

A new dimension

Chief Executive DR ANDREW CLELAND
launches this monthly newsletter for IPENZ
members.

Communication is the heart of what we do at IPENZ – with members, about developments in the profession and the Institution, CPD opportunities and so on; and with others – making submissions, issuing informatory notes, and disseminating information on behalf of and about the profession. At present we communicate with members through *e.nz*, a bi-monthly magazine, and the weekly *eZine*, which is distributed electronically to about 80% of members.

Official communication to members has been via *e.nz*, which worked reasonably well when it was a monthly publication. Now bi-monthly, *e.nz* brings members an excellent read; but the lead-time required for high-quality presentation has made it unsuitable for keeping members up to date. We cannot use *eZine* for this purpose as not all members receive it, and it is not suitable for longer items.

Hence *engineering dimension*. It will be issued monthly to all members, – with *e.nz* every second month, and by a separate mailing in other months. The lead-time will be about two weeks, which means more up-to-date Institution news, more often. *engineering dimension* will include the IPENZ news items previously run in *e.nz*, and selected *eZine* highlights so all members have access to them. We will include a calendar of events, and keep you informed about projects at the National Office. We also want to feature more news about people – success stories from the membership. We'd like Branches to see *engineering dimension* as a vehicle for them.

These changes will free up *e.nz* to concentrate on stories of innovation in engineering, and issues of interest to engineers. And they will help keep *eZine* short and snappy for the convenience of those who receive it. In all, we think we can serve the membership better.

You will also see a change in the header above. Our logo has been used in conjunction with the full title of the Institution on letterhead, business cards etc. but this has proved cumbersome, and few members, let alone others, ever say the title in full and correctly. When people ask what IPENZ stands for the full name is rarely enlightening. Accordingly, the Board has approved the abbreviation of our everyday title to "IPENZ – Engineers New Zealand". We will use this new working title/ logo combination on all future documents. The name of the Institution has not changed – we are still the Institution of Professional Engineers New Zealand – but we can now develop a clearer image of the organisation as representing the engineering profession in this country.

Can I also recommend the 2002 Convention. A registration brochure is enclosed, offering papers from leading speakers covering four themes, three of them more concerned with engineering practice than with policy issues.

engineering dimension is your publication, and we will make sure it responds to the membership's wishes. If you have ideas then Lorraine Brown, our Publications Manager, would love to hear from you. ☺

Opus Consulting exports engineering

IPENZ congratulates Opus International Consultants on winning a prestigious Export Award.

Opus International Consultants, a New Zealand-based engineering, planning and architecture consultancy, has won the Trade New Zealand Export Award, for increasing its annual export earnings – from \$9.5 million in 1999, to \$28.8 million in 2001. The dramatic jump reflects long-term road asset management contracts in the UK, Australia and Malaysia. Opus has established permanent offices in these countries and expanded its business into other areas.

Opus evolved out of the Ministry of Works and Development, via a State Owned Enterprise, into private ownership and one of New Zealand's largest multi-disciplinary consultancies. It has 1200-odd staff around the world and a head office in Wellington, under the direction of Kevin Thompson. Engineering consultancy accounts for 90% of Opus' export business, mostly in the area of road asset management, in which New Zealand is recognised as a world leader.

Opus targets markets in which roading maintenance is contracted out – now it is setting its sights on the neglected highway system of the USA. They have also undertaken high-profile rail projects, on underground systems in London and Hong Kong, and for Auckland's Britomart complex. They are also winning Asian Development Bank and World Bank roading contracts in developing countries.

Opus credit their export success to strong client relationships, and a strategy of using joint ventures to give them a "local face" in overseas markets. Local offices help them maintain the crucial regular client contact. CEO Kevin Thompson also acknowledges support and assistance from Transfund and Transit New Zealand in developing Opus's capability in road asset management, in which area these organisations have led the world. Maintaining its New Zealand base and market remains a priority for Opus; they aim to increase export business from the current 25% to 50% in the next five years. ☺

Coming up

in the March/April 2002
issue of *e.nz* magazine



WhisperTech

Using an old idea to generate electricity cleanly, efficiently and quietly on a domestic scale

Skycabs – a proposal to solve Auckland's traffic woes using elevated taxicabs, at your electronic beck and call

Horizon Technology

A small electrical firm re-invents itself as a leading supplier of industrial automation software

Masonry solutions

An inventive response to a tricky brief involving heritage preservation

Networking and making it happen

Attendance at meetings of branches and technical groups is variable. Some are well attended and others have low turnouts, but no one can identify exactly what will pull in the numbers. For the organising committees it's a bit of a lottery.

