

## Practice review in structural engineering

As reported in the last *eZine* of 2002 the IPENZ Engineering Practice Board has launched an enquiry into the practice of structural engineering in New Zealand.

At its meeting on 18 December, the Engineering Practice Board was joined by Peter Mumford, Director of the regulatory group within the Ministry for Economic Development, Barry Brown, Chair of the Building Industry Advisory Authority, Dr Bill Porteous, Chief Executive of the BIA, and Adam Thornton, President of ACENZ.


There was discussion of the upcoming Government review of the Building Act, which is in part a response to the Hunn Report on weathertightness. However, an IPENZ member has also publicly raised concerns about structural practice in New Zealand, which also have implications for the application of the Building Act.

The Engineering Practice Board has set up a Task Force to review structural engineering practice in New Zealand, which will work closely with SESOC and ACENZ. In the short term the group will also look at operational shortcomings around the implementation of the Building Act, and formulate proposals for improving the regulatory environment. The group had its inaugural meeting on 16 January. In the next month it will prepare a submission on the Building Act.

The terms of reference for the longer-term practice review were agreed as follows:

- 1 Identify any areas of Structural Engineering Practice where there is variability in the standards of practice.
- 2 Identify any Structural Engineering practices that are placing life or property at potentially unacceptable risk.
- 3 Develop recommendations to overcome shortcomings and identify if possible, ways to implement them.
- 4 If appropriate propose a programme that IPENZ could implement to address the recommendations in 3 above.

The Task Force is chaired by Ian Mills, a qualified civil engineer who practices as a management consultant, and members are Barry Davidson, chair of SESOC, Adam Thornton, President of ACENZ, Richard Built, whose perspective is that of large consultancies, Roy Taylor, from a smaller consultancy, Wayne Raymond from the construction sector and Hugh McNaughton who has considerable experience in the regulatory and consent area.

The group invites input from IPENZ members, SESOC members and other interested parties such as Research or Industry Associations (CCANZ, HERA, BRANZ, ACENZ) and regulatory agencies (BIA), and universities and other tertiary institutions. If you wish to add to the debate please contact Murray Isdale (misdale@ipenz.org.nz) or any of the Task Force members. 

## President's Message

### The hard questions about CPD



Many of my articles last year were concerned, directly or indirectly, with the advent of the Chartered Professional Engineers Act and, in particular, with how current competence in engineering practice could best be assessed. The Act reflects a view, widely shared by professional agencies and associations around the world, that the current competence of any practitioner should be judged primarily on outcomes – the actual record of professional work completed – rather than processes that preceded or accompanied those outcomes.

The distinction is, of course, not always so easy to make. It is said that twenty years of experience is much more valuable than one year repeated twenty times; and some process measures help to demonstrate that practitioners have the capacity to deal with unfamiliar situations, manage the increased risk associated with such situations, and develop new and innovative solutions to problems.

Attention has now shifted away from encouraging and auditing engagement in continuing professional development (CPD), the single issue that has dominated debates on current professional competence for the past twenty years. Most professions introduced regulations requiring that licensed or registered practitioners engage in specified minimum levels of CPD, and professional bodies around the world also became substantial providers of education and training designed to enable practitioners to comply with such regulations.

Outcome-based assessment of competence does not remove the need for practitioners to engage in timely and relevant CPD. Individuals applying for professional membership of IPENZ must already submit evidence of their engagement in CPD, and such evidence will also be a factor in continuing competence assessments associated with the Register of Chartered Professional Engineers (although there will no longer be quantitative CPD requirements). The purpose of this article is to review the situation relating to CPD for engineering professionals, and to raise questions for consideration as the new IPENZ systems come into full operation.

#### Spoiled for choice

Professional engineers are now faced with a bewildering range of CPD opportunities, and most seem to agree that selecting worthwhile activities for their particular circumstances can sometimes be difficult. There are no simple solutions. CPD can take many forms, ranging from a private search and analysis of background papers and documents to enrolment in a postgraduate degree programme. The following comments relate principally to CPD activities that are delivered for specified purposes to selected groups of practitioners, and involve formative or summative external assessment, rather than to private study and reflection.

A number of issues should be considered in deciding whether any particular study programme is worth undertaking:

Continued overleaf >>>

**Relevance**

This is probably the single most important criterion, and only the practitioner concerned can decide whether a particular programme is relevant to their circumstances. The content, the timing, the context and manner in which it is delivered, and the credibility of those involved would be important factors. Timing may be critical. For example, a programme designed to introduce participants to a new code of practice will be most relevant to those whose current or projected activities encompass the areas of practice concerned.

**Quality**

Practitioners will often be less equipped to judge a programme's quality, otherwise than by the anecdotal reputation of the provider. Even this may be a doubtful measure, since, as famously occurs in restaurants, providers whose reputation has been established by one group of staff members may not achieve the same quality when new teachers or managers arrive. Comment on programme quality tends to be based on the personality and commitment of the teachers, the extent and timeliness of the formative assessment, and the opportunities that have arisen for constructive networking.

