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President's Message



A short history of engineering education

You may feel that reflecting on the history of the profession is a sign of advancing age, but I am confident that my motivation is entirely due to the centenary of the School of Engineering at the University of Auckland.

The School now has many thousands of graduates (including me) and its net contribution to our country and our profession is immeasurable. So, on

behalf of IPENZ and all its Members, I would like to extend warm congratulations to everyone who has contributed to the success of the School.

Thinking about the centenary made me reach for the history books. I knew that New Zealand established formal education for engineers relatively early on in our English-speaking history, and I wanted to check just how early it was.

Formal engineering education in New Zealand began in the 1880s with champions such as Edward Dobson of Lyttelton Tunnel (1867) fame, who IPENZ honours today with the Dobson Award. At that time only a couple of schools existed in Australia, and there weren't many more in the United Kingdom. Auckland started teaching mining engineering in 1906 (obviously) – quite early on in the scheme of things. We would have got going even earlier but for the politics of the day, and the fact that all our "universities" at that time were part of the University of New Zealand and so had no authority to determine what they taught.

In this message, I had planned to make some points about the foresight of our ancestors and comment on the continuing high quality of New Zealand graduates in general (I am not seeking examples to the contrary!). However, after an hour in our library I discovered that New Zealand was actually far behind the rest of world in establishing formal engineering education – and even the United Kingdom started relatively late.

In Europe, the scholars who survived the French Revolution wanted to ensure there was a supply of people capable of running the organisation and infrastructure of the state, so they established the Ecole Polytechnique in 1795. One of the chief proponents was Gaspard Monge, who invented descriptive geometry and in doing so hugely accelerated the development of science-based engineering. In Germany the first equivalent institutions started in around 1800 and the modern Technische Hochschule were in place by 1830. It was a Berlin graduate who designed the Brooklyn Bridge in 1869.

In the United States, the first school of engineering began at West Point Academy in 1818, followed closely by Rensselaer Polytechnic which is still a very distinguished school. Of most interest to me was the fact that the Americans followed the French model of engineering education. This probably explains why, a century or two later, the status of engineers is higher in the United States than other English-speaking countries.

Finally we get to the United Kingdom, whose educational model we followed in New Zealand (and still follow all too often). The World Exhibition, held in Hyde

Park in 1851, showed that the United Kingdom lagged behind the rest of Europe in the quality and sophistication of its manufactured products. Although there were already many mechanics institutes, what emerged from all the angst which followed the Exhibition were schools of design and then schools of engineering from about 1870. So you see that, by the time New Zealand followed suit, we were almost a whole century behind the French. So much for foresight!

But none of this affects today's graduates, since a great deal of structuring and restructuring of engineering education has gone on in the intervening years. I'll therefore end the way I wanted, by saying that the staff of our engineering schools are a very committed and talented bunch and we have much to thank them for. While you may think this is a biased view, I prefer to think of it as an informed one.

Once again, to my Auckland colleagues, well done and best wishes!

Peter Jackson

President

Update on Year of the Young Engineer Initiative

In November IPENZ emailed Members and a number of professional engineering organisations to seek their support in completing our survey on young engineers.

The survey – an initiative of IPENZ President Peter Jackson – aims to find out more about "young engineers" (graduate engineers who have been in the workforce for less than eight years), what they know about IPENZ, and what they want from the Institution. Once we know more, we can work out what we need to do to improve support for the early-stage career development of young engineers.

We have had a tremendous response to date and a strike rate of 16.4 per cent – note that a five per cent response rate is considered a good result by those who administer surveys.

At the time of writing:

- 1,790 people have viewed the survey
- 1,344 have started it
- 1,050 have completed it (244 of whom are not IPENZ Members)
- 294 have started but not yet completed the survey
- we have received 89 qualified new Member inquiries (21 are Student or Graduate Members who had been "lost" and now wish to rejoin and continue with their professional development)
- 12 completed Membership applications have been submitted

The survey (which can be completed at <http://72.5.52.200/akira/TakeSurvey?id=537163>) is due to close on 15 December 2006. A summary of provisional results is provided below.

