

## GREGORY L. FENVES

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### LEADERSHIP POSITIONS

2020	President Emory University
2015 – 2020	President The University of Texas at Austin
2013 – 2015	Executive Vice President and Provost The University of Texas at Austin
2008 – 2013	Dean, Cockrell School of Engineering The University of Texas at Austin
2002 – 2007	Chair, Department of Civil and Environmental Engineering University of California, Berkeley
1997 – 2002	Assistant Director for Lifeline Programs, Pacific Earthquake Engineering Research Center, University of California, Berkeley
1994 – 1996	Vice Chair for Graduate Affairs, Department of Civil and Environmental Engineering, University of California, Berkeley

### ACADEMIC APPOINTMENTS

2015 – 2020	Cockrell Family Chair in Engineering #15, Cockrell School of Engineering, The University of Texas at Austin
2008 – 2020	Professor, Department of Civil, Architectural, and Environmental Engineering The University of Texas at Austin
2001 – 2008	Member of the faculty, <i>European School for Advanced Studies in Reduction of Seismic Risk</i> (ROSE School), University of Pavia, Italy
2008	Visiting Professor, Disaster Prevention Research Institute Kyoto University, Japan
1998 – 2008	T.Y. and Margaret Lin Professor of Engineering Department of Civil and Environmental Engineering University of California, Berkeley
1994 – 1998	Professor, Department of Civil and Environmental Engineering University of California, Berkeley
1990 – 1994	Associate Professor, Department of Civil and Environmental Engineering University of California, Berkeley
1988 – 1990	Assistant Professor, Department of Civil Engineering University of California, Berkeley
1984 – 1987	Assistant Professor, Department of Civil Engineering The University of Texas at Austin

## **EDUCATION**

Doctor of Philosophy, Department of Civil Engineering, University of California, Berkeley,  
May 1984  
Master of Science, Department of Civil Engineering, University of California, Berkeley,  
June 1980  
Bachelor of Science with Distinction, School of Civil and Environmental Engineering,  
Cornell University, June 1979

## **MAJOR AWARDS**

Hope for Humanity Award, Dallas Holocaust Museum, 2018  
Grand Award, Cicero Speechwriting Awards (with Matthew Kivel), 2018  
Guardian of the Human Spirit Award, Holocaust Museum Houston, 2017  
Philosophical Society of Texas, elected member, 2017-2020  
Texas Academy of Medicine, Engineering, Science, and Technology (TAMEST), member, 2015-2020  
National Academy of Engineering, elected member, 2014  
Mexican Academy of Engineering, corresponding member, 2014  
Academy of Distinguished Alumni, Department of Civil and Environmental Engineering,  
University of California, Berkeley, 2013  
J. James R. Croes Medal, American Society of Civil Engineers, 2009  
Walter L. Huber Research Prize, American Society of Civil Engineers, 1995  
Moisseiff Award, American Society of Civil Engineers, 1993  
Raymond C. Reese Research Prize, American Society of Civil Engineers, 1989  
Presidential Young Investigator Award, National Science Foundation, 1987

## **HIGHER EDUCATION BOARDS AND ACTIVITIES**

APLU (Association of Public and Land-grant Universities), Research Intensive Committee, 2018-2020  
APLU “Powered by Publics: Scaling Student Success,” cluster leader, 2018-2020  
College Football Playoff Administration, LLC, Board of Managers, 2018-2020  
University Research Association, Board of Trustees, 2017-2020  
University Innovation Alliance, Board of Directors, 2015-2020  
Big 12 Conference, Board of Directors, 2015-2020; Secretary/Treasurer, 2016-2020 LBJ  
Foundation, Board of Directors, 2015-2020  
Dedman Foundation, Board of Directors, 2015-2020

## **COMMUNITY SERVICE**

Greater Austin Economic Development Corporation, Board of Directors, 2016-2020  
Mayor’s Task Force on Institutional Racism and Systemic Inequity, City of Austin,  
task force member, 2016  
E3 Alliance (Education Equals Excellence), Board of Directors, 2015-2016