Programmes may be subject to formal systems of accreditation administered by education authorities or professional bodies. Such processes will, however, usually apply only to substantial programmes leading to a formal qualification, such as a postgraduate certificate, diploma or degree. Even then, accreditation may be restricted, and valid only when a

programme is delivered in a particular way or at a particular place. There has been some reluctance to accredit providers, rather than specific programmes, even at the postgraduate level. Professional bodies have perhaps feared that, by conferring such accreditation, they may come to be held responsible for any shortcomings in subsequent programmes delivered by the provider in question.

**Accessibility**

Excellent programmes are of little value unless busy practitioners can access them at a time and in a manner that accommodates their other commitments. Delivery modes and learning styles are likely to be critical in this respect. Given the value placed by professionals on personal contacts and networking, efforts should be made to provide a range of options for participants and teachers to come together. However, some form of distance education may be the only realistic option for some practitioners. Electronic learning has become an important feature of many programmes, not only those delivered by distance education. Well-planned and implemented e-learning can transform the learning experience, allowing participants to time-shift their studies, compensate for occasional absences, get timely feedback and answers to questions, and maintain contact with staff and other participants.

**Timeliness**

This factor is often under-estimated. While some practitioners may be in a position to plan their engagement in CPD and adapt it to the convenience

of providers, many others must operate in a just-in-time mode, and cannot predict exactly what CPD they will require, or exactly when the need will arise. Professional bodies have occasionally tried to assemble libraries of CPD programmes to meet these circumstances, but with limited success for various reasons – notably the high cost of setting up such a library and maintaining its currency.

**IPENZ and CPD**

Professional bodies can undertake a wide range of roles in relation to CPD, and some time has elapsed since IPENZ made a serious study of the priorities that should be attached to each such role.

The collection and dissemination of information about CPD opportunities is perhaps the most obvious role for associations, and mechanisms such as national and regional newsletters and ezines are widely used for this purpose. Few current systems appear to have paid much attention to taxonomy, and to the deployment of search engines, making it hard for practitioners to locate the most relevant activities amongst the myriad of programmes on offer.

Professional bodies routinely approve, endorse or accredit degree and diploma programmes designed for beginning practitioners but have been less active in relation to CPD programmes or providers. A key problem has always been the mobilising of resources to support such activities. The unit cost of operating accreditation at programme level is probably too high, when the programmes concerned are short-term (and volatile). A system of approved or endorsed providers might be more practicable, but there would still be



**A chance to share triumphs and trials**

Convention 2003, to be held in Hamilton 30 March – 1 April next year, is to include an entirely new feature called Project Showcase. Each participant has a chance to "showcase" a noteworthy aspect of a recent project in a brief presentation (10 minutes with 5 minutes for discussion), accompanied where appropriate with hand-outs or a display.

Engineering is all about solving problems – and so is Project Showcase. We would like to hear from you if you have devised a solution that other members of the profession will find interesting. It may be a feature of design or implementation, or your project may have been unusual in its contractual or management arrangements, such as partnering or clustering. And it may be interesting for its success or its failure.

This is a chance to profile your work and your company, and to share your triumphs with your peers – or to give them the benefit of your failures and close calls! The knowledge base of professional engineering rests on lessons learnt from past mistakes, but by sharing them we can ensure that each mistake is only made once.

Interest in participating should be notified as soon as possible, with a synopsis of the proposed presentation and an indication of any support requirements. The only stipulation is that one member of each presenting party must pay a full Convention registration.

For further information contact Murray Isdale, [misdale@ipenz.org.nz](mailto:misdale@ipenz.org.nz) or visit [www.ipenz.org.nz/convention2003](http://www.ipenz.org.nz/convention2003)



costs associated with the review processes, which would have to be borne by the provider.

Finally, professional bodies may directly commission, design and/or deliver CPD. This is widely accepted when the activities in question take the form of seminars, workshops and conferences, and when participation by members is optional. However, some professional bodies have sought, with a measure of success, to assert a monopoly on the design and delivery of particular categories of formal programme, usually designed for early professional formation. Such monopolies can be profitable for professional bodies, the cost being borne by participants on the basis that enrolment will help them to achieve professional recognition, and thus increase their capacity to earn income.

Some tricky issues arise when a professional body pursues this particular direction. There is an increasing sensitivity in the wider community to the use of what are, essentially monopolistic powers to generate profits or to control admission to a particular area of economic activity. A professional body seeking acceptance and respect as the ultimate arbiter of standards in professional education and training within a particular jurisdiction may find this goal harder to achieve if the body is perceived as competing with other potential providers. The professional body will have to divert resources from its core business to maintain a suitable range of services.