Of the 1,050 who have completed the survey:

- 493 (41.3%) are University of Canterbury graduates
- 801 (67.3%) have a BE(Hons) or a BE; and a further 108 (9.1%) have an ME
- 938 (79.4%) are IPENZ Members (619 of whom are Graduate Members)

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- 642 (54.2%) were not IPENZ Student Members when they were studying
- 244 (20.6%) are not current IPENZ Members
- 924 (77.0%) have less than 10 years of experience since graduation
- 709 (76.4%) have their Membership paid by their employer
- 195 (21.0%) pay for their own Membership

Why respondents joined IPENZ (more than one answer may have been selected):

- 438 (41.7%) are Graduate Members who see IPENZ Membership as a prerequisite for the path to full professional understanding
- 419 (39.8%) perceive IPENZ Membership as a mark of quality
- 416 (39.6%) want guidance as they work towards CPEng status
- 358 (34.1%) were encouraged by their company to join and they didn't think twice about it
- 208 (19.8%) perceive that Membership gives them the opportunity to network, listen to guest speakers and make new friends through IPENZ-organised events
- 208 (19.8%) are looking for peer recognition through the different IPENZ Membership classes
- 197 (18.8%) want the opportunity to contribute to the profession today and in the future
- 164 (15.6%) want access to the results of the annual Remuneration Survey
- 144 (13.7%) paid for their Membership themselves as they wanted to enjoy the benefits
- 144 (13.7%) asked their company to pay for their Membership as they wanted to enjoy the benefits
- 100 (9.5%) were encouraged to join by other Members

Why respondents did not join IPENZ (more than one answer may have been selected):

- 84 did not get around to it
- 62 decided the benefits did not justify the cost
- 55 did not know enough about IPENZ to make a decision

- 49 have a job which does not require professional recognition
- 33 thought the process was too complicated
- 30 do not see IPENZ as relevant for them
- 4 have had negative experiences of voluntary membership organisations in the past
- 71 decided not to join for other reasons

What respondents want from IPENZ in the first eight years of their career (again more than one answer may have been selected):

- 956 (91.0%) want general guidance as they work towards achieving CPEng/ MIPENZ status
- 681 (64.9%) want professional development opportunities tailored to young engineers' needs
- 636 (60.6%) want opportunities to network with engineers generally
- 542 (51.6%) want mentoring from senior engineers
- 411 (39.1%) want opportunities for networking with other young engineers
- 370 (35.2%) want assistance with technical aspects of their work that isn't provided on the job
- 326 (31.0%) want help with further technical studies
- 313 (29.6%) want opportunities for socialising with other young engineers

The results very much reflect our understanding that young engineers are looking for two strands of professional development, and opportunities to network and socialise with other engineers. IPENZ is expanding its existing programmes and developing new ones to meet these needs, and has recruited a young engineer to lead this initiative on a 20% secondment from their current employer.

Full details of the initiative will be presented at Convention 2007, to be held from 21 to 23 March at the Hyatt Regency Hotel in Auckland. Another highlight of Convention 2007 will be the IPENZ Young Engineers Paper competition which gives younger Members the opportunity to present on "the value of IPENZ in the year 2020". For further details, including conditions of entry and the entry form, visit www.ipenz.org.nz/Convention/programme.htm

2006 New Zealand Engineering Excellence Awards Winners



Rt Hon Helen Clark presents the William Pickering Award to Laurence Zwimpfer.

The cream of the engineering profession met on Wednesday 22 November at TE PAPA in Wellington for the New Zealand Engineering Excellence Awards.

The 420 engineers and guests enjoyed a sumptuous banquet and were entertained by a string quartet, jazz band and opera singer Allison Cormack. The evening was hosted by Chris Laidlaw and attended by a number of politicians, including Prime Minister Helen Clark, Ministers Clayton Cosgrove and David Cunliffe, and engineering MPs Ashraf Choudhary, Nick Smith and Phil Heatley.

IPENZ congratulates the evening's winners:

Individual awards

William Pickering Award for Engineering Leadership 2006 – Laurence Zwimpfer
New Zealand Engineering Innovator of the Year 2006 – Olaf Diegel
New Zealand Young Engineer of the Year 2006 – Jonnette Adams
Award for Excellence in Engineering Journalism 2006 – Hannah Sperber

Category awards

Supreme Award for New Zealand Engineering Excellence 2006 – Manufacture of Two-Seater Training Aircraft (Alpha Aviation Ltd)
Building, Construction and Amenities – TelstraClear Pacific Events Centre (Sinclair Knight Merz Ltd)
Utilities and Networks – Kate Valley Landfill (Transwaste Canterbury Ltd, Canterbury Waste Services Ltd, Fulton Hogan Ltd and Tonkin & Taylor Ltd)
Roads and Transport – Great South Road / Sylvia Park Road Intersection Upgrade and Bridge Replacement (Maunsell Ltd)
Information and Communication Technology – DAG7.1S Network Monitoring Interface Card (Endace Ltd)
Food, Bioprocess and Chemical – Fonterra Energy Reduction Project, Heat Recovery Loop (Demand Response Ltd and Process Developments Ltd)
Mechanical and Manufacturing – Manufacture of Two-Seater Training Aircraft (Alpha Aviation Ltd)
Electrical and Systems – SMART*lift* Load Monitoring System (Steelbro NZ Ltd)
Sustainability and Clean Technology – Household Efficient Lighting Projects (HELP) (Energy Mad Holdings Ltd)

Schools Update

Beacon practice



Lamp designed for Sandwiches bar and restaurant, Wellington.