## **UNIVERSITY SERVICE**

### **The University of Texas at Austin**

Steering Committee for the Dell Medical School, 2012-2013; chair, 2013-2014  
Ex Students Association (Texas Exes), Board of Directors, 2014-2015  
Search Committee for Founding Dean of the Dell Medical School, 2013  
Strategic IT Accountability Board, 2009-2012; 2013-2015  
Executive Compliance Committee, 2008-2011; 2013-2015  
Facilities and Space Council, 2013-2015  
Internal Audit Committee, 2013-2015  
UT System Chancellor’s Cabinet on Technology Commercialization, 2012-2014  
UT System Regental Task Force on Intellectual Property, 2014  
UT System Task Force on Engineering Education, 2012-2013  
Master Plan Advisory Committee, 2011-2012

Search Committee for Dean of the College of Natural Sciences, 2011-2012  
Executive Committee for the Engineering Education and Research Center Project, 2010-2013  
Chair, Committee on Regulatory Costs, 2010-2012  
Search Committee for Dean of the Jackson School of Geosciences, 2009-2010

### **University of California, Berkeley**

Task Committee on Educating Leaders, College of Engineering, 2003-2004  
College Executive Committee, College of Engineering, 2002-2007  
Group Leader, Structural Engineering, Mechanics and Materials, CEE Department, 2001-2002  
CITRIS Executive Committee (Center for Information Technology Research in the Interest of Society), UC Berkeley, 2001-2003  
CITRIS Building Program Committee, UC Berkeley, 2001-2002  
Richmond Field Station Study Committee, UC Berkeley, 2000-2002  
Civil Systems Committee, CEE, 2000-2002  
Seismic Review Committee, UC Berkeley, 1998-2002  
Research Committee, Pacific Earthquake Engineering Research Center, 1997-2007

### **TEACHING AND MENTORING**

*Undergraduate courses taught 1999 – 2007, UC Berkeley (10 classes, total of 685 students)*

CE 92, Introduction to Civil and Environmental Engineering  
CE 120, Structural Engineering  
CE 121, Advanced Structural Analysis  
CE 192, Art and Science of Civil and Environmental Engineering Practice

*Graduate courses taught 1999-2007, UC Berkeley (8 classes, total of 253 students)*

CE 221, Nonlinear Structural Analysis  
CE 222, Finite Element Methods  
CE 224, Computer Aided Engineering  
CE 225, Dynamics of Structures

#### *Graduate Student Supervision*

Completed supervision of 16 Ph.D. students (4 co-supervised) at UC Berkeley, one Ph.D. student at the University of Texas at Austin, and two Ph.D. students at the ROSE School, University of Pavia, Italy. Seven former Ph.D. students hold faculty appointments. Four former Ph.D. students have received a CAREER Award and one a PECASE Award from the National Science Foundation.

### **EXTRAMURAL RESEARCH GRANTS**

*Towards Petascale Simulation of Urban Earthquake Impacts* (Co-PI, in conjunction with Carnegie Mellon University; National Science Foundation; 2007-2013) — Develop methodologies, capability, and software for high-fidelity physics-based petascale simulations of urban regions to assess the engineering of large magnitude earthquakes on buildings, transportation system components, and the underground civil infrastructure. Include the interaction between the soil, the foundation and large inventories of structures; the interaction between structures in densely built areas; and the effect of the structures on the ground motion as well as the nonlinear soil behavior. Integrate with computational databases and scalable visualization tools.

*Software Framework for Earthquake Engineering Simulation* (PI; Pacific Earthquake Engineering Research Center from the National Science Foundation; 1997-2007) — Lead creator of comprehensive, object-oriented simulation framework for structural and geotechnical systems, including robust models, equation solvers, and algorithms; parallel and distributed processing applications. Open System for Earthquake Engineering Simulation (OpenSees) <http://opensees.berkeley.edu/>.

