



## Seminar Series

# 2023

# STEEL STRUCTURES:

## Going back to the fundamentals

CHRISTCHURCH 7 NOV	QUEENSTOWN 8 NOV	NELSON 9 NOV	NAPIER 14 NOV	WELLINGTON 15 NOV	HAMILTON 16 NOV	AUCKLAND 21 NOV	WHANGAREI 22 NOV
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### Why you and your employees attend this seminar?

Structural steel is one of the most widely used materials in New Zealand multi-storey buildings for the gravity systems and the lateral load resisting systems.

This is in large part due to its versatility for use in these buildings, typically combined with reinforced concrete in steel framed buildings with composite concrete floors. It also works well as the supporting system for mass timber floors. However, it is also the most complex and demanding of the structural materials to design members and connections into building assemblages. The material's high strength, high slenderness, multiple modes of failure and very wide range of structural forms in which it is used all pose significant challenges in understanding and application in practice. As we proceed apace with development of new, more resilient and sustainable forms of steel construction, the need to understand and apply the fundamentals of steel design becomes ever more important.

This seminar therefore goes back to cover the fundamentals of designing steel members, connections and systems and ends with a progress report on the current revision of NZS 3404.

### Seminar coverage

The following topics are being covered:

1. Fundamentals of structural steel analysis and member design, covering briefly the analysis options and then design of members for tension, compression, bending and combined actions.
2. Important principles of connection design and design of bolted and welded connections.
3. Tips for good steel design practice and project delivery from a steel constructor's perspective.
4. Fundamentals of structural steel systems design, behaviour and load paths
5. Brief update on the status of the current revision of NZS 3404, from the chair of the P3404 Committee.

### Other benefits

Upskilling attendees on this critically important topic at both a fundamental design level and details of new developments.

### Who should attend

Any engineers working for consultants, clients, building control authorities and contractors who are involved in design, fabrication, construction of buildings 2 or more storeys in height.

**REGISTER NOW**

If you are registering a group, please use [this link](#).

## SPEAKER PROFILES



### Charles Clifton BE (Hons) Civil, ME (Civil), PhD, DistFEngNZ

*Professor – University of Auckland*

Charles Clifton obtained his Bachelor of Civil Engineering (Hons) in 1978, Master of Civil Engineering in 1979, both from the University of Canterbury and obtained his PhD from the University of Auckland in 2005.

Following 5 years consulting engineering, in 1983 Charles started the Structural Division of HERA, responsible for developing design guidance for steel structures in severe fire, severe earthquake and for durability. In 2008, he joined the Department of Civil and Environmental Engineering, University of Auckland, teaching structural steel to undergraduate and postgraduate students and undertaking research with a major focus on development of resilient solutions for steel and composite steel/concrete buildings for severe earthquake and severe fire.



### Kevin Cowie, BE, BCOM, NZIW-CWE, CPEng

*Technical Director – Steel Construction New Zealand  
Chair of the P3404 Committee*

A chartered professional engineer (CPEng) and a member of Engineering New Zealand (CMEngNZ), Kevin has more than 15 years' structural engineering experience. He has assisted New Zealand consultants in the preparation of many multilevel steel construction design options and contributed to countless structural steel design guides and industry guidance

documents. Kevin has been involved in multiple steel-related standards committees and is currently chairing the proposed revision to NZS 3404.

## VENUES

### Christchurch

**7 November, Tuesday**  
Sudima Christchurch Airport  
550 Memorial Avenue, Harewood  
Christchurch

### Queenstown

**8 November, Wednesday**  
Cophthorne Hotel & Resort Lakefront  
Corner Frankton Rd & Adelaide St  
Queenstown

### Nelson

**9 November, Thursday**  
Tides Hotel  
66 Trafalgar Street  
Nelson

### Napier

**14 November, Tuesday**  
Napier War Memorial Centre  
48 Marine Parade  
Napier

### Wellington

**15 November, Wednesday**  
Naumi Studio Wellington  
213 Cuba Street, Te Aro  
Wellington

### Hamilton

**16 November, Thursday**  
The Verandah  
Hamilton Lake Domain  
Rotoroa Drive, Hamilton

### Auckland

**21 November, Tuesday**  
Ellerslie Event Centre  
100 Ascot Avenue  
Ellerslie, Auckland

### Whangarei

**22 November, Wednesday**  
Comfort Hotel Flames  
8 Waverly St, Onerahi  
Whangarei

## PROGRAMME

Time	Details
12:30 – 12:45	Registration
12:45 – 12:55	Introduction
12:55 – 2:05	Fundamentals of structural steel analysis and member design (Charles)
2:05 – 2:50	Fundamentals of steel structures connection design (Charles)
2:50 – 3:10	Afternoon tea/networking
3:10 – 3:55	Tips for good steel design practice and project delivery (Kevin)
3:55 – 4:55	Fundamentals of structural steel systems design behaviour and load paths (Charles)
4:55 – 5:15	Update on current revision of NZS 3404 (Kevin)
5:15 – 5:30	Final questions
5:30 pm	Seminar ends

## INVESTMENT DETAILS

SESOC/SCNZ members - \$400 + GST  
Non-members \$480 + GST

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