Beacon Practice was the subject of three feature articles in the November issue of *Education Gazette*. The project is part of the Growth and Innovation Framework (GIF) – Technology Education Initiative, and is aimed at supporting teachers who currently demonstrate best practice in their implementation of New Zealand's technology curriculum.

Two recent projects received particular attention. Students at Wellington High School had designed and created a series of lamps for Sandwiches bar and restaurant, which were then exhibited in the bar. The lamps were created in response to genuine requirements which the students had recognised,

such as the lack of lighting on tables and in the outdoor smoking area.

Also featured in *Education Gazette* were two Year 13 students at St John's College, Hamilton, who created a unique, personally-crafted tricycle for Jared

Hormona. Jared, who has cerebral palsy, had previously depended on vehicles which did not adequately meet his specific mobility requirements, all of which were taken into account in the new design.

In both of these cases students worked directly with clients. They were therefore able to get a sense of the satisfaction gained from working towards a goal with impact in the real world, rather than a theoretical project. Technology education enables students to work with a project from its conception through to its realisation, and teaches them to recognise the considerations that must be addressed when meeting a client's needs.

Details of the Sandwiches Bright Lights project and other Beacon Practice case studies can be found on www.techlink.org.nz

Futureintech Ambassadors

Futureintech were delighted to welcome their 150th Ambassador at a training day in Auckland on 21 November. Twenty-five new Ambassadors were trained, bringing the total number of Futureintech Ambassadors to 158.

Futureintech Ambassadors are young engineers, technologists and scientists who volunteer to work with schools, either as advisors on specific projects, or simply explaining their role and promoting their industry. Futureintech is extremely grateful to all the companies that allow and encourage their employees to spend time out of work as Ambassadors, sparking the enthusiasm of the next generation of engineers.

Getting it Right First Time – Structural Engineering

At its November meeting, the governing Board received a report on the good progress being made with the structural engineering programme of action. The programme is aimed at reinforcing the profession's self-regulation by working with Members and stakeholders. There are four distinct action areas.

Technical information

The production of summary design guides is being led by the Structural Engineering Society (SESOC) and these will be jointly branded with IPENZ. The first, on anchor bolts for steel structures, addresses a subject with a large number of different design approaches and will be available in early 2007. A further four are planned. Discussions have also been held with senior staff at the Department of Building and Housing (DBH) to ensure that there is co-ordination with the DBH's practice advisories.

Office practice

The Association of Consulting Engineers (ACENZ) has nominated four practising structural engineers from a range of locations and sizes of practice to work with IPENZ. The first meeting has been held and work has commenced on a *Practice Note* to reinforce and extend existing good practice. The *Practice Note* will include the following topics: site observation; internal review; detailing; staff mentoring

and training; safety in construction; and changes in the regulatory and business environment. The group wants to actively involve practitioners once the first draft is available because it sees that real change will need commitment from all firms and individuals.

Consent processes

Meetings have been held with building consent authorities (BCAs), particularly in the Auckland region, and positive relationships are developing. The wording of *Producer Statements* has been reviewed by IPENZ, in conjunction with ACENZ, the Consulting Engineers Advancement Society and the New Zealand Institute of Architects. DBH and the Building Officials Institute of New Zealand have been very supportive in this process.

CPEng processes

The Registrar has established a working group to develop guidelines for assessors in the structural area. As one way of ensuring standards are maintained, work is also progressing on giving BCAs a better understanding of the use of CPEng as a national competence-based register, along with the underpinning disciplinary and complaint processes.

November Board Highlights

The governing Board met on 23 November 2006 with the following activities and outcomes:

- a policy document on risk management was approved – this brings IPENZ into line with good governance practice for recognising and managing risk
- a report from the Audit Committee was received indicating that an unqualified opinion had been received on the accounts for the year to 30 September 2006
- the Board approved the annual accounts and the content of the annual report to be distributed to Members
- it was reported that an operating surplus sufficient to retain Institution reserves at about 50 per cent of annual expenditure had been achieved, and that the subscription-paying Membership has grown by more than 1,000 over the last five years

- staff were congratulated on the professionally-run New Zealand Engineering Excellence Awards dinner, attended by over 400 people, and with the Prime Minister, two other Cabinet Ministers and the three engineering MPs all presenting awards
- progress on a number of key projects was noted – including the development of registers for engineering technologists and technicians, the 2007 young engineers project, and the work programme in structural engineering
- the Chairs of the IPENZ Foundation, Standards and Accreditation Board and Competence Assessment Board presented the annual reports of these entities, indicating that they have functioned well during the year
- it was agreed to commission a Board review through the Institute of Directors' board evaluation service

Life Members

IPENZ congratulates the following Members who have achieved 50 years of IPENZ Membership.