I always find it a pleasure to attend Branch meetings and to talk to people – from Fellows to prospective members, with their diverse backgrounds, skills and projects. Engineers continue to implement developments in areas from infrastructure through to industry. Despite good turnouts at most of the meetings I have attended, it is sobering to remember that even a large meeting represents less than 10% of the membership in a particular area. Many are missing out on the networking benefits.

IPENZ has members in many sectors, from government departments through to business and financial management. The skills represented are diverse, but there is a common theme of developing wealth, developing people and accountability for the future in all these areas. Someone recently commented that "engineers are involved in all the country's developments – they make it happen". All too often they make it happen, but are shy to tell anyone else about the solutions they have contributed to complete projects.

engineering dimension is a tool for IPENZ members to let each other know what is happening. It is for members and needs contributions from members. It should become a communication forum for engineers, and the springboard for feature stories in other IPENZ publications. Short reports and stories from practising members are needed – share your successes with other members, raise interesting issues which add value for the IPENZ community.

It would be enlightening to showcase the diversity of engineers' work and the breadth of their skills. Such information could help Universities with syllabus development, companies and government departments with manpower planning and prediction of future growth areas.

engineering dimension will become a great tool to show what engineers are doing, where they are going, and a sound networking vehicle for the profession.

John Cunningham
President

New Professional Standards Board

Previously overseen by an advisory group, professional standards will be determined by a newly constituted Board. VIRGINIA BURTON, IPENZ's Education and Career Development Manager, backgrounds the Board, which will set the standards for accreditation of qualifications and for assessing competency.

IPENZ decision-making processes have changed substantially in the last ten years. A 12-member Board with ultimate decision-making power has replaced a large Council and many standing committees. This has lowered costs; but it also means that one group of people must make important decisions on very diverse issues. Several advisory groups have therefore been operating informally, including one in the professional standards area.

The creation of the Professional Standards Board recognises the critical role of peer review in developing educational and competence standards. This new Board, with clear standing and explicit responsibility, replaces an informal group operating without terms of reference. It will operate in tandem with the Professional Practice Assessment Board, which also replaces an informal advisory group. Its primary role will be to ensure that the standards are used fairly and appropriately in assessing individuals. (The separation of those who set the standards from those who operate them parallels the justice system, where the Courts administer the law but do not set it). We will profile the Professional Practice Assessment Board in a later issue of the *engineering dimension*.

The overall responsibility of the Professional Standards Board will be to develop and approve education and practice standards, and associated procedures, for the engineering profession. Specifically, the Board will develop, for the IPENZ Governance Board, standards for the accreditation of tertiary engineering qualifications, and for competency in engineering practice. The Board will also have responsibility for approving IPENZ accreditation reports.

The IPENZ Board has approved the appointments of Basil Wakelin, Kevin Thompson, Richard Bentley, Peter Jackson and Andrew Buchanan (the IPENZ Board representative) to the Professional Standards Board. Each appointment is for three years, except that of the IPENZ Board representative who is appointed annually. The Board will also include two non-voting members – the Chair of the Professional Practice Assessment Board, and the Secretary, Virginia Burton, IPENZ Education & Career Development Manager.

Members of the Professional Standards Board are profiled below.



Basil Wakelin FIPENZ is a mechanical engineer, though he declares he should have been a process engineer or stuck with aeronautics. He began his career as investigating engineer then mechanical engineer on the Tongariro Power Project with the Ministry of Works. He served as a NZ Army engineer, training road construction engineers in Thailand. There followed an entertaining interlude as mechanical engineer for 24 hours

with New Plymouth consultancy (a record for the briefest full-time period of "permanent" employment?) Then from 1968 he was the first non-civil structural engineer with WG Morrison and Partners, and successor companies.

His current roles in Sinclair Knight Merz include Wellington office manager, manager of industrial group for NZ region, and NZ technology coordinator. During his time with the company he has worked in New Zealand, the UK, Fiji, Vanuatu, Tuvalu, China, Pakistan, Brunei, Hong Kong, and Australia. Memorable moments

Have you registered yet?

By registering on the IPENZ website, you can gain access to our 'members only' area, which provides specialised resources and an easy way to keep your membership up to date! www.ipenz.org.nz/ipenz/newuser.cfm

include a client offering to pay his fee with stolen jewellery; and realising that he was the first European ever seen in the flesh by cave-dwelling villagers in China.

Basil has had a long association with IPENZ, reflecting his interest and involvement in education. He has been and Accreditation Monitor for IPENZ since 1994, during which period he has also served on the Board of the New Zealand Universities' Vice Chancellors' Academic Audit Unit. He also served on the IPENZ Examination Committee (as member and chair, 1976 to 1977, and again from 1980 to 1985), and the Education Committee, which he chaired from 1986 to 1994. He received the IPENZ Professional Commitment Award in 1988, and the McLean Citation – a rarely-awarded honour for service to the Institution – in 1995.

