

Curriculum Vitae

QUALIFICATIONS

- Doctor of Philosophy in Fire Engineering, PhD (Fire), 2009 - University of Canterbury
- Master of Engineering in Fire Engineering, ME (Fire), 1996 - University of Canterbury
- Bachelor of Civil Engineering, BE (Civil), 1994 - University of Canterbury
- Completed (coursework) New Zealand Certificate in Civil Engineering, 1991 - Waikato Polytechnic

AFFILIATIONS

- CMENZ, CPEng, IntPE (NZ) (# 235830)
- Professional Member Society of Fire Protection Engineers (USA) PMSFPE
- Life Member International Association for Fire Safety Science (IAFSS)
- Fire Protection Association of New Zealand
- Association for Specialist Fire Protection (UK)

PUBLICATIONS

- 2022 "Enhancing the phi-meter by incorporating carbon dioxide and carbon monoxide measurements Mr Sahand Rasoulipour, Anthony Parkes, PhD; Charles Fleischmann; Fire Safety Journal Volume 129, May 2022, 103558.
- 2019 Wood Processors & Manufacturers Association of New Zealand NZ Wood Design Guides "Design for Fire Safety, Chapters 13.6" March 2019; Member of the Working Group.
- 2012 "New Zealand Case Study: Building Specifications - A New Zealand Approach" 9th International Conference on Performance-Based Codes and Fire Safety Design Methods, 20-22 June 2012, Hong Kong. In Proceedings: 562-604.
- 2009 "The impact of size and location of pool fires on compartment fire behaviour" Thesis, Doctor of Philosophy in Fire Engineering, University of Canterbury.
- 2007 FHC 4 Warehouse Case Study Using the International Fire Engineering Guidelines, Presented at FIRE NZ 2007 Conference, 19-20 September 2007, Auckland, New Zealand
- 2005 "The Impact of Location and Ventilation on Pool Fires in a Compartment" Fire Safety Science - Proceedings of the Eight International Symposium, Co-author C. M Fleischmann, Presented 18-23 September 2005, Beijing, China, pp1289-1300.
- 2005 "Risk based Fire Engineered Alternative Solution for Nursing Homes – Case Study in New Zealand" Published in the Fire Protection Engineering Magazine, issue 6, Spring 2000, pp 29-34
- 2000 "The Effect of Combustible Construction on Fire Safety in Shopping Centres" A report prepared for the Fire Code Reform Centre Limited – Reviewer.
- 2000 "Fire Safety Upgrades of the Oamaru Historic Precinct, Excelsior Hotel; and Bangor Homestead" Second Australasian Engineering Heritage Conference, Auckland, New Zealand, in February 2000, Co-author D. L Palmer:
- 1999 "Risk based Fire Engineered Alternative Solution for Nursing Homes – Case Study in New Zealand" Proceedings of the SFPE Symposium on Risk, Uncertainty, and Reliability in Fire Protection Engineering, May 12-14, Baltimore, MD, 1999
- 1998 "The Performance Based Environment in New Zealand – The Real Story" Presented at the NFPA Annual Meeting, 17-21 May 1998, Cincinnati, Ohio USA.
- 1998 "Fire Engineered Alternative Solution for A Guest House Using Computer Modelling – A Case Study" Presented at the NFPA Annual Meeting, 17-21 May 1998, Cincinnati, Ohio USA.

- 1998 "Fire Engineered Alternative Solution for Nursing Homes – Case Study" NFPA Annual Meeting, 17-21 May 1998, Cincinnati, Ohio USA.
- 1998 "Case Study Building Specifications - A New Zealand Approach" Proceedings of the Pacific Rim Conference and Second (2nd) International Conference on Performance-Based Codes and Fire Safety Design Methods. International Code Council and the Society of Fire Protection Engineers (SFPE); Co-authors Dr. C. M Fleischmann, C. A Caldwell, and A. H Henderson, May 3-9, 1998, Maui, HI, USA.
- 1997 "Effects of Ventilation on the Compartment Enhanced Mass Loss Rate" Fire Safety Science - Proceedings of the Fifth International Symposium, Co-author C. M Fleischmann, 3-7 March, 1997, Melbourne, Australia, pp. 415-426.
- 1996 "Explosions in Smoke Filled Compartments" Proceedings of the IPENZ Annual Conference, Presented, 9-13 February 1996, Dunedin, New Zealand, pp262-265

EMPLOYMENT HISTORY

May 2019-Present

Managing Director - PFITS Consultancy Limited

Specialist Fire Engineering company providing a wide range of fire engineering services from detailed Passive Fire System Design, Fire Engineering Design, Fire Inspection and Construction Design and Monitoring, and Training services.

May 2016 – 2019

Technical Director - Olsson Fire and Risk (NZ)

Specialist Fire Engineering company providing a wide range of fire engineering services from detailed fire engineering design, fire protection system design, fire construction design and monitoring services.

January 2011 – May 2016

Fire Engineering Manager - Kirk Roberts Consulting Engineers Ltd

Created, developed and managed Fire Engineering as a discipline within the company.

Sept 2008 – June 2013

Consultant - Fire Engineering Technical Leader for Auckland Council

Technical leader for Auckland Council providing specialist fire engineering technical advice and oversight across the Auckland region. The Council for the Auckland Region in New Zealand began operating on 1 November 2010 (previously Auckland City Council), combining the functions of the existing regional council and the region's seven previous city and district councils into one "super council" or "super city". It is the largest council in Australasia, with a \$3 billion annual budget, \$29 billion of assets and about 8,000 staff.