Steven Gentry DistFIPENZ began his career with an interest in structures. He helped plan and construct a number of specialised facilities for the meat industry using new and innovative design techniques. He offered these skills in New Zealand and to international agencies.

Steve combined his work in the New Zealand construction industry with an active involvement in IPENZ and other professional organisations. He was

President of ACENZ from 1978–79 and President of the International Federation of Consulting Engineers (FIDIC) from 1989–91.

In the early 1990s, Steve became involved in the electricity industry, serving on the boards of Energy Direct and the Electricity Corporation of New Zealand, and completing a six-year stint with Meridian Energy.

Although Steve retired from consulting engineering in 1999, his recent appointment as Chair of Building Research means he is still involved with the construction industry.

George Trippner FIPENZ graduated in civil engineering from Auckland University and in hydro-power engineering from Imperial College. He spent his working career with the Ministry of Works in head office and in New Plymouth. He specialised in power projects for 30 years and was appointed Chief Design Engineer in 1985.

He served on the IPENZ Professional Interview panel for a number of years. George is also involved with the New Zealand Society on Large Dams, having served as a management committee member and later as Chairman. As Convenor of the publications committee, he co-edited *Dams in New Zealand*.

George served on the public relations committee of the International Commission on Large Dams and presented the paper "Public Relations in Dam Building" to the IPENZ Convention.



Robert Armstrong FIPENZ has been involved with IPENZ since he was a student at the University of Canterbury. As the Secretary of ENSOC – the university engineering society – he delivered a report to the 1957 Institution Conference. He graduated with first class honours in mechanical engineering later the same year.

Robert has a strong commitment to the education

of automotive trainees, serving as the Chairman of the moderation committee for motor industry examinations and Chairman of the New Zealand Motor Industry Training Board. He was Chairman of the Waikato Technical Institute and is a director of a private organisation that trains students entering the motor industry.

Robert became involved with the administration of automotive industry matters, and was elected a life member of the Motor Vehicle Dealers Institute and a life member of the Motor Trade Association.

Robert was honoured in the 2005 Queen's Birthday List for his community service.



Terence Story FIPENZ spent the first 20 years of his career involved with large South Island power generation projects. In 1961, he started working for the Benmore and Aviemore power schemes and in 1971 he was appointed as Project Engineer for the control structures for the Lake Te Anau and Lake Manapouri projects. Later, he worked as a project engineer on the early construction phase of the Clyde Dam.

Terence moved to Wanganui in 1980, where he worked as the District Civil Engineer and District Commissioner of Works. During this period, the district was building infrastructure for the "Think Big" projects in Taranaki.

Terence transferred to Wellington in 1983 and took an active part in organisational change as part of the reform of the state sector. He left the Works and Development Services Corporation in 1988 and retired four years later.



William Pringle MIPENZ spent his first seven years after graduation doing municipal engineering work in Wellington, Vancouver and Melbourne.

In 1963 he was seconded to American consultants de Leuw Cather to assist with the first comprehensive transportation study in Melbourne. Once complete, he returned to New Zealand to join the Auckland Regional Council, where he managed the Transportation Planning Department and was

responsible for the future planning of Auckland's road and public transport networks. He initiated the first feasibility study and supervised the early design work on the North Shore Busway, which has now begun construction.

William retired from the Auckland Regional Council in 1993.

Engineering School Celebrates 100 Years of Achievement



Senior Technician Geoff Kirby (L) and PhD student Dougal Clunie (R) demonstrate a dam spillway research model.

The public had an unusual opportunity to step into the world of engineering last month. Earthquake simulations, electrical experiments and robotic interaction were just some of the marvels on display at the Auckland University Faculty of Engineering's Centenary Open Day on 18 November.

Staff and students were on hand to chat about their projects and the importance of engineering, and present information about practical engineering research taking place around the country.

"Engineers are involved in all walks of life, from management and finance, to aviation,

biomedicine and software," explained event organiser Kevin Healey.

"We hope the open day helps people realise that engineers aren't only guys in hard hats. They are the designers, innovators and thinkers across the range of industries that make society function."

