



IN THIS ISSUE



FROM THE PRESIDENT

MANAGEMENT COMMITTEE

WCEE BID

WEBINAR SERIES

CONFERENCE UPDATE

LEARNING FROM EARTHQUAKES

C5 EVIDENCE PROJECT UPDATE

NEW LIFE MEMBER

NEW FELLOWS

2020 AWARD WINNERS

NZSEE REGIONAL GROUPS

CONTACT

UPCOMING
EVENTS

From the President

Welcome to another Newsletter and my first as President of the Society.

First up, I hope you, your bubble and those close to you as well as all your work colleagues and friends are coping ok in these unprecedented Covid 19 impacted times. A Black Swan event if ever there was one, completely unanticipated and a severe test for us all. As we are being



constantly reminded, by supporting each other, together we will all get through this. Let us all support each other and our industry to support New Zealand's recovery. It is already becoming clear that the construction industry is seen as a key part of the recovery strategy. Let's hope and encourage the government to incentivise investment in seismic risk reduction to protect the lives of New Zealanders as part of this programme.

Much has happened since our last newsletter notwithstanding the national lockdown so it seemed an update was appropriate. As you know, very disappointingly, we were forced to cancel our annual conference this year. Nevertheless we still held our AGM and our awards ceremony via an online platform to honour distinguished members and this year's award winners. Congratulations all!

I was both honoured and very humbled to be voted in as your new President following the AGM. I feel I am following in the steps of giants who have gone before. I want to thank David Whittaker in particular, as the immediate Past President, for his massive contribution. I am very appreciative that all last year's management committee agreed to rejoin the management committee for the upcoming term, thank you Brabha, Tony, Rajesh, Bruce, David, Chris, Geoff, Patrick, Andy, Charles, also that we are joined this term by Scott, Ken and Quincy. I am very delighted we have such a wonderful management committee team along with our fantastic executive officer Lisa Moon.

Look out for articles on our distinguished members and award winners in this newsletter along with information on your newly elected management committee.

2020 WEBINAR SERIES

Keep an eye on your Inbox for registration details on the remaining 2020 NZSEE Webinars.

UPCOMING EVENTS



QuakeCoRE Annual Meeting 2020

Nelson

31 August – 3 September 2020

<http://www.quakecore.nz/annualmeeting/>

21st NZGS National Symposium

Dunedin

14 – 18 October 2020

<http://www.confer.nz/nzgs2020/>

2020 AEES Conference

Adelaide, Australia

20 – 22 November 2020

secretary@aees.org.au

IABSE Congress

Christchurch

3 – 5 February 2021

<http://www.iabse.org>

2021 NZSEE Conference

Christchurch

April 2021

17 WCEE

Sendai, Japan

September 2021

<http://www.17wcee.jp/>

Members raised several issues at the AGM including:

- Architectural representation on the management committee
- The learning from earthquakes programme
- An account note about related party transactions
- Encouragement for more oral histories, and
- Possible digital publication of the bulletin.

You will be pleased to learn that following the meeting Architect Bruce Curtain has agreed to continue to serve on the management committee and was consequently co-opted back on.

You will also be pleased to learn that the management committee confirmed again at our recent meeting the ongoing importance of the learning from earthquakes programme, noting that NZSEE should focus our resources on high value trips with learnings likely to be relevant to NZ. A small working group of management committee members Ken Elwood, Scott Kelly and Charles Clifton has been formed to lead this initiative this year.

A review of details of the accounts indicates the related party transactions were costs associated with executive and administrative support for the society namely the executive officer and bulletin editor.

Your request for more oral histories has been noted. Anyone who would like to assist in this endeavour is asked to contact Lisa.

The informal poll held at the AGM indicated mixed views on the Bulletin being published digitally with 60% in favour and 40% against. This information is helpful, thank you. We need to move with the times and take into account advances in technology but in a way that works for all the membership.

I hope you are enjoying the NZSEE webinar series currently underway. A huge thanks to Geoff Rodgers and Andy Thompson (and many others) for making these webinars happen. I am looking forward to the remaining webinars in the series, as I am sure you are. A special thanks to our partner EQC and many sponsors who are supporting this initiative and making it possible.

Yes, you heard right at the first webinar, a new project, the Resilient Buildings Project has been initiated to focus on aligning future approaches to earthquake design that are attuned to and expertly respond to societal needs for seismic resilience. This project is currently being organised and mapped out with a small establishment group leading the way. Watch this space as the project develops for updates. Again, thanks to EQC for their support of this initiative.

