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From the President

It is an honour to write my first message as the new President for NZSEE. I have recently taken over from Helen Ferner as she has moved into the Immediate Past President role. Helen remains on the Executive Team until the AGM in April next year. I look forward to continuing to work closely with Helen and continuing the significant momentum that she has generated on a number of technical projects currently being undertaken by NZSEE.



The Resilient Buildings Project is an NZSEE-led and EQC-funded project set up to contribute to the debate about future policy settings for the seismic resilience of buildings. This project recently published research on societal expectations for building performance. These reports include a [Policy Brief](#) and a [Full Report](#) that are available on the [NZSEE website](#).

In the very near future, we will be releasing the Earthquake Design for Uncertainty Advisory in collaboration with SESOC and NZGS. This document outlines a number of recommendations for structural design to help buildings behave in a controlled and predictable manner during earthquakes, even when they are subjected to shaking that is more intense than anticipated. I would like to extend my personal thanks to the writing team for pulling this important document together.

We are in the final stages of planning a webinar series to be held over the coming months. There are many aspects of earthquake engineering that we plan to explore within this webinar series including underground structures, probabilistic seismic hazard analysis, and risk communication. Please keep an eye on your emails as we progressively announce webinars as part of this exciting series.

We are also looking forward to hosting our first in-person NZSEE seminar in recent times after a pause due to the significant Covid disruptions. Professor Juan Carlos de le Llera from Pontifical Catholic University of Chile will present a Chilean perspective on challenges and opportunities implementing seismic protection systems. This seminar will be held at Auckland University on the evening of August 25th. I am personally looking forward to this talk and hearing an international perspective on this important issue.

UPCOMING EVENTS



3rd European Conference on Earthquake Engineering and Seismology (3ECEES)

Bucharest, Romania
4th-9th September 2022

Advancing Women in Engineering & Construction (AWEC) Symposium

Auckland, New Zealand
4th November 2022

Fifth International Workshop on Seismic Performance of Non-Structural Elements (SPONSE)

Stanford University, USA
5th-7th December 2022

NZSEE Annual Technical Conference

University of Auckland, New Zealand
19th-21st April 2023

SESOC Annual Technical Conference

Christchurch, New Zealand
21st-23rd June 2023

Pacific Conference

Vancouver, Canada
Mid 2023

President's report continued

Within this issue of the newsletter, we are celebrating the new Fellows and Life Members that were conferred during the online NZSEE conference in April. Due to the online format, we were not able to celebrate the achievements of all these members in person but wish to highlight the fantastic achievements of all of these new Distinguished Members.

I would also like to extend thanks to all the registrants, exhibitors, and sponsors who supported us through the shift to an online conference this year. While the situation was less than ideal, we feel that the online conference was a great event despite the Covid-enforced compromises. One silver lining was that the online format enabled us to reach significantly more delegates than normal, with over 720 people registered for the conference, contributing to a positive exchange of ideas.

We are also kicking into gear for the next NZSEE conference, which will be held in Auckland from April 19-21, 2023. We will be releasing a call for abstracts soon, so please keep an eye out for that announcement and consider what recent advancement in research or practice that you may wish to present at our next conference.

Thanks for being part of our society,

Geoff Rodgers

Reflection on the NZSEE Conference 2022

We started off the planning process of the NZSEE Technical Conference 2022 hoping for it to be in person. However, Covid-19 had different plans! Although we were disappointed at the time to move the conference online, now looking back we are so happy at the success of the conference.

Due to the online format, we had a much larger attendance than normal years with over 720 attendees registered. We had great feedback regarding the keynote, plenaries, and parallel sessions.

Thank you to our Conference Convenor Annie Scott and the Conference Committee, along with Amy Abel and the team at Conference & Events. We are very appreciative of the time and hard work you put into making the conference a success despite all of the challenges.

For registered delegates, videos of the presentations are still available through the conference platform.

