

IAN BUCKLE

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Current Affiliation

Professor

Contact Information

Department of Civil and Environmental Engineering

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Education

YEAR	DEGREE	UNIVERSITY
1964	BE (Hons)	University of Auckland
1967	PhD	University of Auckland
1967-9	Post-doctoral Experience	University of California-Berkeley

Research Interests

- Seismic design and performance of bridges and buildings
- Seismic design and retrofit criteria for highway bridges
- Earthquake protective systems for bridges (seismic isolation)
- Resilience of highway systems subject to earthquakes
- Large-scale laboratory and field testing of bridges

- Design and performance of bridges for differential temperature and live load impact
- Nonlinear analysis of structures subject to dynamic loads

Recent Publications

- Buckle, I.G., *Protecting Concrete Structures From Earthquakes Using Seismic Isolation: From Concept to Reality*, Jl. Japan Conc. Inst., 40 (1), 2002, pp 116-122 [in Japanese].
- Buckle, I., Nagarajaiah, S., and Ferrell, K., *Stability of Elastomeric Isolation Bearings: Experimental Study*, Jl. Structural. Eng., ASCE, 128 (1), 2002, pp 3-11.
- Chen, Q., Douglas, B.M., Maragakis, E.A., and Buckle I.G., *Extraction of Hysteretic Properties of Seismically Isolated Bridges From Quick Release Field Tests*, Jl. Earthquake Eng. Structural Dynamics, 31, 2002, pp 333-351.
- Buckle, I.G., *AASHTO LRFD Limit State Design of Bridges With Emphasis on Seismic Performance*, Foundation Design Codes and Soil Investigation in View of International Harmonization and Performance Based Design, Balkema, Tokyo, 2002, pp 17-30.
- Carden L.P., Itani, A.M., and Buckle I.G., *Investigation of Composite Action in Steel Girder Bridge Superstructures Subjected to Transverse Earthquake Loading*, Transportation Research Record, Jl. Trans. Res. Board, 1814, 2002, pp 245-252.
- Friedland I.M., Buckle I.G., and Lee, G.C., *Highway Bridge Seismic Design*, Jl. Earthquake Eng. and Eng. Vibration, 1 (1), 2002, pp 10-19.
- Itani, A.M., Bruneau, M., Carden, L.P., and Buckle, I.G., *Seismic Behavior of Steel Girder Bridge Superstructures*, Jl. Bridge Eng., ASCE, 9 (3), 2004, pp 243-249.
- Dusicka, P., Itani, A.M., and Buckle, I.G., *Finite Element Investigation of Steel Built-Up Shear Links Subjected to Inelastic Deformations*, Jl Earthquake Eng. and Eng. Vibration, 3 (2), 2004, pp 195-203.
- Buckle, I.G., Dusicka, P., and Itani, A.M., *Development of Built-Up Shear Links as Energy Dissipators for the Seismic Protection of Long-Span Bridges*, Bridge Structures, 1 (1), Taylor & Francis, 2005, pp 19-27.
- Carden, L.P., Itani, A.M., and Buckle, I.G., *Seismic Performance of Steel Girder Bridges with Ductile Cross Frames Using Single Angle X Braces*, Jl. Structural Eng., ASCE 132 (3), 2006, pp 329-337.
- Carden, L.P., Itani, A.M., and Buckle, I.G., *Seismic Performance of Steel Girder Bridges with Ductile Cross Frames Using Buckling Restrained Braces*, Jl. Structural Eng., ASCE 132 (3), 2006, pp 338-345.
- Buckle, I.G., Friedland, I.M., Mander, J.H., Martin, G.R., Nutt, R., and Power M., *Seismic Retrofitting Manual for Highway Structures: Part 1- Bridges*, Publication FHWA-HRT-06-032, Federal Highway Administration, Washington DC, 2006, 610pp.

Also published as Special Publication MCEER-06-SP10, Multidisciplinary Center for Extreme Events Research, University at Buffalo, Buffalo NY, 2006, 610pp.

- Buckle, I.G., Constantinou, M., Dicleli, M., and Ghasemi, H., *Seismic Isolation of Highway Bridges*, Special Publication MCEER-06-SP07, Multidisciplinary Center for Extreme Events Research, University at Buffalo, Buffalo NY, 2006, 171pp.
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Courses Taught

Course Code	Course Title
CEE 381	Structural Analysis I
CEE 725	Advanced Topics in Structural Analysis
CEE 729	Seismic Isolation for Structural Systems
CEE 730	Dynamics of Structures
CEE 731	Advanced Dynamics of Structures

Other Activities within Engineering and Teaching Professions

- Chair, Transportation Research Board Committee AFF50, Seismic Design and Performance of Bridges
- Vice Chair, Caltrans Seismic Advisory Board
- Member, Board of Directors, Asia-Pacific Network of Centers for Earthquake Engineering Research (ANCER)
- Member, Board of Directors, Consortium of Universities for Research in Earthquake Engineering (CUREE)
- Member, Board of Directors, George E. Brown Jr. Network for Earthquake Engineering Simulation (NEES Consortium Inc.)
- Member, Board of Directors, Nevada Earthquake Safety Council (NESC)
- Past President and Chair, Board of Directors, NEES Consortium Inc.
- Past Chair, Executive Committee, ASCE Technical Council on Lifeline Earthquake Engineering (TCLEE)