

CURRICULUM VITAE

Name: Andrew Stuart Whittaker
Address: 230 Ketter Hall, Buffalo, NY 14260
Phone: 1-716-645-4364
Email: awhittak@buffalo.edu

Bio sketch

Andrew Whittaker is Professor in the Department of Civil, Structural and Environmental Engineering at the University at Buffalo, and serves as the Director of MCEER, the Institute of Bridge Engineering and the Structural Engineering and Earthquake Simulation Laboratory. He is a registered civil and structural engineer in the State of California. Whittaker served as the Vice-President and President of the Consortium of Universities for Research in Earthquake Engineering (www.curee.org) from 2003 to 2011, and on the Board of Directors of the Earthquake Engineering Research Institute (www.eeri.org) and the World Seismic Safety Initiative from 2008 to 2010, and on the Advisory Committee for the Southern California Earthquake Center from 2010 to 2017. Currently, he is a member of the Board of Directors of the American Association for Structural Mechanics in Reactor Technology. Whittaker made significant contributions to the first generation of tools for performance based earthquake engineering (FEMA 273/274, 1992-1997) and led the structural engineering team that developed the second generation of these tools (FEMA P58, 2000-2013). Whittaker serves on a number of national committees including ASCE 4, ASCE 7, and ASCE 43, and ACI 349. He is Chair of the ASCE Nuclear Standards Committee. Whittaker's contributions have been recognized through the 2017 ASCE Walter P. Moore Jnr. Award and the 2017 ASCE Stephen D. Bechtel Jnr. Energy Award. He is a Fellow of ASCE, SEI, and ACI. His research interests are broad and include earthquake and blast engineering of buildings, long-span bridges and nuclear structures. The US National Science Foundation, US Department of Energy, US Nuclear Regulatory Commission, US Federal Highway Administration, and Canadian Nuclear Safety Commission fund his research. Whittaker consults to federal agencies, regulators, consultancies, contractors, and power utilities in the United States, Canada, United Kingdom, Europe, Asia and Australia.

Education

Degree: Ph.D., University of California, Berkeley, CA, 1988
Major: Structural Engineering
Thesis: Seismic behavior of dual steel framing systems
Degree: M.S., Civil Engineering, University of California, Berkeley, CA, 1985
Degree: B.E., Civil Engineering, University of Melbourne, Victoria, Australia, 1977

Professional Registration

Civil Engineer, California, No. C045013
Structural Engineer, California, No. S03618

Employment History

University at Buffalo, Director, SEESL, 2016-present
University at Buffalo, Director, Institute of Bridge Engineering, 2014-present
University at Buffalo, Deputy Director, SEESL, 2014-2016

University at Buffalo, Director, MCEER, 2011-present

University at Buffalo, Chair, Department of Civil, Structural and Environmental Engineering, 2010-2016

University at Buffalo, Director, NEES@Buffalo, 2009-2011

University at Buffalo, Deputy Director, NEES@Buffalo, 2005-2007, 2008-2009, 2011-2012

University at Buffalo, Buffalo, New York, Professor, 2004-present

University at Buffalo, Buffalo, New York, Associate Professor, 2001-2004

University of California, Berkeley, California, Associate Director, PEER, 1998-2000

University of California, Berkeley, California, Associate Director, EERC, 1992-1997

Forell/Elsesser Engineers, San Francisco, California, Senior Engineer, 1989-1991

Connell Wagner Group, Melbourne, Australia, Senior Engineer, 1978-1984

Professor, University at Buffalo, (2004-present)

Dr. Whittaker is Professor and Chair in the Department of Civil, Structural, and Environmental Engineering at the University at Buffalo (UB) and the Director of the NSF-funded earthquake research center, MCEER. He served for 7 years as President of the Consortium of Universities for Research in Earthquake Engineering (CUREE), which is a not-for-profit corporation in the United States. In 2010-2011 he served on a National Research Council committee to develop a 20-year research agenda for earthquake engineering research in the United States; he was the only academic structural/geotechnical engineer on the committee.

Dr. Whittaker has led the development of multidisciplinary proposals including the \$30M USD NEHRP Consultants Joint Venture, which was a joint venture of CUREE and the Applied Technology Council. Dr. Whittaker served as a member of the Board of Directors for the Earthquake Engineering Research Institute (EERI) from 2008-2010, as a member of the Board of Directors for the World Seismic Safety Initiative (WSSI) from 2008-2010, and on the Advisory Committee of the Southern California Earthquake Center (SCEC) from 2010 to 2017. Whittaker serves on the Board of Directors of the American Association for Structural Mechanics in Reactor Technology (AASMIRT).

Dr. Whittaker's current research interests include

- Seismic protective systems for bridges, buildings, infrastructure and nuclear power plants: new isolation systems; analytical models for isolators; system response
- Performance-based earthquake engineering: procedures for loss computations; scaling earthquake ground motions; simplified methods of analysis
- Seismic behavior of low aspect ratio walls of conventional and composite (SC) construction; performance assessment; predictive equations; fragility functions
- Blast engineering of bridges, buildings and infrastructure: clearing effects; material models at high strain rates; progressive collapse; hydrocode analysis; ground shock
- Nuclear structures: fragility evaluation of conventional and isolated power plants; modular SC construction for Gen III+ plants; Gen IV power plants; seismic isolation; advanced seismic PRA
- Seismic hazard analysis: hazard characterization for performance-based design; near-fault shaking; site amplification; rotational components of ground motion

Dr. Whittaker teaches undergraduate and graduate classes at the University at Buffalo, including

- Undergraduate: CIE 324, Introduction to design
- Undergraduate: CIE 423, Structural engineering III
- Undergraduate: CIE 428, Steel design
- Undergraduate: CIE 429, Reinforced concrete design

- Undergraduate: CIE 416, Capstone design
- Graduate: CIE 525, Reinforced concrete
- Graduate: CIE 618, Blast engineering
- Graduate: CIE 619, Structural dynamics and earthquake engineering II

Associate Professor, *University at Buffalo, (2001-2004)*

Associate Director, *Pacific Earthquake Engineering Research Center, (1998-2000)*

Dr. Whittaker served as the Associate Director of the Pacific Earthquake Engineering Research (PEER) Center. In this capacity, he served as a member of the Research Executive Committee, worked with the Director to draft the research and strategic plans for the Center, and directed the PEER Business and Industry Partnership (BIP) program and Implementation Advisory Board.

Associate Director, *Earthquake Engineering Research Center, (1993-1998)*

Dr. Whittaker was the technical director of the Earthquake Engineering Research Center (EERC) from 1993 to 1998, managing research activities and large-scale experimental facilities. He taught graduate and undergraduate classes in the Department of Civil Engineering at the University of California at Berkeley, developed and executed research projects and programs with federal and state agencies and private consortia, participated in workshops and short courses organized by the department and EERC, led the effort to upgrade the Berkeley earthquake simulator, and conducted research on steel structures and protective systems utilizing the Center's large-scale dynamic testing facilities.

Consultant, *(1992-present)*

Dr. Whittaker has provided consulting, peer-review and expert-witness services to private companies, local, state, and federal government agencies in the United States, South America, Europe, United Kingdom, Russia, Australia, and Asia. A focus of his consulting work is the application of performance-based seismic design and advanced blast engineering to long-span bridges, tall and ultra-tall buildings and power-related infrastructure. Fields of work related to earthquake engineering include long- and short-span bridges, historic structures, ultra-high-rise buildings, oil and gas production and transmission infrastructure, nuclear power and waste storage facilities, U.K. MoD marine assets, nuclear-safety-related buildings and dry docks, mission-critical buildings and infrastructure, towers, airport infrastructure, and monumental buildings. *Projects include:* **Buildings:** U.S. Court of Appeals Building, San Francisco; New Zealand Parliament buildings, Wellington, New Zealand; San Francisco City Hall, San Francisco, CA; Pioneer Courthouse, Portland, OR; Green Library, Stanford, CA; New Zealand National Museum, Wellington, New Zealand; WDI Disney Resort parking structure, Anaheim, CA; Caltrans OCTMC, Irvine, CA; Santa Clara Police Facility, Santa Clara, CA; Universal headquarters building; Los Angeles, CA; Church of the Year 2000, Rome, Italy; LA Cathedral; Los Angeles, CA; AboveNet web-hosting facility, San Francisco, CA; Maples Pavilion, Stanford, CA; Prada building, San Francisco, CA; Ara Pacis Museum, Rome, Italy; SouthBay Tower, San Jose, CA; Microsoft Gibraltar data center, Seattle, WA; Kourion timber structures, Cyprus; New de Young Museum, San Francisco, CA; King County Courthouse, Seattle, WA; Tarabya Hotel, Istanbul, Turkey; CYTA telecom building retrofit program, Cyprus; Bosphorus residences, Istanbul, Turkey; Nordstrom building, Los Angeles, CA; St. Francis Towers (2×60-story towers), Manila, Philippines; Diamond of Istanbul (65 stories), Istanbul, Turkey; Soyuk Tower (30 stories), Istanbul, Turkey; Los Faros de Panama (1×95 stories, 2×78 stories), Panama City, Panama; Glasgow International Airport, Glasgow, UK (blast analysis and design); Capital Partners Towers (2×42 stories) and Residential Buildings (2×18 stories), Almaty, Kazakhstan; Qatar National Bank (600 m), Doha, Qatar; Torre Reforma (57 stories), Mexico City, Mexico; Sahiba Gokcen International Terminal Building, Turkey; Shanghai Tower (600 m), Shanghai, China; MAK Hyatt (41 stories), Mongolia; **Bridges:** Benicia-Martinez bridge, Benicia, CA; Ferrocarril Viaduct, Caracas,

Venezuela; Willamette River bridge, Portland, OR; Stutson Bridge, Rochester, NY; Marcy Bridge, Rome, NY; A30 Autoroute, Montreal, Canada; Gerald Desmond Bridge, Long Beach, CA; New Bridge over the St. Lawrence Corridor, Montreal, Canada; Infrastructure: Trans-Alaskan Pipeline, Alaska; Caltrans SRMD Test Facility, San Diego, CA; San Francisco International Airport terminal, San Francisco, CA; JFK International Airport terminal, NY; HMNB Devonport SRC core pond building, Devonport, UK; BMS (Trident) cradles, Devonport, UK; BMS refit facilities, Devonport, UK; Ataturk International Airport terminal building, Turkey; HMNB Devonport Reactor Access Housing; Devonport, UK; Sutro Tower, San Francisco, CA (1999); Nuclear waste storage facilities, Hunterston, U.K.; Sakhalin I oil platform, Russia; Sakhalin II gas platforms, Russia; ANSTO nuclear reactor, Lucas Heights, Australia; Bakim airplane hanger, Ataturk Airport, Istanbul, Turkey; HMNB Clyde Faslane jetties, U.K.; LNG Tanks, Long Beach, CA.; LNG Tanks, Baja California, Mexico; Petrochemical facilities, Japan; Plum Point power station, Missouri; AWE Facilities, Aldermaston, UK; LNG Tanks, Quoddy Bay, Maine; Columbia Bottoms Well Field, St. Louis, Missouri; Beaver Stadium, PA; Sutro Tower, San Francisco, CA (2008); Transbay Transit Center, San Francisco; Tomakak (ITER) Fusion Reactor, Cadarache, France (2010); WEC AP1000 Fission Reactors (2010-2011), UK; Ft. Greely power plant, Alaska (2010); Tocumen International Airport terminal, Panama City, Panama; NuScale Small Modular Reactor, Corvallis, OR; TerraPower Power Reactor, Seattle, WA; Mexico City International Airport, Mexico City, Mexico. Special Structures: Fabrications, Museum of Modern Art, New York; Hermes Statue, Olympia, Greece; Oakland Cathedral, Oakland, CA; Energy facility, Los Alamos, NM; Giant Magellan Telescope, Chile.

Associate, *Forell/Elsesser Engineers; San Francisco, (1989-1992)*

Dr. Whittaker participated in numerous seismic rehabilitation projects including the development of seismic isolation systems for buildings; ground motion criteria for conventional and isolated building structures; peer review of the seismic isolation upgrade of the Parliament Buildings in Wellington, New Zealand; and the preparation of construction documents for the upgrade of the earthquake-damaged Green Library at Stanford University.

Senior Engineer, *Connell Wagner Group; Melbourne, Australia, (1978-1984)*

Dr. Whittaker's projects with the Connell Wagner Group included the design and construction supervision of the Victorian Arts Center and the Melbourne World Trade Center; design of two high-rise buildings (South Yarra Project); design of a casino and convention center; design of a 52-story building in Kuala Lumpur; and the design of a sports stadium to seat 70,000 patrons (VFL Park, Waverley).

Awards and Honors

Gold Award, James Lincoln Arc Welding Foundation, 1987

Outstanding 1998 Journal Paper, *Los Angeles Tall Buildings Structural Design Council*, "Evaluation of pre-Northridge moment resisting frame joints."

Outstanding 1998 Journal Paper, *Los Angeles Tall Buildings Structural Design Council*, "Evolution of seismic design practice in Japan."

Grand Award, 2002, *American Council of Engineering Companies*, "Seismic modernization of the new Ataturk International Airport, Istanbul, Turkey."

Diamond Award 2002, *New York Association of Consulting Engineers*, "Seismic modernization of the new Ataturk International Airport, Istanbul, Turkey."

Best Paper Award, 2002, *5th World Congress on Joints, Bearings and Seismic Systems for Concrete Structures*, "Cyclic behavior of high-damping rubber bearings."

Outstanding Journal Paper, 2003, *Los Angeles Tall Buildings Structural Design Council*, "Forensic studies of a large cover-plate steel moment-resisting connection."

Fellow, 2012, American Concrete Institute
Fellow, 2016, Structural Engineering Institute, American Society of Civil Engineers
Fellow, 2016, American Society of Civil Engineers
SEAS Senior Researcher Award, 2016, University at Buffalo
Walter P. Moore Jnr. Award, 2017, American Society of Civil Engineers
Stephen D. Bechtel Jnr. Energy Award, 2017, American Society of Civil Engineers
Mallet Milne Lecturer, 2019, Institution of Civil Engineers, United Kingdom

Professional Memberships and Committees

Dr. Whittaker is a member of the following professional organizations:

- American Concrete Institute
- Australian Earthquake Engineering Society
- American Institute of Steel Construction
- American Society of Civil Engineers
- American Society of Mechanical Engineers
- Structural Engineers Association of New York
- Structural Engineering Institute of the American Society of Civil Engineers

Dr. Whittaker serves on a significant number of state, national and international committees as listed below and is an active member of the design professional community in the United States.

American Association of State Highway and Transportation Officials (AASHTO)

- Member, Working Group, 2009 AASHTO Guide Specification for Seismic Isolation Design, 2008-2011

American Association for Structural Mechanics in Reactor Technology

- Member, Board of Directors, 2017-present

American Concrete Institute (ACI)

- Member, Committee 349, Reinforced Concrete Nuclear Structures, 2001-present

American Society of Civil Engineers (ASCE)

- Member, ASCE Seismic Isolation Testing Standards Committee, 1995-2004
- Member, ASCE Task Committee on Seismic Isolation, 1996-2004
- Member, Steering Committee, Structural Engineers World Congress, 1997-1998
- Member, ASCE Task Committee on Supplemental Damping Systems, 1999-2004
- Member, Seismic Task Committee, ASCE Standard 7, 2000-2012
- Member, Main Committee, ASCE Standard 7, 2005-2012, 2017-present
- Member, Seismic Analysis of Safety-related Nuclear Structures, ASCE Standard 4, 2007-present
- Member, Nuclear Standards Committee, 2010-present
- Chair, Nuclear Standards Committee, 2015-present
- Member and Task Committee Chair, ASCE Blast Standards Committee, 2003-present
- Member, ASCE Blast, Shock and Impact Committee, 2009-present
- Co-guest Editor, Journal of Structural Engineering, Vol. 134, No. 1, 2008
- Member, ASCE Ad-hoc Committee on Accreditation, 2016-present

Member, SEI Codes and Standards Activities Division Committee, 2017-present
Member, O.H. Amman Fellowship Committee, 2017-present
Member, Blue Ribbon Panel, ASCE Manual of Practice, Structural Design for Physical Security, 2017-present

Applied Technology Council (ATC)

Member, Technologies Team, ATC-33: Seismic Rehabilitation of Buildings, 1992-1997
Member, Analysis Team, ATC-33: Seismic Rehabilitation of Buildings, 1992-1997
Project Director, ATC-34: Study of *R* Factors and Critical Code Issues, 1993-2002
Member, Steering Committee, ATC-15-8, US-Japan Workshop, August 2000
Structural Products Team Leader, ATC-58: Performance based earthquake engineering, 2002-2012
Member, Steering Committee, ATC-29-2 Seminar, October 2003
Member, ATC-SEI Awards Jury, Celebrating New Innovations in Seismic Strengthening Over the Past Decade
Project Director, ATC-82: Selection and Scaling of Earthquake Ground Motions, 2010-2012
Member, Project Management Committee, ATC-115, High Strength Reinforcement, 2014

Building Seismic Safety Council (BSSC)

Member, BSSC, PUC Technical Subcommittee 12, 1992-2005
Member, BSSC, Technical Subcommittee 2, 2006-present
Member and Subgroup Leader, Issue Team 4, Seismic Design Procedures, 2006-2009
Member, Issue Team on Response-History Analysis, 2010-2016
Corresponding Member, Issue Team on Shear Walls, 2016-present

California Department of Transportation (Caltrans)

Member, Caltrans SRMD Peer Review Panel, 1997-2000
Member, Caltrans Statewide Seismic Program Advisory Board, 1998-2001

Consortium of Universities for Research in Earthquake Engineering (CUREE)

Member, Board of Directors, 2001-2011
Chair, CUREE Future Research Projects Committee, 2001-2011
Vice President, 2003-2004
President, 2005-2011
Member, CUREE-Kajima, Joint Venture Management Committee, 2006-2011
Member, NEHRP Consultants (ATC-CUREE) Joint Venture Management Committee and Program Committee, 2007-2012

Department of Homeland Security (DHS)

Member, Peer Review Panel, Blast tolerance of steel building structures, 2004-2010

Earthquake Engineering Research Institute (EERI)

Co-chair, US-Australia Bilateral Commission on Earthquake Engineering, 2004-2010
Coordinator, International Programs, 8th USNCEE, 2005-2006
Member, Board of Directors, 2007-2010
Chair, Research Policy Committee, 2008-2010
Responsible Editor, Earthquake Spectra

National Academy of Science/National Research Council

Member, Committee on Earthquake Resilience—Research, Implementation and Outreach, 2009-2011

National Institute of Standards and Technology (NIST)

Member, Oversight Committee, Guidelines for Testing Passive Energy Dissipation Devices, 1998-2004

Southern California Earthquake Center (SCEC)

Member, External Advisory Committee, 2010-2017

Structural Engineers Association of California (SEAOC)

Member, Ad-Hoc Energy Dissipation Systems Committee, 1995-1999

Structural Engineers Association of Northern California (SEAONC)

Member, Board of Directors, 1996-1998

Chair, Protective Systems Subcommittee, 1992-1999

United States Geological Survey (USGS)

Alternate Member, ANSS National Steering Committee, 2001-present

Chair, USGS_ANSS Structural Instrumentation Committee, 2004-2005

University of California, Berkeley (UCB)

Member, University of California at Berkeley Seismic Review Committee, 1996-2000

University of California, San Diego (UCSD)

Member, Academic/International Advisory Group, NSF NEESR Full-scale structural and nonstructural building system performance project, 2009-2012

World Seismic Safety Initiative (WSSI)

Member, Board of Directors, 2008-2011

Member, Board of Senior Advisors, 2011-present

Other

Member, International Scientific Advisory Committee, International Conference on Computational Methods for Smart Structures and Materials, Rome, Italy, 1998

Member, International Advisory Committee, Third International Conference on Behavior of Steel Structures in Seismic Areas, Montreal, Canada, 2000

Member, International Advisory Committee, Fourth International Conference on Behavior of Steel Structures in Seismic Areas, Naples, Italy, 2003

Member, International Advisory Committee, Fifth International Conference on Behavior of Steel Structures in Seismic Areas, Lehigh University, United States of America, 2008

Member, International Advisory Committee, Eighth International Conference on Shock and Impact on Structures, University of Adelaide, Australia, 2009

Member, International Advisory Committee, First International Conference on a Sustainable Built Environment, Sri Lanka, 2010.

Member, International Advisory Committee, Sixth International Conference on Behavior of Steel Structures in Seismic Areas, Chile, 2012

Member, International Advisory Committee, 25th International Conference on Structural Mechanics in Reactor Technology (SMiRT25), Raleigh, North Carolina, 2019

Professional Service

Dr. Whittaker reviews research proposals for U.S. National Science Foundation, Canadian Natural Sciences and Engineering Research Council, the Australian Research Council, and the University of Cyprus. He reviews manuscripts for the American Society of Civil Engineers (Journals of Structural Engineering, Engineering Mechanics, and Wind Engineering & Industrial Aerodynamics), American Society of Mechanical Engineers (Journal of Risk and Uncertainty in Engineering Systems), Bulletin of Earthquake Engineering, Earthquake Spectra, Earthquake Engineering and Structural Dynamics, International Journal of Protective Structures, Journal of Earthquake Engineering, Nuclear Engineering and Design, Reliability Engineering and System Safety, Soil Dynamics and Earthquake Engineering, the Structural Design of Tall Buildings, and the Journal of Sound and Vibration; and reviews papers for national and international conferences on earthquake, blast and structural engineering.