Next year's conference will be held in-person (hopefully!) in Auckland on the 19th-21st April. We will be releasing a call for abstracts soon, so please keep an eye out for that announcement. If you have any questions or would like more information regarding next year's conference, please contact exec@nzsee.org.nz



2022 NZSEE ManCom Committee

The new Management Committee is made up of Geoff Rodgers (President), Helen Ferner (Immediate Past President), Julia Becker, P Brabhakaran, Patrick Cummiskey, Bruce Curtain, Tony Holden, Greg MacRae, Max Stephens, Merrick Taylor, Andrew Thompson, SR Uma, and Rajesh Dhakal.

We would like to extend a special welcome to the new Management Committee members Gregory MacRae and Max Stephens. We would also like to thank our departing committee members Charles Clifton and Ken Elwood and thank them for their hard work and time that they have put into the society over the years.



Congratulations to NZSEE Award Winners:

Congratulations to all the NZSEE Conference winners for 2022. The winners are below:

Bulletin Service Award:

Bruce Deam

President's Award:

Richard Sharpe

NZSEE/EQC Ivan Skinner Award:

Shahab Ramhormozian

NZSEE/QuakeCoRE Women in Earthquake Engineering Award:

Nikoo Hazaveh

NZSEE Research Scholarship:

Julian Rincon

Otto Glogau Award:

Jitendra Bhatta, Joshua Mulligan, Rajesh P. Dhakal, Timothy Sullivan, Hans Gerlich, Frank Kang

For the paper titled: "*Theoretical and Experimental evaluation of timber-framed partitions under lateral drift*" published in the Bulletin of the NZSEE, Vol. 54, No. 4, December 2021.

SCNZ Steel Paper Award:

J. Sherborne, G.A. MacRae and T.L. Chang.

For the paper titled: "*Moment frame column seismic shear demand determination*" published in the proceedings of the 2022 NZSEE conference.

Timber Design Society Best Timber paper Award:

T.W. Wright, M. Li, M. Gedyma, H. Lim, D. Moroder and D Carradine.

For the paper titled: "*Repair and Reinstatement of Douglas Fir CLT Hold-down Connections Using Mixed Angle Self tapping Screws*" published in the proceedings of the 2022 NZSEE conference.



NZSEE Distinguished Members

This year we were proud to elect three new fellows and two life members to the NZSEE. The citations that were read out at the awards ceremony are posted below



The NZSEE Management Committee has conferred Life Membership on Andy Buchanan and Warwick Smith.

Emeritus Professor Andy Buchanan was conferred life membership in recognition of his illustrious career in structural, earthquake and fire engineering. Andy undertook postgraduate studies in USA (UC Berkeley) and Canada (University of British Columbia). He began his career as a consulting engineer in Christchurch before becoming an academic at the University of Canterbury, where he taught several subjects covering key aspects of timber, structural, earthquake, and fire engineering. He served as the Head of the Civil Engineering Department at University of Canterbury from 2000 to 2004, during which he played a crucial role in shaping the career of many prominent earthquake engineers and researchers.

Andy is one of the pioneers of modern timber construction in NZ and led the development of innovative structural timber building systems, using post-tensioned large spans in single storey and multi-storey timber buildings. Andy authored the New Zealand Timber Design Guide in addition to writing a seminal book on Structural Design for Fire Safety. He was the co-inventor of the Pres Lam technology and led the establishment of an industry consortium called Structural Timber innovation Company for which he served as the Research Director. His research and leadership were invaluable for the Christchurch rebuild after the Canterbury Earthquake sequence in 2010-2011. All of these achievements and more make Andy a very worthy recipient of Life Membership of the New Zealand Society for Earthquake Engineering.

Congratulations Andy!



The NZSEE Management Committee also conferred Life Membership on Dr Warwick Smith for his distinguished career at DSIR and GNS Science, ranging from traditional seismology and seismic hazard modelling to earthquake and volcanic loss modelling.

Warwick was New Zealand's chief seismologist from 1979 to 1995 and he also worked as a member of the United Nations working group on the detection of underground nuclear explosions. Warwick has been a member of NZSEE from its early days. The New Zealand Seismological Observatory produced detailed annual reports of seismic activity detected by the National Seismograph Network, from which Warwick provided regular summaries for the NZSEE Bulletin. Warwick was also a member of the NZSEE management committee from 1977 to 1983.

