

## Chairman's Message

The Foundation Trustees are pleased that it has held funds in cash and bonds and has not been overweight in shares. In these difficult times we are pleased to receive continuing sound advice from Craigs Investment Partners.

The Foundation has had a good year and is looking forward to supporting and promoting engineers in 2011 and in the years to come. We appreciate the support of donors and those who wish to make a bequest to the Foundation. This is an excellent way to continue support of the profession well into the future. (Please note the attached bequest form.)

In the rotation of Trustees, we welcomed Roly Frost FIPENZ in March 2010 and we look forward to the advice that his wealth of experience will bring. Warwick Bishop FIPENZ continues to provide support to the Foundation with the sterling work he puts into the assessment of applications for the Foundation scholarships.

I am honoured to have taken over as Chair of the Trust in April 2010. I warmly thank John Cunningham FIPENZ for his able and engaging leadership as second Chair of the Foundation. John has agreed to continue as a Trustee to enable us to access his sound strategic investment advice.

Specific areas of the Foundation's work are:

**Profile:** The Foundation continues to be a partner in the New Zealand Engineering Excellence Awards. The Foundation sponsors the William Pickering Award for Engineering Leadership and the Award for Excellence in Engineering Journalism.

**Careers:** IPENZ Foundation scholarships are again being promoted to encourage secondary school students in Years 12 and 13 to choose careers in engineering and technology. These scholarships annually attract 110–140 very strong applicants and are a good focal point for the promotion of engineering as a career to secondary school students, teachers, parents and caregivers. We are very grateful for the financial support that the Auckland, Hawke's Bay, Nelson-Marlborough and Taranaki Branches provide towards the funding of these scholarships. We are delighted to hear that the Wellington Branch is going to be actively



fundraising this year (as Hawke's Bay Branch already does) to provide this support for students from their region.

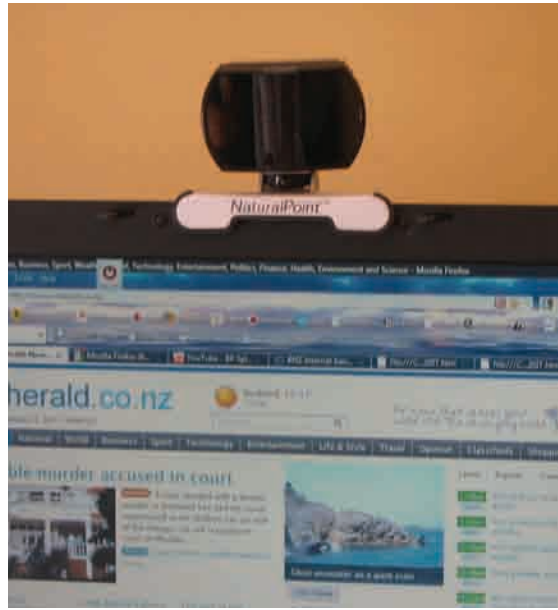
**Rehabilitation:** As usual, engineers are resourceful and we have not had many requests for help. We were able to help one engineer, who has extremely limited movement, with electronic aids to allow him to communicate verbally and via email and Internet.

**Heritage:** The Heritage Committee has defined its future strategy and as part of its work has found new sites for plaques to recognise engineering works. The Foundation helps to fund the plaques and has budgeted further expenditure for these in 2011. In collaboration with the Engineering Heritage Board and the Waikato Branch, a plaqued metal seat with a lovely view of the Waikato River now provides recognition of 100 years for the Victoria Bridge in Hamilton.

Working alongside IPENZ, the Foundation has an independent impact in which all IPENZ Members can participate. With your help and donations, the Foundation will continue to build on and advance the work of growing and supporting the engineering profession.

**Gretchen Kivell DistFIPENZ**  
IPENZ Foundation Chair

## Assistive Technology Helps Jeffrey Stay in Touch



**Jeffery's movement (left) is captured by the camera on top of his screen (right) and the camera tracks the mouse accordingly.**

Jeffrey Coleman MIPENZ has virtually no movement in his arms, is unable to walk and has almost lost his ability to talk as a result of motor neuron disease that onset in 2006. Despite this, the former Information and Communications Technology Project Manager, based in Nelson, is staying in touch with family, friends and the world through the use of assistive technology.

In fact, Jeffrey is such an avid adopter of technology and so loves problem solving that there is a standing joke with family members and caregivers whenever a parcel arrives – what, more cables! It is debatable now whether it's the borer holding hands or the matrix of cables that is holding the house together.

A year ago the IPENZ Foundation procured for Jeffrey two cornerstones of his system: a PC mouse controlled by head movement (SmartNav [www.naturalpoint.com](http://www.naturalpoint.com)) and communication software with text-to-speech voice output (EZ Keys [www.words-plus.com](http://www.words-plus.com)).