The Faculty has come a long way since humble beginnings a century ago. Today, it is recognised internationally and ranks in the top 50 engineering schools in the world.

To mark this achievement, the Faculty asked its engineering graduates to vote for New Zealand's greatest engineering feat in the last 100 years. The clear winner was the Manapouri Power Station in Fiordland. America's cup racer Black Magic and Auckland's Grafton Bridge won second and third place respectively.

To complete the celebrations, the Faculty also held a cocktail function hosted by Auckland Mayor, Dick Hubbard, and a centennial dinner in partnership with Beca.

Movers and Shakers



Gerry Te Kapa Coates FIPENZ is the new Chair of the New Zealand Wind Energy Association board. Gerry is a Past President of IPENZ. In that role he led the Presidential Task Committee on Sustainability that produced *Sustainability and Engineering in New Zealand: Practical Guidelines for Engineers*.

Gerry has spent the last 40 years as an electrical engineer, working and consulting on energy issues. In his own consulting firm Wise Analysis Ltd he has carried out work on renewable energy for the Energy Efficiency and Conservation Authority, the Parliamentary Commissioner for the Environment, and the Industry Capability Network. More recently he was part of a team that peer reviewed a draft renewable energy strategy for Malta. He is also on the boards of Land Transport New Zealand and the Centre for Advanced Engineering.



Bruce Melville FIPENZ was one of 12 Fellows and Honorary Fellows elected to the Academy of the Royal Society of New Zealand in November.

Bruce is Professor and Head of the Department of Civil and Environmental Engineering at the University of Auckland. He graduated with a PhD in civil engineering in 1975 and spent six years as a consultant in New Zealand and overseas before taking up the position of senior lecturer at the university.

Bruce has been involved in a number of international projects, including collaborative research with United States universities. Bruce's particular area of expertise is fluvial sediment transport. Projects he has been involved in include the design of flood alleviation measures and hydraulic model studies of hydro-electric schemes. Bruce has also been Associate Editor of the *Journal of Hydraulic Engineering* since 1993.

IPENZ Policy Advisor to Work on Cambodian Project



At the end of January, IPENZ Policy Advisor Shelley Pope will be travelling to Cambodia to participate in an *Adventure* project with Volunteer Service Abroad (VSA).

Shelley will be working on the outskirts of the settlement of Takeo, at Moy Sophea High School. Her project will have an environmental and sustainability focus, as the school has specifically requested assistance with composting, rubbish disposal and recycling. Shelley and other volunteers will help the local people develop appropriate systems and educate them on how the systems should operate in the long term. An incinerator may also be built if resources allow.

The project will also contribute much-needed funds to ensure that the work of VSA volunteers in Asia, Africa and the Pacific can continue. For more information, visit www.fundraiseonline.co.nz/ShelleyPope/

Canterbury Civil Students Test Their Skills



A competition that has been running at the University of Canterbury since the mid-80s is still making a splash. The ever-popular annual bridge breaking competition drew a large crowd to the banks of the Avon River on campus in October.

More than 150 first professional year civil engineering students were given the challenge of building a 4.3-metre-long trellis bridge across the river capable of holding two people and failing after the addition of a third person. The competition had a cash prize pool of \$1,000 that was awarded to the first three teams.

Dr Massimo Fragiaco, Carter Holt Harvey Senior Lecturer in Wood Structures, said 23 of the 36 teams successfully met the design criteria. The most resistant bridge withstood a load of seven people.

This year's winning team comprised Liam Duff, Guanting Li, Damian Philpsen and Neville Wilson.

Member Services

Employment Issues

IPENZ, through an experienced employment advisor, provides advice to Members on employment-related issues including contracts, dismissal and redundancy. The general guideline is that IPENZ pays for up to one hour's professional advice though Members may choose to purchase additional hours. Contact Michele Boniface for details on 04 474 8948 or employment@ipenz.org.nz

engineering treNz

IPENZ publishes peer-reviewed technical papers in an online series called *engineering treNz* (Transactions of Engineers New Zealand). Publishing good quality, peer-reviewed technical papers creates a valuable resource for the engineering community and reflects well on individuals, their employers and the profession as a whole.

Papers published in *engineering treNz* are freely available on the IPENZ website www.ipenz.org.nz/ipenz/publications/treNz.cfm and the keyword search can be used to search for papers from both *engineering treNz* and its predecessor *Transactions*.

For further information or to discuss or submit a paper, please contact the Editor of *engineering treNz* Lindsay Robertson at lindsay@tech-vantage.com or by phoning 021 240 6863.

IPENZ Technical Interest Groups

Members can also join IPENZ Technical Interest Groups which provide a programme of activities and services associated with a particular engineering specialty or discipline.