Throughout the 80s he was Visiting Lecturer in Meat Technology at Massey University, and since 1990 has been External Fellow and Examiner for Massey's Biotechnology Design course.

Basil's interests, besides education, include building things, and flying – he owns an aircraft so slow that in strong winds it has been overtaken by cars towing caravans. The most important things in his life are his family, his Christian faith, and his curiosity about the world.



Richard Bentley FIPENZ is a Wellington-based company director and management consultant. He is a director of the Natural Gas Corporation, chairman of Rissington Breedline Limited (a private sheep and beef genetics company), deputy chairman of the NZ Institute for Crop and Food Research, and a director of Wanganui Gas Limited. He is also a trustee of the Karori Wildlife Sanctuary, and a director of the Carter Observatory.

Richard worked for Beca Group in the 70s and held various positions in Fletcher Challenge during the 80s. He was CEO of the Natural Gas Corporation for 11 years to 2000. During the 90s Richard was a director of the Institute of Nuclear Sciences for eight years, chairman of the ACC subsidiary Catalyst, a director of Liquegas Limited, and in 1998 an IPENZ Board member.

In the education sector Richard is a member of the advisory councils of the Education Review Office and the Degree of Applied Science at Otago University, and is chairman of NZQA's advisory committee on learning and qualifications in secondary schools. In 2001 he assisted the CEO of NZQA in a major restructuring project including the appointment of a new management team and the preparation of a new strategic and business plan.



Kevin Thompson is Chief Executive of Opus International Consultants (see our front-page report on Opus's Export Award)

Kevin started with the Wellington office of the Ministry of Works and Development's (MWD) structural design group in 1975, and subsequently spent time in Invercargill, Dunedin, and Wellington.

In 1985 he became Director of Project Management for State Coal Mines. In this role he was responsible for managing State Coal mine investigation and development projects. In 1986 Kevin rejoined the MWD to manage Vogel Computing Services for them. During the 1987 restructuring for corporatisation, he was appointed Southern Regional Manager for MWD, responsible for commercial activities in the South Island. He remained in this role until he was appointed Chief Executive of Works Civil Construction in 1989, a position he held until 1997. In 1998 Kevin joined Opus as Regional Manager in

Hamilton. In 2000 he was appointed Chief Operating Officer, and took up the position of Chief Executive in April of the following year.

Kevin has a BE (Civil) (Hons) and PhD from Canterbury University, and is a Fellow of IPENZ. He was recently on the IPENZ Accreditation Panel that reviewed the engineering degrees at the University of Canterbury, and is currently a member of the University's civil engineering advisory committee. The Association of Consulting Engineers (ACENZ) has also benefited from Kevin's input as a Board member.



Dr Andy Buchanan is Head of the Civil Engineering Department at the University of Canterbury, where he has been involved in teaching and research since 1987, often in collaboration with industry.

Prior to joining the University he was a consulting engineer in his own practice of Buchanan and Fletcher Ltd, involved in the structural design and fire safety of buildings.

He began his engineering education as an undergraduate at Canterbury, after a year as a volunteer secondary school teacher in Sarawak, Malaysia. He then worked for Davie Lovell-Smith & Partners in Christchurch before travelling to California to study for a Master's degree in structural and fire engineering. He returned to New Zealand in the mid-70s and worked for Holmes, Wood, Poole & Johnstone, until he returned to study – a PhD in timber engineering at the University of British Columbia, Canada, in the early 80s.

Andy is a structural engineer with a special interest in fire safety. He has many publications on fire resistance, earthquake engineering, and timber structures to his credit, and edited the *Fire Engineering Design Guide* and the *Timber Design Guide*. His new book, *Structural Design for Fire Safety* has just been published by John Wiley & Sons in the UK.


He is currently researching the structural performance of buildings exposed to fires and earthquakes. He has been on the management committees of the New Zealand Society for Earthquake Engineering and the Structural Engineering Society (SESOC), and President of the New Zealand Timber Design Society. He is a current member of the IPENZ Board.



Peter Jackson FIPENZ is currently Postgraduate Dean for the University of Auckland, where he has been Professor of Mechanical Engineering (from 1987). He has an ME (Engineering Science), with First Class Honours, from the University of Auckland, and a PhD in Applied Mathematics and Theoretical Physics from Cambridge. He is a Fellow of the Royal Aeronautical Society, a Chartered Engineer, a Member of AIAA, and an Associate Member of the Royal Institution of Naval

Architects. He has participated in several IPENZ degree accreditation visits.