2002 – December 2010

AC Consulting Group/Duffill Watts/CPG New Zealand, Christchurch, New Zealand

Lead fire engineering consultant, providing fire engineering design and peer review services for projects throughout New Zealand

1997 – 2002

Senior Fire Engineering Consultant - Caldwell Consulting Ltd, Christchurch, New Zealand

1996 – 1997

New Zealand Fire Service, Christchurch, New Zealand

COURSE INSTRUCTOR

Guest Lecturer - University of Canterbury, Master of Fire Engineering Program 2004-2005

SPECIFIC EXPERIENCE – NOTABLE PROJECTS

Southpark Corporation/Sime Darby, Christchurch

Date: 2023 – Present

Role in Project: Fire Engineer for the development of three (3) industrial buildings at Waterloo Business Park.

- **Terra Cat** – C/VM2 design of new building for Terra Cat comprising; Showroom and Offices, Distribution centre (storage to a maximum height of 10 m), Offices and training (Mezzanine floor), Engineering workshop (for X-Large CAT machinery) with gantry crane and paint booth and a separate open covered truck wash building - **Approximate Value:** \$ 19.4 Million
 - **TWL Hyster** – C/VM2 design TWL Truck and Trailer two storey Showroom with Warehouse (storage to a maximum height of 10 m) with Hyster Forklift office and workshop - **Approximate Value:** \$ 11.2 Million
 - **Truckstops** – C/AS2 design of a heavy machinery truck workshop with a showroom, office and a staff area on the first floor. The escape height from the workshop is 0 m and from the first floor 4.5 m - **Approximate Value:** \$ 16.2 Million
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Marine Sport Recreation Centre, Auckland

Date: 2022 – Present **Approximate Value:** \$ 5.4 Million

Role in Project: Fire Engineering and Passive Fire Engineering for the development of a new two-storey marine sports and recreation facility built partially over the water.

Lincoln University – Science Building, Lincoln, Canterbury

Date: 2021 – 2023 **Approximate Value:** \$92 Million

Role in Project: Passive Fire Engineering for the development of a mixed two and three level building incorporating office, teaching labs, research labs, and communal spaces, utilising BIM with clash detection to develop the passive fire solutions.

Jamie Kay Warehouse, Christchurch

Date: 2021 – 2023

Role in Project: Fire Engineering for the development of a large single-storey warehouse with a total floor area of 3180m² with an attached 236m² office.

The Carlin Hotel, Queenstown

Date: 2019 - 2023 **Approximate Value:** \$30 Million

Role in Project: Fire Engineering and Passive Fire Engineering for the development of a New Zealand first six start seven-storey boutique hotel, comprising of a ground level carpark and six levels of residential and accommodation, with a public restaurant dining area.

Vodafone, Christchurch

Date: 2014 – 2019 **Approximate Value:** \$ 30 Million

Role in Project: Fire Engineer for the development of this five-storey office building with a central atrium.

Ryman Healthcare Ltd, Edmund Hillary Retirement Village Remuera, Auckland

Date: 2006 – 2014 **Approximate Value:** \$ 140 Million

Role in Project: Lead Fire Engineer for the development of this multi-storey hospital/rest home and apartment care facility.

Redevelopment of Wairau Hospital, Blenheim

Date: 2007 – 2010 **Approximate Value:** \$ 30 Million

Role in Project: Lead fire engineer for the redevelopment of the hospital. Responsible for fire design to meet the NZ Building Code requirements.

Boogie Nights Bar and Nightclub/ Pool Hall

Date: 2005 - 2006

Role in Project: Lead fire engineer for the redevelopment of two existing buildings to provide a nightclub on the ground floor and a pool hall on the first floor which connects to a third adjacent building. Alternative solutions were provided to allow capacity for over 700 people in the nightclub.

Queenstown Airport

Date: 2005 – 2007 **Approximate Value:** \$ 30 Million

Role in Project: Lead fire engineer for the redevelopment of the existing Queenstown International Airport Terminal building.

Nelson Provincial Museum

Date: 2003-2005 **Approximate Value:** \$ 4 Million

Role in Project: Redevelopment of a two-storey building to the Nelson Provincial Museum. Responsible for fire design to meet the requirements of the NZ Building Code.

Captain Springs Road Development

Date: 2003-2005

Role in Project: Development of a performance base fire design for the construction of 3 warehouse buildings with a combined floor area of 47,000m² used for the storage of glass bottles stored on pallets, stacked to a maximum height of 10.7m with stock value in excess of \$25 million.

The Civic Theatre, Invercargill

Date: 2003-2005 **Approximate Value:** \$ 15 Million

Role in Project: Upgrade of the existing Civic Theatre to include a completely new back-of-house area with a modern floor, larger stage area, new dressing rooms, and rehearsal and green rooms. A Performance-based design was produced to address smoke control to the gallery level and continental seating.

The Warehouse Ltd Hamilton Central

Date: 2004

Role in Project: Development of a two-storey building for The Warehouse Limited. Performance-based design was provided to allow the ground floor to be open to the first floor with each area approx. 2000m².

Sydney International Airport

Date: 1998 **Approximate Value:** \$ 750 Million

Role in Project: Development of shutdown procedures for the Sydney International Airport.

Peer Reviews Role in Projects: Provided review services for agencies such as City Councils. This assists the authorities in reviewing fire engineering submittals that are beyond their available knowledge and expertise.

- Christchurch City Council
 - City Environments, Auckland
 - Manukau City Council
 - Bay Building Certifiers/Tauranga
 - Nelson City Council
 - Lakes Coast Cluster Group
 - Napier City Council
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