the day-to-day side of a wide range of jobs across all three sectors, with

at a glance educational pathways for those interested in working in a similar field. Employers in these industries are also profiled, with useful details on recruitment techniques, employee requirements and staff benefits.

Please visit us and see for yourself:

[www.futureintech.org.nz](http://www.futureintech.org.nz)

### Happy New Year to all!

Futureintech Facilitators are available in January to support programme planning for 2007.

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