Brightsparksshine inChristchurch

The next generation of innovators and entrepreneurs were celebrated at two recent functions in Christchurch this week.

Successful students from around the country were flown in to attend the 2005 Bright Sparks Hi Tech awards (1 October) and the Young Designer Awards (12 October), with both projects supported by Futureintech.

Robot waiters and musicians, frogs and lighting design were among the winners celebrated at each event.

Bright Sparks Hi Tech Awards

More than 130 students from around New Zealand entered the Bright Sparks Hi Tech competition, which aims to discover and encourage young people into hi-tech careers.

Matthew Richardson from Manurewa High school in Auckland took out the Supreme Senior Award for his 'Navbot' robot, which uses GPS to navigate. Matthew is also a Gold CREST student, and the judges described his project as a "very, very impressive combination of technologies. This is a future engineer."

The Supreme Junior Award winner was Jon Woodhead for his "Frog Paradise", a solar-powered automatically controlled frog environment. The Howick College student's project also won the junior awards for Best Biotechnology project and Original Circuit.

The Supreme Commercial Potential Award went to Matthew Austin of Awatapu College for his 'Flood Alert' project, inspired by the devastating floods that hit the Manawatu region last year.

Other notable winning projects included an electric guitar that plays itself, a robot waiter (see picture), an Automatic Curtain Opener, and a Chicken Shed Controller.

Joseph Cooper with his award-winning robot waiter

Young Designers Award 2005

Also in Christchurch this month was the 2005 Young Designers Award. The winners came from a range of categories, including built environment, communication, electronics, landscape design, fashion, product design and visual arts.

The overall Young Designer winner on the night was Rosalyn Cheong from Whangarei High School, who took home the major award for her room lighting design. Other category winners also received cash prizes, study allowances and scholarships.

Big winners on the night were students from Nayland College (Nelson), Te Kura Kaupapa Maori O Ngati Porou (Ruatoria) and Otumoetai Intermediate (Tauranga) who won a truckload of awards.

The evening's guest speaker was Cabinet Minister Jim Anderton, who described the winners as "an inspiration for New Zealand."

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Wellington students light up Sandwiches

A group of Year 12 Technology students from Wellington High School have shed new light on an inner-city restaurant and nightclub – literally.

Working with a range of outside mentors, the students have designed and implemented a new lighting scheme for the popular inner-city venue Sandwiches.

Their innovative work was unveiled to the public (and Sandwiches owners) for the first time at a function this week. Their work will remain in display for a week to gauge the opinion of patrons, with the option of purchasing open.

"This has been a great experience for the students," says their teacher Andrew Hughes. "They've risen to the challenge, developing excellent solutions for their real life client."

"The owners of Sandwiches have been fantastic. They've been very supportive, and have encouraged the students to push for innovative lighting design solutions. Ongoing contact has given the students important feedback to ensure their designs meet the client's needs."

Andrew has had extra support as part of the Beacon Practice Project, a Ministry of Education initiative which provides release time for teachers to focus on developing best practice. Wellington High school is part of a cluster of four technology "Beacon" departments in central Wellington.

Futureintech has helped arrange mentors for the project, including final year Industrial Design students from Victoria University. The students have been actively encouraged to seek the advice of industry experts where needed.

Shaun Graham's innovative new light

Stephen Tauwhare
Research Scientist at Industrial Research Ltd (IRL), Wellington

"Maori have huge knowledge to offer science. My passion is to help science come to grips with this, and use the knowledge and the science I have to benefit Maori."

"I'm working on a project to research harekeke (flax) using plant chemistry. My role involves the harvesting of the harakeke for the fibre and gel and then analysing the material.

"There is strong traditional Maori knowledge surrounding harakeke but unfortunately some of this knowledge has been lost, forgotten or replaced by modern technology. This research will increase Maori options and Maori development.

"I went to Massey University to do a medical intermediate year towards being a doctor. I had wanted to be a doctor from nine years old but changed my mind and instead completed a science degree in genetics and microbiology. I've also completed most of a BA degree, part of which was Maori studies and anthropology.

"It's typical of science – the more you find out, the more there is to discover, and that's quite exciting. I feel like I'm creating my job rather than just falling into one, and it's changing all the time."

"My advice for others: keep your options open, never turn your back on an opportunity, never discard anything and go for it. Don't be scared of failure."

Stephen has talked to various schools around Wellington about his work and careers in science for Maori.

