

## Gold Medal Engineers Re-honoured



*The Hon. Maurice Williamson presents the Fulton-Downer Gold Medal to Mark Christison FIPENZ and Des Bull FIPENZ, who were representing the hundreds of engineers involved in the response phase to the Canterbury earthquakes.*

A second presentation of the IPENZ President's Award, the Fulton-Downer Gold Medal, was made in May to re-honour the hundreds of engineers involved in the response phase to the September and February earthquakes in Canterbury. More than 150 people were at the event in Christchurch, including the **Hon. Maurice Williamson**, Associate Minister for Christchurch Earthquake Recovery, and Christchurch Mayor **Bob Parker**.

The President's Award was initially presented at the Fellows' and Achievers' dinner in March and accepted by **Des Bull FIPENZ**, **Mark Christison FIPENZ** and **Noel Evans MIPENZ** on behalf of over 500 engineers on the 2011 Fulton-Downer Roll of Honour. Many of these engineers were unable to attend the initial ceremony so the Institution decided to re-present the awards in Christchurch.

The award, presented annually to a Member or group of Members, recognises the engineers who went beyond what was expected of them and "demonstrated the strengths of the engineering profession in its role of public service".

Many of these engineers volunteered in the days immediately following the earthquakes, carrying out structural assessments, evaluating building safety and working in urban search and rescue and lifeline utilities. Others were recognised for making an outstanding contribution in their regular roles supporting infrastructure such as electricity, water and roading.

"When one visits the red zone, one can see the extent to which many engineers put their own personal safety at risk," **Dr Andrew Cleland FIPENZ**, IPENZ Chief Executive, says.

"We hope one of the outcomes of this award might be that the community better appreciates the risks and complexity of undertaking assessments in buildings where damage cannot be easily seen."

The engineers recognised on the Roll of Honour include some who came out of retirement, engineering students who worked up to 13 hours per day assisting professional engineers and a large number of volunteers who flew in from around the country to offer their services. The names of the award recipients are listed on the Roll of Honour section of the IPENZ website. //



# President's Message

The value of a strong strategic plan for an enterprise cannot be over emphasised.

Since joining the IPENZ Board in 2009, I have been aware the existing Strategic Plan had evolved over time and was subject to successive presidents responding to issues prevailing at that time as best they could, with their boards reacting accordingly. As a consequence, the Strategic Plan had grown to become quite complicated and was perhaps more complicated than needed.

In particular, the number of long term goals had increased to eight, although some of these were referred to as underpinning activities that in fact supported other goals. And additionally, some of the strategies to support the long term goals looked as if they were really key performance indicators. In short, the plan could be and often was confusing.

At the Engineering Profession Forum in March this year there was clear and strong feedback given by attendees that simplification and rationalisation of the plan was necessary.

I am delighted to advise excellent progress has been made. A review process has been undertaken, facilitated by our new Deputy Chief Executive **Dr Nicki Crauford FIPENZ**, involving staff through ongoing discussion and engagement and also good interaction with the IPENZ Board.

Recently, I started touring our IPENZ Branches to give this year's President's Address, and I included in my address the new Strategic Plan. One of the feedback items received during my presentations was that Members appreciated seeing the new plan so soon after its preparation, and that providing them with copies to study would be helpful.

Hence, I am pleased to present the agreed IPENZ Strategic Plan 2011–2016, in a condensed form due to space constraints:

## **“Our vision:**

Uplift prospects for New Zealanders through engineering.

## **Our mission:**

Advance the profession of engineering.

## **Objectives to achieve vision:**

- **Professional standards**  
Set and enforce internationally benchmarked educational, competence and ethical standards.
- **Engineering leadership**  
Lead the development and promote the application of good engineering practices.
- **Informed engagement**  
Provide a respected voice to inform and influence leaders and decision-makers on national and community issues.
- **Enhance understanding**  
Enhance public understanding of the critical role engineering plays in modern society.
- **Enduring capability**  
Foster the development of a capable and diverse engineering community sufficient to meet future needs.”

As you can see, the vision and mission statements have been streamlined somewhat, but perhaps more importantly our objectives (formerly expressed as “long term goals”) have been captured with just five statements. To support achieving these objectives, the plan outlines a series of underpinning activities, and we have provided indicators of success to measure our progress. A full version of the plan is available at [www.ipenz.org.nz/ipenz/who\\_we\\_are/stratplan](http://www.ipenz.org.nz/ipenz/who_we_are/stratplan)

As we had hoped, there has been a vast reduction in word content. The whole plan can now be seen on one page and this really helps facilitate understanding of how all the various activities come together to achieve our mission.

