

STELLAR CONFERENCE

Hamilton's Claudelands Events Centre once again lived up to its reputation as an ideal venue for the Concrete Conference. Location, access to hotels and – in particular – scope and space of the trade exhibit areas all received a big tick from delegates.

This year's event drew more than 400 participants, with many commenting on the diversity and quality of the presentations and speakers – especially the invited keynote speakers, Professors Campbell Middleton and Michael Thomas from the universities of Cambridge and New Brunswick respectively.

Says Nic Brooke, the chairman of the Conference Organising Committee: "Receiving feedback is always important for shaping future events. Organising the conference requires plenty of attention to detail from an entire team of people, and it's always gratifying when things go as planned."

Nic says much of the conference's success is attributable to on-going support of the Conference Patrons and Sponsors – "many of them have supported the conference for years, and these events could not be held without their help."

The Patrons – Golden Bay Cement, Holcim (New Zealand) Ltd, Pacific Steel (NZ) Ltd and Sika (NZ) Ltd – are flanked by sponsors Ancon Building Products, BASF NZ Ltd, BCITO, Danley, Gough Industrial Solutions and Technical Welding Services (1998) Ltd.

Next year's conference (**10 – 12 October**) will be held in Dunedin, recently voted New Zealand's most beautiful city. This will be the first time the conference is hosted by Dunedin, and organisers say Otago offers a rich selection of extramural activities.

CAISSON INNOVATION GETS THE NOD

Judges were unanimous in their decision to present this year's Sandy Cormack Award to McConnell Dowell's David Pattinson for his presentation – *Caisson Innovation*.

The Award is presented annually to the author/s of the paper judged to be the best delivered at the recently retitled Concrete New Zealand Conference.

Reflecting on the high quality of this year's papers, the judges also awarded two commendations – to Rick Henry of the University of Auckland for his paper *Implementation of low-damage concrete wall buildings and detailing for deformation compatibility*, the other to Allied Concrete's Wade To/Chris Munn for their paper *Kaikoura Concrete Supply*.

The Sandy Cormack Award – valued at \$1,000 – was established in 1998 in the memory of HW (Sandy) Cormack to recognise topics relevant to the development of the concrete industry in New Zealand.

Special thanks to the judging panel: Moustafa Al-Ani, convenor of judges, supported by Stephen Broomfield, Jenny Connor, Rod Fulford and Rhys Rogers.

POST-CONFERENCE TRAVELLING LECTURE

Post-conference, Professor Middleton went on to present a series of seminars with the regional structural groups in Christchurch, Wellington and Auckland. In a captivating address he outlined the issues facing what he called a very exciting and challenging time in the UK construction sector.

"There is considerable uncertainty over the likely outcome of Brexit, concern at the underlying causes of the recent collapse of the construction company Carillion, and ramifications from the inquiry into the Grenfell tower block disaster.

"At the same time, the UK government has recognised the very significant economic benefits that can be generated by improving the productivity and performance of the construction sector. As a result, the government has announced a new 'Transforming Construction' initiative which commits £170m of government funding, matched by £250m from industry, to create new construction processes and techniques."

Much of this funding, he adds, will focus on the development of offsite manufacturing, digital engineering and improving productivity and skills. His presentation provided a fascinating overview of these developments and the opportunities they offered the sector.

JAMAL WINS THE iPad

Wilco Precast's Jamal Almulla is the lucky winner of the Apple iPad Pro and Smart Keyboard valued at over \$1,700.

To qualify for the draw, Jamal visited each of the trade exhibitors over the three-day conference, ensuring they all stamped his passport.



CNZ-Learned Society President James Mackenzie presenting the Apple iPad Pro and Smart Keyboard to Jamal Almulla of Wilco Precast.



A FULL-ON YEAR (and a bit)

“Very active” is how incoming President James Mackechnie describes the Society’s activities over the last 15 months.