The Smith and Berryman seismicity model was used in combination with response spectrum attenuation models to produce the hazard estimates that were the basis for the earthquake design motions specified in the 1992 New Zealand Loadings Standard NZS4203, which remained in use until 2004. It was one of the first uses internationally of a probabilistic seismic hazard analysis as the basis for a national seismic design code. Warwick was also involved in the estimation of earthquake hazard in other parts of the south-western Pacific.

From early in his career, Warwick was interested in risk modelling, first for earthquakes and later extended to tsunami and volcanic ashfall. He developed estimates of the likelihood of earthquake shaking in New Zealand in terms of Modified Mercalli Intensity. He progressed from there to estimates of earthquake losses in monetary terms, which were applied by EQC and the insurance industry.

In these activities, Warwick has worked in an inter-disciplinary environment, collaborating with his colleagues in geology, statistics and engineering to produce research and consulting that is useful for end-users in insurance, engineering and planning. His pioneering contributions to improve the understanding of hazard and risk and to convey it to professionals in other fields and the public make Warwick a very worthy recipient of Life Membership of the New Zealand Society of Earthquake Engineering.

Congratulations Warwick!



The NZSEE Management Committee has elected to three members as Fellows; Brendon Bradlev, Robert Davey and Helen Ferner.

The NZSEE Management Committee conferred Fellowship on Professor Brendon Bradlev in recognition for the contributions that he has made to earthquake engineering. Brendon has been on the editorial board of the NZSEE Bulletin since 2016, has co-authored 24 articles in the Bulletin, and 57 publications in NZSEE annual conferences. Brendon has also provided several plenary lectures at NZSEE conferences, and a video presentation as part of the 2020 NZSEE seminar series. He has also delivered several lectures at NZSEE regional branch seminars.

Brendon delivered a Masters course on 'seismic hazard and risk analysis' to approximately 200 people and has made contributions to the consideration of seismic hazards in the revisions of the New Zealand Earthquake Actions Standard: NZS1170.5, and the New Zealand geotechnical modules, as well as assisting several government ministries in their own internal seismic design guidance. He is also a major contributor to the current revision of the National Seismic Hazard Model. Brendon's exceptional services to Earthquake Engineering in New Zealand makes him a very deserving recipient of Fellowship of the New Zealand Society for Earthquake Engineering.



The NZSEE Management Committee also confers Fellowship to Robert Davey in recognition for the active role he has taken with NZSEE and for his extensive achievements in the field of earthquake engineering. Robert has been a member of the society for over thirty years and was on the management committee from 2013 to 2015. He has published six technical papers in the Society's Bulletin and presented many times at our annual conferences.

Robert was Chair of the New Zealand Standards committee and led the update of the Standard NZS 3106:2009 on Liquid retaining structures. He was part of the seismic rehabilitation team to Iran after the 1990 Manjil Earthquake and was a member of the NZSEE reconnaissance team to Taiwan after the 1999 Chi Chi Earthquake.

Robert is conferred Fellowship of the New Zealand Society for Earthquake Engineering for his exceptional services to earthquake engineering in New Zealand over a very long period.



The NZSEE Management Committee also conferred Fellowship on Helen Ferner

Helen Ferner has had a long and distinguished career in Structural and Earthquake Engineering, both within New Zealand and Internationally. Helen studied at the University of Canterbury before obtaining a Master's degree at UC Berkeley. She undertook a significant amount of work on strengthening many significant historic structures for clients following the 1989 Loma Prieta Earthquake. Shortly after the Northridge earthquakes, Helen worked with the California Seismic Safety Commission to develop recommendations for design code changes based on the lessons learned from building performance in that earthquake.

Helen has contributed significantly to the profession and to NZSEE specifically. She was part of the 2016 reconnaissance team after the Kumamoto earthquake and has published papers in the Bulletin and presented at NZSEE conferences over many years.

Helen joined the NZSEE Management Committee in 2018 after acting as the Conference Convenor for the 2018 NZSEE Technical Conference. This conference in Auckland included NZSEE's 50th anniversary celebrations. Helen was appointed President-Elect in 2019, joining the Executive Team and taking over from David Whittaker as President in April 2020.