IPENZ management is now working through a consultation process within the organisation as it is critical to get full staff buy-in and alignment with the plan if we are to obtain the full value of the planning process. We welcome your thoughts on the new plan. Does it really capture what you feel your organisation will and should be doing over the next five years, and does it help you understand and identify with what IPENZ is all about? Please tell us your thoughts by emailing me on [president@ipenz.org.nz](mailto:president@ipenz.org.nz)

**Stephen Reindler**

# Lessons Learnt from San Francisco



*Business delegates in front of San Francisco City Hall: Steve Abley FIPENZ (Abley Transportation Consultants Ltd), Graham Dockrill (Hairy Lemon), Tim Howe (Ocean Partners), Pier Smulders (Mainland Press), IPENZ Companion Glen Hughes (Opus International Consultants Ltd) and Bob Fulton (Fulton Hogan).*

## **Steve Abley FIPENZ reports on his trip to San Francisco as part of a delegation of Christchurch City councillors and business leaders.**

I was very fortunate to join a delegation of five councillors and seven business leaders to San Francisco. We were there to learn from the city's experiences in overcoming a natural disaster. A TVNZ film crew accompanied us and you may have seen the reports on One News.

The San Francisco area is familiar with disasters, having been hit by large earthquakes several times in the last two centuries. The most famous event was the San Francisco earthquake of 1906 and the resulting fire which levelled the city. There is a 62 per cent chance of a magnitude 6.7 or greater earthquake striking before 2032. This is the reality of living in a seismically active area, one people in New Zealand are all too familiar with.

The professionalism of the disaster planning and recovery teams we met was outstanding. We returned with five key lessons. The first is to **build back better**, meaning not just replacing "like with like" but taking the opportunity for improvement. This includes seismic strengthening and streetscape enhancement along with bridging any political divides that may have existed pre-quake.

**Collaboration.** After the 1989 Loma Prieta earthquake, Santa Cruz created a new governance structure. The "gang of 36", as it was known, consisted of mixed council and business representation. Interestingly, its decisions were unanimous and were therefore endorsed by the formal council.

The gang's meetings were televised, improving communication and instilling public confidence, exemplifying **transparency and permissiveness**. At an early stage the gang made clear

its vision for the city's redevelopment, enabling property owners and developers to "get on with it" quickly within the planning frameworks.

**Involving business** will bolster confidence and supply the rebuild with capital. A large proportion of the rebuild has to be funded by the private sector. As such, the private sector must be included in decision-making at an early stage. New Orleans is an example of what not to do. It is 25 per cent smaller than it was the day before Hurricane Katrina hit, partly due to the lack of clarity and uncertainty during the critical first year. Investors sought lower risk alternatives for capital investment and took their money, energy and talent elsewhere.

**Earthquake insurance** is vital. With large premiums and excesses of around 15 per cent of insured value, many San Francisco residents do not have earthquake cover. When the next major event hits, insurance inflows will be less than 20 per cent of total damage, and the balance will have to consist of funding from central and local government and the private sector. Christchurch, in contrast, at least has a significant proportion of rebuild capital that can be sourced offshore through reinsurance funds (however, it is burdened with the initial administration of insurance claims, assessors and approvals).

My overall feeling is that Christchurch has the potential to be great once again, even greater than it was prior to the February earthquake. This can only happen, however, if we learn from cities like San Francisco. It is especially important business takes a lead in recovery. Business is the source of employment and livelihood, an investor of intellectual capital, innovation and funding – it is not just another stakeholder to be consulted with in meetings. //

# The Road to Sustainability



Arthur Mead Award merit winners: Peggy Wilson, Meno Te Uira, Simon Croft MIPENZ, Claire Jewell, Mike Heiler GIPENZ, Dave Nicoll, Glen Mouchi and Keith Whitehead.

The sealing of the final stretch of State Highway 1 and a new treatment process for stormwater discharge were named the winning projects at this year's Arthur Mead Award for the Environment and Sustainability. One-hundred-and-fifty people were at the Royal New Zealand Yacht Squadron in June for the event, where the award was presented to the IPENZ Auckland Branch engineers who made a significant contribution to preserving, conserving and improving the environment.

AECOM and the NZ Transport Agency won the Large Project category for their three-year project sealing the final 19 kilometres of road to Cape Reinga. The project also involved upgrading the carpark and visitor facilities at the Cape, replanting roadside vegetation with eco-friendly seedlings (with Department of Conservation assistance), and removing and

re-landscaping earthworks built over culturally sensitive areas.