Dr. Whittaker serves on editorial boards for *The Structural Design of Tall and Special Buildings*, *International Journal of Protective Structures*, and the *Electronic Journal of Structural Engineering*.

University and Professional Service

Member, University of California at Berkeley Seismic Review Committee, 1996-2000

Reviewer, National Science Foundation, Research proposals, 2000-present

Reviewer, Research Program, Department of Structural Engineering, Tokyo Institute of Technology, Yokohama, Japan, 2001

Reviewer, Research Program, Department of Civil and Environmental Engineering, University of Melbourne, Australia, 2001, 2003

Member, University at Buffalo Faculty Senate Tenure and Privileges Committee, 2002-present

Chair, External Advisory Board, UCSD-NEES project, University of California, San Diego, 2002-2004

Peer Review, USAID and ACEC, Washington, D.C., Applications for University Partnerships to Reduce Vulnerability to Seismic Hazards, 2003, 2003

Member, University at Buffalo Centers and Institutes Task Group, 2004-2005

Reviewer, National Science Foundation, Engineering Research Centers, 2005

Reviewer, National Science Foundation, CMMI, 2009

Reviewer, National Science Foundation, CMMI, 2011

Reviewer, National Science Foundation, CMMI, 2013

Member, External Review Panel, Department of Civil and Environmental Engineering, Carnegie Mellon University, November 2017

College Service

SEAS Academic Infraction Appeals Committee, 2002-2012

Chair, SEAS Chief Financial Officer Search Committee, 2015

Chair, SEAS-CAS Department of Materials, Design and Innovation Search Committee, 2015-2016

Chair, SEAS-CAS Department of Materials, Design and Innovation Search Committee, 2016-2017

Chair, SEAS-CAS Department of Materials, Design and Innovation Search Committee, 2017-2018

Departmental Service

Chair, CSEE Educational Laboratories Committee, 2001-2005
Member, CSEE Undergraduate Studies Committee, 2001-2005
Coordinator, CSEE Ph.D. Qualifying Examination, 2002-2010
Coordinator, CSEE M.S. Comprehensive Examination, 2007-2010
Faculty Advisor, UB EERI Student Chapter, 2003-2010
Member, CSEE Search Committee, 2003-2004
Chair, Computational Mechanics Search Committee, 2006
Member, CSEE Graduate Studies Committee, 2005-2010
Deputy Director, NEES@Buffalo, 2005-2007
Deputy Director, NEES@Buffalo, 2008-2009
Member, MCEER Management Council, 2008-2011
Member, CSEE Search Committee, 2009-2010
Director, NEES@Buffalo, 2009-2011
Chair, 2010-2016
Deputy Director, NEES@Buffalo, 2011-2012
Director, MCEER, 2011-present
Director, Institute of Bridge Engineering, 2014-present
Deputy Director, SEESL, 2014-2016
Director, SEESL, 2016-present

Research Supervision

Ph.D. Degree, Advisor

Oscar Ramirez, University at Buffalo, co-advised with M. Constantinou (May 2000)
Position: Professor, Technical University of Panama
Taejin Kim, UC Berkeley, co-advised with B. Stojadinovic (May 2003)
Position: Managing Partner, Chang Minwoo, South Korea
Fei Deng, University at Buffalo (July 2004)
Position: World Bank, Washington, D.C.
Gordon Warn, University at Buffalo (June 2006)
Position: Associate Professor, Pennsylvania State University, College Park, PA
Claudia Marin, University at Buffalo (November 2006)
Position: Associate Professor, Howard University, Washington, D.C.
Yin-Nan Huang, University at Buffalo (June 2008)
Position: Associate Professor, National Taiwan University, Taiwan
Cevdet Gulec, University at Buffalo (June 2009)
Position: Associate Partner, Thornton-Tomasetti, Engineers, Los Angeles
Dhiman Basu, University at Buffalo, co-advised with Michael Constantinou (April 2012)
Position: Assistant Professor, Indian Institute of Technology, Gandhinagar
Jinwon Shin, University at Buffalo (May 2014)
Position: Research Fellow, University at Buffalo

Siamak Epackachi, University at Buffalo (December 2014)
Position: Assistant Professor, Amirkabir University of Technology, Tehran, Iran

Chandu Boliseti, University at Buffalo (October 2014)
Position: Research Engineer, Department of Energy, Idaho National Laboratory

Manish Kumar, University at Buffalo (May 2015)
Position: Assistant Professor, Indian Institute of Technology, Mumbai, India

Manish Kumar, University at Buffalo (April 2015)
Position: Assistant Professor, Indian Institute of Technology, Gandhinagar, India

Nam Nguyen, University at Buffalo (January 2016)
Position: Research Engineer, University of Melbourne, Melbourne, Australia

Bismarck Luna, University at Buffalo (January 2016)
Position: Structural Engineer, Praxair, Buffalo, NY

Brian Terranova, University at Buffalo (May 2017)
Position: Research Engineer, University at Buffalo, NY

Jon Rivera, University at Buffalo (November 2017)
Position: Senior Engineer, Thornton Tomasetti, Boston, MA

Guoliang Ma, Tongji University, Shanghai, China (expected March 2018)

Chingching Yu, University at Buffalo (expected December 2018)

Alok Abhay Deshpande, University at Buffalo, co-advised with Ravi Ranade (expected May 2018)

Justin Coleman, University at Buffalo, co-advised with Anthony Tessari (expected December 2018)

Mir Faizan Ul Haq, University at Buffalo (expected December 2020)

Ph.D. Dissertation Committees

Eric Wolff, August 2003 (Member)

Ani Natali Sigaher-Boyle, June 2004 (Member)

Panayiotis Roussis, September 2004 (Member)

Eleni Pavlou, May 2005 (Member)

Methee Chiewanichakorn, December 2004 (Member)

Jun Wang, May 2005 (Member)

Wasim Bahram, May 2005 (Member)

Darren Vian, December 2005 (Member)

Jeff Berman, February 2006 (Member)

Khalid Al-Gahtani, May 2006 (Member)

Wael Alnahhal, October 2006 (Member)

Xiaoyun Shao, December 2006 (Member)

Mehdi Ahmadizadeh, September 2007 (Member)

Xiaobo Luo, December 2007 (Member)

Hongbo Wang, December 2007 (Member)

Daniel Fenz, April 2008 (Member)

Mohamad Abdulhamid, May 2008 (Member)

Elvira Elvira, May 2008 (External Examiner, University of Melbourne)

Ioannis Kalpakidis, August 2008 (Member)

Dimitrios Lignos, August 2008 (External Examiner, Stanford University)
Alper Ucak, May 2009 (External Examiner, Catholic University of America)
Kiarash Dolatshahi, February 2012 (Member)
Hongwei Cai, June 2012 (Member)
Maria Cortes Delgado, June 2013 (Member)
Javad Hashemi, August 2013 (Member)
Michael Del Carpio, December 2013 (Member)
Nasi Zhang, May 2014 (Member)
Hanjin Hu, August 2014 (Member)
Afsoon Nickham, August 2014 (Member)
Juan Aleman, June 2014 (Member)
Zhang Zhongwen, November 2014 (External Examiner, Nanyang Technological University, Singapore)
Moses Matovu, July 2015 (Member)
Aikaterina Stefanki, February 2016 (Member)
Francisco Javier Hernandez Prado, June 2016 (External Examiner, University of Western Australia)
Shoma Kitayama, May 2017 (Member)
Seyedsina Yousefianmoghadam, January 2018 (Member)
Cancan Yang, December 2018 (Expected, Member)
Mauricio Diaz, December 2018 (Expected, Member)
Vivek Bhaskar Kote, May 2019 (Expected, Member)
Jianming Hao, December 2020 (Expected, Member)

M. S. and M. Eng Degree, Advisor and External Examiner

Andrew Thompson, U.C. Berkeley, May 1999
Position: Associate, Arup Consulting, San Francisco, London
Troy Morgan, U.C. Berkeley, May 2000
Position: Managing Engineer, Exponent, NY
Taejin Kim, U.C. Berkeley, May 2000
Despoina Tsamandoura, University at Buffalo, December 2002
Hiram Badillo, University at Buffalo, August 2003
Position: PhD student, University of Barcelona, Spain
Janet Lane, University at Buffalo, August 2003
Position: Engineer, US Army Corps of Engineers, Cleveland
Edgard Escobar, University at Buffalo, May 2004
Position: Consulting engineer, Managua, Nicaragua
Michael Astrella, University at Buffalo, December 2004
Position: Associate Partner, Weidlinger Associates, New York
Ryan Cyr, University at Buffalo, January 2005
Cevdet Gulec, University at Buffalo, June 2005
Position: Associate Partner, Thornton-Tomasetti, Engineers, Los Angeles
Erick Burgos, University at Buffalo, July 2006
Position: Consulting engineer, San Salvador, El Salvador

Ionnis Christovasilis, University at Buffalo, August 2006
Position: Structural engineer, Athens, Greece

Nicholas Kipfer, University at Buffalo, May 2007
Position: Structural engineer, Birdair Associates, New York

Toshi Yoza, University at Buffalo, June 2007
Position: Structural engineer, Arup, Los Angeles

Graeme Ballantyne, University at Buffalo, August 2007
Position: Associate, Thornton-Tomasetti, Oakland, California

Brian Regan, University at Buffalo, May 2008

Robert Catalina, University at Buffalo, December 2008
Position: Structural engineer, C&S Companies, Syracuse, New York

Yu Su, University of Adelaide, January 2009, External Examiner

Laura Przybylski, University at Buffalo, January 2009, Co-advised with Professor Filiatrault
Position: Structural engineer, Canon Design, Buffalo, New York

Jeffrey Chambers, University at Buffalo, December 2008
Position: Structural engineer, Constellation Energy, Rochester, New York

Maikol Del Caprio Ramos, University at Buffalo (August 2009)
Position: Structural engineer, KPFF, Los Angeles, California

Daniel Gavahi, University at Buffalo (December 2009)
Position: Structural engineer, KPFF, Los Angeles, California

John Veith, University at Buffalo (December 2009)

Kar-Him Chiu, University at Buffalo (December 2009)
Position: Structural engineer, Arup, Hong Kong, China

Vikram Singan, University at Buffalo (May 2010)
Position: Structural engineer, FloaTECH LLC, Houston, TX

Chandrakanth Boliseti, University at Buffalo (December 2010)
Position: Research engineer, Department of Energy, Idaho National Laboratory

Pushkaraj Sherkar, University at Buffalo (August 2010)
Position: Structural engineer, Thornton-Tomasetti, Los Angeles

Joshua Rocks, University at Buffalo (February 2012)
Position: Structural engineer, Constellation Energy, Syracuse, NY

Basit Qayyum, University at Buffalo (August 2016)
Position: PhD student, Virginia Tech

M.S. Thesis Committees

Yehezkiel Tumewu, August 2016 (Member)
Maria Federova, November 2016 (Member)

Post-Doctoral Fellows and Research Engineers

Dr. Amir Gilani, Research Engineer; UC Berkeley, 1996-2000
Position: Senior Engineer, Caltrans, Sacramento

Dr. Juan Chavez, Research Engineer; UC Berkeley, 1996-1998
Position: Senior Engineer, ABS Consulting, San Francisco

Dr. Shakzod Takhirov, Research Engineer; UC Berkeley, 1997-2000
 Position: Research Engineer, University of California, Berkeley

Mr. Hidemi Nakashima, Visiting Scholar, Shimizu Corporation; UC Berkeley, 1999
 Position: Senior Engineer, Shimizu Corporation, Japan

Dr. Michio Yamaguchi, Post Doctoral Fellow, Tokyo Institute of Technology; UB, 2002-2003
 Position: Senior Engineer, Nippon Steel Corporation, Japan

Dr. Taejin Kim, Visiting Scholar, SungKyunKwan University, Korea; UB 2008-2010
 Position: Partner, Chang-Minwoo Consultants, Seoul, Korea

Dr. Yin-Nan Huang, Post Doctoral Fellow; UB 2008-2009
 Position: Associate Professor, National Taiwan University, Taiwan

Dr. Dhiman Basu, Post Doctoral Fellow; UB 2012
 Position: Assistant Professor, Indian Institute of Technology, Gandhinagar, India

Dr. Caglar Akkaya, Post Doctoral Fellow; UB 2012
 Position: Assistant Professor, Istanbul Technical University, Turkey

Dr. Manish Kumar, Post Doctoral Fellow; UB 2015
 Position: Assistant Professor, Indian Institute of Technology, Gandhinagar, India

Dr. Siamak Epackachi, Post Doctoral Fellow; UB 2015-2016
 Position: Assistant Professor, Amirkabir University of Technology, Tehran, Iran

Dr. Manish Kumar, Post Doctoral Fellow; UB 2015-2016
 Position: Assistant Professor, Indian Institute of Technology, Bombay

Dr. Gustavo Palazzo, Visiting Scholar, National Technological University, Argentina; UB 2016
 Position: Professor, National Technological University, Mendoza, Argentina

Teaching

2000-2001: CIE 423, Structural Engineering III
 CIE 619, Earthquake Engineering and Structural Dynamics II

2001-2002: CIE 525, Reinforced Concrete (incl. Enginet)
 CIE 619, Earthquake Engineering and Structural Dynamics II (incl. Enginet)

2002-2003: CIE 361, Civil Engineering Laboratory
 CIE 428, Steel Structures
 CIE 525, Reinforced Concrete (incl. Enginet)
 CIE 619, Earthquake Engineering and Structural Dynamics II (incl. Enginet)

2003-2004: CIE 525, Reinforced Concrete (incl. Enginet)
 CIE 619, Earthquake Engineering and Structural Dynamics II (incl. Enginet)

2004-2005: CIE 525, Reinforced Concrete (incl. Enginet)
 CIE 428, Steel Structures
 CIE 619, Earthquake Engineering and Structural Dynamics II

2005-2006: CIE 525, Reinforced Concrete
 CIE 428, Steel Structures
 CIE 619, Earthquake Engineering and Structural Dynamics II

2006-2007: CIE 428, Steel Structures

CIE 500B, Blast Engineering
 CIE 525, Reinforced Concrete
 CIE 619, Earthquake Engineering and Structural Dynamics II
2007-2008: CIE 500B, Blast Engineering
 CIE 525, Reinforced Concrete (incl. Enginet)
2008-2009: CIE 429, Reinforced Concrete Design
 CIE 500B, Blast Engineering
 CIE 525, Reinforced Concrete
2009-2010: CIE 429, Reinforced Concrete Design
 CIE 500B, Blast Engineering
 CIE 525, Reinforced Concrete
2010-2011: CIE 500B, Blast Engineering
 CIE 525, Reinforced Concrete
2011-2012: CIE 525, Reinforced Concrete
 CIE 500, Independent Study
2011-2012: CIE 525, Reinforced Concrete
 CIE 500, Independent Study (Earthquake Engineering)
 CIE 500, Independent Study (Blast Engineering)
2012-2013: CIE 525, Reinforced Concrete
 CIE 500, Independent Study (Earthquake Engineering)
 CIE 500, Independent Study (Blast Engineering)
2013-2014: CIE 525, Reinforced Concrete
 CIE 618, Blast Engineering
2014-2015: CIE 525, Reinforced Concrete
 CIE 618, Blast Engineering
2015-2016: CIE 525, Reinforced Concrete
 CIE 618, Blast Engineering
2016-2017: CIE 525, Reinforced Concrete
 CIE 324, Introduction to Design
 CIE 416, Capstone Design
 CIE 502, Independent Study
2017-2018: CIE 525, Reinforced Concrete
 CIE 502, Independent Study
 CIE 416, Capstone Design

Publications

Google Scholar: https://scholar.google.com/citations?user=G_fWTaEAAAAAJ&hl=en

ResearchGate: https://www.researchgate.net/profile/Andrew_Whittaker5

Textbooks and Textbook Chapters

- (T1) Bruneau, M., C. M. Uang, and A. S. Whittaker, *Ductile Design of Steel Structures*, McGraw-Hill, New York, N.Y., September 1997.
- (T2) Uang, C. M., M. Bruneau, A. S. Whittaker, and K. C. Tsai, *Chapter 9, Seismic design of steel structures*, in *The Seismic Design Handbook*, F. Naeim (ed.), Springer, January 2001.
- (T3) Warn, G. and A. S. Whittaker, *Chapter 4, Performance estimates in seismically isolated bridges*, in *Research Progress and Accomplishments 2001-2003*, MCEER-03-SP-01, Multidisciplinary Center for Earthquake Engineering Research, University at Buffalo, Buffalo, New York, May 2003.
- (T4) Reinhorn, A. M., A. Aref, S. L. Billington, M. C. Constantinou, G. C. Lee, and A. S. Whittaker, *Chapter 5, Advanced technologies for response modification of hospital buildings*, in *Research Progress and Accomplishments 2001-2003*, MCEER-03-SP-01, Multidisciplinary Center for Earthquake Engineering Research, University at Buffalo, Buffalo, New York, May 2003.
- (T5) Aref, A. J., M. Bruneau, M. C. Constantinou, G. C. Lee, A. M. Reinhorn, and A. S. Whittaker, *Chapter 8, Seismic response modification of structural and nonstructural systems and components in acute care facilities*, in *Research Progress and Accomplishments 2003-2004*, MCEER-04-SP-01, Multidisciplinary Center for Earthquake Engineering Research, University at Buffalo, Buffalo, New York, May 2004.
- (T6) Warn, G., J. W. Berman, A. S. Whittaker, and M. Bruneau, *Investigation of a damaged high-rise building near Ground Zero*, Chapter in "Beyond September 11th: An Account of Post Disaster Research," Special Publication No. 39, Natural Hazards Research and Applications Information Center, University of Colorado, Boulder, CO., pp. 199-240, July 2003.
- (T7) Whittaker, A. S. and M. C. Constantinou, *Chapter 12, Seismic energy dissipation systems for buildings*, in *Earthquake Engineering*, Bozorgnia and Bertero (eds), CRC Press, Boca Raton, FL, March 2004.
- (T8) Thompson, A. C. T., A. M. Kammerer, G. M. Katzman and A. S. Whittaker, *Chapter 7, Natural Hazards*, in *Extreme Event Mitigation in Buildings*, Meacham (ed), NFPA, Quincy, MA, April 2006.
- (T9) Whittaker, A. S. and J. Abruzzo, *Chapter 6, Materials Performance*, in *Blast Resistant Design of Buildings*, Dusenberry (ed), Wiley, January 2010.
- (T10) Lignos, D. G., H. Krawinkler and A. S. Whittaker, *Chapter 1, Collapse Assessment of Steel Moment-Resisting Frames*, in *Computational Methods in Earthquake Engineering*, Springer, November 2010.
- (T11) Huang, Y.-N. and A. S. Whittaker, *Chapter 3, Seismic probabilistic risk assessment for nuclear power plants*, in *Infrastructure Systems for Nuclear Energy*, Hsu (ed.), Wiley, January 2014.

Refereed Journals

- (R1) Whittaker, A. S., C. M. Uang, and V. V. Bertero, "Experimental behavior of a dual steel system," *Journal of the Structural Division*, ASCE, Vol. 115, No. 1, pp. 183-200, January 1989.
- (R2) Whittaker, A. S., V. V. Bertero, C. L. Thompson, and L. J. Alonso, "Seismic testing of steel-plate energy dissipating devices," *Earthquake Spectra*, Vol. 7, No. 4, pp. 563-604, November 1991.
- (R3) Aiken, I. D., D. K. Nims, A. S. Whittaker, and J. M. Kelly, "Testing of passive energy dissipation systems," *Earthquake Spectra*, Vol. 9, No. 3, Earthquake Engineering Research Institute, CA, August 1993.