The Group informs Members of national and international developments and issues, contributes to knowledge development, supports the identification of good engineering practice, prepares informed comment on public policy issues and creates a national network amongst Members with similar technical interests by regular communication.

For more information on IPENZ Technical Interest Groups visit www.ipenz.org.nz/ipenz/who_we_are/organisation/technical_groups.cfm or phone Saltanat Cole on 04 474 8937.

www.ipenz.org.nz

For a full list of Membership services and benefits, as well as a comprehensive range of engineering-related information, visit the IPENZ website at www.ipenz.org.nz



John Hampden Hardie Galloway FIPENZ

29 August 1926 – 24 July 2006

John Galloway, a significant contributor to New Zealand soil mechanics and dam design, died on 24 July aged 79.

John's interest in dams began as a child when he built them using river stones. He went on to graduate with first class honours in engineering before completing military service with the RAF

on airfield construction. From 1948 to 1951 he was an assistant lecturer in civil engineering at the University of Glasgow.

In 1951 John came to New Zealand and joined the Ministry of Works power division. He quickly established a reputation for an innovative approach to engineering on the Cobb River dam project, with its difficult site conditions and the variable construction materials available.

He was also involved in the Atiamuri power station construction, and worked at Rongotai Airport as Materials Engineer before heading up the soils section of the newly-established Central Laboratories at Gracefield in 1958. There, he worked on field testing methods for the quality control of earth dam construction and developed soil testing techniques.

After working on other earth dam projects and providing specialist geotechnical advice, in 1970 he became Engineer in Charge at the Central Laboratories. From 1980 until he retired in 1988, John was involved with environmental and other consent procedures for power schemes. Following his retirement he carried out consulting work for Works Consultancy Ltd.

John played a very significant role in the establishment and leadership of the New Zealand Geomechanics Society (NZGS) and the New Zealand Society on Large Dams. He contributed articles to *New Zealand Geomechanics News*, critically examining methodology for determining in situ density of soils.

John was also Australasian Vice President of the International Society for Soil

Mechanics and Foundation Engineering and was extensively involved in the work of the International Commission on Large Dams.

Thanks to Eric Heine

Emeritus Professor Francis Martin (Frank) Henderson FIPENZ

28 December 1921 – 25 August 2006

Frank Henderson, fluid mechanics and water engineer, died in New South Wales on 25 August 2006 aged 84.

Frank graduated with a BE (civil) from the then Canterbury University College in 1943 and was top engineering student in New Zealand that year.

He worked in the Dominion Physical Laboratories of the DSIR before joining the staff of Canterbury University in 1952. In 1964 he was made a full professor and Deputy Head of Department.

Frank played a leading role in establishing the fluids laboratory at Canterbury and his fluid mechanics expertise led to the first axial flow jet boat. He was also instrumental in purchasing the first computer for the University.

In 1968 he took up the position of Head of the Civil Engineering Department at the University of Newcastle, New South Wales, and retired from that university in 1983.

Geoff Henderson said a generation of students and colleagues took inspiration from his father's outstanding grasp of, and pedagogical ability with, the mathematics of physical phenomena.

"In the post-war era, he was a leading light in making the Canterbury and Newcastle schools of engineering respected international participants in a 'brave new world' which demanded a much more mathematically sophisticated approach to engineering."

Thanks to the University of Canterbury

*IPENZ also notes with regret the passing of Life Members **Stanley Anstice FIPENZ, Edgar Kalaugher MIPENZ, Eugene Mak MIPENZ, and Dr Maurice Arnold MIPENZ.** Obituaries for Life Members **Ray McCullagh FIPENZ and Bruce Dallas MIPENZ** will be published in the February issue of engineering dimension.*

IPENZ Members Recognised by Standards New Zealand

Three IPENZ Members were awarded Meritorious Service Awards by Standards New Zealand in November.



Michael Chopping AIPENZ has devoted 12 years to Standards New Zealand committee work, is currently involved in five Standards New Zealand committees, and has 28 years of experience in the electrical industry.

Following Michael's appointment to EL-01 he attended many meetings in Australia. His input was recognised by the Institute of Electrical Inspectors of Australia, which invited him to discuss safety, compliance and working with AS/NZS Standards.

Earlier in his career, Michael was involved in the electrical contracting sector and later specialised in electrical inspection, testing and electrical safety promotion.

Chris Mak MIPENZ has been employed in fire protection engineering and management positions for over 20 years. Recognised as one of New Zealand's leading experts on fire sprinkler systems, Chris is the Chair of the fire sprinklers Standard NZS 4541, which is currently being revised. He has actively participated in the development of a number of fire protection Standards since 1997.