In his summary of the 54rd Annual Report, Mackechnie pointed out that the financial year end was changed from 31st March to 30th June (which explains the ‘extended’ year) to be consistent with the schedules of other Concrete New Zealand partners.

Among the period’s most important milestones was the consolidation of concrete associations and Concrete Society into Concrete New Zealand. “It all went very smoothly thanks to the leadership of Rob Gaimster and past-presidents Jeff Matthews and Carl Ashby.

“The Learned Society has been able to operate more effectively within this new framework and, having established close working relationships with other technical societies such as SESOC, NZSEE and Engineering NZ, we look forward to greater collaboration in the future.”

The Society had also been particularly successful in organising several successful seminars during the 2017/2018 period, and these have become important for updating structural engineers designing concrete structures.

Held in all of the country’s main centres, the seminars were:

- **NZS 3101 Update** – October/November 2017 (388 delegates)
- **Displacement Based Seismic Design Assessment** – March 2018 (246 delegates)
- **Post Tensioning Design & Construction** – May 2018 (3-day Auckland workshop) (53 delegates)
- **Reinforcing & Strengthening of Structures with Advanced Composites** – July 2018 (67 delegates)

James also celebrated the Society’s expanding international liaison – particularly with the Concrete Institute of Australia (CIA), ACI, *fib* and RILEM. These closer ties, he pointed out, lead to a successful seminar series being run in New Zealand by *fib* members from Hungary, Greece, the UK and Belgium.

The new Council, voted in at the AGM is as follows:

President	James Mackechnie
Vice-President	Nic Brooke
Immediate Past-President	Jeff Matthews

Business Members

Stephen Broomfield
Dene Cook
Paul Dillon

Individual Members

Moustafa Al-Ani
Rick Henry
Carl Ashby Co-opted Member
Alessandro Palermo Co-opted Member and *fib* NZ Head of Delegation

TRIPLE AWARDS

Three landmark construction projects were recognised at this year’s Enduring Concrete Award, between them illustrating the rapid and diverse evolution of concrete engineering in the mid-20th century New Zealand.

They are Mercury Energy’s **Maraetai Dam and Power Station**, KiwiRail’s **South Rangitikei Rail Viaduct**, and the University of Canterbury’s **Puaka-James Hight Building**.

First introduced at 2008 conference, this Award recognises the use of concrete in buildings and structures more than 25 years old. Additional criteria includes functional suitability and visual appearance, properties of concrete exploited in design, innovative use of concrete in composition and structure, workmanship and finish, durability and performance – and value for money.

Built between 1946 and 1953, the 87m-high Maraetai Arch Dam used 150,000m³ of concrete. Generating 360MW from its 10 turbines, it is the largest hydro station on Waikato.



The South Rangitikei Rail Bridge was built between 1973- 1981 as part of the relocation of the North Island Main Trunk Railway Line (Mangaweka and Utiku) to avoid 10km length of unstable country. The new alignment required three major river crossings.



Gavin Cormack, Past President and Honorary Member of CNZ-Learned Society presenting the Enduring Concrete Award to KiwiRail’s Rudolph Kotze, for the South Rangitikei Rail Viaduct.

Beca Carter Hollings & Ferner won the contract – using a prestressed concrete deck. The design was cheaper but tricky to build. It included Isolation at the bottom of the piers, and it was the world’s first base-isolated bridge. The designer of the bridge, Gavin Cormack, is a past president of the Society, and presented the Award.

Erected between 1969 and 1973, the University of Canterbury’s Puaka-James Hight Library was designed in the ‘Brutalist’ style, featuring exposed concrete structure and surfaces, and used an exposed waffle slab concrete floor system. The building suffered considerable damage in the 2010/11 Canterbury earthquake sequence, and a \$29m refurbishment was completed in 2013.

Previous Award Winners include

- 2008 – Grafton Bridge
- 2010 – St Mary of the Angels
- 2012 – Fairfield Bridge
- 2014 – Beehive Wellington, the Kapuawhara Viaduct and the Ohakea Air Force Hangars
- 2016 – National Library Wellington

THANK YOU CHRIS!