- (R4) Whittaker, A. S., J. P. Moehle, and M. Higashino, "Evolution of building seismic design practice in Japan," *The Structural Design of Tall Buildings*, 7, 93-111, John Wiley, 1998.
- (R5) Whittaker, A. S., M. C. Constantinou, and P. Tsopelas, "Displacement estimates for performance-based earthquake engineering," *Journal of Structural Engineering*, Vol. 124, No. 8, pp. 896-905, ASCE, Washington, D.C., August 1998.
- (R6) Makris, N., Y. Roussos, A. S. Whittaker, and J. M. Kelly, "Viscous heating of fluid dampers II: large-amplitude motions," *Journal of Engineering Mechanics*, Vol. 124, No. 11, ASCE, Washington, D.C., November 1998.
- (R7) Whittaker, A. S., A. Gilani, and V. V. Bertero, "Evaluation of pre-Northridge steel moment-resisting frame joints," *The Structural Design of Tall Buildings*, 7 (4), pp. 263-284, John Wiley, December 1998. **Best Paper Award**
- (R8) Whittaker, A. S., M. C. Constantinou, and P. Tsopelas, "Nonlinear procedures for the seismic evaluation of buildings," *The Structural Design of Tall Buildings*, 8 (1), pp. 1-13, John Wiley, March 1999
- (R9) Whittaker, A. S., C. Rojahn, and G. C. Hart, "Seismic response modification factors," *Journal of Structural Engineering*, Vol. 125, No. 4, ASCE, Washington, D.C., April 1999.
- (R10) Whittaker, A. S. and M. C. Constantinou, "Supplemental damping for new and retrofit construction." *Revista De Ingenieria Sismica*, Vol. 61, Sociedad Mexicana de Ingenieria Sismica A.C., Mexico City, December 1999.
- (R11) Gilani, A. S. J. and A. S. Whittaker, "Fatigue-life evaluation of steel post structures, part I: background and analysis." *Journal of Structural Engineering*, Vol. 126, No. 3, ASCE, Washington, D.C., March 2000
- (R12) Gilani, A. S. J. and A. S. Whittaker, "Fatigue-life evaluation of steel post structures, part II: experimentation." *Journal of Structural Engineering*, Vol. 126, No. 3, ASCE, Washington, D.C., March 2000
- (R13) Gilani, A. S. J., A. S. Whittaker, and G. L. Fenves, "Seismic evaluation and retrofit of 230-kV porcelain transformer bushings." Volume 17, No. 4, *Earthquake Spectra*, EERI, Oakland, CA, November 2001.
- (R14) Chang, S.-P., N. Makris, A. S. Whittaker, A. C. T. Thompson, "Experimental and analytical studies on the performance of hybrid isolation systems." Volume 31, No. 2, *Earthquake Engineering and Structural Dynamics*, Wiley, London, pp 421-443, February 2002
- (R15) Kim, T., A. S. Whittaker, A. S. J. Gilani, V. V. Bertero, and S. M. Takhirov, "Experimental evaluation of plate-reinforced steel moment-resisting connections." *Journal of Structural Engineering*, Vol. 128, No. 4, ASCE, Washington, D.C., pp 483-491, April, 2002
- (R16) Kim, T., A. S. Whittaker, A. S. J. Gilani, V. V. Bertero, and S. M. Takhirov, "Cover-plate and flange-plate steel moment-resisting connections." *Journal of Structural Engineering*, Vol. 128, No. 4, ASCE, Washington, D.C., pp 474-482, April, 2002
- (R17) Uriz, P. and A. S. Whittaker, "Retrofit of pre-Northridge steel moment-resisting frames using fluid viscous dampers." *The Structural Design of Tall Buildings*, Volume 10, No. 5, John Wiley, London, pp 371-390, December 2001 **Best Paper Award**
- (R18) Whittaker, A. S., A. S. J. Gilani, S. Takhirov, and C. Ostertag, "Forensic studies of a large cover-plate steel moment-resisting connection." *The Structural Design of Tall Buildings*, Volume 11, No. 4, John Wiley, London, pp 265-283, December 2002. **Best Paper Award**
- (R19) Ramirez, O. M., M. C. Constantinou, J. D. Gomez, A. S. Whittaker, and C. Z. Chrysostomou, "Evaluation of simplified methods of analysis of yielding structures with damping systems." Volume 18, No. 3, *Earthquake Spectra*, Oakland, CA, pp. 501-530, August 2002.

- (R20) Ramirez, O. M., M. C. Constantinou, A. S. Whittaker, C. A. Kircher, and C. Z. Chrysostomou, "Elastic and inelastic seismic response of buildings with damping systems." Volume 18, No. 3, *Earthquake Spectra*, EERI, Oakland, CA, pp. 531-547, August 2002.
- (R21) Sezen, H., A. S. Whittaker, K. J. Elwood, and K. M. Mosalam, "Performance of reinforced concrete buildings during the August 17, 1999 Kocaeli, Turkey earthquake, and seismic design and construction practice in Turkey." Volume 25, No. 1, *Engineering Structures*, Elsevier Science, London, pp 103-115, January 2003.
- (R22) Whittaker, A. S., M. C. Constantinou, O. M. Ramirez, M. W. Johnson, and C. Z. Chrysostomou, "Equivalent lateral force and modal analysis procedures of the 2000 NEHRP Provisions for buildings with damping systems," Volume 19, No. 4, *Earthquake Spectra*, Oakland, CA, pp. 959-980, November 2003.
- (R23) Ramirez, O. M., M. C. Constantinou, A. S. Whittaker, C. A. Kircher, M. W. Johnson, and C. Z. Chrysostomou, "Validation of the 2000 NEHRP Provisions equivalent lateral force and modal analysis procedures for buildings with damping systems," Volume 19, No. 4, *Earthquake Spectra*, Oakland, CA, pp. 981-999, November 2003.
- (R24) Warn, G., J. Berman, A. S. Whittaker, and M. Bruneau, "Reconnaissance and preliminary analysis of a damaged building near Ground Zero, *The Structural Design of Tall and Special Buildings*, Volume 12, pp. 371-391, December 2003.
- (R25) Whittaker, A. S., G. L. Fenves, and A. S. J. Gilani, "Earthquake performance of porcelain transformer bushings," Volume 20, No. 1, *Earthquake Spectra*, Oakland, CA, pp. 205-223, February 2004.
- (R26) Mosqueda, G., A. S. Whittaker and G. L. Fenves, "Characterization and modeling of Friction Pendulum bearings subjected to multiple components of excitation," *Journal of Structural Engineering*, Volume 130, No. 3, pp. 433-442, March 2004.
- (R27) Warn, G. and A. S. Whittaker, "Performance estimates in seismically isolated bridges," *Engineering Structures*, Vol. 26, No. 9, pp. 1261-1278, July 2004.
- (R28) Grant, D., G. L. Fenves and A. S. Whittaker, "Bidirectional modeling of high-damping rubber bearings," *Journal of Earthquake Engineering*, Vol. 8, Special Issue 1, pp 161-185, September 2004.
- (R29) Sezen, H. and A. S. Whittaker, "Seismic performance of industrial facilities affected by the 1999 Turkey earthquake," *Journal of Performance of Constructed Facilities*, Vol. 20, No. 1, ASCE, pp. 28-36, February 2006.
- (R30) Kim, T., B. Stojadinovic and A. S. Whittaker, "Seismic performance of welded steel beam moment connections to built-up box columns," *Journal of the Earthquake Engineering Society of Korea*, Vol. 10, No. 1, pp. 25-31, February 2006 (in Korean)
- (R31) Warn, G. and A. S. Whittaker, "Property modification factors for seismically isolated bridges," *Journal of Bridge Engineering*, Vol. 11, No. 3, ASCE, pp. 371-377, May 2006.
- (R32) Escobar-Sandoval, E., A. S. Whittaker, and G. F. Dargush, "Concentrically loaded circular steel plates bearing on plain concrete," *Journal of Structural Engineering*, Vol. 132, No. 11, ASCE, pp. 1784-1792, November 2006.
- (R33) Badillo, H., A. S. Whittaker, and A. M. Reinhorn, "Seismic fragility of suspended ceiling systems," *Earthquake Spectra*, Vol. 23, No. 1, February 2007.
- (R34) Warn, G., A. S. Whittaker and M. C. Constantinou, "Vertical stiffness of elastomeric and lead-rubber seismic isolation bearings," *Journal of Structural Engineering*, Vol. 133, No. 9, ASCE, pp. 1227-1236, September 2007.

- (R35) Huang, Y.-N., A. S. Whittaker, M. C. Constantinou and S. Malushte, "Seismic demands on secondary systems in isolated nuclear power plants," *Earthquake Engineering and Structural Dynamics*, Vol. 36, No. 12, pp. 1741-1761, October 2007.
- (R36) Whittaker, A. S., G. L. Fenves and A. S. J. Gilani, "Seismic evaluation and analysis of high-voltage disconnect switches," *Engineering Structures*, Vol. 29, No. 12, pp. 3538-3549, December 2007.
- (R37) Symans, M. D., F. A. Charney, A. S. Whittaker, M. C. Constantinou, C. A. Kircher, M. W. Johnson and R. J. McNamara, "Energy dissipation systems for seismic applications: current practice and recent developments," *Journal of Structural Engineering*, Vol. 134, No. 1, ASCE, pp. 3-21, January 2008.
- (R38) Kim, T., B. Stojadinovic and A. S. Whittaker, "Seismic performance of pre-Northridge welded steel moment connections to built-up box columns," *Journal of Structural Engineering*, Vol. 134, No. 2, ASCE, pp. 289-299, February 2008.
- (R39) Huang, Y.-N., A. S. Whittaker and N. Luco, "Maximum spectral demands in the near-fault region," *Earthquake Spectra*, Vol. 24, No. 1, pp. 319-341, June 2008.
- (R40) Gulec, K., A. S. Whittaker and B. Stojadinovic, "Shear strength of squat rectangular reinforced concrete walls," *ACI Structural Journal*, Vol. 105, No. 4, pp. 488-497, July-August 2008.
- (R41) Christovasilis, I. and A. S. Whittaker, "Seismic analysis of conventional and isolated LNG tanks using mechanical analogs," *Earthquake Spectra*, Vol. 24, No. 3, pp. 599-616, August 2008.
- (R42) Wu, C., D. J. Oehlers and A.S. Whittaker. "Analysis of FRP retrofitted RC slabs using finite difference models," *Transactions of Tianjin University*, Volume 14, No. 5, pp. 344-347, Springer-Verlag, October 2008.
- (R43) Warn G. and A. S. Whittaker, "Vertical earthquake loads on seismic isolation systems in bridges," *Journal of Structural Engineering*, Vol. 134, No. 11, ASCE, pp. 1696-1704, November 2008.
- (R44) Marin, C. C, A. S. Whittaker and M. C. Constantinou, "Experimental study of the XY-Friction Pendulum bearing for bridge applications," *Journal of Bridge Engineering*, Vol. 14, No. 3, pp. 193-202, May 2009.
- (R45) Gulec, K., A. S. Whittaker and B. Stojadinovic, "Peak shear strength of squat reinforced concrete walls with boundary barbell or flanges," *ACI Structural Journal*, Vol. 106, No. 3, pp. 368-377, May 2009.
- (R46) Huang, Y.-N., A. S. Whittaker and N. Luco, "Orientation of maximum spectral demand in the near-fault region," *Earthquake Spectra*, Vol. 25, No. 3, pp. 707-717, August 2009.
- (R47) Wu, C., D. J. Oehlers, M. Reberntrost, J. Leach, and A. S. Whittaker, "Blast testing of ultra-high performance fibre and FRP-retrofitted concrete slabs," *Engineering Structures*, Vol. 31, No. 9, pp. 2060-2069, September 2009.
- (R48) Jones, J., C., Wu, D. J. Oehlers, A. S. Whittaker, W. Sun, S. Marks, and R. Coppola, "Finite difference analysis of simply supported RC panels for blast loadings," *Engineering Structures*, Vol. 31, No. 12, pp. 2825-2832, December 2009.
- (R49) Ballantyne, G, A. S. Whittaker, A. Aref and G. F. Dargush, "Air blast effects on structural shapes of finite width," *Journal of Structural Engineering*, Vol. 136, No. 2, pp. 152-159, February 2010.
- (R50) Kalpakidis, I. V., M. C. Constantinou and A. S. Whittaker, "Effects of large cumulative travel on the behavior of lead-rubber seismic isolation bearings," *Journal of Structural Engineering*, Vol. 136, No. 5, pp. 491-501, May 2010.
- (R51) Huang, Y.-N., A. S. Whittaker and N. Luco, "NEHRP site amplification factors and the NGA relationships," *Earthquake Spectra*, Vol. 26, No. 2, pp. 583-593, May 2010.

- (R52) Wu, C., G. Fattori, A. S. Whittaker and D. J. Oehlers, "Investigation of air-blast effects from spherical and cylindrical-shaped charges," *International Journal of Protective Structures*, Vol. 1, No. 3, pp. 345-362, September 2010.
- (R53) Gulec, K., A. S. Whittaker and J. D. Hooper, "Fragility functions for low aspect ratio reinforced concrete walls," *Engineering Structures*, Vol. 32, pp. 2894-2901, November 2010.
- (R54) Marin, C. C and A. S. Whittaker, "Theoretical studies of the XY-FP seismic isolation bearing for bridges," *Journal of Bridge Engineering*, Vol. 15, No. 6, pp. 631-638, November 2010.
- (R55) Kalpakidis, I. V., M. C. Constantinou, and A. S. Whittaker, "Modeling strength degradation in lead-runner bearings under earthquake shaking," *Earthquake Engineering and Structural Dynamics*, Vol. 39, No. 13, pp. 1533-1549, November 2010.
- (R56) Huang, Y.-N., A. S. Whittaker, and N. Luco, "Seismic performance assessment of base-isolated safety-related nuclear structures," *Earthquake Engineering and Structural Dynamics*, Vol. 39, No. 13, pp. 1421-1442, November 2010.
- (R57) Lignos, D. G., H. Krawinkler and A. S. Whittaker, "Prediction and validation of sidesway collapse of two scale models of a 4-story steel moment frame," *Earthquake Engineering and Structural Dynamics*, Available on-line, DOI: 10.1002/eqe.1061, November 2010.
- (R58) Gulec, C. K., and A. S. Whittaker, "Empirical equations for the peak shear strength of low aspect ratio reinforced concrete walls," *ACI Structural Journal*, Vol. 108, No. 1, pp. 80-89, January 2011.
- (R59) Huang, Y.-N., A. S. Whittaker, N. Luco, and R. O. Hamburger, "Selection and scaling of earthquake ground motions in support of performance-based design," *Journal of Structural Engineering*, Vol. 137, No. 3, pp. 311-321, March 2011.
- (R60) Gulec, C. K., B. Gibbons, A. Chen and A. S. Whittaker, "Damage states and fragility functions for link beams in eccentrically braced frames," *Journal of Constructional Steel Research*, Vol. 67, Issue 9, pp. 1299-1309, August 2011.
- (R61) Huang, Y.-N., A. S. Whittaker, and N. Luco, "A seismic risk assessment procedure for nuclear power plants, (I) methodology," *Nuclear Engineering and Design*, Vol. 241, pp. 3996-4003, September 2011.
- (R62) Huang, Y.-N., A. S. Whittaker, and N. Luco, "A seismic risk assessment procedure for nuclear power plants, (II) application," *Nuclear Engineering and Design*, Vol. 241, pp. 4004-4011, September 2011.
- (R63) DelCarpio, M., A. S. Whittaker and C. K. Gulec, "An evaluation of predictive equations for the peak shear strength of squat reinforced concrete walls," *Journal of Earthquake Engineering*, Vol. 16, No. 2, pp 159-187, February 2012.
- (R64) Basu, D., A. S. Whittaker and M. C. Constantinou, "On estimating rotational components of earthquake ground motion using data from a single recording station," *Journal of Engineering Mechanics*, Vol. 138, No. 9, pp. 1141-1156, September 2012.
- (R65) Farhidzadeh, A., S. Salvatore, B. Luna, and A. S. Whittaker, "Acoustic emission monitoring of a reinforced concrete shear wall by b-value outlier analysis," *Structural Health Monitoring*, Vol. 12, No. 1, 2013.
- (R66) Huang, Y.-N., A. S. Whittaker, R. P. Kennedy and R. L. Mayes. "Response of base-isolated nuclear structures for design and beyond-design basis earthquake shaking," *Earthquake Engineering and Structural Dynamics*, Vol. 42, No. 3, pp. 339-356, March 2013.
- (R67) Basu, D., A. S. Whittaker and M. C. Constantinou, "Extracting rotational components of earthquake ground motion using data recorded at multiple stations," *Earthquake Engineering and Structural Dynamics*, Vol. 42, No. 3, pp. 451-468, March 2013.

- (R68) Rivera, J., B. Luna and A. S. Whittaker, "Development length of unconfined conventional and high-strength reinforcing bars," *ACI Structural Journal*, Vol. 110, No. 5, September/October 2013.
- (R69) Ngo, T., P. Mendis, and A. S. Whittaker, "A rate dependent stress-strain relationship model for normal, high-strength and ultra-high strength concrete," *International Journal of Protective Structures*, Vol. 4, No. 3, pp. 451-466, September 2013.
- (R70) Farhidzadeh, A., E. Dehghan-Niri, A. Moustafa, S. Salvatore, and A. S. Whittaker, "Damage assessment of reinforced concrete structures using fractal analysis of residual crack patterns," *Experimental Mechanics*, Vol. 53, No. 2, pp. 1607-1619, December 2013
- (R71) Farhidzadeh, A., E. Dehghan-Niri, S. Salamone, B. Luna and A. S. Whittaker, "Monitoring crack propagation in reinforced concrete shear walls by acoustic emissions," *Journal of Structural Engineering*, Vol. 139, No. 12, pp. 1-10, December 2013.
- (R72) Huang, Y.-N. and A. S. Whittaker, "Vulnerability assessment of conventional and isolated nuclear power plants to blast loadings," *International Journal of Protective Structures*, Vol. 4, No. 4, pp. 545-563, December 2013.
- (R73) Huang, Y.-N. and A. S. Whittaker, "On the calculation of peak ground velocity for seismic loss assessment," *Earthquake Spectra*, Vol. 31, No. 2., pp. 785-795. May 2015.
<http://dx.doi.org/10.1193/081112EQS261T>
- (R74) Basu, D., M. C. Constantinou, and A. S. Whittaker, "An equivalent accidental eccentricity to account for the effects of torsional ground motion on structures," *Engineering Structures*, Volume 69, pp. 1-11, April 2014.
- (R75) Bolisetti, C., A. S. Whittaker, H. B. Mason, I. Almufti, and M. Willford, "Equivalent linear and nonlinear site-response analysis for design and risk assessment of safety-related nuclear structures," *Nuclear Engineering and Design*, Vol. 275, pp. 107-121, August 2014.
dx.doi.org/10.1016/j.nucengdes.2014.04.033
- (R76) Kumar, M., A. S. Whittaker and M. C. Constantinou, "An advanced numerical model of elastomeric seismic isolation bearings," *Earthquake Engineering and Structural Dynamics*, Volume 43, No. 13, pp. 1955-1974, October 2014.
- (R77) Whittaker, A. S., M. Kumar, and M. Kumar, "Seismic isolation of nuclear power plants," *Nuclear Engineering and Technology*, Vol. 46, No. 5, pp. 569-580, October 2014.
- (R78) Aref, A., K. M. Dolatshahi, and A. S. Whittaker, "Interaction curves for in-plane and out-of-plane behaviors of unreinforced masonry walls," *Journal of Earthquake Engineering*, Vol. 19, No. 1, pp. 60-84, 2015, doi: 10.1080/13632469.2014.946571.
- (R79) Shin, J., A. S. Whittaker, D. Cormie, and W. Wilkinson, "Numerical modeling of close-in detonations of high explosives," *Engineering Structures*, Vol. 81, pp. 88-97, December 2014.
<http://dx.doi.org/10.1016/j.engstruct.2014.09.022>
- (R80) Epackachi, S. A. S. Whittaker and Y. N. Huang, "Analytical modeling of rectangular SC wall panels," *Journal of Constructional Steel Research*, Vol. 105, pp. 49-59, February 2015.
<http://dx.doi.org/10.1016/j.jcsr.2014.10.016>
- (R81) Basu, D. and A. S. Whittaker, "Efficient generation of statistically consistent demand vectors for seismic performance assessment," *The Bridge and Structural Engineer*, Vol. 45, No. 1, pp. 95-104, March 2015.
- (R82) Rivera, J., G. Josipovic, E. Lejeune, B. Luna, and A. S. Whittaker, "Automatic detection and measurement of cracks in reinforced concrete components," *ACI Structural Journal*, Vol.112, No. 3, pp. 397-406, May-June 2015.