Most successful associations have each focused on a single point upon the CPD continuum, where there is a reasonably predictable and stable market. Good examples of this strategy include the Professional Year delivered for ICANZ or the MBA delivered by APESMA. Although quite different in most respects, these programmes share one critical characteristic: they are directed at very recent graduates who are, in a sense, completing their initial academic programmes, and carrying forward established study habits. Furthermore, the detailed design and delivery of both programmes has been outsourced to tertiary institutions, rather than undertaken directly by the professional bodies concerned.

The most important strategy for a practitioner is to establish what CPD they need and when, and to select appropriate activities. Their professional bodies can and should assist them in both respects. Whether, and to what extent, professional bodies such as IPENZ should go beyond that point, and become more active players in the marketplace is arguably more controversial. Certainly, the advent of the Chartered Professional Engineers Act will lead to a full review by the Governance Board of our commitments to CPD. As usual, your feedback will be welcomed, and will help the Board to reach a more informed conclusion.

**John Webster**  
President

## New registers open

On 1 January 2003 the new CPEng and International Professional Engineer Registers were opened to registrations. During the final round of assessments last year IPENZ assessors considered whether applicants also met the requirements of these new registers. Those candidates who did so were advised accordingly, and invited to apply for registration. The first group of CPEng applicants were registered, and listed on the searchable web-based register. We will advise when the International Professional Engineer Register, which consists of the New Zealand sections of the APEC Engineer Register and the Engineering Mobility Forum's International Professional Engineer Register, is available. ☺

# The Building Act Review – Implications for engineers

*In late 2002 the Government announced a major overhaul of the Building Act in response to the weathertightness issue. Chief Executive Dr Andrew Cleland takes a look at the intentions of Government, and the impacts on engineers.*

The Ministry of Economic Development are the lead players in developing new legislation which it is intended will be in place by the end of the year. Like IPENZ, they see weathertightness, and the issues that may be raised by the IPENZ review of structural engineering, as symptoms of a systemic failure – they are seeking to fix the whole system. The aim is to create a regime where proper quality assurance occurs at all stages, rather than relying on end-result inspection. The following measures are expected to be included:

1. There will be three registration systems for people regarded as holding certain competencies, with the emphasis firmly on current competence:
  - tradespersons (builders etc.) – it is probable that each firm on a site will need to have at least one registered person who will ensure the work is to proper standards.
  - architectural professions (architects, architectural designers, interior designers)
  - engineering professions – Government sees the new CPEng Act for professional engineers as critical.
2. The Building Act will require that certain types of work be performed (or supervised) by competent people from the registers.

3. Professional involvement may well be required throughout the project – i.e. designing, observing construction, verifying built as designed – rather than ceasing after the design stage. There would need to be continuity of professional involvement, though not necessarily by the same person throughout all stages.

Interesting issues arise for the engineering professions. Much work (particularly in the building services area) is performed by knowledgeable people from our Technical and Associate Member classes, or by people who are similarly qualified but not IPENZ members. Registration under the old Registered Engineering Associates Act does not attest to current competence. IPENZ has announced to Members the intention to create certification-trademarked registers for "IPENZ-Registered Technical Engineers" and "IPENZ-Certified Associate Engineers" by the end of this year. These registers may prove attractive to Government as reliable indicators of current competence.

The second area of interest is that the Building Act will almost certainly restrict some areas of work to CPEng. The consent and certification processes under the Building Act will therefore need change – at present a Territorial Authority or certifier has no realistic way, other than requiring peer review, to ascertain whether a professional has done a proper job. Work available to engineers in the form of peer review, or in direct employment in authorities with certification roles, may increase. ☺

# Two into one: The IPENZ Benevolent Society and IPENZ Foundation

The IPENZ Benevolent Society was set up many years ago with the best of intentions – to help members and their families who had become victims of “distressed circumstances”. Over the years the social welfare system of New Zealand has taken care of much of the role, and of recent times grants have been occasional. A real problem is that the Rules of the Benevolent Society cannot be changed to broaden or modernise the grounds on which grants can be made. “Distressed circumstances” has a very narrow meaning in law.

Two years ago, the Board of IPENZ made a strategic decision that the only way to prevent a progressively worsening mismatch between the objectives and the actual needs was to form a new charitable trust – in effect the IPENZ Foundation with broader objectives – and to close the Benevolent Society and transfer the assets at dissolution to the Foundation. Accordingly the purposes of the Foundation were specified more widely than those of the Society, but still include the relief of members and their

families, so that if and when the funds are transferred the original purpose for which donations were made can be honoured in so far as this is reasonably possible. Accordingly the objectives of the Foundation are:

- to educate New Zealanders on the role of technology and engineering in sustainable economic, environmental and social development;
- to encourage New Zealand school leavers into tertiary education in the fields of engineering and technology;
- to educate New Zealanders on significant engineering and technological achievements which form part of New Zealand’s national heritage;
- to further, in New Zealand, the development and practical application of scientific knowledge in engineering or technology for the wider public good;
- to assist, in New Zealand, Members suffering from hardship due to physical or mental sickness, disability or incapacity to participate

in education or rehabilitation programmes that enable them to resume a career;

- to promote the relief of poverty, in New Zealand, among Members or their dependents arising from age, physical or mental sickness, disability or incapacity or death of the Member concerned.

