

James O'Neill

Ph.D. (Fire), ME (Fire), BE Civil (Hons), NER, CPEng
Director

CARBON | 
FIRE ENGINEERING



CONTACT

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james@carbonfe.com

LICENSES

Chartered Professional Engineer (CPEng)
National Engineers Register (NER)
Registered Professional Engineer QLD (RPEQ)
NSW Registered Certifier (Fire Safety)

EDUCATION

Doctor of Philosophy (Fire)
Masters of Engineering (Fire)
Bachelor of Engineering, Civil (Honours)

PROFESSIONAL AFFILIATIONS

Member Institution of Engineers Australia
Society of Fire Safety, Engineers Australia

PROFESSIONAL EXPERIENCE

Carbon Fire Engineering, 2023–Present
Holmes, 2007–2023

TECHNICAL COMMITTEES

AS/NZS 1720.4 Timber Structures (Fire
Section)

James is the co-founder of Carbon Fire Engineering, and has been consulting in New Zealand since 2007 and Australia since 2013. With a wealth of experience in all project sectors across New South Wales, Queensland, ACT and Western Australia, James is an industry leader in specialist timber fire engineering and design for manufacture and assembly.

James has a Bachelor degree in Civil Engineering, a Masters of Fire Engineering and a Ph.D. in Fire Engineering from the University of Canterbury in New Zealand. His research was dedicated to the structural fire analysis of heavy timber assemblies for multi-storey building applications. He has co-authored numerous design guidelines on the fire design of heavy timber assemblies such as LVL, glulam and CLT systems. James has sat on the committee revising fire design for timber standards in Australia and New Zealand, and provided advice to numerous standards and practice committees worldwide.

Prior to founding Carbon Fire Engineering, James was a Technical Director at Holmes and the Queensland State Manager. James is a recognised market leader in structural fire engineering, and in addition to his considerable level of expertise with timber structures he has significant experience in the analysis of steel and concrete structures across the industry across all building sectors.

James has significant experience delivering iconic and complex projects with specialist structural fire engineering expertise. He takes a holistic approach to both fire safety strategies and first principles design, ensuring the preservation of design intent while achieving a practical degree of performance.

Throughout his time in academia and in the years spent as a consulting professional engineer, James has developed strong communication and presentation skills which form the backbone of his professional repertoire, and are paramount to his success as a leader in the fire engineering industry. James proactively engages with clients and other industry stakeholders to investigate performance based engineered solutions on projects and to pursue new opportunities within the construction process throughout all states. James follows a holistic approach to building design, developing strategies which consider and utilise the specific aspects of each project, such that the maximum value can be added to a project without introducing unnecessary complexity. A key aspect of this is to demonstrate the success of past projects, and to also remain at the forefront of performance based engineering.

James has presented at numerous conferences on performance based fire engineering across the globe, and has a large number of publications in reputable engineering journals from all over the world. In his specialist area of expertise James regularly presents to the construction industry (building certifiers, architects, engineers and developers) the advantages and possibilities of a performance based approach, the current state of the art of the profession, and any upcoming research.

PUBLICATIONS

Lim, L.C., O'Neill, J.W., and Feeney, M.J.,
Structural Fire Engineering Practice of Modern
Commercial Buildings: A Consultant's
Perspective. 6th International Conference on
Applications of Structural Fire Engineering,
Singapore, June 13-14, 2019.

Buchanan, A.H., Dunn, A., O'Neill, J.W., and Pau,
D., Fire Safety of CLT Buildings in New Zealand
and Australia. Wood and Fiber Science, Issue 50
(Special Issue), 2018.

O'Neill, J.W., Abu, A.K., Carradine, D.M., Moss, P.J.,
and Buchanan, A.H., A Simplified Design Method
for Estimating the Fire Performance of Structural
Timber Floors. 2nd International Conference on
Performance-based and Life-cycle Structural
Engineering, Brisbane, Australia, December 9-11,
2015.

Timmers, M., Rogowski, B., Tsay Jacobs, A., Jones,
B., and O'Neill, J.W., Mass Timber High-Rise
Design Research: Museum Tower in Los Angeles
Reimagined in Mass Timber. The 2015 Structural
Engineers Association of California Convention,
Seattle, Washington, September 9-12, 2015.