- (R83) Kumar, M., A. S. Whittaker, and M. C. Constantinou, "Characterizing friction in sliding isolation bearings," *Earthquake Engineering and Structural Dynamics*, Vol. 44, No. 9, pp. 1409-1425, July 2015, <http://dx.doi.org/10.1002/eqe.2524>
- (R84) Kumar, M., A. S. Whittaker and M. C. Constantinou, "Experimental investigation of cavitation in elastomeric seismic isolation bearings," *Engineering Structures*, Vol. 101, pp. 290-305, October 2015, <http://dx.doi.org/10.1016/j.engstruct.2015.07.014>
- (R85) Epackachi, S., N. H. Nyugen, E. G. Kurt, A. S. Whittaker, and A. H. Varma. "In-plane seismic behavior of rectangular steel-plate composite wall piers," *Journal of Structural Engineering*, Vol. 141, No. 7, July 2015, [http://dx.doi.org/10.1061/\(ASCE\)ST.1943-541X.0001148](http://dx.doi.org/10.1061/(ASCE)ST.1943-541X.0001148)
- (R86) Shin, J., A. S. Whittaker, and A. J. Aref, "Near-field blast assessment of reinforced concrete components," *International Journal of Protective Structures*, Vol. 6, No. 3, pp. 487-508, September 2015.
- (R87) Shin, J., A. S. Whittaker, and D. Cormie, "TNT equivalency for overpressure and impulse for detonations of spherical charges of high explosives," *International Journal of Protective Structures*, Vol. 6, No. 3, pp. 567-579, September 2015.
- (R88) Luna, B., J. Rivera, and A. S. Whittaker, "Seismic behavior of low aspect ratio reinforced concrete shear walls," *ACI Structural Journal*, Vol. 112, No. 5, pp. 593-603, September-October 2015.
- (R89) Basu, D., A. S. Whittaker and M. C. Constantinou, "Characterizing rotational components of earthquake ground motion using a surface distribution method and response of structures," *Engineering Structures*, Vol. 99, pp. 685-707, September 2015. <http://dx.doi.org/10.1016/j.engstruct.2015.05.029>
- (R90) Epackachi, S., A. S. Whittaker, A. H. Varma, and E. G. Kurt. "Finite element modeling of steel-plate concrete composite wall piers," *Engineering Structures*, Vol. 100, pp. 369-384, October 2015, <http://dx.doi.org/10.1016/j.engstruct.2015.06.023>
- (R91) Ngo, T., R. Lumantarna, A. S. Whittaker, and P. Mendis, "Quantification of the blast-loading parameters of large-scale explosions," *Journal of Structural Engineering*, Vol. 141, No. 10, October 2015, [http://10.1061/\(ASCE\)ST.1943-541X.0001230](http://10.1061/(ASCE)ST.1943-541X.0001230)
- (R92) Farhidzadeh, A., S. Epackachi, S. Salamone, and A. S. Whittaker, "Bayesian decision and mixture models for AE monitoring of steel-concrete composite shear walls," *Smart Materials and Structures*, Vol. 24, No. 11, November 2015, <http://dx.doi.org/10.1088/0964-1726/24/11/115028>
- (R93) Shin, J., A. S. Whittaker, and D. Cormie, "Incident and normally reflected overpressure and impulse for detonations of spherical high explosives in free air," *Journal of Structural Engineering*, Vol. 141, No. 12, December 2015. [http://dx.doi.org/10.1061/\(ASCE\)ST.1943-541X.0001305](http://dx.doi.org/10.1061/(ASCE)ST.1943-541X.0001305)
- (R94) Kumar, M., A. S. Whittaker, and M. C. Constantinou. "Response of base-isolated nuclear structures to extreme earthquake shaking," *Nuclear Engineering and Design*, Vol. 295, pp. 860-874, December 2015, <http://dx.doi.org/10.1016/j.nucengdes.2015.06.005>
- (R95) Sherkar, P., J. Shin, A. S. Whittaker, and A. J. Aref, "On the influence of charge shape and point of detonation on blast-resistant design," *Journal of Structural Engineering*, Vol. 142, No. 2, February 2016, [http://dx.doi.org/10.1061/\(ASCE\)ST.1943-541X.0001371](http://dx.doi.org/10.1061/(ASCE)ST.1943-541X.0001371)

- (R96) Coleman, J., C. Bolisetti, and A. S. Whittaker. "Time-domain soil-structure interaction analysis of nuclear facilities," *Nuclear Engineering and Design*, Vol. 298, pp. 264-270, March 2016, <http://dx.doi.org/10.1016/j.nucengdes.2015.08.015>
- (R97) Kurt, E., A. H. Varma, P. Booth, and A. S. Whittaker. "In-plane behavior and design of SC wall piers without boundary elements," *Journal of Structural Engineering*, Vol. 142, No. 6, June 2016, [http://dx.doi.org/10.1061/\(ASCE\)ST.1943-541X.0001481](http://dx.doi.org/10.1061/(ASCE)ST.1943-541X.0001481)
- (R98) Huang, Y.-N., W.-Y. Yen, and A. S. Whittaker, "Correlation of horizontal and vertical components of strong ground motion for response-history analysis of safety-related nuclear structures," *Nuclear Engineering and Design*, Vol. 310, pp. 273-279, December 2016, <http://dx.doi.org/10.1016/j.nucengdes.2016.09.036>
- (R99) Epackachi, S., A. S. Whittaker, and A. J. Aref, "Seismic analysis and design of steel-plate concrete composite shear wall piers," *Engineering Structures*, Vol. 133, pp. 105-123, January 2017, <http://dx.doi.org/10.1016/j.engstruct.2016.12.024>
- (R100) Kumar, M., A. S. Whittaker, R. P. Kennedy, J. J. Johnson and A. M. Kammerer. "Seismic probabilistic risk assessment for seismically isolated safety-related nuclear facilities," *Nuclear Engineering and Design*, Vol. 313, pp. 386-400, March 2017, <http://dx.doi.org/10.1016/j.nucengdes.2016.12.031>
- (R101) Kumar, M., A. S. Whittaker, and M. C. Constantinou, "Extreme earthquake response of nuclear power plants isolated using sliding bearings," *Nuclear Engineering and Design*, Vol. 316, pp. 9-25, March 2017, <http://dx.doi.org/10.1016/j.nucengdes.2017.02.030>
- (R102) Basu, D., A. S. Whittaker, and M. C. Constantinou, "On the design of a dense array to extract rotational components of earthquake ground motion," *Bulletin of Earthquake Engineering*, Volume 15, No. 3., pp. 827-860, March 2017, <http://dx.doi.org/10.1007/s10518-016-9992-6>
- (R103) Haselton, C. B., J. W. Baker, J. P. Stewart, A. S. Whittaker, N. Luco, A. Fry, R. O. Hamburger, and R. B. Zimmerman. "Response-history analysis for the design of new buildings in the NEHRP Provisions and ASCE/SEI 7 Standard: part I: overview and specifications of ground motions," *Earthquake Spectra*, Vol. 33, No. 2, pp. 373-395, May 2017, <http://dx.doi.org/10.1193/032114EQS039M>
- (R104) Haselton, C. B., A. Fry, R. O. Hamburger, J. W. Baker, R. B. Zimmerman, N. Luco, K. Elwood, J. D. Hooper, F. A. Charney, R. G. Pekelnicky, and A. S. Whittaker. "Response-history analysis for the design of new buildings in the NEHRP Provisions and ASCE/SEI 7 Standard: part II: structural analysis procedures and acceptance criteria," *Earthquake Spectra*, Vol. 33, No. 2, pp. 397-417, May 2017, <http://dx.doi.org.gate.lib.buffalo.edu/10.1193/020416EQS028M>
- (R105) Basu, D., M. C. Constantinou, and A. S. Whittaker "Discussion on "Array-derived rotational seismic motions: revisited"," *Bulletin of Earthquake Engineering*, June 2017, <http://dx.doi.org/10.1007/s10518-017-0183-x>
- (R106) Shin, J., A. S. Whittaker, A. J. Aref, and D. Cormie, "Reflection coefficients and reflected scaled impulses from detonations of high explosives as a function of the angle of incidence," *Journal of Structural Engineering*, Vol. 143, No. 7, July 2017, [http://dx.doi.org/10.1061/\(ASCE\)ST.1943-541X.0001766](http://dx.doi.org/10.1061/(ASCE)ST.1943-541X.0001766)
- (R107) Kumar, M. and A. S. Whittaker, "Effect of seismic hazard definition on isolation-system displacements in nuclear power plants," *Engineering Structures*, Vol. 148, pp. 424-435, October 2017, <http://doi.org/10.1016/j.engstruct.2017.06.003>
- (R108) Nyugen, N. and A. S. Whittaker, "Numerical modeling of steel-plate concrete composite shear walls," *Engineering Structures*, Vol. 150, pp. 1-11, December 2017, <http://dx.doi.org/10.1016/j.engstruct.2017.06.030>

- (R109) Huang, Y.-N., A. S. Whittaker and R. O. Hamburger, "A simplified analysis procedure for performance-based earthquake engineering of buildings," *Engineering Structures*, Vol. 150, pp. 719-735, December 2017, <http://dx.doi.org/10.1016/j.engstruct.2017.07.048>
- (R110) Ma, G.-L., Q. Xie, and A. S. Whittaker, "Dynamic interaction of high voltage transformer bushings, turrets, and tanks," *Earthquake Spectra*, Available on-line, November 2017, <https://doi-org.gate.lib.buffalo.edu/10.1193/091416EQS148M>
- (R111) Yu, C.-C., C. Bolisetti, J. Coleman, B. Kosbab, and A. S. Whittaker, "Using seismic isolation to reduce risk and capital cost in safety-related nuclear facilities," *Nuclear Engineering and Design*, Vol. 326, pp. 268-284, January 2018, <https://doi.org/10.1016/j.nucengdes.2017.11.016>
- (R112) Bolisetti, C., A. S. Whittaker, and J. Coleman, "Linear and nonlinear soil-structure-interaction analysis for buildings and safety-related nuclear structures," *Soil Dynamics and Earthquake Engineering*, Vol. 107C, pp. 218-233, January 2018.

Refereed Journal Articles Submitted for Review/Accepted/In Press

- (R113) Epackachi, S. and A. S. Whittaker, "A validated numerical model for predicting the in-plane seismic response of lightly reinforced, low aspect ratio RC shear walls," submitted to *Engineering Structures*, March 2017.
- (R114) Ma, G.-L., Q. Xie, and A. S. Whittaker, "Physical and numerical simulations of the seismic response of an 1100 kV power transformer bushing," *Earthquake Spectra*, accepted for publication, January 2018.
- (R115) Shin, J., and A. S. Whittaker, "Blast wave clearing for detonations of high explosives," submitted to *Journal of Structural Engineering*, September 2017.
- (R116) Kumar, M. and A. S. Whittaker, "Cross-platform implementation, verification and validation of advanced models of elastomeric seismic isolation bearings," submitted to *Engineering Structures*, September 2017.
- (R117) Kumar, M. and A. S. Whittaker, "Response of systems and components in a base-isolated nuclear power plant building impacted by a large commercial aircraft," submitted to *Journal of Structural Engineering*, October 2017.
- (R118) Ma, G.-L., Q. Xie, and A. S. Whittaker, "Seismic performance assessment of a 1000 kV power transformer," submitted to *Earthquake Spectra*, November 2017.
- (R119) Terranova, B., L. Schwer, and A. S. Whittaker, "Utility of empirical formulae for wind-borne missile impact of reinforced concrete panels," submitted to *International Journal of Impact Engineering*, January 2018.
- (R120) Terranova, B., L. Schwer, and A. S. Whittaker, "Simulation of wind-borne missile impact using the Lagrangian and Smooth Particle Hydrodynamics formulations," submitted to *International Journal of Impact Engineering*, December 2017.
- (R121) Rivera, J. and A. S. Whittaker, "Damage and peak shear strength of low aspect ratio reinforced concrete walls: damage," submitted to *Journal of Structural Engineering*, February 2018.
- (R122) Epackachi, S., A. S. Whittaker, R. O. Hamburger, and A. Hortacsu, "Modeling shear-critical RC shear walls for the purpose of seismic response-history analysis," submitted to *Journal of Structural Engineering*, February 2018.
- (R123) Rivera, J. and A. S. Whittaker, "Updated fragility functions for shear critical, reinforced concrete walls," submitted to *ACI Structural Journal*, February 2018.
- (R124) Terranova, B., A. S. Whittaker, and L. Schwer, "Design of exterior reinforced concrete panels for wind-borne missile loadings," submitted to *Engineering Structures*, February 2018.

- (R125) Terranova, B., A. S. Whittaker, S. Bhardwaj, A. Varma, and N. Orbovic, "Combined in-plane and out-of-plane loadings SC wall piers: an experimental investigation," submitted to *Journal of Structural Engineering*, February 2018.

Refereed Journal Articles in Preparation

- (R126) Terranova, B., S. Epackachi, A. S. Whittaker, and N. Orbovic, "Numerical modeling of out-of-plane and in-plane seismic loading on SC wall piers," *Journal of Structural Engineering*.
- (R127) Whittaker, A. S., P. Sollogoub, and M.-K. Kim, "Past, present and future: seismic isolation of safety-related nuclear facilities," *Nuclear Engineering and Design*
- (R128) Kumar, M. and A. S. Whittaker, "On the treatment of damping in seismically isolated structures," *Earthquake Spectra*.
- (R129) Luna, B. and A. S. Whittaker, "Peak strength of low aspect ratio, planar reinforced concrete shear walls: contributions to shear resistance," *ACI Structural Journal*.
- (R130) Mertz, G. and A. S. Whittaker, "Out-of-plane shear strength of one-way reinforced concrete beams, slabs and walls without stirrups," *ACI Structural Journal*.
- (R131) Epackachi, S., A. S. Whittaker, R. O. Hamburger, and A. Hortacsu, "A cyclic hysteretic model for shear-critical reinforced concrete shear walls," *Journal of Structural Engineering*.
- (R132) Epackachi, S., A. S. Whittaker, and R. O. Hamburger, "Fragility functions for steel-plate concrete wall piers," *Earthquake Spectra*.
- (R133) Ma, G.-L., Q. Xie, and A. S. Whittaker, "Seismic qualification of UHV transformer bushings," *IEEE Transactions on Power Systems*.
- (R134) Bolisetti, C. and A. S. Whittaker, "Structure-soil-structure interaction analysis," *Journal of Earthquake Engineering*.

Refereed Conference Proceedings and Manuscripts

- (C1) Bertero, V.V., C.M. Uang, and A. S. Whittaker, "Test structures: experimental response and code compliance," *Proceedings*, ASCE Specialty Conference, Orlando, FL, August 1987.
- (C2) Bertero, V. V., C. M. Uang, and A. S. Whittaker, "Earthquake simulator testing of a concentrically braced steel structure," *Proceedings*, Ninth World Conference on Earthquake Engineering, Tokyo, Japan, August, 1988.
- (C3) Whittaker, A. S., C. M. Uang, and V. V. Bertero, "Experimental seismic response of steel dual systems," *Proceedings*, Fourth U.S. National Conference on Earthquake Engineering, Palm Springs, CA, May 1990.
- (C4) Uang, C. M., V. V. Bertero, and A. S. Whittaker, "Seismic response correlation of full-scale and 0.3-scale models tested by different dynamic testing techniques," *Proceedings*, Fourth U.S. National Conference on Earthquake Engineering, Palm Springs, California, May 1990.
- (C5) Walters, M. T., E. Elsesser, and A. S. Whittaker, "Seismic isolation: an emerging rehabilitation technique," *Proceedings*, 9th ASCE Structures Congress, Indianapolis, Indiana, May 1991.
- (C6) Elsesser, E. and A. S. Whittaker, "Earthquake response of San Francisco freeway structures during the October 17, 1989 earthquake," *Proceedings*, Third U.S. Conference on Lifeline Earthquake Engineering, Los Angeles, California, August, 1991.
- (C7) Whittaker, A. S. and E. Elsesser, "Seismic design criteria for transportation structures," *Proceedings*, Third U.S. Conference on Lifeline Earthquake Engineering, Los Angeles, California, August, 1991.

- (C8) Whittaker, A. S., I. D. Aiken, D. Bergman, P. W. Clark, J. Cohen, J. M. Kelly, and R. E. Scholl, "Code requirements for design and implementation of passive energy dissipation systems," *Proceedings*, ATC-17-1 Seminar on Seismic Isolation, Passive Energy Dissipation, and Active Control, Applied Technology Council, San Francisco, California, March, 1993.
- (C9) Clark, P. W., A. S. Whittaker, I. D. Aiken, and J. A. Egan, "Performance considerations for isolation systems in regions of high seismicity," *Proceedings*, ATC-17-1 Seminar on Seismic Isolation, Passive Energy Dissipation, and Active Control, Applied Technology Council, San Francisco, California, March, 1993.
- (C10) Whittaker, A. S. and I. D. Aiken, "Passive energy dissipation systems for earthquake-resistant design," *Proceedings*, 11th ASCE Structures Congress, Irvine, California, April, 1993.
- (C11) Whittaker, A. S. and I. D. Aiken, "Implementation of passive energy dissipation systems in the United States," *Proceedings*, 12th ASCE Structures Congress, Atlanta, GA, April 1994.
- (C12) Rojahn, C. and A. S. Whittaker, "A critical review of current approaches to earthquake-resistant Design," *Proceedings*, 13th ASCE Structures Congress, Boston, MA, April 1995.
- (C13) Whittaker, A. S., M. C. Constantinou, and C. A. Kircher, "Seismic rehabilitation using supplemental damping systems," *Proceedings*, Eleventh World Conference on Earthquake Engineering, Acapulco, Mexico, June 1996.
- (C14) Whittaker, A. S. and M. C. Constantinou, "Constitutive modeling of energy dissipation devices for the seismic analysis of buildings," *Proceedings*, 12th ASCE Engineering Mechanics Conference, San Diego, CA, May 1998.
- (C15) Rojahn, C. and A. S. Whittaker, "A proposed framework for performance-based design of new buildings," *Proceedings*, 6th U.S. National Conference on Earthquake Engineering, Seattle, WA, June 1998.
- (C16) Makris, N., Y. Roussos, A. S. Whittaker, and J. M. Kelly, "Seismic protection with fluid dampers," *Proceedings*, Structural Engineers World Congress, San Francisco, CA, July 1998.
- (C17) Fujisaki, E., E. Matsuda, G. L. Fenves, and A. S. Whittaker, "Seismic qualification and fragility testing of porcelain transformer bushings," *Proceedings*, 5th U.S. Conference on Lifeline Engineering, Seattle, WA, August 1999
- (C18) Thompson, A., A. S. Whittaker, G. L. Fenves, and S. A. Mahin, "Property modification factors for elastomeric seismic isolation bearings," *Proceedings*, Twelfth World Conference on Earthquake Engineering, Auckland, New Zealand, January 2000.
- (C19) Huang, W.-H., G. L. Fenves, A. S. Whittaker, and S. A. Mahin, "Characterization of seismic isolation bearings from bi-directional testing," *Proceedings*, Twelfth World Conference on Earthquake Engineering, Auckland, New Zealand, January 2000.
- (C20) Anderson, E.L., S. A. Mahin, G. L. Fenves, and A. S. Whittaker, "An evaluation of the AASHTO uniform load method for estimating forces and deformations in seismically isolated bridge systems," *Proceedings*, Twelfth World Conference on Earthquake Engineering, Auckland, New Zealand, January 2000.
- (C21) Kim, T., A. S. Whittaker, and V. V. Bertero, "Reinforced steel moment-resisting joints," *Proceedings*, Third International Specialty Conference on the Behavior of Steel Structures in Seismic Areas, STESSA 2000, Montreal, Canada, August 2000.
- (C22) Whittaker, A. S., "Earthquake engineering into the next millennium," *Journal of Architecture and Building Science*, Architectural Institute of Japan, Vol. 116, No. 1465, Tokyo, Japan, January 2001.