Widely considered one of the most prolific and popular presenters of papers at Concrete Conferences over the years, Chris Munn's outstanding contributions were this year recognised with him being elected an Honorary Member of the Society.

Chris is a long-serving member of the Society and has not only operated as President but was also a member of the management committee for seven years.

During his time significant improvements to the management processes of budgeting and planning process were established – that legacy continues to this day.

NZ standard committees on which Chris has served include NZS3104 (presently active), NZS3109, NZS4218, and NZS4541. He has also served as the Executive Officer of the NZ Concrete Masonry Association and on the Technical Committee of the NZ Ready Mixed Concrete Association.

In his citation, Dene Cook drew special attention to Chris' unique ability to communicate effectively with all sectors – and at all levels – of the concrete industry. "This skill has been a tremendous asset for us. The number of presentations and papers is testament to a commitment to share his passion for all things concrete."

When not advancing the science of concrete, Chris fills his time restoring old things, particularly motorcycles and old engines. An avid hiker, he has walked virtually every track in the country, mostly in blizzard conditions.

A heartfelt thanks, Chris. Your honorary membership is richly deserved!

AUCKLAND BUILD

The construction and architecture industries' signature event – **Auckland Build** – will be held on November 8-9 at the city's ASB Showgrounds.

Featuring nearly 100 speakers, numerous issues will be discussed during the two-day gathering. Topics include the Government's KiwiBuild Programme, Transport and Infrastructure Projects, Auckland's Waterfront, Prefab, Urban Design, Sustainability, Building Products & Solutions, Apprenticeships and Recruitment – and more.

More than 200 exhibitors are registered for the expo, displaying products and expertise in sectors ranging from Buildings & Facilities Management to BIM & Digital Construction.

Click here to register: [Register Free Tickets to Attend](#)



ASSESSING PRECAST CONCRETE FLOORS

November sees the launch of a new series of seminars focusing on the assessment of existing precast floors.

These precast floor units are typically topped with in-situ (often lightly) reinforced concrete to form a composite floor system that also functions as a diaphragm. Such floors were common in buildings erected in the 1980s and early 1990s, and they generally used one of four types: hollowcore, double tee, ribs (with timber infill), and flat slabs.

All four types may be more vulnerable to earthquakes than current designs, but assessment of the capacity of these existing precast floors is complex.

A revision and substantial expansion of the appendix to Section C5 of the *Technical Guidelines for Engineering Assessment* (covering precast concrete floors) was recently completed. The seminars present an overview of the updated assessment guidelines.

Presenters

Ken Elwood - MBIE Chair in Earthquake Engineering at the University of Auckland and Director of QuakeCoRE, New Zealand's Centre of Research Excellence for Earthquake Resilience

Des Bull - Technical Director of Holmes Consulting with responsibilities for marketing and development of structural engineering services

Chris Poland - an Associate at Clendon Burns and Park in Wellington, Chris has been actively involved in Targeted Damage Evaluations of ductile frame buildings

Carl Ashby - Principal Structural Engineer and the Wellington Manager for WSP-Opus. Carl has 24 years of technical experience in the engineering profession.

Cost

CNZ-LS members \$340 (ex GST) pp

Non CNZ-LS members \$440 (ex GST) pp (includes complimentary CNZ-LS membership until 30 June 2019)

Venues

Tuesday 20 Nov – Wellington, InterContinental Wellington, 2 Grey Street, Wellington

Wednesday 28 Nov – Wellington, James Cook Hotel Grand Chancellor, 147 The Terrace, Wellington

Tuesday 4 Dec – Christchurch, Chateau on the Park, a DoubleTree by Hilton, 189 Deans Ave, Riccarton, Christchurch

Presented by the ConcreteNZ Learned Society, the seminars are being supported by NZSEE and SESOC. Further seminars are planned for the balance of the country in 2019.