Other news:

It was disappointing, but perhaps not unexpected, to be advised a couple of weeks ago that the 17th World Conference on Earthquake Engineering (17WCEE) has been officially postponed by about a year. It is now planned to be held in 2021 in the same venue in Sendai Japan as originally proposed. The exact dates have still to be determined. The bid process for the 2024 world conference is still proceeding later this year and we are busy preparing the New Zealand bid under the able leadership of Quincy Ma and Geoff Rodgers.

Take care, stay safe and be kind.

Helen Ferner
President



2020 – 2021 Management Committee



*Helen Ferner
(President)*



*David Whittaker
(Immediate Past
President)*



Brabha Brabhakaran



Charles Clifton



Patrick Cummiskey



Bruce Curtain



Ken Elwood



Tony Holden



Scott Kelly



Quincy Ma



Geoff Rodgers



Andy Thompson



Chris Van Houtte



*Rajesh Dhakal (Bulletin
Editor)*



*Lisa Moon (Executive
Officer)*

To learn more about this year's Management Committee visit <https://www.nzsee.org.nz/about-us/management-committee/>

2024 WCEE Bid

As previously announced NZSEE intends to bid for the 18th World Conference in Earthquake Engineering, to be held in 2024. France, Italy, India and Canada are also bidding. While the 17WCEE, originally scheduled for September 2020, has been postponed a year due to the Covid-19 Pandemic, IAEE have announced that the host of the 18WCEE will be decided by electronic voting this year. Our bid committee, led by Quincy Ma and Geoff Rodgers with support from Tourism NZ, are hard at work preparing our bid documents. Please assist us in spreading the word and email us any interesting photos or videos that you think may assist our effort.

Quincy Ma
2024 WCEE Bid Leader



NZSEE Webinar Series

The NZSEE 2020 Webinar Series came about following the cancellation of the NZSEE 2020 Annual Conference. It has been an excellent way to connect with members during lockdown and to make use of some of the content planned for the conference. The series consists of six webinars each based around the conference theme and topics which are important to NZSEE and its members. The three webinars so far have been themed around Seismic Resilience, Wellington Seismology and a Wellington focussed Kaikoura Earthquake theme. The remaining sessions are scheduled for 11th June, 25th June and 9th July, and will cover Infrastructure, Low Damage Design and Insurance issues. The themes and content are designed to be complimentary, with each webinar providing important context for others in the series. If you haven't been able to attend a webinar or experienced technical issues during the live event, we encourage you to make use of the following recordings available to members [here](#).

The free, open access model was a deliberate choice in the spirit of lockdown—to maximise the reach of these important conversations, and for simplicity. It's also been a great way to involve younger professionals who might not traditionally have attended the physical conference, and to showcase what the society is all about. It's also great exposure for our generous webinar partners EQC, our key sponsor Building performance, and other sponsors Taylor Devices, GeoStabilization International, Mainmark, Granor and QuakeCoRE who have maintained their support of the webinar series. The response has been amazing, with the first webinar being fully booked and up to 750 live viewers with great engagement from participants. We appreciate your patience with a few of the technical challenges we have experienced. A change in platform is possible later in the series (or for other webinars later in the year). However a reminder that with the Adobe platform, running the webinar from the downloaded desktop app (not a browser) is basically essential. Restarting and re-joining appears to have resolved most of the more recent issues.

Following the popularity of this series, the NZSEE is considering other topics for one-off webinars in addition to in-person events later in the year. Whilst online delivery forgoes important social interaction and networking aspects, the interactive webinar format does have some advantages in improving the outreach of some of these important conversations. However, it is likely that subsequent webinars will incur a non-member cost premium to help offset the costs associated with in facilitating these events, and to recognise the ongoing support that we receive from our society members.

We look forward to seeing you for the remainder of the NZSEE 2020 Webinar Series.

Andy Thompson

2020 NZSEE Conference Update

Unfortunately, due to the Covid-19 Pandemic, it was not possible for the 2020 NZSEE Annual Conference to go ahead as planned in April 2020. The decision was made to cancel, rather than postpone, due to uncertainties over the length of the pandemic effects, the risk of further postponement, and the risk that the 2020 and 2021 Conferences would end up too close together.