Peter began his career as Senior Engineer at the Central Laboratories of the Ministry of Works and Development, from 1973 to 1977. He then taught as Senior Lecturer in Mechanical Engineering at the University of Auckland from 1977 to 1987, when he was appointed to his present position of Professor of Mechanical Engineering. Peter also served as a UNITEC Council member, from 1998 to 2000.

His expertise is wide-ranging, including fluid mechanics, aerodynamics, thermodynamics and engineering design. He has pursued particular research and consulting interests in wind engineering, low-speed aerodynamics (especially of sails) and yacht performance. Peter founded the Yacht Research Unit at the University of Auckland in 1987, and was involved in all of the NZ challenges for the America's Cup. 



Charting IPENZ's Future

Every year the IPENZ Board conducts a review of the 5–6-year strategic plan and the 1–3-year operational plans for implementing it. This review commences with a one-day consultation forum with representatives of Branches and Technical Groups. The 2002 forum will be held in Wellington on Saturday, 23 March. The updated strategic and operational plans will then be revised before June, after which staff can prepare the budget for the next financial year for approval at the August Board meeting.

Members are invited to consider the present plan (at www.ipenz.org.nz/ipenz/who_we_are/stratplan/) and the present operating budget (www.ipenz.org.nz/ipenz/members/budget/) Note that access requires a member-area log-in. We would be pleased to receive your comments on the strategy and on how we spend the members' funds. Your input should be made well in advance of 23 March, via your Branch or Technical Group Chair, or directly to the Chief Executive (acleland@ipenz.org.nz) who will convey suggestions to the Board. ☺

Status of the CPEng Bill

The CPEng Bill continues to await its second reading, after reaching the top of the Order Paper at the end of the last Members' Day in Parliament last year. The House does not sit until 12 February 2002, and it is expected the first Members Day will be in the second week (i.e. on Wednesday 20 February 2000). The CPEng Bill is now third on the order paper – with one Local Bill (which has priority over Private Members' Bills) and one Member's Bill ahead of it. It is possible the CPEng Bill will slip further down the order paper as other Bills are reported back to the House.

IPENZ understands some technical amendments are required to the Bill, which would normally require it to proceed through the committee stages as part of its Second Reading. Thus, the Bill would need two Members Days to complete the Second and Third Readings (unless leave of the House is sought and given), adding an extra fortnight to the process. An optimistic view is that the Bill might achieve its Third Reading in late February to early March, while the pessimistic view is that it may tend more toward mid-year.

Fellowship update

The three IPENZ Fellowship Panels have been hard at work over the summer, peer reviewing nominations in preparation for the announcement of new Fellows (Honorary, Distinguished and ordinary) for 2002. We expect approximately 30 new Fellows, who will be presented with their certificate and citation at the IPENZ Awards Dinner at the 2002 IPENZ

Convention on Monday, 25 March in Wellington. We invite all members to be present; whether you are attending the Convention or not you may purchase a dinner ticket.

This occasion will mark the first round of Fellowship determinations under the new protocols developed in 2001 to increase the prestige of this, the profession's most important recognition of its high achievers. For the first time each new Fellow will receive a certificate describing the contribution for which they are being recognised. Citations will be published in the April issue of *engineering dimension*.

Candidates who have missed this round should note, that the next round of Fellowship nominations and applications, close in September 2002.

New Endorsed Employer

Harrison Grierson achieved the status of IPENZ Endorsed Employer late last year, following their successful implementation of a career development programme for graduate engineers working towards registration. Senior engineers in Harrison Grierson facilitate the Company's programme, acting as mentors to the graduate engineers. Currently 16 matched mentoring pairs are taking part. An interesting feature of their programme is they have chosen to match graduates with senior staff from different divisions. They have found this promotes the sharing of information between divisions and gives more focus to mentoring meetings, encouraging the discussion of registration issues rather than general division business. Well done, Harrison Grierson. ☺

Short form contract – some handy hints

Engineering Practice Manager MURRAY ISDALE looks at the contract and Intellectual Property issues.

The IPENZ/ACENZ short form contract has proved a most useful tool, limiting risk and resultant financial exposure to the parties in the contract. A further benefit is that where standard documents have been used, if complaints from the public are received, IPENZ will be in a better position to help find a solution. Certainly IP insurers will expect you to have limited your liability by using such a document.