Cape Reinga is considered an ecological hotspot for its rare flora and fauna. It is also culturally significant as the departure point for spirits returning to Hawaiiiki, the traditional homeland of Maori. On paper, the project transformed the final dusty section of State Highway 1 into tarseal, but the award judges said the team "achieved substantially more than what may have been originally anticipated". They were impressed with how the project planners engaged with the local community and iwi to develop a site that both sustained the area's unique ecology and was appropriate to the cultural significance of Cape Reinga.

GHD Ltd and Auckland Transport won the Small Project category for developing a stormwater treatment device designed to improve the capture of contaminants in road catchpits.

The project involved the research and design of the "TetraTrap", a filter unit proven in testing to be capable of capturing 75–150 per cent more pollutants when installed into catchpits over the outlet pipe, in turn improving the quality of stormwater discharge into Auckland's receiving waterways.

The judges noted the project solves a difficult environmental and engineering problem "through an innovative, cost effective and novel approach".

**Arthur Mead**, Auckland's Chief Engineer for water supply from 1929 to 1953, was one of the earliest proponents of environmental engineering and is regarded as one of the architects of Auckland's infrastructure. The award named in his honour goes annually to the project that best addresses sustainability, potential adverse environmental effects, waste management and community involvement. Eleven entrants entered this year's award:

## Small Project Category

**Finalist:** Environmental Context Ltd and Mamaku Investment Management Ltd for "Glendene Self-storage Facility".

**Merit:** Anguillid Consulting Engineers and Scientists Ltd and Auckland Transport for "Albany Lakes Precinct: Integrated Asset Management Strategy".

**Winner:** GHD Ltd and Auckland Transport for "Clean Environment through Innovative Road Contaminant Management".

## Large Project Category

**Merit:** Tonkin & Taylor Ltd and New Zealand Steel Ltd for "Taharoa Fish Pass".

**Winner:** AECOM and NZ Transport Agency for "Healing Te Rerenga Wairua – Cape Reinga Upgrade". //

## HAVE YOUR CONTACT DETAILS CHANGED?

If you are an IPENZ Member who has shifted house, moved overseas, changed your employer, updated your email address or changed any of your other contact details recently, please contact IPENZ so your details can be updated on the Membership database.

Keeping your details up to date means you will continue to receive all the benefits of being an IPENZ Member.

If your circumstances have changed call IPENZ on 04 473 9444 or email [reception@ipenz.org.nz](mailto:reception@ipenz.org.nz) citing your Membership number and your new details. //

# Proposed Changes to CPEng Rules

IPENZ recently completed a review of its competence assessment process. Before it can implement any improvements arising from this review, it must amend the rules covering assessment for the CPEng, IntPE(NZ), ETPract, IntET(NZ) and CertETn registers. Any rule change requires IPENZ to consult with engineers or organisations representing engineers. A consultation paper has been prepared and is accessible from the IPENZ website.

The paper focuses on the Chartered Professional Engineers (CPEng) of New Zealand Rules, but IPENZ will amend IPENZ Regulations covering the other registers to mirror the CPEng Rules changes. The proposed changes also include a fee structure review. Members are invited to make submissions on the proposed changes before 1 August 2011. Changes will be finalised after this process. In summary, the following rule changes are proposed:

## 1. Maximum allowable assessment term

Change the maximum allowable interval between assessments from five to six years. This aligns more closely to the six-yearly review period for international agreements such as the Washington and Sydney Accords and the international registers, and will reduce the workload on the profession.

## 2. Public naming of candidates

It is proposed to publicly name candidates so any person or organisation can submit information to the assessment panel about a candidate's competence (including their ethical conduct), similar to the process the legal profession applies for admitting a barrister and solicitor of the High Court.

Candidates' names would be listed on the IPENZ website, and any information received would be disclosed to the candidate. The assessment panel would consider the candidate's response.

## 3. Evidence requirements

The review – and IPENZ's own experience – has shown interactive assessment to be the most valid assessment tool for holistic assessments. IPENZ proposes making greater use of this tool, allowing candidates, particularly those undergoing continued registration assessments, to provide a reduced initial portfolio of documented evidence prior to assessment, with more comprehensive evidence presented at an interactive assessment. Further written information may be requested.

Continued registration assessment candidates who have been practising engineering since their last assessment will normally have further developed their competence. Such candidates may find providing detailed written evidence, as is currently the case, more time-consuming and onerous than submitting a reduced portfolio of evidence and presenting more comprehensive evidence at the interactive assessment.

## 4. Nature of evidence

Current rules require submitting written copies of evidence. Changes will allow greater use of technology for submitting

evidence via various forms of media such as audio, video and photographic files.

## 5. Previously registered candidates

Such candidates must currently undertake a full element-by-element assessment for regaining registration. It is proposed they undergo a holistic assessment process, similar to those being assessed for continued registration.