O'Neill, J.W., Abu, A.K., Carradine, D.M., Moss, P.J.,
and Buchanan, A.H., Predicting the Fire
Performance of Structural Timber Floors. New
Zealand Timber Design Journal, New Zealand
Timber Design Society Incorporated, Auckland,
New Zealand, 23(1), 14-20, 2015.

O'Neill, J.W., Abu, A.K., Carradine, D.M., Moss, P.J.,
and Buchanan, A.H., Predicting the Fire
Performance of Structural Timber Floors. 8th
International Conference on Structures in Fire,
Shanghai, China, June 11-13, 2014.

O'Neill, J.W., Abu, A.K., Carradine, D.M., Moss, P.J.,
and Buchanan, A.H., Modelling the Fire
Performance of Structural Timber Floors. Journal
of Structural Fire Engineering, Issue 2, 2014.

O'Neill, J.W., The Fire Performance of Timber
Floors in Multi-Storey Buildings. Doctoral Thesis
in Fire Engineering, University of Canterbury,
Christchurch, New Zealand, 2013.

STIC, Design Guide Australia and New Zealand—
Post-Tensioned Timber Buildings, Part 3 –Gravity
and Wind Design, Chapter 11: Fire Resistance.
Structural Timber Innovation Company,
Christchurch, New Zealand, 2013.

STIC, Design Guide Australia and New Zealand—
Post-Tensioned Timber Buildings, Part 2 –Seismic
Design, Chapter 11: Fire Design of Post-tensioned
Seismic Frames. Structural Timber Innovation
Company, Christchurch, New Zealand, 2013.

STIC, Design Guide Australia and New Zealand—
Post-Tensioned Timber Buildings, Part 1 –
Overview, Chapter 10: Design for Fire Safety.
Structural Timber Innovation Company,
Christchurch, New Zealand, 2013.

PROJECT EXPERIENCE

Arts, Entertainment & Public Buildings

New Performing Arts Centre, QPAC // Brisbane, QLD
John Hunter Hospital Carpark // Newcastle, NSW
Prince Charles Hospital Carpark // Chermside, QLD
Sydney Town Hall // Sydney, NSW
Central Train Station // Sydney, NSW
Sydney Metro Project Office // North St Marys, NSW
Cook & Phillip Park Aquatic and Fitness Centre // Sydney, NSW
Boating Safety Education Centre // Watsons Bay, NSW
42-44 St Pauls Street // Randwick, NSW

Commercial

Jubilee Place // Fortitude Valley, QLD
Westralia Square Tower 2 // Perth, WA
42 Honeysuckle Drive // Newcastle, NSW
Commercial Bay // Auckland, NZ
Bays 6-9 // Lavender Bay, NSW
8 Maroochydore Road // Maroochydore, QLD
23 National Circuit // Barton, ACT
137-153 Crown Street // Darlinghurst, NSW
44 Martin Place // Sydney, NSW
52 Martin Place // Sydney, NSW
550 Allerton Street // Redwood City, CA, USA
The Greenland Centre // Sydney, NSW
40 King Street // Sydney, NSW
The Crossing Building C // Christchurch, NZ
10 Gribble Street // Gungahlin, ACT

Education

Wee Waa High School // Wee Waa, NSW
University of Sunshine Coast, Moreton Bay Campus, Stage 2 // Petrie, QLD
Macquarie University Ainsworth Building // Macquarie Park, NSW
Macquarie University Michael Kirby Building // Macquarie Park, NSW
UWS Kingswood Campus Library // Kingswood, NSW
University of Newcastle, Central Coast // Gosford, NSW
Alexandria Park Community School // Alexandria, NSW
Devonshire Street Childcare Centre // Surry Hills, NSW
University of Notre Dame // Wagga Wagga, NSW
Griffith University Building N34 Upgrade // Nathan, QLD
Griffith University Building N55 Upgrade // Nathan, QLD
Fern Bay Public School // Fern Bay, NSW
Pymble Ladies College // Pymble, NSW

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PUBLICATIONS

O'Neill, J.W., Abu, A.K., Carradine, D.M., Moss, P.J., Buchanan, A.H., Modelling Prefabricated Timber Floors in Fire. World Conference of Timber Engineering, Auckland, New Zealand, June 16-19, 2012.

O'Neill, J.W., Abu, A.K., Carradine, D.M., Moss, P.J., Buchanan, A.H., Modelling the Fire Performance of Structural Timber Floors. 7th International Conference on Structures in Fire, Zurich, Switzerland, June 6-8, 2012.

