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### NZSEE BULLETIN VOL. 58 NO.4 (2025)

## From the President . . .

Welcome to the December 2025 final issue of our newsletter for this year.

There has been a lot happening on the government's reform of legislation which has an impact on the resilience of Aotearoa to natural hazards, and in particular earthquakes. Our Society together with Engineering NZ and kindred technical societies have been planning our response to the call for submissions.



### Managing Earthquake Risk to Existing Buildings

In our last newsletter we advised on the changes announced by the government to the earthquake prone buildings legislation. The government introduced the "Building (Earthquake prone Buildings) Amendment Bill" on 9 December 2025 and provides more detail on the policy proposals announced earlier in the year. The explanatory note to the Bill is a great overview of key proposals and can be found [here](#). Full relevant information associated with this impending change can be accessed through the [webpage](#) dedicated to the Earthquake Prone Building system reform that is frequently updated with the latest information and useful links to help support you to engage in this important work.

The legislation has been referred to the select committee. Which have now called for submissions by 16 February 2026.

New Zealand Society for Earthquake Engineering is working with Engineering NZ, Structural Engineering Society of New Zealand, New Zealand Geotechnical Society, Timber Design Society and the Concrete New Zealand Learned Society, on issues that need to be raised on the legislation.

While overall the legislation proposed is positive, there are some important issues that we need to raise through the select committee process. NZSEE intends to submit its own submission, while collaborating with other technical societies and Engineering NZ and may contribute to a joint submission as well.

We thank our members for providing feedback through the Engineering NZ portal set up jointly with us and other technical societies. Given the release of the amendment bill, if you have any further comments, please contact us at [exec@nzsee.org.nz](mailto:exec@nzsee.org.nz).

### TS 1170.5 Structural design actions

TS 1170 has now been finalised and published in November 2025, see note later in this newsletter. This provides valuable information for the design of new buildings based on the National Seismic Hazard Model published in 2022, while it is not referred to in the Building Code and is not a legal requirement.

### Low Damage Seismic Design (LDSD) Guidance

The new guidelines have also been published and provide valuable information for the design of new buildings to minimise damage.





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## UPCOMING EVENTS

### 13TH NATIONAL CONFERENCE ON EARTHQUAKE ENGINEERING

Portland Oregon

13-17 July 2026

<https://13ncee.eeri.org/>

### NZSEE CONFERENCE 2026

Tākina, Wellington

15-17 April 2026

<https://confer.eventsair.com/nzsee2026/>

### 21<sup>st</sup> International Conference on Soil Mechanics and Geotechnical Engineering

Vienna, Austria

14-19 2026

<https://www.icsmge2026.org/en/>

### 18<sup>th</sup> European Conference on Earthquake Engineering

Berlin

14-18 September 2026

<https://ecee2026.eu/>

The newly released TS 1170 as the Low Damage Seismic Design guidelines provide valuable information for the design of new buildings that perform beyond the code minimum requirements and help enhance the resilience of Aotearoa New Zealand.

## 2026 NZSEE Conference

The conference committee led by Nikoo Hazaveh and Prof Julia Becker and supported by Conference and Events have been working to bring an exciting programme in April next year. The registration for the conference is now open. Also, if you wish to sponsor the conference or book trade exhibition stands, please contact us as [exec@nzsee.org.nz](mailto:exec@nzsee.org.nz).

*Finally, I would like to thank you all for your support this year, and extend our season's greetings on behalf of our management committee, and wish all our members a happy, relaxing and enjoyable break during the Christmas – New Year holiday period. We look forward to engaging with you again in what appears to be an exciting 2026.*

~ P Brabharan ~



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## NZSEE 2026 Conference



# Preparing for the Big One

## Innovating for a New Era of Resilience

### 2026 NZSEE CONFERENCE

15–17 April 2026

Tākina Wellington Convention Centre



## REGISTRATION IS NOW OPEN

Early Bird Deadline: 27 February 2026

We're excited to announce that registration for the 2026 NZSEE **Annual Technical Conference**, to be held at Tākina, Wellington from 15-17 April 2026 is now open!

With this year's theme, "**Preparing for the Big One: Innovating for a New Era of Resilience**", the conference will provide a vital platform for professionals across disciplines to connect, share insights, and explore innovations that strengthen our collective readiness. Secure your place today and take advantage of Early Bird rates for registration.

Please visit the conference website below for all your registration information, including fees and inclusions.

## KEYNOTE SPEAKERS



If you're not yet up to date on our Keynote and Plenary Speakers, we invite you to visit the [conference website](#) to explore the outstanding lineup.