Holistic assessment could apply to candidates who were voluntarily removed from the register due to, for instance, ill health, travel or family reasons. If during holistic assessment concerns were raised about their competence, the panel would revert to the traditional element-by-element assessment.

## 6. Registration on registers of "equivalent competence"

It is proposed to reduce the complexity of registration for CPEng candidates who hold current overseas registrations or chartered memberships with a similar entry standard to CPEng. If the candidate were not recently assessed for competence, a holistic interactive assessment would be undertaken simultaneously.

## 7. Dispute resolution

It is proposed to enable the Chairperson of the Investigating Committee to explore alternative dispute resolution early in the process. A complaint must currently be investigated by an Investigating Committee before alternative dispute resolution is considered. The proposed change will allow exploring alternatives earlier in the process – beneficial in instances where relationship breakdowns have probably been more significant than the perceived breach of ethics or competence.

## 8. Fees

Fees for assessment application and annual registration have been unchanged since the current fees were set in 2006. It is proposed to adjust the fees by the change to living costs since that date. The assessment application fee increase is planned for 1 January 2012 and the annual registration fee increase is planned for 1 January 2013. Consequently, the increases are 17.5 and 19.3 per cent respectively.

The new fee structure will cater for a higher levy being charged by the Chartered Professional Engineers Council, and allow increased remuneration for assessors (whose payment has been unchanged since 2006). The fee changes are staggered to help the industry adjust.

## Submissions

Submissions on the proposed changes must be made in writing by 1 August 2011 and sent to:

CPEng Rules Consultation  
IPENZ Engineers New Zealand  
PO Box 12 241  
Wellington

or emailed to [cpeng@ipenz.org.nz](mailto:cpeng@ipenz.org.nz)

# Negotiating Historic Places

Many engineers will be affected by the Historic Places Act, which defines archaeological sites as places associated with human activity before 1900. New works above or below ground affecting pre-20th century bridges, buildings, cultivations, fortifications, railways, shipwrecks and wharfs all require an authority from the New Zealand Historic Places Trust (NZHPT) before operations may lawfully begin.

Recorded archaeological sites are registered online at ArchSite ([www.archsite.org.nz](http://www.archsite.org.nz)), which lists 65,000 sites with around 1,000 new ones added each year. ArchSite is public and users can browse the site to obtain geographical information. More detail requires users to pay a subscription fee. Councils and large infrastructure providers may also have their own register of archaeological sites.

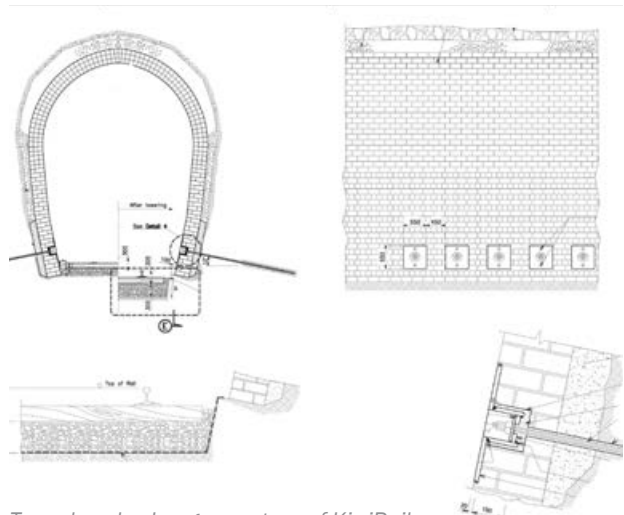
All archaeological sites have blanket protection until the NZHPT has given authority to modify or destroy them, similar to the process required for resource consent. Each year the NZHPT receives about 400 applications, and approves 99 per cent of these with conditions.

For example, it gave authority to demolish an earthquake-damaged supermarket in Redcliffs, Christchurch, on the condition works were not to go below the basecourse as it was known there were important moa hunter sites in the area.

KiwiRail seeks NZHPT authorities when it modifies or replaces bridges or tunnels defined as archaeological sites. To get the necessary authorities, identify important archaeological matters and record the structures being modified before work is undertaken, KiwiRail engages conservation archaeologists and heritage architects to document the existing structures with text, photographs, copies of original drawings and sometimes new as-built drawings. Similar to obtaining resource or building consent, KiwiRail takes the view that going through the NZHPT process is necessary for work to proceed.

An IPENZ Member, experienced and familiar with the Historic Places Act, recently found himself on the wrong side of the law. He was “engineer to the contract” on an NZS 3910 contract with a city council to replace farm fences in an area known to have been cultivated and fortified by Maori in pre-European times, and which was also scheduled in the district plan. He believed an NZHPT authority was required, and drew this to the council’s attention. The council advised him an authority was not required because the work involved replacing existing fences. Following this advice, the engineer informed the fencing contractor of the historic nature of the site, and monitored the work periodically. Contrary to the specifications, the contractor made unapproved excavations to facilitate access for the fencing work, and damaged archaeological features on the site.