The last of these purposes is a wider restatement of the Object of the Benevolent Society. Thus, all the work the Society currently does can be taken over by the Foundation. Closure of the Society requires the written consent of at least 75 per cent of the members. Obtaining such consent from so many members will involve considerable effort and some expense, so the Board of IPENZ, in its role as the Management Committee of the Society, is seeking to have a supporting motion passed at the Annual General Meeting of the Society (see notice below). Assuming support, distribution of assent forms and collection of signed assents from members will then commence about May.



## NOTICE OF ANNUAL GENERAL MEETING

### THE INSTITUTION OF PROFESSIONAL ENGINEERS NEW ZEALAND INCORPORATED

The 89<sup>th</sup> Annual General Meeting of The Institution of Professional Engineers New Zealand Incorporated will be held at the Quality Hotel, 100 Garnett Ave, Hamilton at 7.45am on Monday 31 March 2003.

#### AGENDA

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|--|---|--|
| <ul style="list-style-type: none"> <li>1 Notice of the Meeting – confirmation</li> <li>2 Apologies for Absence</li> <li>3 Visitors</li> <li>4 Obituaries</li> <li>5 Honours Lists</li> <li>6 Announcement of Honorary and Distinguished Fellowship Awards</li> </ul> | <ul style="list-style-type: none"> <li>7 Confirmation of Minutes of 88<sup>th</sup> Annual General Meeting held on 25 March 2002</li> <li>8 Matters Arising</li> <li>9 Announcement of Election Results</li> <li>10 Vote of Thanks to Retiring Board Members</li> <li>11 Approval of 2001/2002 Annual Report and Statement of Accounts</li> </ul> | <ul style="list-style-type: none"> <li>12 Motions of Which Prior Notice Has Been Given</li> <li>13 Appointment of Auditor</li> <li>14 Vote of Thanks</li> <li>15 General Business</li> </ul> |
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Dr A C Cleland  
**Chief Executive**

## NOTICE OF ANNUAL GENERAL MEETING

### THE INSTITUTION OF PROFESSIONAL ENGINEERS NEW ZEALAND (BENEVOLENT SOCIETY)

The Annual General Meeting of the Institution of Professional Engineers New Zealand (Benevolent Society) will be held at the Quality Hotel, 100 Garnett St, Hamilton on Monday 31 March 2003 following the IPENZ Annual General Meeting which commences at 7.45am.

#### AGENDA

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|--|---|--|
| <ul style="list-style-type: none"> <li>1 Notice of the Meeting – confirmation</li> <li>2 Apologies for Absence</li> <li>3 Confirmation of Minutes of Annual General Meeting held on 25 March 2002</li> <li>4 Approval of 2001/2002 Annual Report and Accounts</li> <li>5 Appointment of Auditor</li> </ul> | <ul style="list-style-type: none"> <li>6 Appointment of Trustees</li> <li>7 Notice of Motion: The President shall move, and the Deputy President shall second that “The intended actions of the Management Committee of the Institution of Professional Engineers New Zealand (Benevolent Society) to seek permission of sufficient members for voluntary dissolution of</li> </ul> | <p>the Society as soon as reasonably possible with the intention that the property and effects of the Society be gifted to the IPENZ Foundation be endorsed”.</p> <ul style="list-style-type: none"> <li>8 General Business</li> </ul> |
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Dr A C Cleland  
**Secretary**

# Orion leader moves on

After fifteen successful years at the helm of Orion New Zealand, managing director Chris Laurie is moving on to head the Brisbane-based renewable energy company Energy Developments Ltd. Orion chair Linda Constable says that under Mr Laurie's leadership Orion has performed outstandingly, despite the turmoil of a decade of energy-sector reform.

Managing Director since 1988, Mr Laurie managed the formation of Orion's predecessor, Southpower. When the electricity retail business was sold in 1998, the network was re-branded as Orion.

