

## Call for Maori Ambassadors

Last year was a great one for Futureintech, and especially the continued growth of our Ambassador scheme. However, lack of Maori representation among our Ambassadors is a continuing concern.

Part of the reason for this is that Maori professionals continue to be under-represented in technology, engineering and science industries themselves.

So, how do we redress this imbalance? The best place is in schools – by inspiring young Maori to embrace the challenges and enjoy the rewards of our exciting technology and science industries.

Role models in schools prove highly effective, and the value of a Maori role model is no better exemplified than in the work of **Stephen Tauwhare**.

Stephen does research for IRL on the harakeke, the native flax bush of New Zealand. The harakeke has been used extensively by the Maori for hundreds of years but Stephen is the first to research why certain strains are used for different purposes. Stephen does both biochemical analysis of the plant as well as historic research on its ancient Maori uses, combining his expertise in western science and Maori putaiao and hangarau.

Stephen's work in schools has been a huge success. He has conducted several teleconferences with students from Dunstan High School, nga Kura Kaupapa Maori O Ruamata, Tamaki Nui A Rua, and Hoani Waititi. The students asked a broad range of questions



in English and Te Reo and talked passionately about science and their heritage, medical uses of the whakapapa, and science and their futures.

Futureintech looks forward to working with Stephen again, and our Facilitators are constantly looking for opportunities to work with other Maori Ambassadors. Other Futureintech initiatives to increase Maori representation include meetings with a wide range of Maori organisations, supporting Victoria University Awhina student mentors visits to schools, publishing our caregivers booklet in Te Reo Maori and plans with Te Runanga o Raukawa and Hone Davis for a pilot programme to support Maori scientist visits to schools.

If you can help by supporting a Maori Ambassador please contact your local Facilitator or Futureintech's national office – see [www.futureintech.org.nz](http://www.futureintech.org.nz).



**GARETH CAMPBELL** is a doctoral student who also works as a forensic analyst at the National DNA Databank at ESR, where he is compiling a nation-wide database for police to cross-reference genetic evidence from a database of New Zealand convicts.

In his PhD research, Gareth is developing a process where forensic specialists can identify exactly where a pounamu (greenstone) fragment originates without causing excessive damage to the sample itself. This will help police and Ngai Tahu, the owners of New Zealand's pounamu resource, combat illegal mining and help preserve Maori culture and artefacts.

Benson Chen –  
first 2006 CREST  
Award winner

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## Benson Chen's CREST Award

2006's first Gold CREST Award has gone to Benson Chen for his work on ethnopharmacology.

A Year 13 student at Howick College, Benson Chen studied ways in which Maori and early settlers to New Zealand used the native flora to create traditional Maori plant and herbal medicines (Nga Rongoa). Using this knowledge, he has produced natural creams and lotions suitable for sale and use as an alternative to modern medicine.

Benson's initial research looked at the different pathogens that caused common skin ailments such as psoriasis, as well as the different methods Maori used to treat skin diseases. From this information Benson identified a client (his mother) who gardens regularly which causes rough, itchy skin.

Benson tested the antimicrobial (germ-killing) properties of his selected plants by using steam distillation to extract their essential oils. After testing many plants used by the Maori for skin ailments (kawakawa, patete, tarata), he finally



*CREST's first Award winner for 2006 Benson Chen*

settled on patete (*Schefflera digitata*) because the extract had the safest active ingredient as well as having an excellent overall antimicrobial effect.

Shieldings Industries helped Benson develop suitable mechanisms to deliver his extracts to the skin. Together they looked at creams, ointments and gels to consider which would be the most suitable method to dispense his formula; as well as microbiological and physical stability and general product

aesthetics like appearance, texture and skin absorption.

Benson is currently in the process of testing the final product on a small sample of people and writing up an on-going production proposal. He also participates in debates involving the ethical aspects of using chemical ingredients vs natural ingredients, as well as the issues relating to intellectual property and the commercialisation of Maori knowledge.

For more information on the CREST programme or to volunteer as a consultant, visit: [www.crest.org.nz](http://www.crest.org.nz).



**CREST** is a nationally recognised Awards framework which fosters interest and rewards excellence in technology and science among primary and secondary students.

CREST projects are ideal for Years 6-13 Technology and Science classes. Students can also then enter their completed CREST projects into regional Science and Technology Fairs, ETITO Bright Sparks and other competitions. CREST projects can also help provide the evidence for assessment against NCEA achievement or unit standards.

*"The advancement of science and technology education ... is essential to ensure future capacity – a supply of skilled scientists and technologists in New Zealand – and capability – a high level of public understanding of science and technology. CREST fits perfectly within this aim, leveraging off the talent and enthusiasm already existing in our youth, in order to reap the human capital dividends for the wealth-creating industries of tomorrow."* – Royal Society of New Zealand

## Looking at life in 2020

This year's IPENZ conference asks: "What will life be like in the year 2020"?

### IPENZ CONVENTION 2006 VISION 2020

Will we still be struggling with issues such as energy, transportation and climate change or will the decade bring its own challenges? Whatever the future holds it is certain that the decisions made by engineers today will have a huge impact on how New Zealanders live their lives in the year 2020.

IPENZ has amassed a wide range of field leaders to present their take on what the footprints left by today's engineers are likely to leave for the future to deal with. Key speakers will outline challenges and opportunities facing engineers as we look towards 2020 in what promises to be a forward-thinking and thought-provoking programme. Technical sessions on day two are

themed 'How to Get Your Project Done' and examine projects from a variety of disciplines highlighting tools, knowledge and tips to take your engineering project from concept to completion. Day two will also include a 'Women and Engineering' panel discussion which will examine issues regarding retaining women in the engineering workforce and the promotion of careers in engineering for both genders.