The government's restrictions on group sizes meant that there we were able to avoid the venue cancellation fees. However, a number of unrecoverable costs, including external management fees, has already been incurred at the time of cancellation. NZSEE made the decision to offer full refunds to all delegates, exhibitors and sponsors, which risked zero income and a sizable loss. However, the Management Committee considered that it was the right thing to do in the circumstances. Fortunately, a number of the sponsors, including EQC and MBIE, transferred their sponsorship to the 2020 NZSEE Webinar Series, and some members and exhibitors donated some or all of their registration/exhibition fees to help offset the Society's losses. From looking at a worst case loss of up to a \$150k, the Conference Committee has worked hard to reduce the expected loss to the Society to about \$35k. While this outcome is still not ideal, it reflects the extremely difficult situation that we have found ourselves in, as a result of the unforeseeable global disruption from Covid-19. Many industries are suffering as a result of the current global situation and we are grateful that we have been able to minimise the loss as far as possible. We extend our sincere thanks to everyone who has contributed to this outcome.

Conference proceedings will still be published, though authors have been given the opportunity to withdraw their papers. Approximately 70 revised submission have now been received and are undergoing final copyediting/checking. We anticipate publishing the final proceedings in the next couple of weeks. A link to download the conference proceedings will be emailed out to conference registrants and NZSEE members in the near future.

Planning has already started on the 2021 NZSEE Conference, expected to be held in Christchurch in April 2021. We look forward to returning to Christchurch next year, as we reflect on 10 years since the devastating 2011 earthquakes. We hope that you will be able to join us next year for this exciting event.

Geoff Rodgers & Rajesh Dhakal
NZSEE 2020 Conference Convenors



Learning From Earthquakes

During our recent Annual General Meeting (23rd April 2020) “Learning from Earthquake” (LFE) activities were discussed, with our members highlighting two general areas requiring action from the management committee.

Firstly, funding allocation – it was noted that historically there had been a specific account for LFE activities, however this account was closed as part of the wider restructure of NZSEE accounts undertaken recently. Although there is currently no named account specifically for LFE, the funds remain available and are planned to be itemized in future financial reports.

Secondly, LFE programme information to be added to website – this matter was further discussed at the subsequent management committee meeting in May, a working group has been established to progress this matter and we will provide further updates in due course.

The recent Mexico earthquake LFE trip report is planned to be published shortly in the Bulletin: watch out for this report.

Scott Kelly

Update on C5 Evidence Project

In November 2018 a proposed technical revision to Section C5 (the yellow chapter) was released by the engineering sector to reflect the most up to date engineering knowledge.

In early 2019 MBIE commissioned the C5 evidence project to gather and report on how the Yellow chapter impacts the seismic assessment of buildings. Recognising that MBIE’s primary focus for regulation is on the assessment of existing buildings for the purposes of the EPB methodology, not for assessments generally, the objective of this work is to understand better any possible impact on buildings that are potentially earthquake prone. Phase one of this project has now been completed and the report is available [here](#).

Six concrete buildings of different ages and characteristics were reviewed and analysed with the objective of revealing differences between Red Book C5 (concrete section) and Yellow Chapter assessments and to explain the reasons for these differences. This work identified that while overall %NBS results were generally similar using the Yellow Chapter and the Red book, component scores varied in some cases.

MBIE has commissioned a second phase to investigate in more detail the impact of Yellow C5 on the assessment and scoring of precast concrete floor elements. This work is underway and is expected to be completed in November.

Engineering NZ advise that feedback gathered as part of the project noted confusion amongst buildings owners and potentially delays in retrofits being completed as a result of there currently being two versions of C5.

Our recommendations to engineers undertaking seismic assessments of concrete buildings has not changed and remains as follows:

- Do not hold back from completing building assessment,
- Use the Yellow C5 version for seismic assessments of concrete buildings generally. This version represents the most up to date engineering knowledge. The only time the Red version is appropriate is when you are establishing whether or not a building is earthquake prone under the Building Act 2004, and
- Use Yellow C5 to inform retrofit design decisions.

The full information for engineers on the revised version of C5 originally issued in March 2019 is available [here](#).



Life Member – Hugh Cowan

Dr Hugh Cowan has been conferred NZSEE life membership for his extraordinary contributions to earthquake engineering over the course of his career both within New Zealand and overseas.

With an education in geology, engineering geology and geophysics Hugh has been at the forefront of research in earthquake engineering science over the course of his career. Early contributions included geological hazard assessments in Scandinavia, the Middle East and Latin America and participation in the Norwegian Agency for Development Cooperation (NORAD) programme “Reduction of Natural Disasters in Central America”.