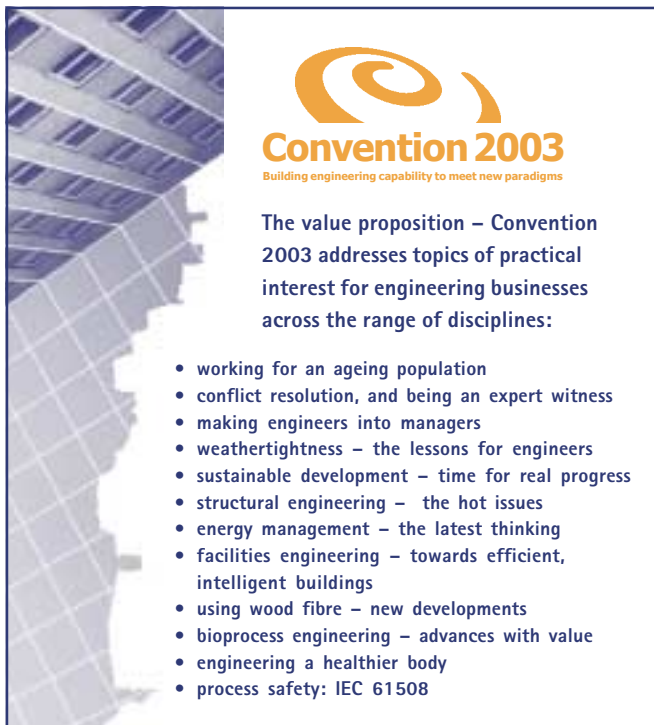
Mr Laurie led the purchase and sale of a number of businesses, including the gas company Enerco New Zealand, which contributed to substantial dividends for local shareholder councils. He has been on the board of Energy Developments since Orion purchased a shareholding, and since November 2002 has divided his time between Energy Developments (as acting managing director) and Orion.

His aim now? To see Energy Developments become "a leader in global renewable technology". The company operates an international portfolio of innovative energy and environmental solutions, with operations in Australia, Asia, Europe and the USA. ☺

# Environmental Court Appointment

Owen Borlase MIPENZ is among several new appointments to the Environment Court. His appointment as a Deputy Environment Commissioner was announced recently by the Associate Justice Minister Margaret Wilson, along with those of another Deputy Commissioner and two new Commissioners.

Mr Borlase is Director of Borlase & Associates Limited, an engineering services company. He has particular expertise in hydrology, water resources and environmental engineering. ☺



**Convention 2003**  
Building engineering capability to meet new paradigms

The value proposition – Convention 2003 addresses topics of practical interest for engineering businesses across the range of disciplines:

- working for an ageing population
- conflict resolution, and being an expert witness
- making engineers into managers
- weathertightness – the lessons for engineers
- sustainable development – time for real progress
- structural engineering – the hot issues
- energy management – the latest thinking
- facilities engineering – towards efficient, intelligent buildings
- using wood fibre – new developments
- bioprocess engineering – advances with value
- engineering a healthier body
- process safety: IEC 61508



## Auckland Branch honours new Professional Members

In a celebration at Waipuna Lodge on 5 December 2002, 27 Auckland professional engineers were honoured as new IPENZ Professional Members (MIPENZ), and two of the Auckland-based members who became Fellows in 2002 were also on hand to receive acclamation. Eleven of the new Members were migrants to this country who have worked in New Zealand-based organisations.

MC Glen Dillon of Task Consultancy told the new Professional Members: "We now trust you to operate independently as engineers, to a genuine international standard of excellence. There is never a need to feel isolated, because you will always be able to discuss issues with other engineers."

National IPENZ President John Webster presented recipients with their certificates, and noted that engineers are rarely bored, since new challenges continually present themselves.

The two 2002 Fellows honoured were Jim Clark and Dr Joe Deans. In his speech, Mr Clark acknowledged the recognition of his peers, and noted that his long involvement with IPENZ has been motivated by a wish to give something back to the profession. He exhorted new Professional Members to become involved with the profession themselves, as the efficient operation of any organisation is so dependent upon the dedication and enthusiasm of its members.

Dr Deans believes he is a "practical engineer who works in a University". He thanked those who had particularly helped him in his career in New Zealand, including Sir Ron Carter who first invited him to New Zealand, and Professor Debes Bhattacharyya of the Mechanical Engineering Dept at the University of Auckland. It was he who clarified design in a way that has forever influenced Dr Deans's teaching of first-year engineering students.

Guest speaker Augie Auer entertained guests with anecdotes, drawing parallels between his craft and the principles of engineering. As he said, "We all deal with the same laws of thermodynamics." He encouraged those present to aspire to higher levels of qualification, to learn from the mistakes of others, and to continue to strive for excellence. ☺



**e:INZ** magazine

### Coming up

in the March / April 2003 issue of e.nz magazine

<b>Prosthetic Prodigy</b> the artificial legs that climbed Aoraki Mt Cook	<b>Flying legal</b> a tamper-proof electronic flying log
<b>Bottled Bounty</b> technology meets tradition at Montana Wines	<b>IT@IPENZ</b> renovating the IPENZ infrastructure

# Hospital Contracts Awarded



C&C DHB chairman Bob Henare and CEO Margot Mains congratulate Adam Thornton of Dunning Thornton Consultants MIPENZ (left) and Bob Meggitt MIPENZ (Beca Carter) on their appointment to the civil and structural engineering and building services engineering contracts.