Helen has committed an extensive amount of time and effort to her role on the NZSEE Executive Team, including navigating the significant challenges that existed following the cancellation of our conference in 2020. She has shepherded the society through the Covid-19 pandemic, years which have been especially challenging and administratively burdensome. She then has made significant personal sacrifices to ensure the success of the Society throughout this period.

In addition to her service role on the Management Committee, Helen is also leading the Resilient Buildings Project. She has obtained external funding from EQC for this project, enabling NZSEE to provide guidance and leadership on the understanding of societal expectations of building performance and the motivation for structural designs that go beyond code minimum and provide increased seismic resilience.

Overall, through her service to the profession as a structural engineer, and through her significant and ongoing service to NZSEE, Helen is acknowledged with the award of Fellowship of the New Zealand Society for Earthquake Engineering.



1000th member milestone!

In May NZSEE reached the 1000th member milestone! This is an incredible milestone, and we wish to thank all our members for your support and encouragement over the years. This is a community we hope to continue to grow. We have several events planned over the rest of the year so keep an eye out for emails coming out about these. If you have any ideas of other events or activities, we can host please email exec@nzsee.org.nz. We would love to hear your ideas.

Seismic Risk Work Programme VM1 Project

We are pleased to report that MBIE have recently initiated the Seismic Risk Work Programme and the work is underway with Engineering New Zealand as the project managers. The Seismic Risk Work Programme will consider and update B1/VM1: Seismic Actions and Structural Design. This programme is informed by the Seismic Risk Working Group (SRWG) report of November 2020 which we reported about to you previously and which made several recommendations on these topics. The link to the SRWG report dated Nov 2020 is [here](#).

As Professor Ken Elwood reported at the recent NZSEE annual conference, the plan for the VM1 project is for two outputs. The 2023 B1/VM1 update will be focussed on the elastic design spectrum and the 2025 B1/VM1 update will be focussed on seismic design provisions. The planned programme he advised is as followed



The major project to update New Zealand's National Seismic Hazard Model (NSHM) is nearing completion, and this will provide important inputs to the Seismic Risk Work Programme. This is a major collaborative project led by GNS, that consolidates and supplements previous research, builds consensus and aims to deliver a holistic picture of the current state of knowledge.

To assist engineers during this time of change, NZSEE with SESOC and NZGS have just developed guidance, **Earthquake Design for Uncertainty: Guidance**, which provides recommended approaches an engineer can take to help ensure reliable performance from a building – regardless of the minimum design actions adopted. It will be sent to members very shortly. Watch your email.

Checking membership details from ENZ

As we are coming up to the end of our membership year ENZ has asked if you could please logon to [the ENZ Website](#) on the link below and double check your membership details are up to date. You can access the login page [here](#). Thankyou



Advancing Women in Engineering & Construction (AWEC) Symposium

As part of both the NZ Society of Earthquake Engineering and Auckland Transport's commitment to supporting equality for women in their professional careers, on the 4th of November this year the AWEC Collective is hosting a one-day symposium in Auckland. Titled '*Advancing Women in Engineering & Construction*', the tagline for the symposium is '*Reshaping the industry through the collective voice of women*', and it is primarily aimed at supporting the development and retention of women in the engineering sector and associated parts of the construction industry. Alongside civil and structural engineers in particular, the event is also amongst others intended to include architects, regulatory officials, and project managers. The full-day schedule is focused around encouraging networking and collaboration throughout, with afternoon workshops intended to lead into the development of research topics and improvement initiatives that can prompt further action.

In a bit more detail the objectives are to:

- Create a platform for women to learn, share and grow with the aim to make a positive change within their own career, organization and/or wider industry.
- Support the development of women in roles of technical and people leadership in engineering and associated professions.
- Help build professional networks amongst women that provide support and role modelling.
- Push the boundaries of diversity and inclusion in engineering and associated professional sectors.

Tickets are available via Eventbrite at <https://www.eventbrite.co.nz/e/advancing-women-in-engineering-construction-2022-symposium-tickets-379433715457>