FUTUREINTECH AMBASSADOR PROFILE

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More Ambassadors for Auckland

A new batch of young technologists, engineers and scientists will be working with Auckland schools after another successful Ambassador training day was held in October.

Futureintech Ambassadors are young people with a passion for what they do, and who have volunteered to help in classrooms on projects such as Crest and the Neighbourhood Engineers Award.

The training day (held on 14 October at Barry Satchels Engineering) covered the various projects Futureintech supports and what to expect in the classroom.

Auckland Ambassadors have been in big demand this year with a range of projects and activities underway:

Naval engineers talking to students at Tamaki College

- Several naval engineers visited Tamaki College.
- Kane Alward, a mechanical engineer with Fisher & Paykel, has been demonstrating water pumps to students at The Gardens School.
- Environmental engineer Simone Stratton from Harrison Grierson Ltd has been helping Clevedon School students to install a sundial.
- Priya Kumar, an engineer with Metrowater, has helped Mt Eden Normal School transform a rocky hill into an attractive play area as part of the Neighbourhood Engineers Award.

Kiwi Physics CD-Rom

Futureintech's new interactive resource for schools, Kiwi Physics, is now available and has been flying off the shelves.

The interactive CD-ROM features games, puzzles, quizzes and animation to show how physics knowledge can be applied.

Topics include satellites, waves, collisions and bungy jumping, and are presented by a range of New Zealand celebrities. Profiles of New Zealanders who have made exciting careers out of physics are also featured.

Schools can order copies via our website **www.futureintech.org.nz**

IBM pays staff to become teachers

Concerned at the US's decline in science and maths, computer giant IBM is financially backing its staff to become teachers.

Up to 100 IBM employees will be eligible as part of the trial scheme, aimed at making up teacher shortfalls. The company describes the shortage as "a ticking time bomb not just for technology companies, but for business and the US economy."

Workers will have to get approval from their managers, and if selected, will take a leave of absence from the company but with full benefits and up to half their salary.

Up to US$15,000 will also be provided to cover the fees and costs in becoming a qualified teacher.

Industries in the US have long been concerned at the low test scores in maths and science by American students, compared to countries like India and China which are churning out 3 million IT graduates a year each (with most Indian graduates speaking English).

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Futureintechnews

QTV hits TV screens

A dynamic new multi-media series designed to engage young people's interest in the world around them has started on TV One.

QTV is presented by four young people with a passion for finding out what makes the world tick. Q takes science out of the classroom and goes where real scientists are working – underwater with giant spider crabs, on the edges of volcanoes, in front of a supercomputer, solving crimes or brewing bugs in the lab.

As part of the project a DVD has been developed with the support of various companies, crown entities and the Ministry of Education, featuring 10 profiles of young scientists. To order a copy go to their website **www.qteam.co.nz**, where you can enter quizzes and play online games such as "The Decomposer" and "Pooface" *(Who could resist that – ed.)*

The show airs Wednesdays at 3:30pm on TV1, and each episode features a 'messy experiment' for students to try at home.

Futureintech on the radio

Keep your ears peeled if you're listening to Kiwi FM over the next month as Futureintech's radio campaign continues. A series of advertisements promoting our website and careers in technology, engineering and science will be on-air for a month, following a successful campaign last year and more recently on Mai FM.

Hon Jim Anderton presents Rosalyn Cheong with her supreme award at the Young Designers Awards in Christcurch in October

Professional Development for teachers in biotechnology

An exciting opportunity for teachers to learn about biomedical research is available via the Liggins Institute Fellowship for Teachers (LIFT). The programme allows teachers to spend four weeks working on a research project with the help of top scientists, and covers the cost of a relieving teacher.

It's a unique opportunity to develop skills and knowledge and learn more about careers in science and biotechnology. For more information contact Associate Professor Bernhard H. Breier at Auckland University **bh.breier@auckland.ac.nz**.

www.futureintech.org.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.

Step Up scholarships

The Government has expanded the 'Step Up' scholarship programme for students to attend university.

From next year up to 175 scholarships will be available to students who want to study science and technology qualifications, with recipients contributing the first $2000 to their fees. The Step Up Scholarship from the government pays for the rest of the fees, usually about $2000.

More than 400 students have been granted a Step Up scholarship since they were introduced in 2004. All recipients are required to stay in New Zealand for up to four years after graduating.

More details can be found at **www.studylink.govt.nz**.

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