On his return to New Zealand in 1998, Hugh joined GNS and managed the establishment of Geonet, New Zealand’s geological hazard monitoring system before joining EQC to lead their research programme.

During and after the main earthquakes of the Canterbury Earthquake Sequence, Dr Cowan worked tirelessly for New Zealand by traveling to and working at many different reinsurance groups around the globe. His expertise and stamina were essential for securing cost effective earthquake and natural hazard insurance for New Zealand.

Hugh was also responsible for supporting and conducting a wide range of research including the subsurface characterization of the soil and groundwater in areas of liquefaction damage in Christchurch along with a range of allied research initiatives resulting in the establishment of a number of new site improvement procedures. This work not only provided data for compensating homeowners for liquefaction-induced land damage but information of exceptional quality for research and for substantial improvements for liquefaction protection for Christchurch and across the globe. Hugh has also contributed significantly to NZSEE over many years including as part of the management committee and through leading a number of learning from earthquake teams to Colombia, Thailand and Chile.



Fellows

Three new Fellows were elected to the NZSEE in 2020.

Pathmanathan Brabhakaran

Brahba’s professional focus is geotechnical engineering and seismic resilience of infrastructure. He has many won awards including the Fulton Downer Gold Medal for contributions to the response and recovery after the Canterbury Earthquake Sequence and the Engineering NZ Freyssinet award for his supreme technical contribution to seismic resilience.

Brahba has been a member of the NZSEE Management Committee for many years and led work on the dam safety regulations as well contributing many technical papers to the Bulletin.



Jason Ingham

Jason's professional focus is structural engineering. His career has been research focused with much work into the seismic behaviour of existing masonry and concrete buildings. This research has been invaluable as New Zealand has recovered from the recent earthquakes and has directly informed professional practice including the recently published assessment guidelines and the guidance on securing parapets and facades on URM buildings.

Jason has contributed to the Society in many ways including as a member of the NZSEE Management Committee and as the conference convenor in 2010 and 2011.



David Whittaker

David's professional focus is structural engineering. His professional career has been focused on providing professional engineering advice to numerous clients regarding earthquake engineering matters. He is an international recognized expert in seismic isolation.

As well as being immediate past president, David has spent a number of years on the NZSEE Management Committee and was conference convenor for the 2017 conference, which was combined with the 15th World Conference in Seismic Isolation.



2020 Award Winners

We provided each of the award winners the opportunity to say a few words following their award.

EQC/ NZSEE Ivan Skinner Award

"I feel honoured and happy and grateful for recognition of my work. It means a lot and gives an inspiration to continue doing what I am doing to reduce the impact of earthquakes on New Zealand communities. It gives a confirmation that if you are doing something wholeheartedly and are open to everything new, you will be definitely rewarded."

See also <https://www.eqc.govt.nz/news/najif-ismail-receives-coveted-ivan-skinner-award>

Najif Ismail



QuakeCoRE/ NZSEE Women Leaders in Earthquake Engineering Award – Joint Winner

Courtney Chapman

“I have recently returned home after spending eight months in Groningen, the Netherlands, representing Beca in our client’s office, where we have been contributing to the mitigation of risks from gas-extraction-induced earthquakes to residential homes.

Prior to that, I was heavily involved in recovery and rebuild efforts to get damaged winery facilities in Marlborough back up and operational following both the Seddon and Kaikoura earthquakes.

I intend to use the award money for professional development to further my leadership skills and to mentor and support other young women in the industry.

It is an honour to have been recognised by QuakeCoRE and NZSEE as part of the growing number of women leaders in the earthquake engineering industry.”



QuakeCoRE/ NZSEE Women Leaders in Earthquake Engineering Award – Joint Winner

Marta Giaretton

Marta, who colleagues describe as having the keen mind of an engineer and the heart of an architect, said “This award enables me to continue my work in strengthening and developing the network of woman professionals around NZ. The building of these relationships helps to combine different expertise that benefit diverse projects and boost community outcomes.”

As a structural engineer Marta focuses on earthquake mitigation of historic buildings, aiming to ensure their preservation for more generations to come and more importantly, to save lives in and around them during an earthquake. She has extensive first-hand experience leading post-earthquake inspections of masonry buildings in Italy. In New Zealand she pioneered the research on stone structures and shake-table proof tests of simple strengthening techniques of masonry buildings. Her efforts have influenced national policies and professional practice. Marta works in New Zealand and internationally (Australia, Italy, and Southeast Asia) motivated, as ever, in building safer communities.