**Two Wellington-based consulting engineering companies have been awarded key contracts for the \$303-million redevelopment of Wellington and Kenepuru hospitals by Capital & Coast District Health Board.**

Beca Carter Hollings & Ferner won the contract for building services engineering, covering the electrical, electronic and hydraulic systems to be incorporated into the two hospitals. They will lead the design team from their Wellington Office, with assistance from their Auckland team and from Australian consulting engineers Bassett, with whom they have established a working relationship on a number of healthcare projects.

The state-of-the-art services must be cost-effective and sufficiently robust to keep the facility running in the wake of any natural disaster. And they will also be energy-efficient, observing the principles of Ecologically Sustainable Design. The Beca team have previously worked on a number of

Wellington Hospital projects, and were services consultants for the new Emergency Department.

The contract for structural and civil engineering has been awarded to Dunning Thornton Consultants. It covers structural engineering for the buildings, along with roading, car parking and site drainage. With Beca as a sub-consultant, the civil and structural team will include more than 70 Wellington-based technical and professional personnel.

The latest base-isolation seismic resistance technology will be used to protect those inside, and also to ensure that the hospital would be able to function immediately after a devastating earthquake. Dunning Thornton provided base-isolation for the Wellington Hospital Emergency Department, and both companies were involved in the building of a base-isolated hospital in Bhuj, India.

Design work will begin immediately, and the hospital redevelopment should be completed in late 2007. ☺

## Celebrating excellence

**IPENZ is delighted to announce the finalists for this year's Awards. The winners will be announced at the Awards Dinner at the Hamilton Gardens, Hamilton on 31 March, celebrating their success along with that of the recipients of the IPENZ Professional Awards and Fellowships.**

The finalists are:

### **IPENZ Annual Awards**

#### **Communications Award**

sponsored by UNITEC Institute of Technology  
No award

#### **Entrepreneurial Award**

sponsored by ALSTOM  
Peter Carroll (Hynds Environmental)

#### **Environmental Award**

sponsored by BP Oil New Zealand  
Abel Tasman National Park Sewage Management Project: John Cocks, Paul Russell (MWH New Zealand)  
Project Pencarrow: Andrew Collow (CH2M Beca)  
Rehabilitation of Mangere Oxidation Ponds: David Papps, Gary MacDonald, Derrick Adams, Steve Hart, David Carter, Alan Hughes, Leigh Auton (Fletcher Construction, CH2M Beca, Watercare, Manukau City Council)  
Ultra High Pressure Watercutter for Excess Bitumen Removal: Richard Shaw, Steve Grave (Fulton Hogan)

#### **Innovation Award**

sponsored by Meridian Energy  
To be announced

#### **Student Design Award**

sponsored by Meridian Energy  
Brian Roche, Thomas Watts, Jeremy Wu (University of Waikato): Prototype Design of a Separation Skid for Extracting Therapeutic Proteins from Sheep Milk  
Heather Walker, Michael Priest, Royce Fleming (University of Waikato): Ammonium Lactate from Whey Lactose

#### **Young Engineer of the Year Award**

sponsored by Works Infrastructure  
Jason Ingham  
Mark Appeldoorn  
William Peet

#### **IPENZ Supreme Awards for Engineering Excellence**

sponsored by Tranz Rail

#### **Building and Construction category**

Gore Multi Sports Centre: Simon Taylor (MWH New Zealand)  
Macau Tower, Convention and Entertainment Centre: Mark Spencer, Dale Turkington, Simon Longuet-Higgins (Beca Carter Hollings & Ferner)

#### **Energy category**

Manapouri Second Tailrace Tunnel: Mark Drury, Ross Sharp, Don Macfarlane (URS)  
Yakin CPP2 Compression & Utilities Platform:

Wayne Gyde, Alan Pointon, Alex Batten (Sinclair Knight Merz)

#### **Food and Bioscience category**

No award  
Merit to Raw Process Hub Rehabilitation: Ian Marsden (Heinz Wattie)

#### **General/Multidisciplinary category**

Alexandra Flood Protection Works: Derek Chinn (MWH New Zealand)  
5MW Heatpac HPHW System: Nigel Martin, Brent Carlton, Samantha Gunawardena, Allen Keogh (Easteel Energy Systems)

#### **Information Technology and Networks category**

e-XamineIT Software System: Darren Gilbertson, Jon Visser, James Phillis (Opus International Consultants)  
Integrated Source Management Model for Auckland's Bulk Water Supply System: David Leong (Tonkin & Taylor)

#### **Infrastructure category**

Aoraki Mt Cook Village Geohazard Protection Works: Andrew Hurley (MWH New Zealand)  
Auckland International Airport Taxiway to Runway Conversion and Runway Reconstruction: John Marsh, Peter McGregor (Beca Carter Hollings & Ferner)

#### **Manufacturing and Mechanical category**

BHP Melter Recline: Andrew Campbell, Murray Lye (Beca Carter Hollings & Ferner, NZ Steel)  
Ultra High Pressure Watercutter for Excess Bitumen Removal: Richard Shaw, Steve Grave (Fulton Hogan) ☺

**IPENZ congratulates John Ince, Peter Goldsbro' and Tom Leong on their recent election to life membership.**



**Peter Goldsbro'** began his career as a draughting cadet with New Zealand Railways, moving on to become an Engineering Assistant with Raglan County. He

started work with Prestressed Concrete New Zealand (later Stesscrete) at a time when prestressing was a new development. It was to form the main focus of his engineering career.