We have had a couple of instances recently, however, where the form has been used, and the contract as written does not seem to fit the task. As with any contract, specific clauses can be added or deleted if both parties initial the change or, in the case of additions, exchange letters or use some other form of notation to indicate the parties' wishes. Clearly, it is important that all parties are fully aware of the reasons for any change. If you are uncomfortable with changes that a client is suggesting, then please consult your lawyer, IPENZ or ACENZ. Unilateral departure from standard conditions can be very risky. Changes that alter the balance of risk depart from industry standards, and may not be in either party's best interest.

It has also come to our notice that inappropriate use is sometimes made of the contract form. Although intended for general use where professional advice is to be provided, the Short Form contract may in some cases be less appropriate. For example, if you are conducting research or development using material from another company, it may not be appropriate to insist on retaining IP rights (clause 11) as the company will probably go elsewhere. They could well lose commercial advantage if someone else owns the IP. However, any IP added to the process may require some negotiation. The question of IP in current legislation is far from clear.

To sum up, it is important that the contract agreed is appropriate for the task to be performed, provides adequate protection in the event of something going wrong and gives a fair outcome to all parties. Be prepared to be flexible on IP rights where research and development work is involved, particularly if the IP at the starting point is owned by the client. However, as there are often unforeseen risks in many of these engagements, it may pay to consult first.

A reminder also, that for larger or more complex projects, the CCCS contract document or Model Conditions of Engagement may be more appropriate. ☺


Jack Nixon FIPENZ 1915–2001

John Roger (Jack) Nixon, former district manager of New Zealand Electricity, died in Hastings on 31 October. He was born in 1915, and educated at Christchurch Technical College and then Canterbury University. Starting with the Christchurch Municipal Electricity Department while he was still a part-time student, his career was devoted to the electricity supply industry, apart from wartime service in the Air Force.

In 1946 Mr Nixon joined the State Hydro Electricity Department. He worked on the design of the Bunnythorpe and Otahuhu substations, and the switching station for the Whakamaru hydro station. In the mid-1950s he was senior electrical engineer at Mangakino. He moved on to the Napier District Office, remaining there until he retired as district manager in 1975. He was granted life membership of IPENZ in 1986. In his retirement he was involved in community work, serving as vice-president of the IHC. He is survived by his wife, Irene, three daughters and a son, and five grandchildren.

Stan Winfield FIPENZ 1918–2001

Stanley Joseph Winfield, formerly chief engineer with Hawke's Bay Power Board, died at home in Havelock North on 30 October 2001, aged 82. Born in Christchurch in 1918, he was educated at Christchurch Technical College. He completed a Diploma of Electrical Engineering, then worked in Dunedin as an electrical engineer on projects that included the Waipori Dam and its power stations, and the trolley bus system. In 1954 he joined the Hawkes Bay Electric Power Board, serving for 29 years and rising to the position of chief engineer.

Mr Winfield attended energy conferences in Moscow and Chicago, and was a fellow of the Institute of Electrical Engineers, London, and the Institute of Power Engineers of New Zealand. He was made a life member of IPENZ in 1993. His wife, Kathleen, died in 1996. He is survived by his son and daughter, six grandchildren and a great-grandchild. 

Date changes for Professional Practice Assessments


IPENZ National Office constantly reviews MIPENZ and Registration Professional Practice Assessment (PPA) procedures and standards, to ensure that they reflect international best practice and the needs of our members. The following changes will happen this year:

- Round 1, Auckland**
documentation due 1 February, assessments held in March
- Round 2, Wellington, Christchurch**
documentation due 1 March, assessments in April
- Round 3, Auckland**
documentation due 1 April, assessments in May
- Round 4, Wellington**
documentation due 1 May, assessments in June
- Round 5, Christchurch**
documentation due 1 June, assessments in July
- Round 6, Auckland**
documentation due 1 July, assessments in August
- Round 7, Wellington, Christchurch**
documentation due 1 August, assessments in September
- Round 8, Auckland**
documentation due 1 September, assessments in October

All documentation – application, engineering report or work samples, and referees' reports – will be due on the same date, to avoid the confusion. This means the whole PPA fee will have to be submitted with the application and documentation. Our surveys showed that most applicants' employers were paying their PPA fees, and they preferred to pay them all at once, rather than in two stages.

There will be more assessment rounds. Instead of three simultaneous rounds in three centres, there will now be eight per year, one each month from March to October, each in a single location. More than half of all PPAs are conducted in Auckland, so more rounds will be offered there; the others will be alternated between centres. This will spread the workload of IPENZ staff, and shorten the time you will have to wait for results.

Permanent part-time Assessors will be phased in over 2002 to support the volunteer interviewers, who will continue to provide specialist discipline-specific input. The Assessors' in-depth knowledge of standards, quality assurance processes and competency-based assessment will ensure a uniform standard across assessment panels and centres.