- (C23) Whittaker, A. S., G. L. Fenves, and A. S. J. Gilani, "Evaluation of seismic qualification procedures for high-voltage substation equipment," *Proceedings*, ASCE Structural Engineering Congress, Washington, May, 2001.
- (C24) Constantinou, M. C., A. S. Whittaker, and E. Velivasakis, "Seismic evaluation and retrofit of the Ataturk International Airport Terminal building," *Proceedings*, ASCE Structural Engineering Congress, Washington, May, 2001.
- (C25) Morgan, T., A. S. Whittaker, and A. C. Thompson, "Cyclic behavior of high-damping rubber bearings," *Proceedings*, Fifth World Congress on Joints, Bearings and Seismic Systems for Concrete Structures, American Concrete Institute, Rome, Italy, October 2001. **Best Paper Award**
- (C26) Whittaker, A. S., Ed. "Guidelines for testing large seismic isolator and energy dissipation devices," CERF Report No. 40600, Civil Engineering Research Foundation, Washington, D.C., January 2002.
- (C27) Kim, T., B. Stojadinovic, and A. S. Whittaker, "Behavior of steel moment connections between a wide-flange beam and a box column," *Proceedings*, Seventh U.S. National Conference on Earthquake Engineering, Earthquake Engineering Research Institute, Boston, May 2002.
- (C28) Mosqueda, G., A. S. Whittaker, G. L. Fenves, and D. Mellon, "Performance characterization of fluid viscous dampers," *Proceedings*, Seventh U.S. National Conference on Earthquake Engineering, Earthquake Engineering Research Institute, Boston, July 2002.
- (C29) Bruneau, M., A. M. Reinhorn, A. S. Whittaker, M. C. Constantinou, S. Thevanayagam, S.-Y. Chu, M. C. Pitman, and K. Winter, "A versatile high-performance testing facility towards real-time dynamic hybrid testing," *Proceedings*, Seventh U.S. National Conference on Earthquake Engineering, Earthquake Engineering Research Institute, Boston, July 2002
- (C30) Ballantyne, J. R., M. L. Chapman, C. A. Hughes, and A. S. Whittaker, "Seismic base isolation-a cost effective means of upgrading UK nuclear structures," *Proceedings*, 12th European Conference on Earthquake Engineering, Paper 403, Elsevier Science, London, UK, September 2002
- (C31) Gallocher, S. C., C. I. Robertson, and A. S. Whittaker, "Application of the capacity spectrum method to jetty structures," *Proceedings*, 12th European Conference on Earthquake Engineering, Paper 123, Elsevier Science, London, UK, September 2002
- (C32) Bruneau, M., A. M. Reinhorn, M. C. Constantinou, S. Thevanayagam, A. S. Whittaker, S.-Y. Chu, M. C. Pitman, and K. Winter, "The University at Buffalo node of the NEES network-a versatile high-performance testing facility towards real-time dynamic hybrid testing," *Proceedings*, 12th European Conference on Earthquake Engineering, Paper 823, Elsevier Science, London, UK, September 2002.
- (C33) Chrysostomou, C. Z., M. C. Constantinou, and A. S. Whittaker, "Energy dissipation devices for structural design and retrofit," *Proceedings*, FIB Symposium on Concrete Structures in Seismic Regions, Athens, Greece, May 2003.
- (C34) Badillo, H., A. S. Whittaker, and A. M. Reinhorn, "Performance characterization of suspended ceiling systems," *Proceedings*, ATC-29-2 Seminar on the Seismic Design, Performance and Retrofit of Nonstructural Components in Critical Facilities, Irvine, CA, October 2003.
- (C35) Whittaker, A. S. and T. T. Soong, "An overview of nonstructural research at three U.S. Earthquake Engineering Research Centers", *Proceedings*, ATC-29-2 Seminar on the Seismic Design, Performance and Retrofit of Nonstructural Components in Critical Facilities, Irvine, CA, October 2003.
- (C36) Bachman, R. E., R. O. Hamburger, C. D. Comartin, C. Rojahn, and A. S. Whittaker, "ATC-58 framework for performance-based design of nonstructural components", *Proceedings*, ATC-29-2

Seminar on the Seismic Design, Performance and Retrofit of Nonstructural Components in Critical Facilities, Irvine, CA, October 2003

- (C37) Whittaker, A. S., R. O. Hamburger, C. Comartin, R. Bachman and C. Rojahn, "Performance based engineering of building structures," *Proceedings*, 73rd Shock and Vibration Symposium, SAVIAC, San Diego, CA, October 2003.
- (C38) Kim, T., B. Stojadinovic and A. S. Whittaker, "Seismic performance of US steel box column connections," *Proceedings*, 13th World Conference on Earthquake Engineering, Paper 981, Vancouver, B.C., Canada, August 2004.
- (C39) Badillo, H., A. S. Whittaker and A. M. Reinhorn, "Seismic qualification and fragility testing of suspended ceiling systems," *Proceedings*, 13th World Conference on Earthquake Engineering, Paper 1053, Vancouver, B.C., Canada, August 2004.
- (C40) Sezen, H. and A. S. Whittaker, "Performance of industrial facilities during the 1999 Kocaeli, Turkey, earthquake," *Proceedings*, 13th World Conference on Earthquake Engineering, Paper 282, Vancouver, B.C., Canada, August 2004.
- (C41) Warn, G. and A. S. Whittaker, "Energy-related demands on seismic isolators in bridges," *Proceedings*, 13th World Conference on Earthquake Engineering, Paper 3250, Vancouver, B.C., Canada, August 2004.
- (C42) A. M. Reinhorn, M. Bruneau, A. S. Whittaker, M. Constantinou, and S. Thevanayagam, "The UB-NEES versatile high-performance testing facility," *Proceedings*, 13th World Conference on Earthquake Engineering, Paper 1577, Vancouver, B.C., Canada, August 2004.
- (C43) Hamburger, R. O., C. Rojahn, J. Moehle, R. Bachman, C. Comartin and A. S. Whittaker, "Development of next-generation performance-based earthquake engineering design criteria for buildings," *Proceedings*, 13th World Conference on Earthquake Engineering, Paper 1819, Vancouver, B.C., Canada, August 2004.
- (C44) Whittaker, A. S. et al., "Guideline for ANSS seismic monitoring of engineered civil systems – version 1.0." Open-File Report 2005-1039, United States Geological Survey, Reston, VA, March 2005.
- (C45) Whittaker, A. S. and M. C. Constantinou, "Building structures with damping systems: from research to design practice," *Proceedings*, Structures Congress, ASCE, New York, April 2005.
- (C46) Whittaker, A. S. and R. L. Nigbor, "Guideline for ANSS seismic monitoring of engineered civil systems," *Proceedings*, Annual Meeting of the Seismological Society of America, Incline Village, NV, April 2005.
- (C47) Huang, Y.-N., A. S. Whittaker, M. C. Constantinou and S. Malushte, "Seismic protection of secondary systems in nuclear power plant facilities," *Transactions*, 18th International Conference on Structural Mechanics in Reactor Technology (SMiRT 18-K11-7), Beijing, China, August 2005.
- (C48) Malushte, S. and A. S. Whittaker, "Survey of past base isolation applications in nuclear power plants and challenges to industry/regulatory acceptance," *Transactions*, 18th International Conference on Structural Mechanics in Reactor Technology (SMiRT 18-K10-7), Beijing, China, August 2005.
- (C49) Huang, Y.-N., A. S. Whittaker and M. C. Constantinou, "Seismic demands on secondary systems in conventional and isolated nuclear power plants," *Proceedings*, 8th US National Conference on Earthquake Engineering, San Francisco, California, April 2006.
- (C50) Whittaker, A. S., "Seismic protection of mission-critical infrastructure," *Keynote Address and Proceedings*, Fourth World Conference on Structural Control and Monitoring, San Diego, California, July 2006.

- (C51) Constantinou, M. C., A. S. Whittaker, D. M. Fenz and G. Aposotolakis, "Seismic isolation of bridges," Report to the California Department of Transportation, Sacramento, CA, June 2007.
- (C52) Gulec, K., A. S. Whittaker and B. Stojadinovic, "Shear strength of squat reinforced concrete walls with flanges and barbells," *Transactions*, 19th International Conference on Structural Mechanics in Reactor Technology (SMiRT 19), Toronto, Canada, August 2007.
- (C53) Huang, Y.-N. and A. S. Whittaker, "Scaling of earthquake records for the design of safety-related nuclear facilities," *Transactions*, 19th International Conference on Structural Mechanics in Reactor Technology (SMiRT 19), Toronto, Canada, August 2007.
- (C54) Huang, Y.-N., A. S. Whittaker and N. Luco, "Maximum and geometric mean spectral demands in the near-fault region," *Transactions*, 19th International Conference on Structural Mechanics in Reactor Technology (SMiRT 19), Toronto, Canada, August 2007.
- (C55) Whittaker, A. S., R. O. Hamburger and Y.-N. Huang, "Next-generation performance-based earthquake engineering," *Proceedings*, 1st International Conference on Modern Design, Construction and Maintenance of Structures, Hanoi, Vietnam, December 2007. Republished in the Electronic Journal of Structural Engineering, Special Issue 2, pp. 48-57, 2008.
- (C56) Willford, M., A. S. Whittaker and R. Klemencic, "Guidelines for the seismic design of tall buildings," *Council for Tall Buildings and Urban Habitat*, New York, August 2008.
- (C57) Huang, Y.-N., A. S. Whittaker, and N. Luco. "Seismic performance assessment of nuclear power plants," *Proceedings*, 14th World Conference on Earthquake Engineering, Beijing, China, October 2008.
- (C58) Lignos, D. G., H. Krawinkler, A. S. Whittaker, A. "Shaking table collapse tests of a 4-story steel moment frame," *Proceedings*, 14th World Conference in Earthquake Engineering, Beijing, China, October, 2008.
- (C59) Whittaker, A. S., W. G. Corley and S. Smith, S. "Blast protection of buildings—detailing and performance qualification," *Proceedings*, ASCE Structures Congress, Austin, TX, April 2009.
- (C60) Lignos, D. G., H. Krawinkler, H., and A. S. Whittaker. "Collapse assessment of a 4-story steel moment resisting frame," *Proceedings*, COMPDYN09, Rhodes, Greece, June 2009.
- (C61) Huang, Y.-N. and A. S. Whittaker. "Response of conventional and base-isolated nuclear power plants to blast loading," *Transactions*, 20th International Conference on Structural Mechanics in Reactor Technology (SMiRT 20), Porvoo, Finland, August 2009.
- (C62) Huang, Y.-N., A. S. Whittaker and N. Luco. "Seismic performance assessment of safety-related nuclear structures," *Transactions*, 20th International Conference on Structural Mechanics in Reactor Technology (SMiRT 20), Porvoo, Finland, August 2009.
- (C63) Gulec, C. K., A. S. Whittaker and J. D. Hooper. "Fragility functions for squat reinforced concrete walls in safety-related nuclear structures," *Transactions*, 20th International Conference on Structural Mechanics in Reactor Technology (SMiRT 20), Porvoo, Finland, August 2009.
- (C64) Lignos, D. G., H. Krawinkler, H., and A. S. Whittaker. "Contributions to collapse prediction of steel moment frames through recent earthquake simulator collapse tests," *Proceedings*, 3rd International Conference on Advances in Experimental Structural Engineering, San Francisco, CA, October 2009.
- (C65) Wu, C., G. Fattori, A. S. Whittaker and D. J. Oehlers. "An experimental investigation of air-blast effects from spherical- and cylindrical-shaped charges," *Proceedings*, International Workshop on Structural Response to Impact and Blast, Israel, November 2009.
- (C66) Wei, Z., M. Petersen, Y. Hashash and A. S. Whittaker. "Site-specific response analysis in the New Madrid Seismic Zone," *Proceedings*, Fifth International Conference on Recent Advances in

- Geotechnical Earthquake Engineering and Soil Dynamics, Paper 3.01b, San Diego, CA, May 2010.
- (C67) Mason, H. B., J. D. Bray, K. C. Jones, Z. Chen, T. C. Hutchinson, N. W. Trombetta, B. Y. Choy, B. L. Kutter, G. L. Fiegel, J. Montgomery, R. J. Patel, R. D. Reitherman and A. S. Whittaker. "Earthquake input motions and seismic site response in centrifuge tests examining SFSI effects," *Proceedings*, Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics, Paper 5.48a, San Diego, CA, May 2010.
- (C68) Chen, Z., N. Tombetta, T. C. Hutchinson, H. B. Mason, J. D. Bray, K. C. Jones, A. S. Whittaker, B. Y. Choy, B. L. Kutter, G.L. Fiegel, J.Montgomery, R. J. Patel, and R. D. Reitherman. "Seismic performance assessment in dense urban environments: evaluation of closely spaced nonlinear building-foundation systems using centrifuge tests," *Proceedings*, Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics, Paper 5.49a, San Diego, CA, May 2010.
- (C69) Kircher, C. A., N. Luco and A. S. Whittaker. "Project 07—reassessment of seismic design procedures," *Proceedings*, ASCE Structures Congress, Orlando, FL, May 2010.
- (C70) Huang, Y.-N., A. S. Whittaker and N. Luco. "An assessment of site amplification factors for the Western United States," *Proceedings*, 9th US and 10th Canadian Conference on Earthquake Engineering, Toronto, Canada, July 2010.
- (C71) Mason, H. B., Z. Chen, K. C. Jones, N. W. Trombetta, J. D. Bray, T. C. Hutchinson, C. Bolisetti, A. S. Whittaker, B. Y. Choy, B. L. Kutter, and G. L. Fiegel. "Soil-foundation-structure interaction effects on model buildings within a geotechnical centrifuge," *Proceedings*, 9th US and 10th Canadian Conference on Earthquake Engineering, Toronto, Canada, July 2010.
- (C72) Huang, Y.-N., A. S. Whittaker, R. P. Kennedy and R. L. Mayes. "Response of base-isolated nuclear structures for design and beyond-design basis earthquake shaking in the United States," *Proceedings*, ASME 2010 Pressure Vessels and Piping Division Conference, Bellevue, WA, July 2010.
- (C73) Elvira, P. Mendis and A. S. Whittaker. "Numerical simulation of threat-independent progressive collapse," *Journal of Civil Engineering Science and Application*, Petra Christian University Research Centre, Surabaya, Indonesia, July 2010.
- (C74) Whittaker, A. S., Y.-N. Huang, and B. Stojadinovic. "Seismic protection of small modular reactors," *Proceedings*, ASME 2011 Small Modular Reactors Symposium, Washington, DC, September 2011.
- (C75) Basu, D., M. C. Constantinou, and A. S. Whittaker. "Including accidental torsion in response-history analysis of safety-related nuclear structures," *Transactions*, 21st International Conference on Structural Mechanics in Reactor Technology (SMiRT 21), Paper 279, New Delhi, India, November 2011.
- (C76) Gallocher, S. C., D. Kourepinis, and A. S. Whittaker. "Global buckling and load transfer behavior of SC modular elements in safety-related nuclear structures," *Transactions*, 21st International Conference on Structural Mechanics in Reactor Technology (SMiRT 21), Paper 348, New Delhi, India, November 2011.
- (C77) Rocks, J., B. Luna, and A. S. Whittaker. "Seismic performance of low aspect ratio reinforced concrete shear walls," *Transactions*, 21st International Conference on Structural Mechanics in Reactor Technology (SMiRT 21), Paper 881, New Delhi, India, November 2011.
- (C78) Huang, Y.-N., A. S. Whittaker, R. P. Kennedy and R. L. Mayes. "Analysis and design of seismic isolation systems for nuclear structures," *Transactions*, 21st International Conference on Structural Mechanics in Reactor Technology (SMiRT 21), Paper 278, New Delhi, India, November 2011.

- (C79) Gulec, C. K. and A. S. Whittaker. "Hysteretic modeling of squat reinforced concrete shear walls." *Transactions*, 21st International Conference on Structural Mechanics in Reactor Technology (SMiRT 21), Paper 341, New Delhi, India, November 2011.
- (C80) Bolisetti, C. and A. S. Whittaker. "Seismic structure-soil-structure interaction in nuclear power plant structures," *Transactions*, 21st International Conference on Structural Mechanics in Reactor Technology (SMiRT 21), Paper 228, New Delhi, India, November 2011.
- (C81) Huang, Y.-N. and A. S. Whittaker. "Calculation of peak ground velocity from one-second pseudo-spectral velocity," Report FEMA P-58/BD-3.7.5, Applied Technology Council, Redwood City, CA, August 2012.
- (C82) Gurbuz, O., A. Adediran, and A. S. Whittaker. "ACI 349-12 Chapter 21 revisions," *Transactions*, 22nd International Conference on Structural Mechanics in Reactor Technology (SMiRT 22), San Francisco, California, August 2013.
- (C83) Kumar, M., A. S. Whittaker, and M. C. Constantinou. "Response predictions for Friction Pendulum bearings considering the dependence of friction on axial pressure, temperature and velocity," *Transactions*, 22nd International Conference on Structural Mechanics in Reactor Technology (SMiRT 22), San Francisco, California, August 2013.
- (C84) Kumar, M., A. S. Whittaker, and M. C. Constantinou. "Mechanical properties of elastomeric seismic isolation bearings for analysis under extreme loadings," *Transactions*, 22nd International Conference on Structural Mechanics in Reactor Technology (SMiRT 22), San Francisco, California, August 2013.
- (C85) Luna, B., J. Rivera, J. Rocks, C. Goksu and A. S. Whittaker, "Seismic performance of low aspect ratio reinforced concrete shear walls," *Transactions*, 22nd International Conference on Structural Mechanics in Reactor Technology (SMiRT 22), San Francisco, California, August 2013.
- (C86) Whittaker, A. S., M. Salmon, and Y.-N. Huang. "ASCE 4 provisions for seismic isolation of safety-related nuclear structures." *Transactions*, 22nd International Conference on Structural Mechanics in Reactor Technology (SMiRT 22), San Francisco, California, August 2013.
- (C87) Epackachi, S., N. H. Nyugen, E. G. Kurt, A. S. Whittaker, A. H. Varma. "An experimental study of the in-plane response of steel-concrete composite walls." *Transactions*, 22nd International Conference on Structural Mechanics in Reactor Technology (SMiRT 22), San Francisco, California, August 2013.
- (C88) Coleman, J., B. Jeremic, and A. S. Whittaker. "Nonlinear time domain soil-structure-interaction analysis for nuclear facilities." *Transactions*, 22nd International Conference on Structural Mechanics in Reactor Technology (SMiRT 22), San Francisco, California, August 2013.
- (C89) Bolisetti, C., A. S. Whittaker, B. Mason, I. Almufti, and M. Willford. "Numerical methods for site response analysis for nuclear applications." *Transactions*, 22nd International Conference on Structural Mechanics in Reactor Technology (SMiRT 22), San Francisco, California, August 2013.
- (C90) Kurt, E. G., A. Varma, P. Booth, and A. S. Whittaker. "SC wall piers and basemat connections: numerical investigation of behavior and design." *Transactions*, 22nd International Conference on Structural Mechanics in Reactor Technology (SMiRT 22), San Francisco, California, August 2013.
- (C91) Cormie, D., W. P. Wilkinson, J. Shin, and A. S. Whittaker. "Scaled-distance relationships for close-in detonations." *Proceedings*, 15th International Symposium on the Interaction of the Effects of Munitions with Structures (ISIEMS), Potsdam, Germany, September 2013.
- (C92) Wilkinson, W., D. Cormie, J. Shin, and A. S. Whittaker. "Modeling close-in detonations in the near field." *Proceedings*, 15th International Symposium on the Interaction of the Effects of Munitions with Structures (ISIEMS), Potsdam, Germany, September 2013.

- (C93) Nyugen, N. H., S. Epackachi, E. G. Kurt, A. S. Whittaker, and A. H. Varma. "In-plane shear response of steel-concrete composite shear walls: results of experiments." *Proceedings*, 2013 Conference of the Australian Earthquake Engineering Society, Hobart, Australia, November 2013.
- (C94) Epackachi, S., N. H. Nyugen, E. G. Kurt, A. S. Whittaker, and A. H. Varma. "Numerical and experimental investigation of the in-plane behavior of rectangular steel-plate composite walls." *Proceedings*, 2014 Structures Congress, Boston, MA, April 2014.
- (C95) Sherkar, P., A. S. Whittaker, and A. J. Aref. "On the influence of charge shape, orientation and point of detonation on air-blast loadings." *Proceedings*, 2014 Structures Congress, Boston, MA, April 2014.
- (C96) Haselton, C. B., A. Fry, J. W. Baker, R. O. Hamburger, A. S. Whittaker, J. P. Stewart, K. Elwood, N. Luco, J. D. Hooper, F. A. Charney, R. B. Zimmerman, and R. G. Pekelnicky. "Response-history analysis for the design of new buildings: A fully revised Chapter 16 methodology proposed for the 2015 NEHRP Provisions and the ASCE/SEI 7-16 Standard." *Proceedings*, Tenth US National Conference on Earthquake Engineering, Anchorage, AK, July 2014.
- (C97) Shin, J., A. S. Whittaker, D. Cormie, and M. Willford. "Design charts and polynomials for air-blast parameters." *Proceedings*, 3rd International Conference on Protective Structures (ICPS3), Newcastle, Australia, February 2015.
- (C98) Kumar, M, and A. S. Whittaker. "On the calculation of the clearance to the hard stop for seismically isolated nuclear power plants." *Transactions*, 23rd International Conference on Structural Mechanics in Reactor Technology (SMiRT 23), Manchester, United Kingdom, August 2015.
- (C99) Stefanaki, A., M. Sivaselvan, A. Tessari, and A. S. Whittaker. "Soil-foundation-structure interaction investigations using hybrid simulation." *Transactions*, 23rd International Conference on Structural Mechanics in Reactor Technology (SMiRT 23), Manchester, United Kingdom, August 2015.
- (C100) Epackachi, S., B. Luna, and A. S. Whittaker. "Numerical investigation if the in-plane behavior of low aspect ratio reinforced concrete shear walls." *Transactions*, 23rd International Conference on Structural Mechanics in Reactor Technology (SMiRT 23), Manchester, United Kingdom, August 2015.
- (C101) Epackachi, S., A. S. Whittaker, and A. H. Varma. "Experimental behavior of flexure-critical steel-plate composite structural walls." *Transactions*, 23rd International Conference on Structural Mechanics in Reactor Technology (SMiRT 23), Manchester, United Kingdom, August 2015.
- (C102) Terranova, B., A. S. Whittaker, L. Schwer, and A. J. Aref. "Impact analysis of reinforced concrete panels for wind-borne missiles." *Transactions*, 23rd International Conference on Structural Mechanics in Reactor Technology (SMiRT 23), Manchester, United Kingdom, August 2015.
- (C103) Budnitz, R. and A. S. Whittaker. "Opportunities for improving the regulations governing the seismic safety of large nuclear installations." *Transactions*, 23rd International Conference on Structural Mechanics in Reactor Technology (SMiRT 23), Manchester, United Kingdom, August 2015.
- (C104) Bolisetti, C., A. S. Whittaker, and J. Coleman. "Frequency- and time-domain methods in soil-structure interaction analysis." *Transactions*, 23rd International Conference on Structural Mechanics in Reactor Technology (SMiRT 23), Manchester, United Kingdom, August 2015.