Between 1957 and 1964, Peter spent a year in Canada, and several years in the UK, returning to New Zealand to work for K P Tapper Consulting Engineer on cement works and harbour facilities in Whangarei. Then he re-joined Prestressed Concrete NZ, this time as Contracts Engineer responsible for the installation of post-tensioning in the Newmarket viaduct in Auckland.

Many other construction projects involving prestressing and related work followed – bridges, buildings, reservoirs and ground-anchoring. From 1978 Peter pursued similar work as a partner in Freyssinet New Zealand Limited.



**John Ince's** career was spent entirely in the public sector, first with the Ministry of Works in the days when it ensured that young engineers received a good range of experience. He spent

1952/53 in the Hydro Design office in Wellington on the Roxburgh project; a couple of years on road construction were followed by four working on the construction of the Ohakuri Power Station.

1960 saw a move to Christchurch, "a better place to bring up a family", heralding thirty years with the City Council. For much of this time he was in charge of the design office, attaining eventually the posts of Assistant City Engineer and then City Engineer.

His council career saw, among other significant works, the replacement of many of the city's bridges, the development of a comprehensive road network (works planned in the 1960s are now virtually completed), and the introduction of computers – with software that he wrote – to facilitate good financial management. It was a matter of pride that department staff should at the end of the year see their expenditure very close to budget.


Since his retirement at the end of 1990, John has researched the history of bridges in Christchurch, incorporating the fruits of his research into *A City of Bridges*, published by the Council. He also revised and extended *The History of Municipal Engineering in Christchurch*, republished in 2000.



**Tom Leong** is a consultant to organisations in the electrical industry, in the areas of electricity supply and installation, electrical inspection, and the Electricity Act and Regulations.

He is the Inaugural (1997) Secretary of the Auckland Utility Operators Group Inc (AUOG), and is involved with various committees associated with electrical safety, electrical standards, hazardous areas and regulations. He has been associated with Standards New Zealand since 1965, as a Council Member for five years, and as a member and chair on various working committees. He is a Member of SNZ EL1/19, the SNZ committee responsible for the Australia and New Zealand Electrical Wiring Rules, and is the Immediate Past Chairman of the SNZ National Committee (HAECC) on Hazardous Areas associated with electrical installations.

Tom is a sitting Member of the Electrical Workers Registration Board (EWRB). He is also a Past President and Life Member of the Electricity Engineers' Association and of the Central Region Electrical Inspectors Association. He has been a member of IPENZ since 1952, and a Fellow since 1983. He is a FIPENZ, Reg. Eng. and FIEE, C.Eng.

Prior to establishing his consulting business in 1993, Tom was the Deputy General Manager, Chief Engineer and Chief Electrical Inspector of Wairarapa Electricity. 


# Bridging the discipline divide

**Engineering and arts degree studies are an uncommon combination, but one that is proving a winner for Auckland University student Rick Johnston.**

He has been selected as a Knowledge Wave Trust emerging leader, and will attend the Trust's Leadership Forum in Auckland in February.

Mr Johnston has completed a joint engineering and arts degree, with a major in history, and will graduate with first-class honours in Engineering, and a prize in history. He has applied his grasp of history and engineering science to the field of operations research. His final-year project

analysed the placement of staff in the Radiotherapy Department at Auckland Hospital, with the aim of improving the efficiency of treatment. He plans to continue his studies at master's level.

The leadership award recognises more than academic achievement. Mr Johnston also edits popular school study guides in art history and physics for the publishing company he owns with two former schoolfriends. His potential has already been recognised with a Rotary Youth Leadership Award, a Freemasons' Scholarship, and the 2002 Engineers For Social Responsibility Prize. 

## Down to earth

**Standards New Zealand Project Manager Ian Brewer MIPENZ received the Elizabeth Drupsteen Award from the Earth Building Association of New Zealand.**

The award recognised Mr Brewer's contribution to earth-building in New Zealand in project-managing three "ground-breaking" Standards for earth building – the first known performance-based standards for this kind of construction to be cited in a national building code.

The Standards are internationally recognised, and have been bought in bulk by several overseas organisations. They have also served to increase the level of mainstream acceptance of earth building in New Zealand. 