IPENZ Convention 2006 will also be a unique occasion to network and share information with your engineering peers and leaders from around New Zealand. Use this opportunity to share your ideas, opinions and questions on a range of engineering fields and have them opened up to debate with leaders of the industry. A valuable experience

for those passionate about their career.

For more information on IPENZ Convention 2006, visit [www.ipenz.org.nz/convention](http://www.ipenz.org.nz/convention).

### VIP funding deadline in March – be in!

The Futureintech VIP (Visiting Industry Professionals) scheme provides funding to senior professionals in the technology, engineering or science-based industries to spend up to three weeks in a tertiary institution. Their role can be teaching, advising on research and curriculum, or a mixture of both.

Futureintech will fund several proposals this year, up to \$5,000 each. Applications close on 31 March 2006, so get in now.

By encouraging collaboration between industry and education, the VIP scheme is of obvious benefit to the industry as a whole. It gives tertiary students direct access to the workplace experience and a greater ability to make the right choices for their own careers. The scheme also gives academic staff the opportunity to increase their knowledge of the industry, and improve their teaching and research programmes.

To find out more or get help with your application, please contact Futureintech Director Angela Christie, tel 04 474 8981, cell 021 479 886, email [achristie@futureintech.org.nz](mailto:achristie@futureintech.org.nz).

## Partnerships for prosperity

We now have 89 Futureintech Partners – companies who help us to in various ways to promote technology, engineering and science careers to our future workforce.

Futureintech partners are companies in the technology, engineering or scientific industries who have agreed to collaborate in a joint effort to attract school-leaver to these essential fields.

Each agrees to work with Futureintech by contributing whatever they can: by supporting interested students who wish to learn more their industry; influencing other organisations; supporting related initiatives; and/

or offering scholarships for studies in technology, engineering and science.

For example, one of our latest Partners, Heinz Wattie's, has organised tours of their facilities and offered Ambassadors for the Futureintech programme.

Thank you to all Partners. The number of students now taking an interest in technology, engineering and science is due to you and your continued support.

# Futureintechnews

## FAREWELL TO PHIL, WELCOME SAM

After almost two years of dedicated service, Futureintech's writer/researcher Phil Rennie has crossed the Tasman to work in the political arena. Phil has written most of Futureintech's publications and the subject matter on our website ([www.futureintech.co.nz](http://www.futureintech.co.nz)). A talented, pithy writer, Phil has contributed greatly to Futureintech's success in promoting careers in technology, engineering and science throughout New Zealand.

An extremely valuable member of the team who will be missed, Phil, we wish you all the best for the future.

The Futureintech team welcomes our new researcher/writer Sam Sheppard, email [ssheppard@futureintech.org.nz](mailto:ssheppard@futureintech.org.nz).

## EVENTS REGISTER

The Futureintech website continues to grow. The latest addition is the Events Register for free advertising of a technology, engineering or science event.

If you have an event you want to advertise, email an outline to Futureintech's writer/researcher Sam Sheppard, [ssheppard@futureintech.org.nz](mailto:ssheppard@futureintech.org.nz).

Outlines should be 100 words and include venue, dates and contact details.

The Events Register can be viewed at: [www.futureintech.co.nz/events.cfm](http://www.futureintech.co.nz/events.cfm). Bookmark the page and take a quick look every week to

find out when the next workshop/seminar/lecture in your field is on.

## SCIENCE CAREERS FORUM: COLLABORATION, CO-OPERATION AND CREATIVITY

A one-off forum for industry leaders and professionals to discuss the promotion of science as a career will be held on 4 April 2006 at IPENZ in Wellington.

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

Topics will include:

- **Collaboration** – how to increase the level of collaboration throughout the industry. Many companies and organisations have initiatives to attract new entrants to careers in science – can collaboration achieve better results?
- **Co-operation** – how to create a greater shared sense of responsibility within the science community.
- **Creativity** – re-thinking the approach to the promotion of science careers in New Zealand.

The aim is for the forum to emerge with a coordinated action plan to be implemented within the near future.

The forum will be opened by The Hon Steve Maharey, Minister of Research, Science and Technology, and is co-hosted by Futureintech, RSNZ and MoRST.

## THANKS TO OUR HOSTS

Welcome to new host Farra Fabrication, which is supporting our Dunedin Futureintech Facilitator Bernadette Hannagan. Our thanks to Bernadette's previous host MWH, who really came through for us and their contribution to our work has been greatly appreciated.

Hosts are Futureintech Partners who have agreed to supply a Futureintech

Facilitator with a work space as they visit schools and recruiting Ambassadors. With the bulk of Futureintech personnel working at the IPENZ office in Wellington the hosts provide a valuable service to our nomadic Facilitators.

Our five Futureintech Hosts are:

- Blackbay (NZ) Ltd  
[www.blackbay.co.nz](http://www.blackbay.co.nz)
- Carter Holt Harvey Pulp & Paper, Kinleith – [www.chh.co.nz](http://www.chh.co.nz)
- Farra Engineering Ltd  
[www.farra.co.nz](http://www.farra.co.nz)
- Fraser Thomas Engineering Consultants  
[www.fraserthomas.co.nz](http://www.fraserthomas.co.nz)
- Traffic Design Group, Auckland  
[www.tdg.co.nz](http://www.tdg.co.nz)

We are extremely grateful for the support they provide and look forward to their continued support.