Using the strict liability of section 99 of the Act, the NZHPT prosecuted both the engineer and the council but took no action against the contractor. Section 99 makes it an offence to modify, damage or destroy an archaeological site, while section 106 states it is not necessary to prove the defendant intended to commit the offence.



Tunnel works. Image courtesy of KiwiRail.



Rock anchors near a tunnel portal. Image courtesy of Kevin Jones Archaeologist Ltd.

Civil engineering contracts often use NZS 3910, and many IPENZ Members serve as “engineer to the contract”. This is a powerful position, as directions or instructions necessary to administer the contract may be given only through the engineer. The NZHPT believes its statutory powers take precedence over a contract, so there is potential for disagreement onsite, especially if contractual deadlines require work to proceed.

Engineers are encouraged to plan for NZHPT involvement at an early stage. If in doubt, pick up the phone. Obligations on contractors need to be specified in the contract documents. //

# Queen's Birthday Honours 2011

IPENZ congratulates three Fellows who were recognised in the 2011 Queen's Birthday Honours, and one Fellow who received the Commander of the Order of the British Empire (CBE).

## LAURENCE ZWIMPFER FIPENZ

Mr Zwimpfer was made a Member of the New Zealand Order of Merit for services to information technology.

He is recognised for his service in a number of technology roles, most notably for helping connect low income people to digital technology via the Computers in Homes programme. He established the eDay electronic waste collection event in 2006, has coordinated the national eDay every year since and currently chairs the eDay New Zealand Trust.

During his term as the UNESCO Communications and Information Commissioner, he represented New Zealand on the Information for All Programme. He is a past Trustee of the National Library of New Zealand, and in addition to being an IPENZ Fellow he is a Fellow of Internet New Zealand and an honorary Fellow of the New Zealand Computer Society.



## DAVID ADAMSON FIPENZ

Mr Adamson was awarded the Queen's Service Medal for services to the New Zealand Fire Service.

Mr Adamson, currently Chief Executive of Southland District Council, has served the community through his involvement with many bodies, including the National Rural Fire Advisory Committee, the Fire and Rescue Services Industry Training Organisation, and the Southern Rural Fire Authority (which he helped establish).

At the first large fire Mr Adamson dealt with as a Rural Fire Officer in Southland, he witnessed the deaths of many rare yellow-eyed penguins, an experience which "brought home" the damage rural fires are capable of producing.



## TOM LEONG FIPENZ

Mr Leong was awarded a Queen's Service Medal for services to the electrical industry.

An electrical explosion in 1965 which killed four people including an associate sparked Mr Leong's interest in electrical safety. In fact, Mr Leong, who arrived in Wellington in 1940 as a refugee from China, considers electrical safety a personal hobby.

Safety has been the focus of Mr Leong's career. He was the safety representative for the Electricity Supply Engineers' Association, a foundation member (and current President) of the Electrical Safety Organisation, and has worked with Standards New Zealand since 1968 helping advance electrical safety in the industry. During his 30 years with the Wairarapa Electric Power Board, there were no serious electrical accidents involving staff, a record which makes him very proud.



## PROFESSOR PAUL JOWITT FIPENZ

Professor Jowitt received a CBE for services to technology.

Based in Edinburgh, he is Professor of Civil Engineering Systems at Heriot-Watt University and Director of the Scottish Institute of Sustainable Technology. He is past President of the Institution of Civil Engineers in the United Kingdom.

For over 35 years Professor Jowitt has served numerous professional bodies within civil engineering, sustainable development and environmental management.

His many professional accolades – including being elected a Fellow of the Royal Society of Edinburgh in 2005 and an Erskine Fellow at the University of Canterbury (New Zealand) in 1997 – reflect the extent of the achievements he has made in a long and illustrious career. //





After falling off his trail bike a student developed a safety innovation that with the help of a professional engineer was positively received by motorcycle retailers. Success stories like these illustrate how technology can be brought to life and promoted to students as an attractive career path.

**Tom Maguire**, a Year 13 student from Kavanagh College who has gone on to study mechanical engineering at Otago Polytechnic, developed an innovative soft-hit hand guard for trail bikes with the help of mechanical engineer and Futureintech Ambassador **Vineet Rajasekhar**. The project eventually won Tom a scholarship in technology.

When an accident caused Tom to be thrown from his trail bike, the hand guard trapped his wrist as he fell forward, nearly breaking it.