## Membership Changes

The following is the full list of additions to, and changes in, the classes of membership for the period 1 October 2002 – 31 January 2003

### Elected to Graduate Member:

A Adibnia, FR Acosta, FS Alzoubaidi, A R Amran Safi, KR Anderson, J R Ang, W A Arshad, M L Brill, P D Brown, K M Buist, G Carter, M G Carter, M E Chiles, S-C Chiu, J R Davidson, R J Derks, E Jnr. De Guia, D L D'Rose, S Dubar, G O Field-Mitchell, HJP Goddard, R V Greaves, A P Hayden, A O Heath, S J Hoekstra, DAL Hoffman, M J Hughes, L M Hunt, S M Ishaque, P A Jessop, J M Keehan, R Kendrick, KY Lam, DBN Lau, M J Lee, D F Le Lievre, M K Lin, WH Ling, A Liu, VA Los, J L Mellor, A D Mitchell, P Mohanaraj, M D O'Brien, S B O'Sullivan, R F Padriago, M A Paquito, B K Patel, L M Paterson, J Pathirana, S-F Peng, P K Rajendren, S G Roberts, W E Roding, J S Rossouw, K S Saini, P Sheik Mohammad, P Shingari, A B Short, A L Sinclair, C L Smith, P L Soo, L M Stewart, DKS Takendu, C K Tan, EHL Tan, T Y Tan, D J Taylor, F C Terblanche, S J

Thomas, Y-F Tu, S J Tucker, P Tovarante, N A Wakim, J A Waterhouse, N B Watson, TSI Wilson, S A Wong, C S Young

### Promoted from Graduate Member to Professional Member:

S A Abley, B J Assink, E O Barnett, N G Betteridge, A R Bradley, R W Brown, B H Cooper, G E Cooper, A J Cowbourne, M S Dawson, M J de Liefde, K T Dent, B A Feary, S Forbes-Brown, M P Gajanayaka, G M Grant, A G Gray, G Hall, M L Hastings, D L Heaps, JHL Hendriks, P A Hoby, J M Ingham, B H Kirtlan, D J Lind, EAA Loka, G A MacDonald, P K Morgan, T J Neill, M P Reed, B Rogers, L J Ryan, R W Shaw, D L Sherriff, T J Stone, PKH Teo, J Tomkinson, J L Wallace, S N Wilkinson

### Promoted from Graduate Member to Associate Member:

C A Solleder

### Elected to Professional Member:

M A Addis, G J Ander, G M Blackler, D S Bradley, S L Burnett, C J Burrows, D M Cairncross, B A Coomer-Smit, A L Crafer, B A Everitt, C J Holtshousen, R J

Kaser, A R Keogh, Y R Khwaounjoo, B W Knight, O Kralj, LEE Leach, S Lion-Cachet, K P McGrath, D J Mulder, V V Prylepski, A W Pryor, A J Smith, D J Thomas, FF Tian, B Veljanovski

### Elected to Associate Member:

MFN Towers

### Promoted from Associate Member to Technical Member:

W J Harding, D T O'Leary,

### Promoted from Associate Member to Professional Member:

R J Bax, Z Kosztolanyi, P M Mitchell, D M Stewart

### Promoted from Technical Member to Professional Member:

R H Corlett, M A Smith

### Elected to Affiliate Member:

A P Barlow, J Iwuamadi, F D Sibanda, J Bukovcak, A Choudhary,

### Promoted from Affiliate Member to Graduate Member:

D W Moore

## Coming Events

### Project Management

University of Canterbury two-day course; assumes no previous formal training

**When:** 4–5 February/ 2–3 April/ 28–29 May/ 1–2 July

**Cost:** \$795 (GST incl)

#### Contact:

psc@canterbury.ac.nz

#### Website:

www.cont.canterbury.ac.nz/  
short\_courses.html

### Finance for the Engineering Manager

IPENZ Auckland/Wellington Branch course demystifying financial management

**When:** Auckland 10–11 March; Wellington 13–14 March

**Where:** Auckland Heritage Hotel; Wellington Duxton Hotel

**Cost:** \$1495+GST

**Contact:** mel@iir.co.nz

### The Effective Manager/The Manager as Team Leader

University of Canterbury courses on developing personal, interpersonal and group skills.

**When:** The Effective Manager 26–27 February or 6–7 May 2003; The Manager as Team Leader 1–2 April or 10–11 June 2003

**Cost:** \$795 each, or \$1,490 (GST incl) for both courses

**Contact:** psc@canterbury.ac.nz

**Website:** www.cont.canterbury.ac.nz/  
short\_courses.html

### Wind and Solar Power and Other Renewable Energy Technologies

Two-day workshop on designing, installing and commissioning photovoltaic and wind-powered systems

**When:** 24–25 Feb 2003

**Cost:** \$1099 (10% discount for IPENZ members)

**Contact:** register@idc-online.com

**Website:** www.idc-online.com



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