# SPONSORSHIP & EXHIBITION

Request the Prospectus

Sponsorship packages and exhibition stands are now available!

Sponsorship of NZSEE 2026 provides a unique opportunity for your organisation to show your support and raise your profile in the earthquake engineering industry. We invite you to participate in the event as an active partner with a number of different sponsorship packages or exhibition stands to select from.

If you are interested in becoming a Sponsor or Exhibitor at NZSEE 2026, please contact [exec@nzsee.org.nz](mailto:exec@nzsee.org.nz) to request your copy of the sponsorship and exhibition prospectus.

Find out more about Sponsorship & Exhibition Opportunities [here](#).

[Visit the Conference website for more information](#)

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## Call for nominations for Fellows 2026

In accordance with the [Constitution & Rules of The New Zealand Society for Earthquake Engineering Incorporated](#), the NZSEE Management Committee shall annually publish a call for nominations for Fellows.

### Rule 4.7 states:

*4.7 Fellows: The Management Committee may elect as a Fellow of the Society any person, whether resident in New Zealand or otherwise who, in the Committee's estimation, fulfils all of the following requirements:*

*a) the nominee must have been a member of the Society for at least five years immediately prior to nomination; and*

*b) the nominee must be highly respected in some aspect of the fields of earthquake engineering, earthquake phenomena or the effects of earthquakes; and*

*c) the nominee must have performed exceptional service to the Society as demonstrated by:*

- work on the Management Committee; and/or*
- work on one or more of the Society's Bulletins; and/or*
- publication in the Society's Bulletin; and/or*
- other special contribution which benefits the Society.*

*Prospective Fellows shall be nominated by three current members of the Society, who shall submit with their nomination a brief statement supporting the nominee's case for election. In the event of an initially unsuccessful nomination, the nomination shall stand for three years subsequent to nomination and if not by then successful, shall lapse. Re-nomination of an unsuccessful candidate shall not be accepted for the three years subsequent to failure of a previous nomination.*



*NOTE: Normally not more than five percent of the Society's membership shall be Fellows at any one time. The Management Committee shall annually publish a call for nominations and the closing date for nominations.*

In accordance with the constitution, we are calling for nominations for consideration for election as Fellows.

The submitted nomination will be considered by the Management Committee in their assessment for the election of NZSEE Fellows. The Management Committee's selection of any member for a Fellowship will be final, and no correspondence will be entered into.

Please complete all fields on this [form](#) and submit to the Executive Officer (via email at [exec@nzsee.org.nz](mailto:exec@nzsee.org.nz)) on or before **Tuesday, 10 February 2026 at 4 pm.**

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## 2026 NZSEE awards are now open

We invite applications for the prestigious NZSEE annual awards.

A summary of each award along with links to the detailed criteria are provided below.

In general, the awards are all independent, and applicants may be nominated to more than one award, provided they qualify for each award. In particular, note that applicants can apply to both the Natural Hazards Commission Toka Tū Ake / NZSEE Ivan Skinner Award and NZSEE / QuakeCoRE Emerging Women Leaders in Earthquake Engineering Award, and are encouraged to evaluate their eligibility for both awards. Submissions can be made for both awards, and this is encouraged if eligibility allows. However, completely separate submissions are required, and each submission must be tailored to meet the relevant award criteria.

Please submit your applications directly to the Executive Officer at [exec@nzsee.org.nz](mailto:exec@nzsee.org.nz).

### Note

No award may be given for any particular category in any year at the discretion of NZSEE and the Awards Committee. The decisions of the judges are final, and no correspondence will be entered into.

Awards include:

### Natural Hazards Commission Toka Tū Ake /NZSEE Ivan Skinner Award

The Natural Hazards Commission Toka Tū Ake / NZSEE Ivan Skinner Award is open to practitioners and researchers contributing to reducing the impacts of earthquakes on New Zealand communities, and individuals from disciplines beyond engineering who are making significant contributions to earthquake impact reduction in New Zealand.

The Natural Hazards Commission Toka Tū Ake/NZSEE Ivan Skinner Award includes a prize of \$15,000.

For more information and application details, please click [here](#).

Applications close Monday, 2 March 2026, with no extensions beyond this final deadline.

### NZSEE/QuakeCoRE Emerging Women Leaders in Earthquake Engineering Award

The NZSEE/QuakeCoRE Emerging Women Leaders in Earthquake Engineering Award recognises and celebrates younger women from engineering practice and/or academia who demonstrate emerging leadership in the field of earthquake engineering.