- CITRIS-Center for Information Technology Research in the Interest of Society* (Co-PI; National Science Foundation; 2001-2007) — This was a \$7.5 million NSF ITR grant, with Prof. J. Demmel (EECS), as principal investigator. Responsible for a new sensor network for structural health assessment of bridges. A wireless MEMS sensor unit has been developed and will be deployed in a wireless network on the Golden Gate Bridge for dense spatial sensing of vibration characteristics, globally and locally. A new class of distributed system identification has been developed to minimize the communication needed for computing correlations between signals.
- NEES Simulation Component* (PI for subaward from San Diego Supercomputer Center, National Science Foundation; 2005-2009) — Continue to develop OpenSees for the Network for Earthquake Engineering Simulation (NEES) simulation services. Develop parallel version for TeraGrid and DataStar high-performance computers at San Diego Supercomputer Center. Create data interfaces for NEES repository. Provide interfaces for portal to OpenSees using GridSphere and other portal middleware.
- Seismic Performance of Bridge Systems with Conventional and Innovative Materials* (Co-PI, National Science Foundation; 2005-2009) — A collaborative project to extend the NEES demonstration project to improve design and analysis of bridge systems using innovative materials. Expand the simulation to include the effect of abutments and innovative methods for improving seismic performance, such as self-centering columns and composite materials.
- NEES System for Studying Soil-Structure-Foundation Interaction* (PI for collaborative project, National Science Foundation; 2003-2007) — Use NEES experimental sites to improve understanding of SFSI on bridges. Develop and calibrate advanced nonlinear models of bridge components against shaking table, centrifuge, in situ, and quasi-static tests. Investigate the system response of prototype bridges for a range of soil, foundation, and structural effects.
- NEESgrid Simulation Component* (PI for subaward from University of Illinois at Champaign-Urbana, National Science Foundation; 2003-2004) — Develop computational simulation capability using OpenSees for structural and geotechnical applications. Interact with NEESgrid team at NCSA on integrating simulation capability, including database interfaces, into NEES systems.
- Seismic Performance of Urban Regions* (PI; Mississippi State University subaward from the National Science Foundation, in conjunction with Carnegie Mellon University; 1999-2006) — Develop new simulation models of buildings and infrastructure in urban regions to estimate damage and vulnerability; create collaborative software framework for earthquake source modeling, regional geophysical features, and structural models with distributed processing and visualization methods.
- Earthquake Vulnerability of Electrical Substation Equipment* (PI; Pacific Gas & Electric Company; 1998-2004) — Experimental testing and analytical investigation of seismic vulnerability of transformer bushings and disconnect switches; qualification standards and characterization of fragility.

## **OTHER EXTRAMURAL RESEARCH GRANTS**

- Simplified Earthquake Analysis Procedures for Bridges* (PI; California Department of Transportation; 1999-2002)
- Protective Systems for Bridges* (Co-PI; California Department of Transportation; 1995-2000)
- Earthquake Analysis of Bridges* (PI; California Department of Transportation; 1995-1998)
- Material Models for Earthquake Analysis of Concrete Dams* (PI; U.S. Bureau of Reclamation; 1992-1996)
- Evaluation of Interstate 10/215 Connector* (PI; California Division of Mines and Geology; 1993-1994)
- Earthquake Analysis of Gravity Dams* (PI; National Science Foundation; 1990-1993)
- Nonlinear Analysis of Concrete Arch Dams, Phase II* (PI; U.S. Bureau of Reclamation, County of Los Angeles, Harza Engineering Company; 1992-1993)
- Qualitative Reasoning of Structural Behavior* (PI; National Science Foundation; 1991-1993)
- Engineering Database for Seismic Assessment of the Bay Bridge* (Co-PI; California Department of Transportation; 1990-1993)

*Retrofitting Multi-Level/Multiple Column Structures* (Co-PI; California Department of Transportation; 1990-1993)  
*Evaluation of the Dumbarton Bridge in the Loma Prieta Earthquake* (PI; California Department of Transportation; 1990-1992)  
*Nonlinear Analysis of Concrete Arch Dams, Phase I* (PI; U.S. Corp of Engineers, County of Los Angeles, EPRI, PG&E, Harza Engineering Company; 1988-1990)  
*Evaluation of Lateral Earthquake Force Procedures in Building Design* (PI; California Division of Mines and Geology; 1989-1990)  
*Evaluation of Soil-Structure Interaction in Buildings* (PI; California Division of Mines and Geology; 1988-1989)  
*Anchorage Zone Reinforcement in Post-Tensioned Girders* (Co-PI; National Cooperative Highway Research Projects; 1986-1989)  
*Behavior of Wire Fabric Reinforced Columns* (Co-PI; Reinforced Concrete Research Council; 1986-1987)  
*Analysis of Curved Steel Girder Units* (Co-PI; Texas Department of Highways; 1985-1987)  
*Nonlinear Dam-Water Interaction Effects in the Earthquake Response of Concrete Dams* (PI; National Science Foundation; 1985-1987)