Chris is Wormald's National Technical Manager – the senior engineer for Tyco's fire business in New Zealand and Fiji. He also runs Wormald's technical support team and is responsible for ensuring that Wormald actively participates in the development of fire protection Standards.

Dene Cook FIPENZ has many years of experience in engineering consultancy work and the concrete industry. Dene chaired the concrete structures Standard committee NZS 3101. He presented the seminar series on the concrete structures Standard, in conjunction with Standards New Zealand, to improve understanding of the Standard. He has also been on a number of other committees for concrete Standards, including design of reinforced concrete masonry structures NZS 4230 and concrete segmental paving NZS 3116:02.



A Project Manager at the Cement and Concrete Association of New Zealand, Dene is also Chair of the Canterbury Structural Group.

Thanks to Standards New Zealand

Study with the Hume Fellowship 2007



Harry Hume, whose estate finances the Hume Fellowship.

Applications are invited for the 2007 Hume Fellowship award. The Trust provides for Fellowships of up to a value of \$30,000 to be awarded when funds are available, or as the Trustees decide.

Applicants should be New Zealand citizens, preferably between the ages of 25 and 35, who have a degree in civil engineering. The applicant should have demonstrated his or her ability in their specialist field.

The subject, period and location of study should be detailed by the applicant. The Fellowship is awarded on the basis of the programme of study submitted at the time of application.

Applications will close on Friday 16 February 2007, and can be submitted by email to dirops@ipenz.org.nz or by post to Hume Fellowship, IPENZ Engineers New Zealand, PO Box 12 241, Wellington 6144.

For further details please visit www.humefellowship.org.nz

IPENZ Staff



Laura Fergusson is Futureintech's new Writer/Researcher, responsible for writing and editing Futureintech publications, including the website.

Born in London, Laura has a BA in English literature from Trinity College, Dublin, and a diploma in magazine journalism from City University, London. She has spent time as an intern on a diverse range of publications including *The Economist*, the *Ghanaian Chronicle* and *Mother & Baby* magazine, and has had her work published in *The Irish Times*, the *Boston Irish Reporter*, the *New Zealand Times* (London), and *The Dominion Post*. Laura arrived in New Zealand in July 2006, and this is her first full-time position.

Outside of work Laura writes freelance features and book reviews, and volunteers for the New Zealand Aids Foundation. She is a keen theatre and concert goer, and also enjoys cooking, skiing, travel and pub quizzes.

Annie Tasi joins IPENZ as our new Accounts Administrator.

Born and bred in Wellington, Annie attended Viard College (now Bishop Viard College) and landed her first job with the ANZ Bank soon after leaving.

After spending many years with ANZ, Annie finally left in 1999 and went back to school to study for a Diploma of Tourism and Travel.

Annie has had an intriguing mix of jobs since then, including Medical Typist, Call Centre Operator, Personal Assistant and even Debt Collector! But, after all that, Annie has ended up "back in the role I enjoy doing the most".

In her spare time, Annie confesses to being a diehard fan of Minette Walters novels. She also enjoys listening to the Red Hot Chilli Peppers, and playing the piano and guitar.

We'd also like to welcome **Nick Helm**, who joins IPENZ as the publication team's new Subeditor.

Originally from Christchurch, Nick studied electrical engineering at the University of Canterbury. He soon discovered that he preferred writing about engineering to practising it, so he headed back to school to study writing and journalism. Nick then spent two years overseas writing engineering news and features.

Since moving to Wellington late last year, Nick has helped design a range of technical training materials for the electricity industry.

When he's not at work, Nick enjoys swimming, travelling and exploring some of Wellington's hard-to-find spots in a four-wheel-drive. He also plans to write the odd freelance feature article and work on a couple of short story ideas that have been brewing since he arrived in the capital.



Member Services

Graduate Mentoring Service

Having a mentor has huge benefits for graduates as it helps them develop professional judgement under guidance.

IPENZ Endorsed Employers organise the mentoring process for their own graduates, but Members not employed by an Endorsed Employer can also participate. Members interested in becoming mentors or wishing to be mentored can contact Competence Development Manager Jeanette van Barneveld to register their interest. IPENZ will then match graduates with a mentor. A mentor will have completed their own professional competence and have up-to-date knowledge of requirements and assessment process.

IPENZ is also investigating extending the mentoring service to cater for more experienced engineers.

For further information or to register please contact Competence Development Manager Jeanette van Barneveld by emailing jvanbarneveld@ipenz.org.nz or phoning 04 474 8984.