- (C105) Bolisetti, C. and A. S. Whittaker, "Structure-soil-structure interaction." *Transactions*, 23rd International Conference on Structural Mechanics in Reactor Technology (SMiRT 23), Manchester, United Kingdom, August 2015.
- (C106) Kumar, M., A. S. Whittaker, and M. C. Constantinou. "Verification and validation of models of elastomeric seismic isolation bearings." *Transactions*, 23rd International Conference on Structural Mechanics in Reactor Technology (SMiRT 23), Manchester, United Kingdom, August 2015.
- (C107) Salmon, M. and A. S. Whittaker. "Including correlated failure modes in seismic fragility analysis." *Transactions*, 23rd International Conference on Structural Mechanics in Reactor Technology (SMiRT 23), Manchester, United Kingdom, August 2015.
- (C108) Bhardwaj, S., E. G. Kurt, B. Terranova, A. H. Varma, and N. Orbovic, "Preliminary investigations of the effects of out-of-plane loading on the in-plane behavior of SC walls." *Transactions*, 23rd International Conference on Structural Mechanics in Reactor Technology (SMiRT 23), Manchester, United Kingdom, August 2015.
- (C109) Shin, J., W. Wilkinson, D. Cormie, and A. S. Whittaker, "Updated scaled-distance charts for design: improving incident and reflected air-blast parameters in the near field." *Proceedings*, CONFAB 2015, First International Conference on Structural Safety under Fire and Blast, Glasgow, United Kingdom, September 2015.
- (C110) Epackachi, S. and A. S. Whittaker, "Shear-controlled reinforced concrete walls," Chapter 8 and Appendices C and D, in *NIST GCR-17-917-45, Recommended Modeling Parameters and Acceptance Criteria for Nonlinear Analysis in Support of Seismic Evaluation, Retrofit and Design*, National Institute of Standards and Technology, Gaithersburg, MD, May 2017.
- (C111) Whittaker, A. S., P. Sollogoub, and M.-K. Kim, "Seismic isolation of safety-related nuclear facilities: past, present and future," *Transactions*, 24th International Conference on Structural Mechanics in Reactor Technology (SMiRT24), Busan, South Korea, August 2017.

Technical Reports and Non-Refereed Manuscripts

- (T1) Bertero, V. V., C. M. Uang, A. S. Whittaker, and C. R. Llopiz, "Progress report on the earthquake simulation tests and associated studies of 0.3-scale models of the six-story steel test structure," *Proceedings*, Sixth Joint Technical Coordinating Committee Meeting, U.S.-Japan Cooperative Research Program Utilizing Large-Scale Testing Facilities, Maui, Hawaii, June 1985.
- (T2) Whittaker, A. S., C. M. Uang, and V. V. Bertero, "Earthquake simulation tests and associated studies of a 0.3-scale model of a six-story eccentrically braced steel structure," Report No. UCB/EERC-87/02, Earthquake Engineering Research Center, University of California, Berkeley, CA, June, 1987.
- (T3) Whittaker, A. S., C. M. Uang, and V. V. Bertero, "Implications of recent research on current seismic regulations pertaining to steel dual systems," *Proceedings*, Conference on Tall Buildings in Seismic Regions, Council for Tall Buildings and Urban Habitat, Los Angeles, CA, February, 1988.
- (T4) Aktan, H. M., A. S. Whittaker, and V. V. Bertero, "Non-buckling slip braces for seismic rehabilitation," *Proceedings*, Second U.S.-Japan Workshop on Urban Hazard Reduction, Tokyo, Japan, July 1988.
- (T5) Whittaker, A. S., C. M. Uang, and V. V. Bertero, "An experimental study of the behavior of steel dual systems," Report No. UCB/EERC-88/14, Earthquake Engineering Research Center, University of California, Berkeley, CA, September, 1988.
- (T6) Whittaker, A.S., V.V. Bertero, L.J. Alonso, and C.L. Thompson, "Earthquake simulator testing of steel plate Added Damping and Stiffness elements," Report No. UCB/EERC-89/02, Earthquake Engineering Research Center, University of California, Berkeley, CA, December, 1988.

- (T7) Whittaker, A. S., V. V. Bertero, L. J. Alonso, and C. L. Thompson, "Passive energy dissipation using steel-plate Added Damping and Stiffness Elements," *Proceedings*, International Conference on Base Isolation and Passive Energy Dissipation, Assisi, Italy, June, 1989.
- (T8) Whittaker, A. S., V. V. Bertero, L. J. Alonso, C. L. Thompson, R. E. Scholl, "Seismic response of steel plate energy dissipators," *Proceedings*, International Conference on Base Isolation and Passive Energy Dissipation, Assisi, Italy, June, 1989.
- (T9) Giacchetti, R., A. S. Whittaker, V. V. Bertero, and H. M. Aktan, "Seismic response of a DMRSF retrofitted with friction-slip devices," *Proceedings*, International Conference on Base Isolation and Passive Energy Dissipation, Assisi, Italy, June, 1989.
- (T10) Bertero, V. V. and A. S. Whittaker, "Seismic upgrading of existing buildings," *Proceedings*, Fifth Chilean Conference on Seismology and Earthquake Engineering, Santiago, Chile, August, 1989.
- (T11) Nims, D. K., E. Miranda, I. D. Aiken, A. S. Whittaker, and V. V. Bertero, "Collapse of the Cypress Street Viaduct as a Result of the Loma Prieta Earthquake," Report No. UCB/EERC-89/16, Earthquake Engineering Research Center, University of California, Berkeley, CA, November, 1989.
- (T12) Whittaker, A. S. and V. V. Bertero, "Earthquake simulator testing of ADAS elements," *Proceedings*, U.S./P.R.C. Workshop on Base Isolation and Passive Energy Absorption, Earthquake Engineering Research Center, University of California, Berkeley, May, 1990.
- (T13) Whittaker, A. S., V. V. Bertero, and R. E. Scholl, "Cyclic testing of steel-plate energy dissipaters," *Proceedings*, U.S./P.R.C. Workshop on Base Isolation and Passive Energy Absorption, Earthquake Engineering Research Center, University of California, Berkeley, May, 1990.
- (T14) Walters, M. T., E. Elsesser, and A. S. Whittaker, "Base isolation: an innovative seismic upgrading strategy," *Proceedings*, U.S./P.R.C. Workshop on Base Isolation and Passive Energy Absorption, Earthquake Engineering Research Center, University of California, Berkeley, May, 1990.
- (T15) Elsesser, E., A. S. Whittaker, et al., "The repair of five historic buildings damaged by the Loma Prieta earthquake," *Proceedings*, Seismic Retrofit of Historic Buildings Conference, National Parks Service, San Francisco, California, November, 1991.
- (T16) Walters, M. T., Sattary, V. and A. S. Whittaker, "Seismic isolation of the U.S. Court of Appeals, San Francisco," *Proceedings*, 44th Annual Meeting, Earthquake Engineering Research Institute, Oakland, California, February 1992.
- (T17) Whittaker, A. S., D. A. Friedman, and E. Elsesser, "Loma Prieta Earthquake repair of the Stanford University Green Library West," *Proceedings*, 44th Annual Meeting, Earthquake Engineering Research Institute, Oakland, California, February 1992.
- (T18) Whittaker, A. S., "Tentative general requirements for the design and construction of structures incorporating discrete passive energy dissipation devices," ATC 15-4, *Proceedings*, Fifth U.S.-Japan Workshop on the Improvement of Structural Design and Construction Practices, San Diego, California, September 1992.
- (T19) Whittaker, A. S. and R. C. Krumme, "Structural Control Using Shape-Memory Alloys," E*Sorb Systems Report No. 93-01, Berkeley, California, April 1993.
- (T20) Sharpe, R. S., A. S. Whittaker, and V. Sattary, "Design of a Tridirectional Reaction Frame for Comparative Dynamic Testing of Base Isolation Systems," USACERL Technical Report FM-93/04, U.S. Army Corps of Engineers, Construction Engineering Research Laboratory, IL, April 1993.
- (T21) Aiken, I.D. and A. S. Whittaker, "Development and application of passive energy dissipation techniques in the U.S.A.," *Proceedings*, International Post-SMiRT Conference Seminar on Isolation, Energy Dissipation, and Control of Vibrations of Structures, Capri, Italy, August 1993.

- (T22) Whittaker, A. S., "Passive control: analysis and design," *Proceedings*, Advances in Earthquake Engineering Practice, Earthquake Engineering Research Center, University of California, Berkeley, CA, June 1994.
- (T23) Whittaker, A. S., "Future directions for seismic codes," *Proceedings*, Advances in Earthquake Engineering Practice, Earthquake Engineering Research Center, University of California, Berkeley, CA, June 1994.
- (T24) Whittaker, A. S., "Seismic retrofit using protective systems," *Proceedings*, Advances in Earthquake Engineering Practice, Earthquake Engineering Research Center, University of California, Berkeley, CA, June 1994.
- (T25) Whittaker, A. S., "Supplemental damping design issues," *Proceedings*, UOA/UOM/UCB Earthquake Engineering Short Course, University of Adelaide, Australia, July 1994.
- (T26) Whittaker, A. S., "Protective systems for seismic retrofit," *Proceedings*, UOA/UOM/UCB Earthquake Engineering Short Course, University of Adelaide, Australia, July 1994.
- (T27) Aiken, I., A. S. Whittaker, P. W. Clark, J. Inaudi, and M. Higashino, "Passive energy dissipation techniques," *Proceedings*, SEAONC Fall Seminar Series-The Developing Art of Seismic Engineering, Structural Engineers Association of Northern California, San Francisco, CA, November 1994.
- (T28) Whittaker, A. S. and D. Clyde, "Testing of FIP Proprietary Shock Transmission Units: Marquam Bridge Retrofit Project," Report No. EERCL-STI/94-01, Earthquake Engineering Research Center, University of California, Berkeley, CA, December 1994
- (T29) Whittaker, A. S., "Testing of FIP Proprietary Seismic Isolation Hardware: Marquam Bridge Retrofit Project," Report No. EERCL-STI/94-02, Earthquake Engineering Research Center, University of California, Berkeley, CA, December 1994
- (T30) Whittaker, A. S., J. P. Moehle, and M. Higashino, "Evolution of Japanese and United States seismic codes," *Proceedings*, SEAONC Spring Seminar Series—The Great Hanshin Earthquake Disaster, Structural Engineers Association of Northern California, San Francisco, CA, May 1995.
- (T31) Griffith, M. C. and A. S. Whittaker, "Seismic isolation in regions of low seismicity," *Proceedings*, Ninth Pacific Conference on Earthquake Engineering, Melbourne, Australia, November 1995.
- (T32) Moehle, J. P., A. S. Whittaker, et al., "Seismological and Engineering Aspects of the 1995 Hyogoken Nanbu Earthquake," Report No. UCB/EERC-95/10, Earthquake Engineering Research Center, University of California, Berkeley, CA, November 1995.
- (T33) Whittaker, A. S., G. Hart, et al., "Structural Response Modification Factors," Report ATC-19, Applied Technology Council, Redwood City, CA, December 1995.
- (T34) Whittaker, A. S. et al., "A Critical Review of Current Approaches to Earthquake-Resistant Design," Report No. ATC-34, Applied Technology Council, Redwood City, CA, December 1995.
- (T35) Lynn, A., J. P. Moehle, and A. S. Whittaker, "Evaluation of an existing, seven-story, reinforced-concrete building," *Proceedings*, Seventh U.S.- Japan Workshop on Improvement of Structural Design and Construction Practices, Kobe, Japan, January 1996.
- (T36) Whittaker, A. S. "Testing of FIP Proprietary Damper Units: Hood River Bridge Retrofit Project," Report No. EERCL-STI/96-01, Earthquake Engineering Research Center, University of California, Berkeley, CA, April 1996.
- (T37) Whittaker, A. S. and A. Gilani, "Cyclic Testing of Steel Beam-Column Connections," Report No. EERCL-STI/96-04, Earthquake Engineering Research Center, University of California, Berkeley, CA, May 1996.

- (T38) Whittaker, A. S., V. V. Bertero, and A. Gilani, "Full-scale seismic testing of steel moment-frame connections," Report to the SAC Joint Venture, Earthquake Engineering Research Center, University of California, Berkeley, CA, June, 1996.
- (T39) Whittaker, A. S., "Testing and inspection of passive energy dissipation devices," *Proceedings*, Symposium on Passive Energy Dissipation Technology, County of Los Angeles, Alhambra, July 1996.
- (T40) Whittaker, A. S. and J. P. Moehle, "Performance-based earthquake engineering," *Proceedings*, Australian Earthquake Engineering Society Annual Meeting, Adelaide, Australia, September 1996.
- (T41) "NEHRP guidelines for the seismic rehabilitation of buildings," FEMA Reports 273 and 274, Federal Emergency Management Agency, Washington, D.C., October 1996
- (T42) Moehle, J. P. and A. S. Whittaker, *Editors*, "Performance-based seismic design: an action plan for future studies," FEMA Report 283, Federal Emergency Management Agency, Washington, D.C., October 1996.
- (T43) Whittaker, A. S., S. A. Mahin, et al., "Testing of protective systems and hardware for bridge applications," *Proceedings*, Fourth U.S.-Japan Workshop on Earthquake Protective Systems for Bridges, Osaka, Japan, December 1996.
- (T44) Whittaker, A. S. and S. A. Mahin, "Seismic evaluation and repair of steel buildings," *Proceedings*, Chinese Earthquake Engineering Society Seminar on the Northridge Earthquake Disaster, Taipei, Taiwan, December 1996.
- (T45) Whittaker, A. S., A. Gilani, and V. V. Bertero, "Cyclic testing of cover-plated steel moment connections," *Proceedings*, Japan-U.S. Workshop on Fractures of Steel Buildings in Earthquakes, San Francisco, CA, January 1997.
- (T46) Whittaker, A. S., et al., "Implementation of passive energy dissipation devices," *Proceedings*, Bertero Symposium, Report No. UCB/EERC-97/04, Earthquake Engineering Research Center, University of California, Berkeley, CA, April 1997.
- (T47) Whittaker, A. S., "Evaluation of steel moment-resisting connections," *Proceedings*, International Symposium on Experimental Research for Structural Performance, Advanced Structure Research Station, Hanyang University, Seoul, Korea, June 1997.
- (T48) Eberhard, M. O., A. Matamoros, and A. S. Whittaker, "Cyclic testing of reinforced concrete captive columns, Report No. EERCL-STI/97-01, Earthquake Engineering Research Center, University of California, Berkeley, CA, June 1997
- (T49) Whittaker, A. S., "Development of analysis procedures and design guidelines for supplemental damping devices," *Proceedings*, International Post-SMiRT Conference on Seismic Isolation, Passive Energy Dissipation and Active Control of Seismic Vibrations of Structures," Taormina, Italy, August 1997.
- (T50) Tsopelas, P, M. C. Constantinou, C. A. Kircher, and A.S. Whittaker, "Simplified methods of analysis for yielding structures," NCEER Report 97-0012, National Center for Earthquake Engineering Research, Buffalo, New York.
- (T51) Gilani, A. S., J. W. Chavez, and A.S. Whittaker, "Fatigue-life evaluation of CMS structures, volume 1: As-Built Specimens," Report No. UCB/EERC-97/10, Earthquake Engineering Research Center, University of California, Berkeley, CA, September 1997.
- (T52) Whittaker, A. S., P. W. Clark, and J. M. Kelly, "Cyclic testing of full-size Unison seismic isolation bearings," Report No. EERCL-STI/97-02, Earthquake Engineering Research Center, University of California, Berkeley, CA, October 1997.

- (T53) Whittaker, A. S. and M. C. Constantinou, "New analysis methods and design procedures for supplemental damping devices," *Proceedings*, SEAONC Fall Seminar Series, Structural Engineers Association of Northern California, San Francisco, CA, November 1997.
- (T54) Whittaker, A. S., "Seismic protective systems for building and bridge applications," *Proceedings*, EERI Regional Seminar Series, Earthquake Engineering Research Institute, New York, NY, November 1997.
- (T55) Makris, N., Y. Roussos, A. S. Whittaker, and J. M. Kelly, "Viscous heating of fluid dampers during seismic and wind applications," Report No. UCB/EERC-97/11, Earthquake Engineering Research Center, University of California, Berkeley, CA, December 1997.
- (T56) Gilani, A. S., J. W. Chavez, and A. S. Whittaker, "Fatigue-life evaluation of CMS structures, volume 2: retrofit specimens," Report No. UCB/EERC-97/13, Earthquake Engineering Research Center, University of California, Berkeley, CA, December 1997.
- (T57) Whittaker, A. S., "FEMA 273 analysis procedures for supplemental damping devices", *Proceedings*, SEAONC Spring Seminar Series, Structural Engineers Association of Northern California, San Francisco, CA, March 1998.
- (T58) Constantinou, M. C. and A. S. Whittaker, "Seismic protective systems for bridges in the United States", *Proceedings*, US-Italy Workshop on Seismic Protective Systems for Bridges, New York, N.Y. April 1998.
- (T59) Fenves, G. L., W-H Huang, A. S. Whittaker, P. W. Clark, and S. A. Mahin, "Modeling and characterization of seismic isolation bearings", *Proceedings*, US-Italy Workshop on Seismic Protective Systems for Bridges, New York, N.Y.
- (T60) Fenves, G.L. A. S. Whittaker, W-H Huang, and S. A. Mahin, "Analysis and testing of seismically isolated bridges under biaxial excitation," *Proceedings*, 5th Caltrans Seismic Research Workshop, California Department of Transportation, Sacramento, June 1998.
- (T61) Makris, N. and A. S. Whittaker, "Viscous heating in fluid dampers," *Proceedings*, 5th Caltrans Seismic Research Workshop, California Department of Transportation, Sacramento, June 1998.
- (T62) Gilani, A., J. Chavez, G. L. Fenves, and A.S. Whittaker, "Seismic evaluation of 196 kV porcelain transformer bushings," Report No. UCB/PEER-98/02, Pacific Engineering Research Center, University of California, Berkeley, CA, June 1998.
- (T63) Whittaker, A. S., "The practice of earthquake engineering," *Proceedings*, International Standards for Structural Design, National University of Singapore, Singapore, July 1998.
- (T64) Whittaker, A. S., "Performance based engineering of new buildings," *Proceedings*, 2nd U.S.-Japan Workshop on Performance Based Design, San Francisco, CA, July 1998.
- (T65) Whittaker, A. S., "The role of protective systems in performance-based seismic engineering of new buildings." *Proceedings*, Arup Partnerships Seismic Seminar, Osaka, Japan, October 1998.
- (T66) Whittaker, A. S., "Design guidelines and testing requirements for passive supplemental dampers." *Proceedings*, MANSIDE Workshop, Italian Seismic State Agency, Rome, Italy, January 1999.
- (T67) Gilani, A., A. S. Whittaker, and G. L. Fenves, "Seismic evaluation of 550 kV porcelain transformer bushings," Report No. UCB/PEER-99/05, Pacific Engineering Research Center, University of California, Berkeley, CA, October 1999.
- (T68) Gilani, A. S. J, A. S. Whittaker, G. L. Fenves, and E. Fujisaki, "Seismic evaluation and retrofit of 230-kV porcelain transformer bushings," Report No. UCB/PEER-99/14, Pacific Engineering Research Center, University of California, Berkeley, CA, December 1999.
- (T69) Wallace, J., J. Stewart, and A. S. Whittaker, "Building vulnerability studies: modeling and evaluation of tilt-up and steel reinforced concrete buildings," Report No. UCB/PEER-1999/13, Pacific Engineering Research Center, University of California, Berkeley, CA, December 1999.