## **PROFESSIONAL AFFILIATIONS AND MAJOR ACTIVITIES**

American Society of Civil Engineers, Fellow  
Structural Engineering Institute (of ASCE), Fellow  
Earthquake Engineering Research Institute, Member  
American Association for the Advancement of Science, Member

Committee on Grand Challenges in Earthquake Engineering: A Community Workshop, National Research Council, Co-Chair, 2010-11  
Structural Identification of Constructed Systems Committee, Structural Engineering Institute, American Society of Civil Engineers, 2006-2011  
Strong Motion Instrumentation Advisory Panel, Golden Gate Bridge District, 1998-2008; Chair, 2006-2008  
NEES IT Vision Committee, Network for Earthquake Engineering Simulation, 2006-07  
Research Policy Committee, Earthquake Engineering Research Institute, Chair, 2004-2006  
Panel on Research Agenda for Earthquake Engineering, Earthquake Engineering Research Institute, 2001-2003  
Methods of Analysis Committee, Structural Engineering Institute, American Society of Civil Engineers, 1998-2004  
Dynamic Effects Administrative Committee, Structural Engineering Institute, American Society of Civil Engineers, Chair, 1997-2000  
ASCE Steering Committee for 1998 Structural Engineers World Congress, Chair, 1995-1998  
CUREe, Elected At-large Member of Board of Directors, 1995-1999  
Seismic Effects Committee, Structural Division, American Society of Civil Engineers, 1986-1997, 2002-2009; Publications Secretary, 1990-93; Chair, 1994-1997  
Computer-Aided Design and Analysis Committee, Structural Division, American Society of Civil Engineers, 1991-1998  
Database Committee, Technical Council on Computer Practices, American Society of Civil Engineers, 1988-1998  
Dynamics Committee, Engineering Mechanics Division, American Society of Civil Engineers, 1984-1992  
Panel on Earthquake Engineering for Concrete Dams, Committee on Earthquake Engineering, National Research Council, 1986-1988

## EDITORIAL ACTIVITIES

Editorial Board, *Earthquake Engineering & Structural Dynamics*, 2012-2016  
Guest Editor, *Earthquake Engineering & Structural Dynamics*, April 2009  
Editorial Board, *Earthquake Spectra*, EERI, 2002-2008  
Editorial Board, *Journal of Earthquake Engineering*, 2002-2008  
Associate Editor, *Journal of Structural Engineering*, ASCE, 1990-1993  
Guest Editor, *Journal of Computing in Civil Engineering*, ASCE, July 1992

## SELECTED PROFESSIONAL CONSULTING

Applied Technology Council, Redwood City, CA, 2007-2009; develop guidelines for performance-based engineering.  
California Department of Transportation, 2006-2008; member of Seismic Advisory Board, reporting to Caltrans Director.  
Lawrence Livermore National Laboratory, 2004-2006; member of review panel providing oversight of transportation safety study.  
Lawrence Livermore National Laboratory, 2003-2004; chair of review panel for ground vibration study.  
T.Y. Lin International, San Francisco, 1998-99; design of the new Bay Bridge.  
Applied Technology Council, Redwood City, CA, 1998-2002; develop new national seismic bridge specifications.

