

Prof. Dr. Pierre Quenneville (New Zealand)

The University of Auckland
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COST FP1402, IPC Member, MC Observer, WG3 Member



Personal

Years of experience in relevant field: 29
Expertise: connections, brittle failures
Degree: PhD. (01.05.1992)

Organisation

Civil and Environmental Engineering
(www.cee.auckland.ac.nz)
Focus: theoretical and practical research / innovation,
design of structures and education/training
Facilities : Structures testing lab, 1000 kN Tension and
Compression capacity, fabrication

No. of staff	PhD students	MSc/year
4	6	2

Research projects

1. development of the connection chapter for the New Zealand timber design standard (NZS 3603)
2. Development of design rules for small-dowel type fasteners with brittle behaviour (these results are to be incorporated in the next version of the NZS 3603 and the Canadian O86 "Design of Timber Structures" design standard)
3. development of design rules for timber moment connection that exhibit brittle failure
4. verification of design rules for self-tapping screws connections that exhibit brittle failure

Publications

Franke, B., & Quenneville, P. (2014). Analysis of the fracture behavior of Radiata Pine timber and Laminated Veneer Lumber. *Engineering Fracture Mechanics*, 116, 1-12.

Loo, W., Quenneville, P., & Chou, N. (2014). Experimental testing of a rocking timber shear wall with slip-friction connectors. *Earthquake Engineering and Structural Dynamics*. doi:10.1002/eqe.2413

Zarnani, P. & Quenneville, P. 2014, "Group Tear-Out in Small Dowel-Type Timber Connections: Brittle and Mixed Failure Modes of Multinail Joints", *J. Struct. Eng.*, doi: 10.1061/(ASCE)ST.1943-541X.04014110.

Zarnani, P. & Quenneville, P. 2014, "Strength of timber connections under potential failure modes: An improved design procedure", *Construction and Building Materials*, 60(2014), p. 81-90.

Zarnani, P. & Quenneville, P. 2014, "Wood Block Tear-out Resistance and Failure Modes of Timber Rivet Connections: A Stiffness-Based Approach", *J. Struct. Eng.*, 140(2), 04013055.

Zarnani, P., & Quenneville, P. (2014). Splitting Strength of Small Dowel-Type Timber Connections: Rivet Joint Loaded Perpendicular to Grain. *Journal of Structural Engineering*, 140(10)