Tom did some research and found this was a well-recognised issue. There was no evidence a hand guard was available on the market that gave full impact protection while allowing a rider's hands to be free in an accident. Tom sought a solution for his Year 13 Technology project – a “soft-hit hand guard” with “all the positives and none of the negatives” of existing designs.

He wanted to develop a guard that would allow the release of a rider's hand, avoiding wrist and hand injuries when an accident throws the rider forward, while providing the same level of protection for the handle-bar, gear levers and front brakes from shrubbery, rocks and gravel provided by existing guards. To achieve this Tom needed to come up with a guard with an appropriate release system.

Tom's first step was to draw up several concepts using a variety of different approaches. At this point he realised he needed input from experts to assist in narrowing down the options, providing specific knowledge about product development, material properties, manufacturing and processing and time management. He worked closely with Mr Rajasekhar to design the guard, determining the type



*Tom Maguire developed a soft-hit hand guard for trail bikes for his Year 13 technology project.*

of materials and dimensions needed to reduce size while maintaining strength. They then modelled the design mathematically using data on bone density. He purchased the materials and began machining. Prototype testing demonstrated his guard exceeded the specifications outlined in his brief.

The response from other riders and motorcycle retailers was overwhelmingly positive, and Tom feels the project was successful, especially considering the limitations of time, finance and available machinery. “There is nothing on the market like my solution that addresses the risk of injury. Developing my hand guard in technology has been a real journey.

“I have developed so many new skills in design and manufacturing this year, as well as building off the technological skills and knowledge I developed in Year 12. Working alongside IPENZ professional engineers and my other stakeholders as mentors has been awesome.”

Mr Rajasekhar was impressed with Tom's approach and outcome. “Tom has done extremely well and has worked through the design process like a trained engineer would,” he says.

“His project is a smart and innovative solution to a real problem.” Engineers in the community can stand to benefit from helping technology students in a number of ways. By sharing knowledge and expertise, engineers promote themselves as competent and ethical professionals contributing to the standing of the profession in the community.

Technology students like Tom have a lot to gain from engineers' help. Not only do they receive access to expert knowledge, they are also inspired by what they see professional engineers do, encouraging them to learn more about engineering careers options.

#### **How can you help?**

As professional engineers there are many ways you can support technology students.

You can sign up to be a Neighbourhood Engineer to assist students in their projects for the Transpower Neighbourhood Engineers Awards (see [www.nea.org.nz](http://www.nea.org.nz)), become a Futureintech Ambassador (see [www.futureintech.org.nz](http://www.futureintech.org.nz)) or take an active interest in what's happening in technology in your local school. To find out more about technology education visit [www.techlink.org.nz](http://www.techlink.org.nz)



## SHOW US YOUR FUTURE FOCUS

The 2011 Engenerate Photography Competition is now open. This year's theme is "Future Focus" and the overall winner receives an iPad2.

Prizes will also be awarded for the "Taste of Kiwi" and "Members' Choice" categories. Winners will receive \$500 cash. For the first time student members will get the chance to show their creative side as they compete for the SENZ prize (an iPod Nano). Entries receiving judges' commendations will be given a \$20 digital print credit.

Members will be able to select their favourite photograph in the "Members' Choice" category via the IPENZ Poll in *Engineering Direct*. A spot prize is on offer for a lucky voter.

Entries need to be uploaded by midnight Sunday 31 July to [www.ipenz.org.nz/engenerate/photocomp.htm](http://www.ipenz.org.nz/engenerate/photocomp.htm)

*Image courtesy of Dennis Teoh.*

## National Office Staff Update

A Deputy Chief Executive has been appointed, while Futureintech welcomes two additions to the team.

IPENZ is pleased to announce the appointment of a permanent Deputy Chief Executive. **Dr Nicki Crauford FIPENZ**, who was initially the Institution's acting Deputy Chief Executive, has formally accepted the new role. As reported previously in *Engineering Dimension*, Dr Crauford has a background in the electricity industry in management roles and was formerly Chief Executive of the Institute of Directors. She also served on the IPENZ Board from 2006–2008.

Dr Crauford is charged with helping lead engineering practice – a particularly challenging but pertinent task at a time when the Institution is called upon to reshape the profession in response to the Christchurch earthquakes.

**Dr Madeleine Rashbrooke** has joined Futureintech as a Writer/Researcher, replacing **Chris Linnell**, who has left to study journalism. Dr Rashbrooke trained as a molecular biologist and has a Bachelor of Arts/Bachelor of Science from Victoria University of Wellington, and a PhD from the Australian National University. Her most recent role was working in marketing and communications in the Cycling



*Dr Nicki Crauford FIPENZ and Dr Madeleine Rashbrooke are starting permanent roles at National Office.*

and Walking department of Transport for London. "After trying to persuade Londoners to ride bicycles, encouraging New Zealand students to consider careers in technology, engineering and science should be a walk in the park," she says.