IPENZ National Office is in the process of phasing in these changes. The April 2002 PPA round therefore, is being run as normal and the new timetable, outlined below, will run from Round 3. The timetable can also be viewed at www.ipenz.org.nz/ipenz/join/#member 

Training for new PPA interviewers

IPENZ members who become Professional Practice Interviewers have direct input into the setting and benchmarking of engineering standards. They provide a vital service, to the profession, the industry sector and the community as a whole. IPENZ needs to constantly expand its pool of qualified interviewers, especially in emerging areas such as software, food and electronics; and there is always a demand for practitioners of civil, mechanical and chemical engineering. We strongly advise employers of graduate engineers to have some senior engineers trained as IPENZ professional practice interviewers.

To qualify as an IPENZ PPA Interviewer you need to have been an MIPENZ member for at least three years. On an interviewer training course you will gain an understanding of the MIPENZ and registration PPA process and standards; learn about the graduate competency development programme; gain skills in competency-based interviewing; and practise what you have learnt using case studies.

Dates and venues of the courses are as follows:

- Christchurch:** Wednesday 27 February, 11.30am – 5.30pm
School of Engineering, University of Canterbury
- Auckland:** Tuesday 5 March, 9.00am – 2.30pm
IPENZ offices, Suite 1.5, 72 Dominion Rd
- Wellington:** Wednesday 13 March
IPENZ National Office, Level 4, 101 Molesworth St.

Refresher Courses for previously-trained IPENZ Professional Practice Interviewers are also available.

- Auckland:** Wednesday 6 March 2002, 9.00am – 2:30pm
- Wellington:** Tuesday 12 March, 9.00am – 2:30pm

To register email: cdyet@ipenz.org.nz for Wellington and Christchurch venues, Lesley@ipenz-north.org.nz for Auckland.

Any queries? Please contact Virginia Burton, Education and Career Development Manager, who will facilitate the training sessions: vburton@ipenz.org.nz

IPENZ is launching Convention 2002 in Wellington on 24 March 2002. It will be the first of a new-style annual event, combining the best aspects of the profile-raising Congresses of 1999 to 2001 with opportunities for engineers to learn about issues of concern to the profession and keep up to date in their areas of practice. Each Convention will cover profile-raising and common professional issues through plenary sessions, alongside parallel sessions on various engineering practice areas.

This year the theme of the Convention is "Harnessing Technological Innovation for New Zealand". There are two plenary streams. The first relates to the convention theme and will focus on the management of innovation, with a number of leading speakers covering this most important management function. The second plenary stream covers strategic issues for the engineering profession: some lessons about engineering regulations and their enforcement (or lack of) that have been learnt in Australia; the impact on the profession of the imminent Chartered Professional Engineers Act; and two core tools in every engineer's tool-box – risk and contract management. The latter will be a summary of the CAE Conference on contract innovations, to be held in February.

The three engineering practice areas chosen for inclusion in the parallel streams are building and construction, manufacturing, and the new discipline of software engineering. There will be a range of papers, discussions and presentations covering engineering knowledge and other relevant issues in each of these practice areas.

Apart from being the first Convention, the 2002 event is significant because a keynote speaker will be Dr William Pickering, one of New Zealand's most successful engineers. Dr Pickering, now aged 91 and still going strong, is an Honorary Fellow of IPENZ. He will give the Newnham Lecture which will be open to the public, as well as an address on engineering innovation management.

Other special guests will include the Presidents of the Institution of Engineers Australia, Hong Kong Institution of Engineers and the Institution of Electrical Engineers.

Social events will include the President's Reception (with lots of Presidents – see above!) and the black-tie annual IPENZ Awards Dinner, where the high achievers of the profession will receive their Awards.

The Registration Brochure for the Convention is enclosed with this issue of *engineering dimension*. We urge you all to attend this significant event in full, or at least in part. ☺

For more information visit the Convention Website at: www.ipenz.org.nz/convention2002

Movers & Shakers



Elected – David Thom, ATSE Foreign Fellow

David Thom CBE, Past President and Distinguished Fellow of IPENZ, and Special Adviser to the President of the World Federation of Engineering Organisations, has been honoured by election as a Foreign Fellow of the Australian Academy of Technological Sciences and Engineering (ATSE). His election brought the total number of such Fellows to eight. The Academy's object is to promote the development of scientific and engineering knowledge, and its application to practical purposes.

Announcing the election of new Fellows at the ATSE symposium in Hobart last November, President Tim Besley observed that David Thom was a world leader in conservation, who had awakened the engineering profession to the need for sustainable development.