Werther, N., O'Neill, J.W., Spellman, P.M., Abu, A.K., Moss, P.J., Buchanan, A.H., Winter, S., Parametric Study of Modelling Structural Timber in Fire with Different Software Packages. 7th International Conference on Structures in Fire, Zurich, Switzerland, June 6-8, 2012.

O'Neill, J.W., Carradine, D.M., Moss, P.J., Fragiaco, M., Dhakal, R., Buchanan, A.H., Design of Timber-Concrete Composite Floors for Fire Resistance. Journal of Structural Fire Engineering, 2(3), 231-242, 2011.

O'Neill, J.W., Carradine, D.M., Moss, P.J., Fragiaco, M., Buchanan, A.H., Fire Performance of Timber-Concrete Composite Floors. New Zealand Timber Design Journal, New Zealand Timber Design Society Incorporated, Auckland, New Zealand, 19(1), 4-13, 2011.

O'Neill, J.W., Carradine, D.M., Dhakal, R., Moss, P.J., Buchanan, A.H., Fragiaco, M., Timber-Concrete Composite Floors in Fire. Meeting 41 of the Working Commission W18-Timber Structures, CIB, International Council for Research and Innovation, Nelson, New Zealand, paper no. CIB-W18/43-16-3, 2010.

O'Neill, J.W., Carradine, D.M., Moss, P.J., Fragiaco, M., Buchanan, A.H., Fire Performance of Timber-Concrete Composite Floors. World Conference of Timber Engineering, Riva del Garda, Italy, June 20-24, 2010.

O'Neill, J.W., Carradine, D.M., Moss, P.J., Fragiaco, M., Dhakal, R., Buchanan, A.H., Design of Timber-Concrete Composite Floors for Fire Resistance. 6th International Conference on Structures in Fire, East Lansing, MI, USA, June 2-4, 2010.

O'Neill, J.W., The Fire Performance of Timber Concrete Composite Floors. Master's Thesis in Fire Engineering, University of Canterbury, Christchurch, New Zealand, 2009.

PROJECT EXPERIENCE CONT.

Residential

Monterey // Kangaroo Point, QLD

420 Macquarie Street // Liverpool, NSW

The Holiday Inn Darling Harbour // Haymarket, NSW

Twenty 95 // Manly, NSW

Habitat on Juers // Kingston, QLD

2-6 Tallow Street Demonstration Project // Inala, QLD

4-8 Patterson Street // Double Bay, NSW

3-5 Loftus Street // Darling Point, NSW

1-5 Centennial Avenue // Lane Cove, NSW

3-9 Eve Street // Erskineville, NSW

2-4 Levoni Street // Mosman, NSW

Crownview // Wollongong, NSW

10-20 McEvoy Street // Waterloo, NSW

268-270 Liverpool Road // Ashfield, NSW

79-87 Canning Street // Carlton, VIC

39-43 Cordelia Street // South Brisbane, QLD

Hotel

Paramount Hotel and Paramount House // Surry Hills, NSW

42 Honeysuckle Drive // Newcastle, NSW

184-202 King Street // Newcastle, NSW

Holiday Inn Darling Harbour // Haymarket, NSW

Little National Hotel // Sydney, NSW

46 Foveaux Street // Surry Hills, NSW

The Meriton // Southport, QLD

Childcare / Aged Care / Hospital

Devonshire Street Childcare Centre // Surry Hills, NSW

Donnington Residential Aged Care Facility // Castle Hill, NSW

Wagga Wagga Base Hospital Redevelopment // Wagga Wagga, NSW

Industrial

Unilever Processing Plant // North Rocks, NSW

Yennora Distribution Centre // Yennora, NSW

11 Ferndell Street // Granville, NSW

146 Potassium Street // Narangba, QLD

440 Sherbrooke Road // Willawong, QLD

43 Curzon Street Upgrade // Tennyson, QLD

Retail & Bar

Jubilee Hotel // Fortitude Valley, QLD

Jubilee Place Rooftop Bar // Fortitude Valley, QLD

Shelbourne Hotel // Sydney, NSW

Queens Wharf Visitor Centre // Brisbane, QLD

20 Smith Street // Parramatta, NSW

Infrastructure

Cross River Rail — Structural Fire Engineering // Brisbane, QLD