Above the PC, resembling a webcam, sits a small infrared transmitter/receiver. A silver reflective dot is stuck to the bridge of Jeffrey's glasses so it is very intuitive to use – as the head moves left or right, up or down, the mouse dutifully and precisely tracks across the screen.

What's more, clicking is a breeze and also achieved sans hands. Complementary software provides a "dwell" function by simply holding the mouse stationary for a moment – and the duration of a moment is configurable. Variations of this technique provide for right click, double click and drag.

Things can hiccup. Sunlit rear walls or blinds are a hazard, causing the mouse to bounce erratically around the screen. So too if a child walks nearby wearing a sports top adorned with shiny bits – thankfully this hasn't caused any accidental Trademe purchases as yet!

The communication software features word prediction and abbreviation expansion. A great feature is that there are ways to drive it other than by mouse and Jeffrey is currently experimenting with switch scan mode where a single button is pressed at the desired moment to make a selection. This should allow for more relaxing posture when conversing in person.

While every day remains a challenge Jeffrey takes heart from what he is still able to achieve and the degree of independence the assistive technology provides.

## Focus Days Engage Students and Industry



*Students and teachers assemble outside Trimble Navigation during a Canterbury Focus Day.*

ETITO is a multi-industry industry training organisation that manages training arrangements for thousands of trainees New Zealand-wide. Its Bright Sparks programme is a unique and respected industry initiative focused on identifying and mentoring able young people into electrotechnology engineering careers. One of the key aims of Bright Sparks is to inspire young people by bringing them into contact with real engineers in New Zealand's high-tech companies.

In 2009, the IPENZ Foundation sponsored Bright Sparks to organise a concept called a Focus Day. The rationale adopted was to engage with key teachers at a number of Canterbury high schools. Thirty-two students from eight schools were selected and, with their teachers, attended structured visits to engineering teams in two world-class Christchurch electronics companies: Dynamic Controls and Trimble Navigation.

The group were selected on the basis of their ability in subjects such as physics, but were not necessarily students who had had any prior contact with electronics or prior knowledge of the opportunities available through engineering careers.

Numbers were restricted so engagement with engineers at the companies would be meaningful and focused and the companies could comfortably resource the visits.

Students and teachers were provided with information leading up to the Focus Day, establishing a basic understanding of what they would experience to maximise the learning on the day. Prior preparation assured the organisers that the students would interact more effectively with their hosts. Similarly, the host companies were provided with information leading up to the event.

The Focus Day was a most successful event, with student and teacher feedback indicating

that learning about electronic, software and mechanical engineering roles leads to a significant shift in attitudes towards these careers. Responses were measured on a scale of one to five. Student understanding of engineering roles moved from an average of 1.98 at the start of the day to four at the end of the day. Teacher attitude showed a similar shift and the value of the day was rated by them as 4.6 out of five.

In 2010, the IPENZ Foundation funded a further Christchurch Focus Day (organised by Bright Sparks Representative Les Black) and a second Focus Day in Auckland. Companies involved included international successes Rakon and Next Window, and involved management as well as engineering staff presenting to students. These days showed a similar shift in student and teacher attitudes and confirmed that the Focus Day model is an effective tool in the campaign to inform and attract able young people into engineering careers, as well as providing teachers with accurate and up-to-date information so that they can reinforce the feedback to the larger number of students in the classroom.

The concept of a Focus Day is based on communication of key information before, during and after the day itself, so that information is focused and accurate and both parties in the interaction (industry and students/teachers) achieve the base level of understanding of each other that is necessary to maximise the success of the event.

ETITO is pleased to have been able to partner with the IPENZ Foundation in such an initiative, which to date has exposed over 90 Year 12 students and their teachers to a career option they had not considered before.

**Ross Petersen**

ETITO Bright Sparks Manager

## IPENZ Foundation Sponsors Awards for Engineering Excellence



**Rob Fyfe FIPENZ and Sheridan Gundry at the 2010 New Zealand Engineering Excellence Awards.**

The IPENZ Foundation once again sponsored the William Pickering Award for Engineering Leadership and the Award for Excellence in Engineering Journalism at the New Zealand Engineering Excellence Awards. The awards were presented in November at a black-tie dinner held at the Duxton Hotel in Wellington.

The William Pickering Award recognises an engineer who demonstrates outstanding leadership, and is a role model for other engineers. In 2010, the award was presented to Rob Fyfe FIPENZ for his inspirational leadership of Air New Zealand.

Mr Fyfe's engineering background is evident in the business, as seen in the increasing fuel-efficiency of the fleet and the company's trialling of bio-fuels, and the cabin design changes that revolutionised the business and economy classes.