Appointed – Michael Weatherall

Michael Weatherall, Dip Law (UK), Dip LP (UK), BE (Hons), MIPENZ, is one of four new partners appointed to law firm Simpson Grierson from 1 January 2002. Michael is appointed to the firm's Resources and Infrastructure Department. He has specialised in construction and engineering law since 1992, first with a construction law firm in the UK, and since 1997 with Simpson Grierson.

Before he qualified as a lawyer Michael was a structural engineer and project manager with Beca Carter Hollings Ferner, in Melbourne and Wellington. His work has involved structuring, documentation, and tender and general commercial advice, on a wide range of projects. Michael also advises and represents clients on construction and other project disputes.



16th NATIONAL CONFERENCE

**REAL TECHNOLOGY –
Innovation
that Benefits Humanity**

Saturday 23 March 2002 (preceding IPENZ Convention)
Duxton Hotel, Wakefield St, WELLINGTON, 9.00am – 5.15pm

Exciting and stimulating speakers and discussion about:

- The driving forces of technology
- Technology planning – Matching needs and providers
- Humanity's Needs
- The Ideal Innovative Future: A creative vision

For further information and registration details contact:

Gerry Coates Ph: 0800 477 546 or email gerry@isp.co.nz

Note – you don't have to be a member of ESR to come.

Engineering Unlimited

Congratulations to Holmes Consulting Group for its prominent showing in *Unlimited* magazine's Best Place to Work survey. HCG was rated second equal with Microsoft among New Zealand's 20 best workplaces, behind BT Funds Management.

This large and authoritative survey of workplace satisfaction attracted confidential online responses from 6927 employees of 87 companies. It was designed and conducted by HR consultants John Robertson and Associates, using a rigorous methodology. Participants answered 45 questions designed to establish how they felt about their job, the organisation, communication and teamwork, reward and recognition, and leadership, and to quantify their own levels of commitment and satisfaction.

A short list was drawn up on the strength of the employee survey. The CEOs of short-listed organisations were interviewed, and data on staff turnover and training spending was factored in. Summarised information was evaluated blind by a panel to arrive at the final list of 20.

The recipe for keeping your employees happy and productive? Analysis of the survey database identified six "key drivers" of employee satisfaction:

- Fun – six times as important as confidence in leadership, nine times as important as pay and benefits!
- Pride in the organisation
- Management performance – this criterion registered the biggest differences between best and poorest performers
- Caring – by which people mean actions, not just words
- Fair pay and benefits
- Company success


There is some interdependence between these, of course – company success engenders pride in the organisation, and management is ultimately responsible for both company performance and employment conditions. John Robertson identifies a strong sense of alignment to a unifying corporate vision as a crucial motivator.

"Caring" for the welfare and satisfaction of employees can take many forms. Some of the measures Top 20 companies took to ensure their staff felt valued were highly proactive. How about a playroom, complete with pool and table tennis, bean bags and a big fridge? Or yoga in the boardroom?

One reliable indicator is the relative size of an



organisation's training budget; in the end, an employee wants to feel valued, and that their contribution to the success of the company is worthwhile. Holmes Consulting challenges their young engineers with responsibility for whole projects – and makes sure there is ample support on hand at every stage, so that the challenge will be met and the experience will prove ultimately rewarding.

In the end, a great workplace is one where employees want to be. This means that the work itself, as well as incidental benefits, must be enjoyable and a source of satisfaction. 

Obituaries

Dr Colin Wells 1961–2001

Colin Wells' death at St Clair on New Year's Eve tragically cut short a life full of promise – a life that had delivered significant research outcomes with the potential for very much more; a life that had, through action rather than words, expressed a profound commitment to Christian values and faith.

Born to Donald and Annette Wells in the farming community of Richmond, Nelson, in 1961, Colin

retained his love of the agricultural life, and gained a first class honours degree in Agricultural Engineering at Canterbury University. On graduation he was appointed a Junior Lecturer in Agricultural Engineering at Massey University. There Colin completed his PhD with a thesis on the growth of cucumbers in a model of a greenhouse environment, intended for use in studying optimal control of such an environment.

Colin left academia to join Agriculture NZ Ltd in Christchurch. This gave him the opportunity to apply his learning to practical agriculture, and to support the development of policy frameworks for agriculture and natural resources. He was appointed to the Energy Management Programme at the University of Otago in 1998 and subsequently became its director. In this role Colin could integrate his interest in energy with his long-standing inclination towards natural resources and agriculture.

Colin was a skilled mathematical modeller and his analytical methods often provided useful guidance for other researchers. His most recent work was a study of energy use on New Zealand dairy farms for the Ministry of Agriculture and Forestry. This recently published report represents a major contribution to understanding total energy inputs and the development of indicators of agricultural sustainability.