This award aims to foster greater participation of women in leadership roles within the discipline. Recipients are awarded a \$15,000 prize to support their career development and goals in earthquake engineering.

For more information and for details on how to apply please click [here](#).

Applications close Monday, 2 March 2026, with no extensions beyond this final deadline.



### **John Hollings Seismic Resilience in Practice Award**

The John Hollings Seismic Resilience in Practice award recognises case study projects from practice that have the objective of providing enhanced seismic resilience in an earthquake. Submitted projects may be new builds or seismic retrofits and can be a building, structure, or infrastructure.

For more information and details on how to apply please click [here](#).

Applications close Monday, 2 March 2026, with no extensions beyond this final deadline.

### **Otto Glogau Award**

This annual award recognises the author(s) of the best paper published in the NZSEE Bulletin during the three years leading up to 31 December of the year prior to the award being made. Eligibility is open to all authors, members or non-members of the New Zealand Society for Earthquake Engineering, whose papers were published in the Bulletin within the specified timeframe.

Nominations for papers meeting the eligibility can include self-nomination.

The award includes \$2,000, which may be used to purchase books or support other activities that advance earthquake engineering initiatives.

For more information and details on how to nominate an eligible Bulletin paper, click [here](#).

Applications close Monday, 2 March 2026, with no extensions beyond this final deadline.

### **NZSEE Research Scholarship**

The New Zealand Society for Earthquake Engineering awards an annual Research Scholarship to support students undertaking research projects in earthquake engineering at New Zealand universities and research institutes.

The scholarship objective is to promote research in earthquake engineering and encourage students of high ability to pursue advanced studies in earthquake engineering.

The 2026 NZSEE Scholarship will have a value of \$10,000.

For more information and for details on how to apply please click [here](#).

Applications close Monday, 2 March 2026, with no extensions beyond this final deadline.

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## **Building for seismic resilience with TS 1170.5 Structural design actions**

The technical specifications bring the National Seismic Hazard Model (NSHM) 2022 update and current understandings on earthquake risk into design practice. It also introduces comprehensive geotechnical requirements and addresses critical issues that impact structural performance during seismic events.

### **[National Seismic Hazard Model \(NSHM\) 2022 update](#)**

While NZS 1170.5:2004 remains the referenced standard under the New Zealand Building Code, TS 1170.5 provides a voluntary alternative solution for those wanting their building designs to reflect the latest hazard data and modern engineering principles.

What's covered by TS 1170.5

The specification is structured to guide practitioners through every stage of seismic design, including:

- Scope and determination of earthquake actions.
- Verification requirements for structural types and limit states.



- Site demand parameters and hazard considerations.
- Structural characteristics like ductility, performance factors, and irregularity.
- Design earthquake actions, including horizontal and vertical loads.
- Structural analysis methods, from static to time-history approaches.
- Deflection limits and inter-storey displacement criteria.
- Requirements for parts and components, including connections and special studies.

A companion commentary also available - SNZ TS 1170.5 Supp 1:2025 - provides background, interpretation, clarity around differences to the previous 2004 standard and practical guidance for applying the specification. There is also a comprehensive literature review of over 140 pieces of academic and applied knowledge.

Key inclusions in TS 1170.5

This specification includes major updates and refinements, such as:

- New site demand parameters based on NSHM 2022.
- Revised formulations for site spectra and soil-class derivation.
- Consideration of additional major faults in hazard assessment.
- Explicit geotechnical performance requirements and loading parameters.
- Updated horizontal design action coefficients, especially for short-period structures.
- Simplified design approach for shallow foundations.
- Acceptance of foundation sliding under certain ultimate limit state conditions.
- Revised methods for determining design actions on parts and components.

These changes incorporate two decades of learnings, including from the significant Canterbury (2011) and Kaikoura (2016) quakes to improve accuracy, safety, and resilience in structural and geotechnical design.

For full details and access to TS 1170.5, visit:

[SNZ TS 1170.5:2025 Structural design actions Part 5: Earthquake actions – New Zealand](#)

1. [SNZ TS 1170.5 Supp 1:2025 Commentary to Structural design actions Part 5: Earthquake actions – New Zealand](#)

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## Low Damage Seismic Design Guidance – Out now!

The Low Damage Seismic Design (LDSD) guidance series is now complete.

Developed by industry experts, LDSD are practical resources that make it easier to design buildings that go beyond code minimum and support faster recovery. This guidance will help engineers, architects, designers and builders build homes and buildings that better align with what research and experience tells us New Zealand communities expect – faster repair, quicker reoccupation after an event.