- (T70) Kim, T., A. S. Whittaker, and V. V. Bertero, "Large scale testing of reinforced steel moment-resisting connections," *Proceedings*, U.S.-Japan Workshop on Seismic Fracture Issues in Steel Structures, San Francisco, California, February 2000.
- (T71) Whittaker, A. S. and M. C. Constantinou, "Fluid viscous dampers for building construction." *Proceedings of the 1st International Symposium on Passive Control*, Tokyo Institute of Technology, Tokyo, March 2000.
- (T72) Gilani, A. S. J., A. S. Whittaker, G. L. Fenves, C.-H. Chen, H. Ho, and E. Fujisaki, "Seismic evaluation and analysis of 230-kV disconnect switches," Report No. UCB/PEER-00/06, Pacific Engineering Research Center, University of California, Berkeley, CA, July 2000.
- (T73) Clyde, D. and A. S. Whittaker, "Full-scale dynamic testing of expansion joints for seismically isolated bridges," Report No. EERCL/2000-1, Pacific Engineering Research Center, University of California, Berkeley, CA, September 2000.
- (T74) Kim, T., A. S. Whittaker, A. S. J. Gilani, V. V. Bertero, and S. Takhirov, "Cover-plate and flange-plate reinforced steel moment-resisting connections," Report No. UCB/PEER-2000/07, Pacific Engineering Research Center, University of California, Berkeley, CA, September 2000.
- (T75) Whittaker, A. S., "Passive seismic control of building structures." *Proceedings of the MEDAT-2 Workshop*, Multi-disciplinary Center for Earthquake Engineering Research, Buffalo, New York, December 2000.
- (T76) Ramirez, O. M., M. C. Constantinou, A. S. Whittaker, M. W. Johnson, and J. D. Gomez, "Development and evaluation of simplified procedures for analysis and design of buildings with passive energy dissipation systems," Technical report MCEER-00-0010, Multi-disciplinary Center for Earthquake Engineering Research, Buffalo, New York, December 2000.
- (T77) Sezen, H., K. J. Elwood, A. S. Whittaker, K. M. Mosalam, J. W. Wallace, and J. F. Stanton, "Structural engineering reconnaissance of the August 17, 1999 earthquake: Kocaeli (Izmit), Turkey," Report No. UCB/PEER-2000/09, Pacific Engineering Research Center, University of California, Berkeley, CA, December 2000.
- (T78) Whittaker, A. S., "Seismic protective systems," Workshop on Seismic Isolation and Structural Control, Korean Institute of Machinery and Materials, Taejon, South Korea, April 2001.
- (T79) Whittaker, A. S., "Seismic isolation systems," International Seminar on Seismic Isolation, Unison Industrial Company, Seoul, South Korea, April 2001.
- (T80) Whittaker, A. S. (Editor). "Effects of near field earthquake shaking," Report No. UCB/PEER-2000/07, Pacific Engineering Research Center, University of California, Berkeley, CA, May 2001.
- (T81) Huang, W. H., G. L. Fenves, A. S. Whittaker, and S. A. Mahin, "Development and experimental calibration of models for elastomeric isolation bearings of bridges," *Proceedings*, Caltrans Seismic Workshop, California Department of Transportation, Sacramento, CA, June 2001
- (T82) Anderson, E. A., S. A. Mahin, G. L. Fenves, and A. S. Whittaker, "Effect of configuration on seismically isolated bridges," *Proceedings*, Caltrans Seismic Workshop, California Department of Transportation, Sacramento, CA, June 2001
- (T83) Whittaker, A. and T. Kim, "Performance evaluation for reinforced steel moment-resisting connections," *Proceedings*, US-Japan Seminar on Advanced Stability and Seismicity Concepts for Performance-Based Design of Steel and Concrete Structures, NSF-JSPS Joint Program, Kyoto, Japan, July 2001
- (T84) Lee, P. L., A. Mazeika, C. Hartman, A. S. Whittaker, and M. C. Constantinou, "Seismic isolation of an Internet service exchange facility: AboveNet ISX-SFI," *Proceedings*, 2001 SEAOC Convention, Structural Engineers Association of California, Sacramento, CA, September 2001.

- (T85) Whittaker, A. S., M. C. Constantinou, and C. Z. Chrysostomou, "Seismic energy dissipation systems for buildings," *Proceedings*, Passive Energy Dissipation Symposium, Tokyo Institute of Technology, Yokohama, Japan, December 2001.
- (T86) Warn, G., J. Berman, A. S. Whittaker, M. Bruneau, "Forensic engineering study of 130 Liberty Plaza", *Proceedings*, Learning from Urban Disasters; National Science Foundation Response and Opportunities for Future Research Hazards Forum Workshop, New York University, Dec. 2001, Natural Hazards Center Report.
- (T87) Lee, G., M. Bruneau, A. S. Whittaker, A. M. Reinhorn, J. Berman, G. Warn, "Damage to buildings at Ground Zero area and ancillary benefits of earthquake-resistant design with regard to human-made disasters," *Proceedings*, Urban Hazards Forum, John Jay College of Criminal Justice, January 2002.
- (T88) Bruneau, M., A. M. Reinhorn, M. C. Constantinou, S. Thevanayagam, A. S. Whittaker, S. Y. Chu, M. Pitman, K. Winter, "Versatile shake tables and large-scale high performance testing facility towards real-time hybrid seismic testing," *Proceedings*, 2002 ASCE Structures Congress, Denver, April 2002.
- (T89) Badillo, H., D. Kusumastuti, A. M. Reinhorn, and A. S. Whittaker, "Seismic qualification of suspended ceiling systems," Technical Report UB CSEE/SEESL-2002-01, Vol. 1., Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, March 2002.
- (T90) Bruneau, M., A. M. Reinhorn, M. C. Constantinou, S. Thevanayagam, A. S. Whittaker, S.-Y. Chu, M. Pitman, and K. Winter, "Versatile shake tables and large-scale high-performance testing facility towards real-time hybrid seismic testing," *Proceedings*, ASCE Structures Congress, Denver, CO, April 2002.
- (T91) Bruneau, M., A. S. Whittaker, and A. M. Reinhorn, "Overview of damage to buildings near Ground Zero", Technical Report MCEER-02-SP02, Multi-disciplinary Center for Earthquake Engineering Research, Buffalo, New York, April 2002.
- (T92) Berman, J. W., G. Warn, A. S. Whittaker, and M. Bruneau, "Reconnaissance and preliminary assessment of a damaged building near Ground Zero," Technical Report MCEER-02-SP03, Multi-disciplinary Center for Earthquake Engineering Research, Buffalo, New York, April 2002.
- (T93) Kusumastuti, D., H. Badillo, A. M. Reinhorn, and A.S. Whittaker, "Seismic qualification of suspended ceiling systems," Technical Report UB CSEE/SEESL-2002-01, Vol. 2., Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, April 2002.
- (T94) Robertson C I, E. P. Lavery, N. C. Sanders, and A. S. Whittaker, "Site storage of intermediate level radioactive waste in the United Kingdom," *Proceedings*, ATC-17-2 Seminar on Response Modification Technologies for Performance Based Seismic Design, Applied Technology Council, Los Angeles, California, May 2002.
- (T95) Viti, S., A. M. Reinhorn, and A. S. Whittaker, "Retrofit of structures: strength reduction with damping enhancement," *Proceedings*, KEERC-MCEER Joint Seminar on Contributions to Earthquake Engineering, Korea Earthquake Engineering Research Center, Seoul National University, Seoul, South Korea, July 2002.
- (T96) Warn, G. and A. S. Whittaker, "Performance estimates in seismically isolated bridges," *Proceedings*, Fourth China-Japan-US Trilateral Symposium on Lifeline Earthquake Engineering, Qingdao, PRC, October 2002.
- (C112) M. Bruneau, A. S. Whittaker, A. M. Reinhorn, J. Berman, G. Warn, C. Huyck, B. Adams "Engineering and organizational issues related to the World Trade Centre terrorist attack",

Proceedings, International Conference on Protection of Structures Against Hazards, Singapore, November 2002, pp. 1-10.

- (T97) Kim, T., B. Stojadinovic, and A. S. Whittaker, "Physical and numerical performance evaluation of steel moment-resisting frames," Report to the California Department of Transportation, Pacific Earthquake Engineering Research Center, University of California, Berkeley, December 2002.
- (T98) Badillo, H., A. S. Whittaker, and A. M. Reinhorn, "Testing for seismic qualification of suspended ceiling systems, Part 3" Technical Report UB CSEE/SEESL-2003-01, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, February 2003.
- (T99) Badillo, H., A. S. Whittaker, and A. M. Reinhorn, "Testing for seismic qualification of suspended ceiling systems, Part 4" Technical Report UB CSEE/SEESL-2003-02, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, May 2003.
- (T100) Repp, J., H. Badillo, A. S. Whittaker, and A. M. Reinhorn, "Seismic qualification of suspended ceiling systems, Part 5" Technical Report UB CSEE/SEESL-2003-03, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, September 2003.
- (T101) Repp, J., H. Badillo, A. S. Whittaker, and A. M. Reinhorn, "Seismic qualification of suspended ceiling systems, Part 6" Technical Report UB CSEE/SEESL-2003-03, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, November 2003.
- (T102) Repp, J., A. S. Whittaker, and A. M. Reinhorn, "Performance of suspended ceiling systems for blast-type loadings," Technical Report UB CSEE/SEESL-2003-05, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, November 2003.
- (T103) Whittaker, A. S., R. O. Hamburger, and M. Mahoney, "Performance based engineering of buildings and infrastructure for extreme events," *Proceedings*, AISC-SINY Symposium on Resisting Blast and Progressive Collapse, American Institute of Steel Construction, New York, New York, December 2003.
- (T104) R. O. Hamburger, and A. S. Whittaker, "Considerations in performance-based blast resistant design of steel structures," *Proceedings*, AISC-SINY Symposium on Resisting Blast and Progressive Collapse, American Institute of Steel Construction, New York, New York, December 2003.
- (T105) Warn, G, M. C. Constantinou and A. S. Whittaker, "Statue of Hermes, Friction Pendulum bearing testing report," Technical Report UB CSEE/SEESL-2004-01, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, February 2004.
- (T106) R. O. Hamburger, and A. S. Whittaker, "Design of steel structures for blast-related progressive collapse resistance," *Proceedings*, National Steel Construction Conference, American Institute of Steel Construction, Long Beach, CA, March 2004. **T. R. Higgins Award, 2005** (also published in *Modern Steel Construction*, Vol. 44, No. 3, March 2004).
- (T107) Warn, G, A. S. Whittaker and M. C. Constantinou, "Exxon Mobil multi-stage rubber bearing Sakhalin I platform, prototype bearing test report," Technical Report UB CSEE/SEESL-2004-02, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, March 2004.
- (T108) Mosqueda, G., A. S. Whittaker, G. L. Fenves and S. A. Mahin, "Experimental and analytical studies of the Friction Pendulum system for the seismic protection of bridges," Report No.

- EERC 2004/01, Earthquake Engineering Research Center, University of California, Berkeley, CA, May 2004.
- (T109) Astrella, M. and A. S. Whittaker, "Changing the paradigm for performance-based seismic design," *Proceedings*, International Workshop on Performance Based Seismic Design, Report PEER 2004/05, Pacific Earthquake Engineering Research Center, Bled, Slovenia, June 2004.
- (T110) Filiatrault, A., A. Aref, M. Bruneau, M. Constantinou, G. Lee and A. S. Whittaker, "MCEERs research on the seismic response modification of structural and nonstructural systems and components in hospitals," *Proceedings*, SEAOC Annual Convention, Monterey, CA, August 2004. (also presented at the International Conference in Commemoration of 5th Anniversary of the 1999 Chi-Chi Taiwan Earthquake, in Taipei in September 2004).
- (C113) Filiatrault, A., G. C. Lee, A. J. Aref, M. Bruneau, M. C. Constantinou, A. M. Reinhorn, A. S. Whittaker, "Recent progress towards the seismic control of structural and non-structural systems in hospitals", *Proceedings*, US-Japan 36th Technical Meeting of Panel on Wind and Seismic Effects, Washington, D.C., May 2004, pp.101-125.
- (C114) Bruneau, M., A. M. Reinhorn, A. S. Whittaker, M. C. Constantinou, S. Thevanayagam, M. Sivaselvan, X. Shao, J. Hanley, M. Pitman, T. Albrechcinski, "The new UB-NEES versatile earthquake engineering facility for real-time dynamic hybrid testing (RTDHT)," *Proceedings*, 17th ASCE Engineering Mechanics Conference, Delaware, MD, June 2004.
- (T111) Hamburger, R. O., C. Rojahn, J. P. Moehle, R. E. Bachman, C. Comartin and A. S. Whittaker, "Development of next-generation performance-based earthquake engineering design criteria for buildings," *Proceedings*, SEAOC Annual Convention, Monterey, CA, August 2004.
- (T112) Cyr, R., A. S. Whittaker, and A. M. Reinhorn, "Seismic qualification of suspended ceiling systems, Part 6," Technical Report UB CSEE/SEESL-2004-04, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, December 2004.
- (T113) Astrella, M. and A. S. Whittaker, "The role of protective systems in performance-based earthquake engineering," *Proceedings*, ISEE Conference Commemorating the 10th Anniversary of the 1995 Kobe Earthquake, Awaji, Japan, January 2005.
- (T114) Astrella, M., A. S. Whittaker and M. C. Constantinou, "Protective technologies and performance-based earthquake engineering," *Proceedings*, KEERC International Seminar on Innovative Concepts and Technologies in Seismic Analysis and Design of Building Structures, Seoul National University, Seoul, South Korea, February 2005.
- (T115) Gulec, K., A. S. Whittaker, and A. M. Reinhorn, "Seismic qualification of suspended ceiling systems, Part 7," Technical Report UB CSEE/SEESL-2005-1, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, July 2005.
- (T116) Astrella, M, J, and A. S. Whittaker, "The performance-based design paradigm," MCEER Technical Report MCEER-05-0011, Multidisciplinary Center for Earthquake Engineering Research, University at Buffalo, Buffalo, New York, December 2005.
- (T117) Badillo-Alvarez, H., A. S. Whittaker, A. M. Reinhorn and G. P. Cimellaro, "Seismic fragility of suspended ceiling systems," MCEER Technical Report MCEER-06-0001, Multidisciplinary Center for Earthquake Engineering Research, University at Buffalo, Buffalo, New York, February 2006.
- (T118) Gulec, K., A. S. Whittaker, and A. M. Reinhorn, "Seismic qualification tests of ceiling systems, Part 8, a study for Armstrong Building Operations," Technical Report UB CSEE/SEESL-2005-6, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, March 2006
- (T119) Gulec, K. and A. S. Whittaker, "Seismic qualification tests of ceiling systems and ceiling system-sprinkler assemblies, Part 9, a study for Armstrong Building Operations," Technical

- Report UB CSEE/SEESL-2006-2, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, March 2006.
- (T120) Gulec, K. and A. S. Whittaker, "Seismic qualification of FlexHead sprinkler systems tested with Seismic Design Category D, E and F ceiling systems," Technical Report UB CSEE/SEESL-2006-3, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, May 2006.
- (T121) Gulec, K. and A. S. Whittaker, "Seismic qualification tests of ceiling systems, Part 10, a study for Armstrong Building Operations," Technical Report UB CSEE/SEESL-2006-7, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, July 2006.
- (T122) Warn, G. P. and A. S. Whittaker, "A study of the coupled horizontal-vertical behavior of elastomeric and lead-rubber seismic isolation bearings," Technical Report MCEER-06-0011, Multidisciplinary Center for Earthquake Engineering Research, University at Buffalo, Buffalo, New York, December 2006.
- (T123) Kafali, C., S. Fathali, M. Grigoriu and A. S. Whittaker, "Static and kinetic coefficients of friction for rigid blocks," Technical Report MCEER-07-001, Multidisciplinary Center for Earthquake Engineering Research, University at Buffalo, Buffalo, New York, March 2007.
- (T124) Marin, C., A. S. Whittaker and M. C. Constantinou, "Experimental and analytical study of the XY Friction Pendulum bearing," Technical Report MCEER-07-007, Multidisciplinary Center for Earthquake Engineering Research, University at Buffalo, Buffalo, New York, March 2007.
- (T125) Gulec, K., and A. S. Whittaker, "Seismic qualification tests of ceiling systems, Part 11, a study for Armstrong Building Operations," Technical Report UB CSEE/SEESL-2007-3, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, May 2007.
- (T126) Gulec, K., and A. S. Whittaker, "Seismic qualification tests of ceiling systems, Part 1, a study for USG Interiors, Inc.," Technical Report UB CSEE/SEESL-2007-4, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, May 2007.
- (T127) Constantinou, M. C., A. S. Whittaker, Y. Kalpakidis, D. M. Fenz and G. P. Warn, "Performance of seismic isolation hardware under service and seismic loading," Technical Report MCEER-07-0012, Multidisciplinary Center for Earthquake Engineering Research, University at Buffalo, Buffalo, New York, March 2007.
- (T128) Dusenberry, D. O, W. G. Corley, J. P. Hobelmann, L. Lin, P. Mlakar, J. Schmidt, R. Smilowitz, S. Smith and A. S. Whittaker, "Voluntary standard for blast protection," *Proceedings*, Protect 2007, University of British Columbia, BC, Canada, August 2007.
- (T129) Reitherman, R. and A. S. Whittaker, "An inventory of academic and research organizations related to natural disaster risk reduction," CUREE Report to the United Nations ISDR, Consortium of Universities for Research in Earthquake Engineering, Richmond, CA, August 2007
- (T130) Huang, Y.-N., A. S. Whittaker and R. O. Hamburger, "Scaling earthquake ground motion records for performance-based assessment of buildings," *Proceedings*, SEAOC 2007 Convention, Structural Engineers Association of California, Sacramento, CA, September 2007.
- (T131) Whittaker, A. S., R. O. Hamburger and Y.-N Huang, "Building-specific seismic loss estimation," *Proceedings*, 2007 AEES Conference, Wollongong, NSW, Australia, November 2007. **Keynote address.**

- (T132) Warn, G. P. and A. S. Whittaker, "Performance estimates for seismically isolated bridges," Technical Report MCEER-07-0024, Multidisciplinary Center for Earthquake Engineering Research, University at Buffalo, Buffalo, New York, December 2007.
- (T133) Reitherman, R. and A. S. Whittaker, "An outline of a strategic plan for the global partnership of universities, academic institutions and research organizations for disaster risk reduction," CUREE Report to the United Nations ISDR, Consortium of Universities for Research in Earthquake Engineering, Richmond, CA, January 2008.
- (T134) Lignos, D. G., H. Krawinkler, and A. S. Whittaker. "Collapse tests of two scale models of a steel frame structure," *Proceedings*, 6th NEES Annual Meeting, Portland, Oregon, June 2008.
- (T135) Lignos, D. G., H. Krawinkler, and A. S. Whittaker. "Analytical and experimental prediction of sidesway collapse of steel frames," *Proceedings*, 6th National Conference on Steel Structures, Ioannina, Greece, July 2008.
- (T136) Catalina, R., Taylor, D., and A. S. Whittaker, "Seismic qualification tests of ceiling systems, Part 12, a study for Armstrong Building Operations," Technical Report UB CSEE/SEESL-2008-3, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, May 2008.
- (T137) Huang, Y.-N., A. S. Whittaker and N. Luco. "Performance assessment of conventional and base-isolated nuclear power plants for earthquake and blast loadings," Technical Report MCEER-08-0019, Multidisciplinary Center for Earthquake Engineering Research, University at Buffalo, Buffalo, New York, October 2008
- (T138) Catalina, R., and A. S. Whittaker, "Seismic qualification tests of ceiling systems, Part 13, a study for Armstrong Building Operations," Technical Report UB CSEE/SEESL-2008-11, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, December 2008.
- (T139) Ballantyne, G., A. S. Whittaker, A. J. Aref, and G. F. Dargush, "Air blast effects on structural shapes," Technical Report MCEER-09-0002, Multidisciplinary Center for Earthquake Engineering Research, University at Buffalo, Buffalo, New York, August 2009
- (T140) Huang, Y.-N., A. S. Whittaker, R. P. Kennedy, and R. L. Mayes, "Assessment of base-isolated nuclear structures for design and beyond-design-basis earthquake shaking," Technical Report MCEER-09-0008, Multidisciplinary Center for Earthquake Engineering Research, University at Buffalo, Buffalo, New York, August 2009
- (T141) Veith, J. and A. S. Whittaker, "Seismic qualification testing of ceiling systems, Part 15, a study for Armstrong Building Operations," Technical Report UB CSEE/SEESL-2009-05, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, September 2009.
- (T142) Gulec, C. K. and A. S. Whittaker, "Performance-based assessment and design of squat reinforced concrete shear walls," Technical Report MCEER-09-0010, Multidisciplinary Center for Earthquake Engineering Research, University at Buffalo, Buffalo, New York, August 2009.
- (T143) Chiu, K.-H. and A. S. Whittaker, "Seismic qualification testing of ceiling systems, Part 16, a study for Armstrong Building Operations," Technical Report UB CSEE/SEESL-2009-21, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, December 2009.
- (T144) Singan, V. and A. S. Whittaker, "Seismic qualification testing of ceiling systems, Part 17, a study for Armstrong Building Operations," Technical Report UB CSEE/SEESL-2010-04, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, May 2010.

- (T145) Gulec, C. K., B. Gibbons, A. Chen, and A. S. Whittaker, "Damage states and fragility functions for W-shape steel link beams in eccentrically braced frames," Report to the Applied Technology Council, Project ATC-58, Thornton-Tomasetti Inc., Los Angeles, CA, July 2010.
- (T146) Gulec, C. K., B. Gibbons, A. Chen, and A. S. Whittaker, "Fragility functions for steel shear links in eccentrically braced frames," *Proceedings*, 2010 SEAOC Convention, Structural Engineers Association of California, Sacramento, California, September 2010.
- (T147) Singan, V., A. S. Whittaker, and M. Pitman, "Seismic qualification of a YMC² centrifugal chiller equipped with neoprene pad mounts and a vibration isolation system," Technical Report UB/SEESL-2010-10, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, October 2010.
- (T148) Singan, V., A. S. Whittaker, and M. Pitman, "Seismic qualification of a 30RB 60, 30RB 300, 23XR Frame 3 and 23XR Frame 5 chillers of Carrier Corporation," Technical Report UB/SEESL-2010-11, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, October 2010.
- (T149) Singan, V., A. S. Whittaker and M. Pitman, "Seismic qualification testing of ceiling systems, Part 1, a study for Hunter Douglas Ceiling Systems," Technical Report UB CSEE/SEESL-2010-15, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, November 2010.
- (T150) Sherkar, P., A. S. Whittaker, and A. J. Aref, "Modeling the effects of detonations of high explosives to inform blast-resistant design," Technical Report MCEER-10-009, Multidisciplinary Center for Earthquake Engineering Research, University at Buffalo, Buffalo, New York, December 2010.
- (T151) Singan, V., A. S. Whittaker and M. Pitman, "Seismic qualification testing of ceiling systems, Part 18, a study for Armstrong Building Operations," Technical Report UB CSEE/SEESL-2010-16, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, December 2010.
- (T152) Pitman, M., M. Anagnostopoulou and A. S. Whittaker, "Seismic qualification testing of Thybar Corp. curbs with Carrier Corp. rooftop units," Technical Report UB CSEE/SEESL-2010-17, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, December 2010.
- (T153) Huang, Y.-N., and A. S. Whittaker, "Sensitivity studies for seismic performance assessment of safety-related nuclear structures," *Proceedings*, Pre-SMiRT 21 Conference Seminar, IASMiRT, Mumbai, India, February 2011.
- (T154) Singan, V. and A. S. Whittaker, "Thermal and dynamic testing of Taylor Devices Shock Transmission Units," Technical Report UB CSEE/SEESL-2011-01, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, March 2011.
- (T155) Huang, Y.-N., A. S. Whittaker and N. Luco, "Establishing maximum spectral demand for performance-based earthquake engineering: collaborative research with the University at Buffalo and the USGS," USGS Technical Report: Award Number 08HQGR0017, United States Geological Survey, Reston, VA, March 2011.
- (T156) Whittaker, A. S., et al. "National earthquake resilience, research, implementation and outreach," National Research Council, Washington, DC, April 2011.
- (T157) Whittaker, A. S., Y.-N. Huang, R. L. Mayes, and R. P. Kennedy, "Seismic isolation of safety-related nuclear structures," *Proceedings*, 2011 ASCE Structures Congress, Las Vegas, Nevada, April 2011.