Dr Wells was a registered engineer and a Member of the Institution of Professional Engineers New Zealand, serving on the Otago Branch Committee with distinction. A strongly principled engineer and scientist, he had a keen sense of community values. He saw escalating energy use as a critical environmental risk, and as a challenge for engineering, requiring the development of new tools in energy management. He therefore took a keen interest in energy policy and planning, never losing sight of the human dimension. Colin worked in a quiet but determined way, winning the respect and affection of his colleagues. His loss is keenly felt in academia and the engineering profession, but he leaves a living legacy in his contagious vision, and in his students.

In his Church and family life, Colin Wells was generous with his time and efforts. Most recently as a Director of the Shoreline Trust he had an important role in the development of the Shoreline Auditorium as a venue for the Church's activities. Throughout his adult life Colin participated in Church life. He ran highly-valued house-groups on Biblical studies, and was an active participant in weekly sermons.

Dr Wells is survived by his wife, Karen, his children, Amy-Lee and Adam, his parents, Donald and Annette, and his brothers John and Gilbert.

Contributed by Gerry Carrington (Otago University) and Gavin Wall (Massey University) 

Membership changes

December 2001 and January 2002

Elected to Graduate membership

Brendan Alex Tibucio Pereira, Timothy John Brook, Lucian-Brutus Bura, Francis John O'Riley, Steven Brett Tyrell, Stephen Chia, Jonathan Arthur Smith, Reece Kevin Fuller, Brent Philip Maguire, Ali Mohd Akbar, David John Campbell, Chris Shane D'Arth, Tristan William Hook, Jajan Pruwitan, Robert Tinholt, Jared Michael Keen, Brian William Grey, Michel Boutros Abi Nakad, Hadley William Wick, Bryan Bell, Raymond William Brown, Leonard Edwin, Anthony Wallace Gray, Ross Charles Jennings, Khoung Joseph Ling, Febe Pamela Arconado, Jonathan Brian Mumford, William Reloban Te, Stephen Blair Temple, Teck Hiong Chung, Doreen Kuok, Greg Neil Melvin, Patrick Mahon Minchin, Chi Yung Heung, Tung-Chun Huang, Nigel Kiat Law, Dietmar Erich Londer, Luisito Balajadia, Fred Conning

Elected to Affiliate Member

Christopher Hugh Jenkins,
Leon Clement

Elected through the ICE Members Reciprocal Agreement

Robert Smith Blyth

Elected to Member

Warrick John Weber

Promoted from Engineering Associate to Engineering Technologist

Victor Ralph Fouche

Coming events

New Society for Earthquake Engineering Annual Conference

Learning from Earthquakes – what are the gaps in our mitigation and preparedness?

When: 15–17 March 2002

Where: War Memorial Centre, Napier

Contact: jacquie@hague.co.nz

Website: www.nzsee.org.nz

Engineers for Social Responsibility 16th Annual Conference

Real Technology: Innovation that Benefits Humanity

When: 23 March 2002, 9am to 5.30pm

Contact: shearer@express.co.nz

IPENZ Convention 2002

Harnessing Technological Innovation for New Zealanders

Begins: 24 March 2002

Where: Duxton Hotel, Wellington

Cost: \$495 IPENZ/IEE/IEEE members, \$595 non-members

Contact: aunderwood@ipenz.org.nz

Website: www.ipenz.org.nz/convention2002

New Venture Start Up

One-day interactive course, aimed at technology, software or internet business.

When: 26 March 2002, 9am to 4.30pm

Where: University of Canterbury

Cost: \$385 (GST inc)

Contact: psc@canterbury.ac.nz

Website: www.cont.canterbury.ac.nz/short_courses.html

Board highlights

- Legal advice was sought regarding any inter-relationship between the processing of a complaint under the CPEng Act and the parallel pursuit of a civil claim for compensation in the same matter – this will be important for establishing the regulations for handling complaints.
- The investment strategy for the Benevolent Society funds was reviewed. It was resolved to move some of the funds from lower performing investments in an effort to improve returns.
- Improved membership retention over the three previous years was noted.
- Expenditure of \$53,000 for the detailed design and specification of the new Membership Record System was approved. A specification will be ready for tender in early March.
- A small group of staff and senior members was formed to revise the regulations for processing of complaints against members, to make them more effective.
- The Board election results for 2002/2003 were ratified. No election is needed as the number of candidates equals the number of positions. Results will be announced once the candidates themselves have been informed.
- Candidates for election as Fellow, Distinguished Fellow or Honorary Fellow were approved so that they can be invited to the Awards Dinner on 25 March to receive their certificates and citations.



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