LDSD Volumes Two and Three follow on from Volume One: Benefits, Options, and Getting Started, which was published last year. Volumes Two and Three now build on that foundation with performance frameworks and detailed technical criteria.



Volumes Two and Three provide practical tools for designing buildings that go beyond minimum code and recover faster after earthquakes. Access the full suite at [Design.Resilience.NZ](https://design.resilience.nz).

This guidance comes at a good time as it complements the [newly released TS 1170.5](#) – the updated Standards NZ specification for earthquake loading requirements based on the latest seismic hazard model.

Together, these documents give the industry useful and practical tools for how to design resilient, above code buildings.

The guidance is available on Design.Resilience.NZ – an online hub housing resources that make resilient design easier:

- **Volume 1:** <https://design.resilience.nz/resources/view/low-damage-seismic-design-volume-1-benefits-options-and-getting-started>
- **Volume 2:** <https://design.resilience.nz/resources/view/low-damage-seismic-design-volume-2-performance-framework> [New!]
- **Volume 3:** <https://design.resilience.nz/resources/view/low-damage-seismic-design-volume-3-technical-guidance> [New!]

This guidance was developed by industry experts led by SESOC and funded by the Natural Hazards Commission and MBIE Building Performance.

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## Non-Structural Elements Capability Seminar - Survey

NZSEE is currently in the early planning stages of a Non-Structural Elements Training Capability Seminar and would like to gauge interest from our members. To help us tailor the seminar to best suit your needs, we are seeking your feedback on whether you would be likely to attend a paid in-person event. Additionally, we would appreciate your input on topics and preferred locations for the seminar. Your responses will be invaluable in guiding the planning and ensuring the seminar is both accessible and beneficial for participants.

[Complete the survey here.](#)

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## NZSEE Bulletin Vol. 58 No.4 (2025)

We have recently published the final Bulletin of the NZSEE for 2025, and the articles are listed here.

- [The Shaking Layers project: Near-real time shaking intensity maps for New Zealand earthquakes: Project overview](#)

Tatiana Goded, Nick Horspool, Anna Kaiser, Mark Chadwick, Joshua Groom, Jeremy Houltham, Sue Harvey, Danielle Charlton, Howard Wu, Baishan Peng, Callum Morris, Elizabeth Abbott, Jonathan Hanson, Jen Andrews, Bill Fry, Rachel White

- [Benefits of site-specific hazard analysis for seismic design in New Zealand: Revisited](#)

Brendon A Bradley

- [Ground motion simulations for Dunedin and Mosgiel, Otago, New Zealand](#)

Anna Kowal, Mark Stirling, Seokho Jeong

- [Standardised timber moment-resisting frames for multistorey buildings: Experimental testing](#)

Michael Newcombe, Jack Tombleson, Sam Leslie, Andrew Hewitt

- [Tuning procedure for the resilient slip-friction joint \(RSFJ\)](#)



Nicholas Chan, Ashkan Hashemi, Pierre Quenneville

- [Seismic fragility of masonry infilled reinforced concrete frames under in-plane loading: A hybrid experimental and numerical approach](#)

Siyavur Raheem, Julian Thamboo, Chinthaka Mallikarachi, Kushan Wijesundara, Priyan Dias

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## Advancing Women in Engineering & Construction (AWEC) Symposium 2026

Following from the inaugural **Advancing Women in Engineering & Construction (AWEC) Symposium** in 2022, and the release of the White Paper, the second AWEC Symposium is to be held on **2 July 2026**. AWEC is committed to supporting equity for women in their professional careers and is primarily aimed at supporting the development and retention of women in the engineering sector and associated parts of the construction industry. Alongside engineers and contractors, the event is also intended to include architects, regulatory officials, and project managers. The full-day schedule is focused around creating an inclusive and uplifting safe space, while encouraging networking and collaboration throughout.

The tagline for the 2026 symposium is '*A Collective voice for change: Moving beyond the barriers*' — connecting to the foundational motivation to centre the experiences and voices of women by highlighting the current barriers to achieving representation, whilst also recognising tangible actions that are needed for a more inclusive and diverse profession.

The symposium has been planned as a full day event to include two introductory keynote presentations and a panel discussion, followed by a lunch with an emphasis on networking and an afternoon of workshop session, before drinks and canapes to finish the event. We are excited to share that we have Zina Abu Ali from Aurecon, Sarah Lang from Beca and Kristen Lunman and Natalie Ferguson from Powrsuit confirmed as Keynote Speakers for the day. Please keep an eye out in the coming months for more information and ticket sales.