**Julia Parker** joins IPENZ as the Futureintech Facilitator in Auckland. She is a trained teacher and has a Bachelor

of Education. Until recently Julia was living in Ho Chi Minh City, where her husband's work took the family. Julia will be involved in developing resources and working with school careers advisers and science, maths and technology teachers in central and west Auckland. She will also be responsible for recruiting and managing Futureintech Ambassadors. //

# What's in Budget 2011 for Engineering?

Since the 2011 Budget was delivered in May, the media has focused on changes to KiwiSaver, student loans and Working for Families. There were also some key announcements for engineering.



## Christchurch earthquake

As part of the pre-Budget releases, an announcement was made of around \$8.5 billion over five years for the rebuild of Christchurch. This includes \$400 million for the Government's share of rebuilding local roads, insurance excesses on schools and hospitals, and temporary housing. Also included is funding for demolition in the Central Business District and land remediation, the extent of which is still largely unknown.

In addition, \$12 million of existing research funds have been reprioritised for earthquake research over the next four years. This will include investigations into the behaviour of buildings and seismic risks in Canterbury, feeding into the revision of building codes. IPENZ is pleased funding has been made available for both the rebuild of Christchurch and earthquake research.

## Research and development

Reprioritised funding of \$34 million over four years has been allocated to increase private sector research and development in priority areas such as high value manufacturing. The funding is aimed at connecting research and business innovation. It includes the \$12 million allocated to earthquake research, a funding area advocated for by IPENZ, most recently through its policy publication *Catalysing Economic Growth: Boosting Innovation Expertise in the Private Sector*.

## Water

The pre-Budget release announced the establishment of the Irrigation Acceleration Fund, which allocates \$35 million over five years to support the development of irrigation schemes. The Government also signalled a potential \$400 million

to encourage third-party investment in irrigation. An increase of \$7.5 million, or 40 per cent, has been allocated for continuing the clean-up of contaminated waterways through the Fresh Water Clean-up Fund. IPENZ supports the increased funding and provision of funding for developing irrigation.

## Infrastructure

The additional funding in the Budget for infrastructure is a continuation of previous government undertakings and includes:

- \$942 million for ultra-fast broadband, comprising the final share of initial funds to invest \$1.5 billion in broadband
- \$28 million for broadband connections to state and state-integrated schools
- \$250 million for the second portion of the \$750 million KiwiRail 10-year "Turnaround Plan" for upgrading key freight rates, and \$88 million for Wellington commuter rail.

There is an ongoing commitment to continue upgrading state highways, with funding of \$12.2 billion from fuel excise and Road User Charges, and continuing the \$3.8 billion funding for the upgrade of the national electricity grid.

IPENZ notes that while there is little additional funding for infrastructure, the Government has honoured its previous infrastructure commitments, which are considerable.

## Mixed ownership of State-owned Enterprises

The Budget reiterated Government proposals to initiate mixed public/private ownership of Mighty River Power, Meridian Energy, Genesis Energy and Solid Energy. The Government also proposed reducing its majority stake in Air New Zealand. According to the Finance Minister, the **Hon. Bill English**, proceeding with these proposals will free up capital which can then be invested in schools, hospitals and broadband over three to five years.

## Conclusion

There is little new money in the Budget for engineering projects, bar the Christchurch activities, which will have significant effects on the profession.

IPENZ fully supports the major new funding for Christchurch infrastructure, housing and land remediation and the priority given to Canterbury-related earthquake research. It is also pleased to see funding allocated to innovation.

With the continuing and relatively high level of funding for a range of infrastructure, there should be many in the profession who will be fully occupied in engineering projects. The long term national engineering skill shortage (which was obscured during the 2009–2011 economic slump) will be exacerbated by the rebuild of Canterbury, particularly in some disciplines, and IPENZ has raised this issue with the Department of Labour. //

# Helping Immigrant Engineers

Like other new arrivals to New Zealand, engineers face many barriers to finding work, and the fact they may be skilled professionals with industry experience does not necessarily make job seeking any easier for them. The IPENZ Special Interest Group for Immigrant Engineers (SIGIE), which is based in Auckland, is a place they can turn to for help with overcoming the personal and professional barriers they face in their search for work.

The group holds seminars and workshops on CV preparation, job interviews and competency assessment. At its one-on-one interview workshop in June, for instance, immigrant engineers were able to meet with industry professionals and discuss their situation and progress. The group also hosts lectures and social events, allowing immigrants to share their experiences and build contacts with others. Members pay an annual fee of \$30.