NZSEE Research Scholarship

Alistair Stronach

Finding Seismic Site Response due to Basin Effects in the Wellington CBD Through High Resolution Gravity Depth Mapping

“I am a Master’s of Science student in geophysics at Victoria University of Wellington, and was delighted to be awarded the NZSEE Research Scholarship in April to support my research into basin edge effects in the Wellington CBD. I will be collecting a large number of high accuracy gravity measurements throughout the Wellington basin, particularly focusing on areas which are deepest, most lacking in drillhole data and/or fault adjacent. From this microgravity anomaly data I can construct a three dimensional basin model, which will then be used by researchers at GNS and QuakeCoRE to simulate earthquakes in 3D and identify areas of the city likely to be impacted by 2D and 3D effects.

These basin amplification effects include constructive interference at basin edges, generation of surface waves and focusing. They are not currently captured by the New Zealand Building Code, leading to a risk of design limits being exceeded for individual buildings – such as in Thorndon and Pipitea during the 2016 Kaikōura earthquake, where Centerport and Statistics House suffered significant damage. Ideally my work will eventually lead to greater earthquake resilience for Wellington city.”



Otto Glogau Award

Reconnaissance Report on the Geotechnical and Geological Aspects of the 14-16 April, 2016 Kumamoto Earthquake in Japan published in NZSEE Bulletin 50 (3): September 2017

Gabriele Chiaro, Gavin Alexander,
Pathmanathan Brabhaharan, Christopher
Massey, Junichi Koseki, Suguru Yamada,
Yudai Aoyagi

"The New Zealand Society for Earthquake Engineering (NZSEE) has a strategy to use targeted missions to learn from relevant earthquakes that happen around the world, and bring back learnings that can be applied to enhance earthquake engineering practice in New Zealand. The aim is to increase New Zealand's resilience to earthquake hazards.

NZSEE decided that there were valuable lessons to be learnt from the 2016 Kumamoto Earthquake, particularly in relation to ground damage from the earthquakes, and selected a team of NZ-based experienced geotechnical professionals with expertise in geotechnical engineering, engineering geology and associated research, who were on the ground between 7 and 14 May 2016. The NZSEE team members joined Japanese investigation teams comprising geotechnical engineers from the University of Tokyo and Osaka City University.

This provided an invaluable learning experience, as it allowed rapid access to the sites of interest, enabled key geotechnical/geological information to be gathered (otherwise available only in Japanese), provided an opportunity for valuable technical discussions and permitted collection of soil samples for further geotechnical analyses. The survey trip was planned in a way that most of the relatively large geographical area that was severely affected by the earthquakes was able to be covered on the ground. This allowed the NZSEE team to observe and record the type and spatial distribution of the main hazards triggered by the earthquakes.

The observations were made only three to four weeks after the main earthquakes, when the government and local authorities were still in the emergency response phase, but after the critical and traumatic phase where the injured and dead had been evacuated. Thus numerous earthquake impacts were observed first-hand by the team, before major repair work that would obliterate the evidence of damage from the earthquake."



Bulletin Editor's Award

"It was a real surprise to be told that I had been awarded the inaugural Bulletin Service Award prior to the announcement at the virtual AGM. After a total of 23 years as Bulletin Editor (1980-85, 1992 and 1997-2014) it was a real change of life when I retired. I do appreciate being honoured with this Award and thank the Presidents and Management Committees I worked with over several decades."

Les Megget



NZSEE Regional Groups

NZSEE Regional Groups are active in Auckland, Wellington and Christchurch. The Regional Groups organise regional events and presentations and host New Zealand wide travelling lectures, and they are interested in presentations from local members. There are plans to set up an additional regional group in Dunedin in 2020 – keep an eye out for further details.

Contacts for the regional groups are:

Auckland	Liam Wotherspoon & Sam White
Wellington	Jenni Tipler & Karina Dahl
Christchurch	Anna Winkley & Nigel van den Akker
Dunedin	Mark Stirling

For further information please contact Tony Holden: tony.holden@arecongroup.com

Contact

All correspondence regarding the Society should be sent to

E-mail: exec@nzsee.org.nz

EQC Support

The Society would like to acknowledge the generous support provided by the EQC in the form of annual conference and Bulletin publication sponsorship.