Air New Zealand was awarded the title of Airline of the Year at the Air Transport World Global Airline Awards in 2010, testimony to the reputation it enjoys as an industry innovation leader despite its relatively small size. The judges believed this was largely due to the transformational leadership and vision of Mr Fyfe.

The Award for Excellence in Engineering Journalism recognises a journalist who most improves the public's understanding of the contribution that engineering industries and professional engineers make to society. In 2010, Sheridan Gundry was presented the award for a series of articles which explained the nature and extent of a large-scale wastewater treatment design and construction project to the public.

The articles recognised the importance of community concerns and provided clear information on the progress of the project and the long-term benefits that could be expected. The lead engineers and their roles were clearly identified and they explained the work in progress in their own words, where possible without resorting to technical jargon.

The articles were illustrated by appropriate photographs showing what was happening within the project boundaries. Ms Gundry also introduced a strong human interest element to the articles by reporting on a visit by a group of retired engineers who were responsible for the previous scheme. This assisted in generating interest for the articles, which covered what most would consider an "unfashionable" news subject.

The IPENZ Foundation would like to congratulate both winners and look forward to continuing sponsorship in 2011.

## IPENZ Foundation Patron – John Hood HonFIPENZ



I am proud to be the Patron of the IPENZ Foundation. New Zealand engineers have always been at the forefront of the development of the country. Their training has consistently been to the highest standards, their professional standards always benchmark well with the best in the world, and they have maintained an admirable and internationally respected innovativeness and practicality in their work.

As knowledge has expanded, the profession has diversified with new branches of engineering –

information engineering and bioengineering to name but two. New technologies have greatly increased the scope and potential of the work of engineers. Engineers are often found playing important roles bringing their expertise and judgment to bear on the creation of public policy and in related political processes. Unsurprisingly, engineering has become an increasingly ubiquitous profession because the skills of engineers are highly valued for the contributions they can make to so many aspects of the betterment of society.

Professional bodies are important for accreditation, the maintenance of standards and for sharing best practice. In New Zealand, IPENZ fulfills that role with distinction for the engineering profession. Engineers themselves need support in many ways; the most talented people must continuously be attracted to the profession to ensure its succession and future; and the profession has advocacy demands too. These are some of the activities for which the IPENZ Foundation has responsibility.

I commend the IPENZ Foundation to you. Many IPENZ Members are already involved in career promotions in schools, plus heritage and community activities. We are most grateful for those contributions. We would also greatly value any financial support Members are able to provide. The future of our profession will be much the stronger for it.

## IPENZ Foundation Trustees



Gretchen Kivell  
DistFIPENZ



Peter Browne  
FIPENZ



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FIPENZ



Roly Frost  
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Dennis Chapman  
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## Donate to the IPENZ Foundation

### Making a donation

Yes, I would like to support the work of the IPENZ Foundation.

I would like to make a tax-deductible donation of \$ \_\_\_\_\_ and enclose my cheque payable to the IPENZ Foundation.

or

#### Please debit my credit card:

Amount: \$ \_\_\_\_\_

Card number: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

Expiry: \_\_\_\_/\_\_\_\_

Name on card: \_\_\_\_\_

Signature: \_\_\_\_\_

Card type:  Visa  Mastercard  American Express  Diners' Club

Please return this form (and cheque if applicable) to:

IPENZ Foundation

PO Box 12241

Wellington 6144

I would like to become a regular donor to the IPENZ Foundation, by making tax-deductible donations. Please send me an automatic payment form with the relevant bank account details.

A receipt will be forwarded for all amounts received.

Mailing details:

Member No: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

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## Lasting Legacies – Bequests to the IPENZ Foundation

You can help the Foundation in its worthwhile work by making a bequest, or legacy, in your will.

You can do this when your will is drawn up or revised, or by means of a codicil (addition) to an existing will, at no cost.

Benefactors usually specify their bequests to charitable causes in one of three ways:

- donating a specific amount (or a specific asset, such as a parcel of shares)
- donating a specific percentage of their estate
- donating the residue of their estate, once other bequests and obligations are covered

Each of these options has advantages, depending on the circumstances. We advise you to seek the advice of your lawyer on making the appropriate provision in your will.

Possible wording might be:

#### I give and bequeath to the IPENZ Foundation:

- the sum of \$ \_\_\_\_\_
- \_\_\_\_\_% of my estate
- the whole of the residue of my estate

You will need to record the full contact details of the IPENZ Foundation in your will and we would ask you to include the following:

IPENZ Foundation

PO Box 12241

Wellington 6144

Phone: 04 473 9444

Fax: 04 474 8933

Email: [foundation@ipenz.org.nz](mailto:foundation@ipenz.org.nz)

The Foundation will acknowledge all bequests or legacies received and as far as possible work within any parameters defined by you.