How to Join

IPENZ has a range of Membership classes and is open to those with training and competence in engineering as well as those with an interest, but not necessarily with training or qualifications, in engineering.

IPENZ also administers a number of competence registers for professional engineers including the CPEng Register and the International Professional Engineers Register (which services the APEC Engineer and Engineers Mobility Forum Agreements). To become registered, applicants must apply and provide evidence that they meet the competence requirements for registration.

For more information on Membership classes, competence registers and joining IPENZ visit www.ipenz.org.nz/ipenz/join/ or phone Michele Boniface on 04 474 8948.

JobHunt

The IPENZ JobHunt service (sponsored by Career Engineer) is the premier job finding and recruitment site for engineers and technologists. It enables jobseekers to efficiently search for employment online by personalising their search criteria. Employers may also advertise a position using selective criteria. Visit the JobHunt website www.jobhunt.co.nz for more information and to browse the listings.



IPENZ Professional Development Short Courses

February – March 2007

In 2007 the IPENZ Professional Development Short Course Programme will include a range of new courses as well as our core courses which are back by popular demand.

Time and Priority Planning **NEW**

The purpose of this workshop is to enable participants to use time management techniques to effectively meet current and future work, professional and personal objectives. This workshop will enable participants to master workloads, set priorities and create balance in their lives.

Wellington 20 February

Finance for Technical Professionals

Every business person needs to understand the financial implications of their decision-making. This two-day course will assist you to know your numbers which will give you a competitive advantage regardless of your engineering discipline.

Auckland 28 February–1 March

Demystifying Strategy **NEW**

The purpose of this course is to present strategic planning and management as a no-frills, logical and usable activity for all levels of the organisation. Strategy is important to managers at all levels – to differing degrees – and it is obviously preferable to develop expertise in strategy before assuming a position of power and influence.

Wellington 2 March

IPENZ Mentoring Workshop

This one-day workshop is designed to develop mentoring and coaching skills and make mentors more effective in their interactions.

Taupo 6 March

Travel and Parking Workshops **NEW**

This workshop is presented by NZ Trips and Parking Database Bureau personnel and arranged jointly on behalf of IPENZ, NZPI, LGNZ, the University

of Auckland, the University of Canterbury and the Ministry for the Environment. It is aimed at professional engineers and planners who are directly involved in operational aspects of travel, trips and parking, as well as those working at the policy level.

Christchurch 6 March
Dunedin 8 March
Wellington 13 March
Hamilton 15 March
North Shore 19 March
Auckland 20 March
Palmerston North 26 March

Leadership and Management Essentials

This one-day course covers the essentials for engineers and business managers to enhance their leadership and management practices. Participants will learn how to effectively handle their dual leader/manager role.

Auckland 13 March

Moving from Technical Expert to Management **NEW**

This one-day course looks at the “soft skills” required to successfully move from being a technical expert to managing other technical experts in an engineering setting.

Auckland 14 March

Business Development and Professional Engineers

This one-day course outlines practical strategies for the complete cycle of effective business development – finding and keeping the right clients. It is based on the *IPENZ Practice Note 06* “Developing and Maintaining Client Relationships”.

Christchurch 27 March

Negotiation Skills for Technical Professionals

This interactive, practical one-day workshop enables participants to identify their current strengths and build skills to improve their ability to negotiate

successfully. These skills are applicable to technical, contract and conflict negotiations that many engineers are involved in.

Dunedin 27 March

Avoiding Ethical Dilemmas

This one-day course offered jointly with the Royal Society of New Zealand introduces participants to the ethical values that underpin their profession and the obligations that flow from them.

Taupo 28 March
Wellington 30 March

Cost:

One day \$495 incl GST – IPENZ Members
\$540 incl GST – non-members

Two days \$945 incl GST – IPENZ Members
\$1,035 incl GST – non-members

Participants may choose to do a work-based project after some short courses and submit it to the facilitator for feedback. If this assessment option is chosen, the additional cost is \$54 incl GST. All short courses may be tailored to suit the needs of organisations.

Project Management Distance Learning

IPENZ and PPM Ltd are offering a distance-learning course in project management consisting of 125 hours of course study and assignment work. Full information is available at www.ipenz.org.nz/ipenz/nzecal/ks.cfm

Short Courses in Project Management

IPENZ is collaborating with ProjectPlus to offer a range of one- and two-day short courses for IPENZ Members which are suitable for experienced project managers and engineers new to project management.

Registrations close one week before the start of the course or seminar in each location. Full details are available at www.ipenz.org.nz/ipenz/nzecal/ks.cfm or by emailing CPD@ipenz.org.nz or telephoning Josie Nolan on 04 474 8982.



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