- (T158) Short, S., O. Gurbuz, A. S. Whittaker, and M. Shams, "Modeling and analysis for evaluation of nuclear structures," *Proceedings*, 2011 ASCE Structures Congress, Las Vegas, Nevada, April 2011.
- (T159) Singan, V., A. S. Whittaker and M. Pitman, "Seismic qualification testing of ceiling systems, Part 19, a study for Armstrong Building Operations," Technical Report UB CSEE/SEESL-2011-04, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, April 2011.
- (T160) Pitman, M., M. Anagnostopoulou, and A. S. Whittaker, "Seismic qualification of BAC Series 3000 open cooling tower model 3240C/S," Technical Report UB CSEE/SEESL-2011-06, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, July 2011.
- (T161) Singan, V., A. S. Whittaker and M. Pitman, "Seismic qualification testing of the IMRIS MR15/30 magnet mover system," Technical Report UB CSEE/SEESL-2011-05, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, July 2011.
- (T162) Pitman, M., M. Anagnostopoulou, and A. S. Whittaker, "Seismic qualification of BAC Series 30000 open cooling tower model 31301C/QSX," Technical Report UB CSEE/SEESL-2011-07, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, September 2011.
- (T163) Anagnostopoulou, M. and A. S. Whittaker, "Seismic qualification testing of ceiling systems, Part 20, a study for Armstrong Building Operations," Technical Report UB CSEE/SEESL-2011-10, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, December 2011.
- (T164) Anagnostopoulou, M. and A. S. Whittaker, "Seismic qualification testing of ceiling systems, Part 21, a study for Armstrong Building Operations," Technical Report UB CSEE/SEESL-2012-09, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, April 2012.
- (T165) Pitman, M., M. Anagnostopoulou and A. S. Whittaker, "Seismic qualification testing of Thybar Corp. curbs with Carrier Corp. rooftop units," Technical Report UB CSEE/SEESL-2012-10, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, July 2012.
- (T166) Basu, D., A. S. Whittaker and M. C. Constantinou, "Characterizing the rotational components of earthquake ground motion," Technical Report MCEER-12-0005, Multidisciplinary Center for Earthquake Engineering Research, University at Buffalo, Buffalo, New York, July 2012.
- (T167) Huang, Y.-N. and A. S. Whittaker, "Calculation of peak ground velocity from one-second spectral acceleration," Project ATC-58-1 report to the Applied Technology Council, Redwood City, CA, August 2012.
- (T168) Trombetta, N. W., T. C. Hutchinson, H. B. Mason, J. D. Zupan, J. D. Bray, C. Bolisetti, A. S. Whittaker, Z. Chen, and B. L. Kutter, "Centrifuge testing of structure-soil-structure interaction: seismic performance of inelastic building models," *Proceedings*, 15th World Conference on Earthquake Engineering, Lisbon, Portugal, September 2012.
- (T169) Haselton, C., A. S. Whittaker, A. Hortacsu, J. W. Baker, J. Bray and D. Grant, "Selecting and scaling earthquake ground motions for performing response-history analysis," *Proceedings*, 15th World Conference on Earthquake Engineering, Paper 4383, Lisbon, Portugal, September 2012.

- (T170) Kayvani, K and A. S. Whittaker, "Performance-based seismic design of buildings," *Proceedings*, 9th World Congress, Council for Tall Buildings and Urban Habitat, Shanghai, China, September 2012.
- (T171) Anagnostopoulou, M. and A. S. Whittaker, "Seismic qualification testing of ceiling systems, Part 22, a study for Armstrong Building Operations," Technical Report UB CSEE/SEESL-2013-03, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, April 2013.
- (T172) Anagnostopoulou, M. and A. S. Whittaker, "Seismic qualification testing of ceiling systems, Part 23, a study for Armstrong Building Operations," Technical Report UB CSEE/SEESL-2013-12, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, December 2013.
- (T173) Aleman, J., G. Mosqueda, and A. S. Whittaker, "Out-of-plane shake table testing of URM walls with parapets and wood diaphragms," *Proceedings*, Second European Conference on Earthquake Engineering, Istanbul, Turkey, August 2014.
- (T174) Whittaker, A. S. and F. Puskar, "Earthquake reliability of onshore structures and comparison with offshore structures," *Proceedings*, Offshore Structural Reliability Conference, 2014 OSRC, Paper 6.2, American Petroleum Institute, Houston, Texas, September 2014.
- (T175) Shin, J., A. S. Whittaker, A. J. Aref and D. Cormie, "Air-blast effects on civil structures," Technical Report MCEER-14-0006, Multidisciplinary Center for Earthquake Engineering Research, University at Buffalo, Buffalo, New York, November 2014.
- (T176) Anagnostopoulou, M., Dowden, D. and A. S. Whittaker, "Seismic qualification testing of ceiling systems, Part 24, a study for Armstrong Building Operations," Technical Report UB CSEE/SEESL-2014-14, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, September 2014.
- (T177) Dowden, D. and A. S. Whittaker, "Seismic qualification testing of ceiling systems, Part 25, a study for Armstrong Building Operations," Technical Report UB CSEE/SEESL-2014-16, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, October 2014.
- (T178) Kurt, E, A. H. Varma, S. Epackachi, and A. S. Whittaker, "Rectangular SC wall piers: summary of seismic behavior and design," *Proceedings*, 2015 ASCE Structures Congress, Portland, OR, pp. 1042-1051, April 2015
- (T179) Dowden, D. and A. S. Whittaker, "Seismic qualification testing of Ventatec suspended ceiling system SF14C1E, a study for Knauf AMF GmbH," Technical Report UB CSEE/SEESL-2015-30, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, April 2015.
- (T180) Dowden, D. and A. S. Whittaker, "Seismic qualification testing of Ventatec suspended ceiling system SF14C2E, a study for Knauf AMF GmbH," Technical Report UB CSEE/SEESL-2015-31, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, April 2015.
- (T181) Dowden, D. and A. S. Whittaker, "Seismic qualification testing of Ventatec suspended ceiling system SF14C3E, a study for Knauf AMF GmbH," Technical Report UB CSEE/SEESL-2015-32, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, April 2015.
- (T182) Dowden, D. and A. S. Whittaker, "Seismic qualification testing of Ventatec suspended ceiling system SF14C4E, a study for Knauf AMF GmbH," Technical Report UB CSEE/SEESL-2015-33, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, April 2015.

- (T183) Dowden, D. and A. S. Whittaker, "Seismic qualification testing of Ventatec suspended ceiling system SF14C5E, a study for Knauf AMF GmbH," Technical Report UB CSEE/SEESL-2015-34, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, April 2015.
- (T184) Dowden, D. and A. S. Whittaker, "Seismic qualification testing of Ventatec suspended ceiling system SF14C6E, a study for Knauf AMF GmbH," Technical Report UB CSEE/SEESL-2015-35, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, April 2015.
- (T185) Dowden, D. and A. S. Whittaker, "Seismic qualification testing of Ventatec suspended ceiling system SF14C7E, a study for Knauf AMF GmbH," Technical Report UB CSEE/SEESL-2015-36, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, April 2015.
- (T186) Dowden, D. and A. S. Whittaker, "Seismic qualification testing of ceiling systems, Part 26, a study for Armstrong Building Operations," Technical Report UB CSEE/SEESL-2015-41, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, June 2015.
- (T187) Bolisetti C. and A. S. Whittaker, "Site response, soil-structure interaction, and structure-soil-structure interaction for performance assessment of buildings and nuclear structures," Technical Report MCEER-15-0002, Multidisciplinary Center for Earthquake Engineering Research, University at Buffalo, Buffalo, New York, June 2015.
- (T188) Aleman, J., G. Mosqueda, and A. S. Whittaker, "Seismic analysis of multi-story unreinforced masonry buildings with flexible diaphragms," Technical Report MCEER-15-0001, Multidisciplinary Center for Earthquake Engineering Research, University at Buffalo, Buffalo, New York, August 2015.
- (T189) Shin, J., A. S. Whittaker, D. Cormie, and A. J. Aref, "Verification and validation of a CFD code for modeling detonations of high explosives," *Proceedings*, 16th International Symposium for the Interaction of the Effects of Munitions with Structures, University of Florida, Gainesville, FL, November 2015.
- (T190) Shin, J., A. S. Whittaker, and D. Cormie, "Estimating incident and reflected air-blast parameters: updated design charts," *Proceedings*, 16th International Symposium for the Interaction of the Effects of Munitions with Structures, University of Florida, Gainesville, FL, November 2015.
- (T191) Epackachi, S., A. S. Whittaker, and A. H. Varma, "An analytical model for a baseplate connection of an SC wall to an RC foundation," *Proceedings*, 8th International Symposium on Steel Structures, Korea Society of Steel Structures, Jeju, Korea, November 5-7, 2015.
- (T192) Whittaker, A. S., L. K. Goen, R. P. Kennedy, B. McDonald, T. Morgan, and L. Wyllie, "Independent review of seismic performance assessments for the plutonium facility, PF4," Report No. LA-UR-15-29138, Los Alamos National Laboratory, Los Alamos, NM, November 25, 2015.
- (T193) Aleman, J., G. Mosqueda, and A. S. Whittaker, "Out-of-plane seismic performance of URM walls with retrofitted parapets and flexible diaphragms," *Proceedings*, 2nd ATC-SEI Conference of Improving the Seismic Performance of Existing Buildings and Other Structures, pp. 328-339, Applied Technology Council, San Francisco, CA, December 10-12, 2015.
<http://dx.doi.org/10.1061/9780784479728.027>
- (T194) Kumar, M., A. S. Whittaker, and M. C. Constantinou, "Seismic isolation of nuclear power plants using sliding bearings," Technical Report MCEER-15-0006, University at Buffalo, State University of New York, Buffalo, New York, December 2015.

- (T195) Kumar, M., A. S. Whittaker, and M. C. Constantinou, "Seismic isolation of nuclear power plants using elastomeric bearings," Technical Report MCEER-15-0008, University at Buffalo, State University of New York, Buffalo, New York, December 2015.
- (T196) Dowden, D. and A. S. Whittaker, "Seismic qualification testing of ceiling systems, Part 27, a study for Armstrong Building Operations," Technical Report UB CSEE/SEESL-2015-67, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, January 2016.
- (T197) Kammerer, A. M., A. S. Whittaker, and J. L. Coleman, "Regulatory gaps and challenges for licensing advanced reactors using seismic isolation," Technical Report INL/EXT-15-23945, Idaho National Laboratory, Idaho Falls, ID, March 2016.
- (T198) Dowden, D. and A. S. Whittaker, "Seismic qualification testing of ceiling systems, Part 28, a study for Armstrong Building Operations," Technical Report UB CSEE/SEESL-2016-04, Department of Civil, Structural, and Environmental Engineering, University at Buffalo, Buffalo, New York, April 2016.
- (T199) Sivaselvan, M. V., N. Oliveto, and A. S. Whittaker, "Development of a three-field poromechanics capability in MOOSE," Technical Report INL/EXT-16-38931, Idaho National Laboratory, Idaho Falls, ID, April 2016.
- (T200) Epackachi, S. and A. S. Whittaker, "Experimental, numerical and analytical studies on the seismic response of steel-plate concrete composite shear walls," Technical Report MCEER-16-0001, University at Buffalo, State University of New York, Buffalo, New York, May 2016.
- (T201) Terranova, B. R., L. Schwer, and A. S. Whittaker, "Wind-borne missile impact of reinforced concrete panels," *Proceedings*, 24th International Symposium on the Military Aspects of Blast and Shock, Halifax, Nova Scotia, Canada, September 2016.
- (T202) Crawford, J. E., J. M. Magallenes, A. S. Whittaker, and T. Brewer, "Modeling of pristine and damaged UHPFRC materials for use in performing blast and projectile penetration analysis." *Proceedings*, 4th International Conference on Protective Structures (ICPS4), Beijing, China, October 2016.
- (T203) Bolisetti, C., C.-C. Yu, J. Coleman, B. Kosbab, and A. S. Whittaker, "Characterizing the benefits of seismic isolation to nuclear facilities: a framework for risk-based decisions making," Technical Report INL/EXT-16-40122, Idaho National Laboratory, Idaho Falls, ID, November 2016.
- (T204) Kammerer, A. M., A. S. Whittaker, and J. Coleman, "Proposed activities for addressing regulatory gaps and challenges for licensing advanced reactors using seismic isolation," Technical Report INL/EXT-16-40668, Rev 0, Idaho National Laboratory, Idaho Falls, ID, December 2016.
- (T205) Kumar, M., A. S. Whittaker, and M. C. Constantinou, "Response of a nuclear power plant isolated with sliding bearings subjected to severe ground shaking," *Proceedings*, 16th World Conference on Earthquake Engineering, Paper 4072, Santiago, Chile, January 2017.
- (T206) Terranova, B. R., A. S. Whittaker, and S. Epackachi, "Effect of out-of-plane loading on the in-plane seismic response of SC wall piers," *Proceedings*, 16th World Conference on Earthquake Engineering, Paper 3832, Santiago, Chile, January 2017.
- (T207) Epackachi, S. and A. S. Whittaker, "Design of steel-plate concrete composite wall piers," *Proceedings*, 16th World Conference on Earthquake Engineering, Paper 3829, Santiago, Chile, January 2017.
- (T208) Bolisetti, C., C.-C. Yu, J. L. Coleman, B. Kosbab, and A. S. Whittaker, "Seismic isolation of safety-related nuclear facilities based on explicit considerations of risk and cost," *Proceedings*, 2017 Annual Meeting of the American Nuclear Society, San Francisco, CA, June 2017.

- (T209) Terranova, B. R., A. S. Whittaker, and L. Schwer, "Design of reinforced concrete panels for wind-borne missile impact," Technical Report MCEER-17-0004, University at Buffalo, State University of New York, Buffalo, New York, July 2017.
- (T210) Terranova, B. R., A. S. Whittaker, S. Epackachi and N. Orbovic, "Response of steel-plate concrete (SC) wall piers to combined in-plane and out-of-plane seismic loadings," Technical Report MCEER-17-0003, University at Buffalo, State University of New York, Buffalo, New York, July 2017.
- (T211) Terranova, B., L. Schwer, and A. S. Whittaker, "Wind-borne missile impact on reinforced concrete nuclear structures: a parametric study," *Transactions*, 24th International Conference on Structural Mechanics in Reactor Technology (SMiRT24), Busan, South Korea, August 2017.
- (T212) Terranova, B., A. S. Whittaker, and N. Orbovic, "Experimental and numerical studies of combined in-plane and out-of-plane behavior of SC wall piers," *Transactions*, 24th International Conference on Structural Mechanics in Reactor Technology (SMiRT24), Busan, South Korea, August 2017.
- (T213) Luna, B. and A. S. Whittaker, "Peak shear strength of low aspect ratio, reinforced concrete walls," *Transactions*, 24th International Conference on Structural Mechanics in Reactor Technology (SMiRT24), Busan, South Korea, August 2017.
- (T214) Yu, C.-C., C. Bolisetti, B. Kosbab, J. Coleman and A. S. Whittaker, "Seismic isolation of a nuclear structure: impacts on construction cost and seismic risk," *Transactions*, 24th International Conference on Structural Mechanics in Reactor Technology (SMiRT24), Busan, South Korea, August 2017.
- (T215) Abatt, F. G., M. W. Salmon, and A. S. Whittaker, "Summary of changes to the upcoming revision of ASCE 43 and impacts on the design and analysis of nuclear structures," *Transactions*, 24th International Conference on Structural Mechanics in Reactor Technology (SMiRT24), Busan, South Korea, August 2017.
- (T216) Kumar, M. and A. S. Whittaker, "Seismic risk assessment for isolated nuclear power plants: implications of a stop," *Transactions*, 24th International Conference on Structural Mechanics in Reactor Technology (SMiRT24), Busan, South Korea, August 2017.
- (T217) Epackachi, S. and A. S. Whittaker, "Effective lateral stiffness of steel-plate concrete composite shear wall piers," *Transactions*, 24th International Conference on Structural Mechanics in Reactor Technology (SMiRT24), Busan, South Korea, August 2017.
- (T218) Kammerer, A. M., A. S. Whittaker, and J. Coleman, "Regulatory gaps and challenges in the application of seismic isolation technologies to nuclear power plants," *Transactions*, 24th International Conference on Structural Mechanics in Reactor Technology (SMiRT24), Busan, South Korea, August 2017.
- (T219) Coleman, J., A. Tessari, J. Coletti, W. Hoffman, and A. S. Whittaker, "Large-scale geotechnical laminar box experimental tests and seismic site-response benchmarking," *Transactions*, 24th International Conference on Structural Mechanics in Reactor Technology (SMiRT24), Busan, South Korea, August 2017.
- (T220) Kumar, M., and A. S. Whittaker, "Aircraft impact on base-isolated reactor buildings," *Transactions*, 24th International Conference on Structural Mechanics in Reactor Technology (SMiRT24), Busan, South Korea, August 2017.
- (T221) Coletti, J., S. Panthangi, A. Stefanaki, A. Tessari, M. Sivaselvan, and A. S. Whittaker, "Large-scale hybrid simulation of soil-foundation-structure interaction in a geotechnical laminar box," *Transactions*, 24th International Conference on Structural Mechanics in Reactor Technology (SMiRT24), Busan, South Korea, August 2017.

- (T222) Terranova, B. R., A. S. Whittaker, and L. Schwer, "Analysis of wind-borne missile impact of reinforced concrete panels using three concrete models," *Proceedings*, 17th International Symposium on the Interaction of the Effects of Munitions with Structures, Bad Neuenahr, Germany, October 2017.
- (T223) Terranova, B. R., A. S. Whittaker, and L. Schwer, "The effects of penetrator geometry on resistance of reinforced concrete panels to wind-borne missile impact," *Proceedings*, 6th International Conference on Design and Analysis of Protective Structures (DAPS 2017), Melbourne, Australia, November 2017.
- (T224) Epackachi, S., N. Sharma, A. S. Whittaker, R. O. Hamburger, and A. Hortacsu, "A cyclic backbone curve for squat reinforced concrete shear walls," *Proceedings*, 11th National Conference in Earthquake Engineering, Earthquake Engineering Research Institute, Los Angeles, CA, June 2018.
- (T225) Nikellis A., K. Sett, and A. S. Whittaker, "Multi-hazard life cycle cost analysis of steel buildings with special moment resisting frames," *Proceedings*, 11th National Conference in Earthquake Engineering, Earthquake Engineering Research Institute, Los Angeles, CA, June 2018.
- (T226) C.-C. Yu, A. S. Whittaker, J. L. Coleman, and M. Cohen, "Verification of a fluid-structure-interaction model for seismic analysis of Gen IV nuclear power plants," *Proceedings*, 11th National Conference in Earthquake Engineering, Earthquake Engineering Research Institute, Los Angeles, CA, June 2018.
- (T227) Terranova, B. R., A. S. Whittaker, and L. Schwer, "Benchmarking concrete material models using the SPH formulation in LS-DYNA," *Proceedings*, 15th International LS-DYNA Users Conference, Dearborn, MI, June 2018.
- (T228) Luna, B., J. Rivera, S. Epackachi, and A. S. Whittaker, "Seismic response of low aspect ratio reinforced concrete shear walls for buildings and safety-related nuclear structures," Technical Report MCEER-16-0008, University at Buffalo, State University of New York, Buffalo, New York, March 2018.
- (T229) J. Rivera, B. Luna, and A. S. Whittaker, "Seismic damage assessment of low aspect ratio reinforced concrete shear walls," Technical Report MCEER-18-0002, University at Buffalo, State University of New York, Buffalo, New York, March 2018.