**Thana Kaileshan**, SIGIE Treasurer, says common obstacles to immigrant engineers securing work include having poor English skills, no contacts and an engineering qualification with no New Zealand-equivalence “They arrive here and don’t know anyone. But they can come to us and we can help create a network for them by introducing them to different people and organisations. They also have problems with their CVs, for example with grammar and cultural differences with knowledge, and we can help them with that.”

Mr Kaileshan arrived from Sri Lanka three years ago and was referred to SIGIE by Auckland Regional Migrant Services. SIGIE helped him find his current job and he is “giving back to SIGIE what I gained” by volunteering.

SIGIE needs more volunteers. It is looking for professional engineers with at least three years’ New Zealand

“We can create a network for them by introducing them to different people.”

experience who can mentor immigrant engineers over a four-month period as they search for work. SIGIE also needs help with the running of its activities. If you are able to assist or would like further information please contact **Zaid Essa** ([zaid.essa@hotmail.com](mailto:zaid.essa@hotmail.com)) or **Helen Ling** ([sigienz@gmail.com](mailto:sigienz@gmail.com)).

## SUCCESS STORY

When civil engineer **Larry Cebuano** **GIPENZ** arrived in New Zealand from the Philippines last year, finding a job in his line of work was not as easy as he was expecting. With 11 years’ industry experience behind him, Mr Cebuano had a breadth of engineering skills and knowledge to offer potential employers but he was unable to get any interviews. “It was very frustrating submitting more than a dozen applications each day and getting the same number turned down the next day. Maybe the tight job market and my lack of local experience meant I wasn’t being shortlisted.”

In May this year he started a job at Advanced Pipeline Services Ltd as a Scheduler/Engineer, similar work to what he was doing in the Philippines. He puts his success down to hard work, dedication and the advice he received from SIGIE. “The staff at SIGIE were very helpful. They were able to help me with how I presented my CV and with how I presented myself



*Larry Cebuano is grateful for the advice SIGIE gave him when he prepared for an interview with the company where he now works as a Scheduler/Engineer.*

during job interviews. So when I submitted my application with Advanced Pipeline, they called me up and I was interviewed and fortunately I landed the job.” Mr Cebuano says the best

thing new immigrant engineers can do is join SIGIE, but adds that before they arrive here they should prepare and learn about how New Zealand engineering firms operate. //

## DISCIPLINARY COMMITTEE NOTICE

An IPENZ Disciplinary Committee has determined that Arthur Tyndall FIPENZ carried out engineering activities in a negligent manner and breached Rule 43 of the Chartered Professional Engineers of New Zealand Rules.

As a consequence, Mr Tyndall has been disciplined under sections 21(1)(b) and 21(1)(c) of the Chartered Professional Engineers of New Zealand Act. His registration has been suspended for a period until specified conditions have been met, and he has been fined \$2,000 and ordered to pay costs of \$11,000. //

# Professional Development Events

## IPENZ TUESDAY WEBINAR SERIES

- **Preparing for a Presentation**  
26 July: 11.00am–12.00pm  
A one-hour real time webinar
- **Strategic Tools**  
2 August: 11.00am–12.00pm  
A one-hour real time webinar
- **Dealing with Difficult People**  
16 August: 11.00am–12.00pm  
A one-hour real time webinar
- **Having the Courageous Conversation**  
30 August: 11.00am–12.00pm  
A one-hour real time webinar

To find out further information on the webinar topics visit [www.ipenz.org.nz](http://www.ipenz.org.nz)



## AUGUST

### Wind Loading of Structures using AS/NZS1170.2

An introduction to the extreme wind climate of New Zealand, and the main features of the Australia/New Zealand Standard on wind actions. Participants will gain hands-on experience in applying AS/NZS1170.2 correctly for wind sensitive structures and examples from A Guide to AS/NZS1170.2 will be worked through. This is a great interactive course for structural engineers.

## SEPTEMBER

### Bridge Design

The course provides a broad overview of all aspects of bridge design, particularly the application of seismic design principles relevant to bridges, and it is structured to reflect the requirements of the NZ Transport Agency's (NZTA) Bridge Manual.

The course will be useful for intermediate structural engineers interested in becoming involved in bridge design, experienced bridge designers who want to update their knowledge of seismic design in line with the proposed NZTA Bridge Manual amendment, as well as graduates and engineers from other countries who wish to become familiar with New Zealand bridge design standards.

For further information on dates, locations and how to register for these two courses please visit the Engineering Calendar at [www.ipenz.org.nz](http://www.ipenz.org.nz) or contact [cpd@ipenz.org.nz](mailto:cpd@ipenz.org.nz) //



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