## PROFESSIONAL LICENSE

Texas PE 105574 (Inactive)

## REFEREED PUBLICATIONS

### Archival Journals

1. G.L. Fenves and A.K. Chopra, "Effects of Reservoir Bottom Absorption on Earthquake Response of Concrete Gravity Dams," *Earthquake Engineering and Structural Dynamics*, Vol. 11, No. 6, 1983, pp. 809-829.
2. G.L. Fenves and A.K. Chopra, "Earthquake Analysis of Concrete Gravity Dams Including Reservoir Bottom Absorption and Dam-Water-Foundation Rock Interaction," *Earthquake Engineering and Structural Dynamics*, Vol. 12, No. 5, 1984, pp. 663-680.
3. G.L. Fenves and A.K. Chopra, "Effects of Reservoir Bottom Absorption and Dam-Water Interaction on Frequency Response Functions for Concrete Gravity Dams," *Earthquake Engineering and Structural Dynamics*, Vol. 13, No. 1, 1985, pp. 13-31.
4. G.L. Fenves and A.K. Chopra, "Reservoir Bottom Absorption Effects in Earthquake Response of Concrete Gravity Dams," *Journal of Structural Engineering*, ASCE, Vol. 111, No. 3, 1985, pp. 545-563.
5. G.L. Fenves and A.K. Chopra, "Simplified Earthquake Analysis of Concrete Gravity Dams: Separate Hydrodynamic and Foundation Interaction Effects," *Journal of Engineering Mechanics*, ASCE, Vol. 111, No. 6, 1985, pp. 715-735.
6. G.L. Fenves and A.K. Chopra, "Simplified Earthquake Analysis of Concrete Gravity Dams: Combined Hydrodynamic and Foundation Interaction Effects," *Journal of Engineering Mechanics*, ASCE, Vol. 111, No. 6, 1985, pp. 736-756.
7. G.L. Fenves, "Earthquake Response of Concrete Dam Systems," *Computer-Aided Simulation of Fluid-Structure Problems*, ASCE, 1987, pp. 22-32.
8. G.L. Fenves and A.K. Chopra, "Simplified Earthquake Analysis of Concrete Gravity Dams,"

- Journal of Structural Engineering*, ASCE, Vol. 113, No. 8, 1987, pp. 1688-1708.
9. L.M. Vargas-Loli and G.L. Fenves, "Nonlinear Dynamic Analysis of Fluid-Structure Systems," *Journal of Engineering Mechanics*, ASCE, Vol. 114, No. 2, 1988, pp. 219-240.
  10. L.M. Vargas-Loli and G.L. Fenves, "Effects of Concrete Cracking on the Earthquake Response of Gravity Dams," *Earthquake Engineering and Structural Dynamics*, Vol. 18, No. 4, 1989, pp. 575-592.
  11. G.L. Fenves, "Object-Oriented Programming for Engineering Software Development," *Engineering with Computers*, Vol. 6, 1990, pp. 1-15.
  12. G. Serino and G.L. Fenves, "Soil-Structure Interaction in Buildings from Earthquake Records," *Earthquake Spectra*, Vol. 6, No. 4, 1990, pp. 641-655.
  13. E.P. Kasl, G.L. Fenves and R.W. Furlong, "Welded Structural Wire Reinforcement for Columns," *ACI Structural Journal*, Vol. 88, No. 5, 1991, pp. 585-591.
  14. G.L. Fenves, S. Mojtahedi and R. B. Reimer, "Effect of Contraction Joints on Earthquake Response of an Arch Dam," *Journal of Structural Engineering*, ASCE, Vol. 118, No. 4, 1992, pp. 1039- 1055.
  15. G.L. Fenves, "Object Oriented Technology in Civil Engineering," editorial, *Journal of Computing in Civil Engineering*, ASCE, Vol. 6, No. 3, 1992, pp. 245-247.
  16. G.L. Fenves and S. Mojtahedi, "Earthquake Response of an Arch Dam with Contraction Joint Opening," *Dam Engineering*, Vol. IV, No. 2, 1993, pp. 63-88.
  17. L.M. Bozzo and G.L. Fenves, "Qualitative Reasoning and the Representation of Fundamental Principles in Structural Engineering," *Research in Engineering Design*, Vol. 6, No. 1, 1994, pp. 61-72.
  18. L.M. Bozzo and G.L. Fenves, "Qualitative Reasoning Strategy and Its Application to Structural Engineering," *Research in Engineering Design*, Vol. 6, No. 1, 1994, pp. 73-84.
  19. J.W. Chavez and G.L. Fenves, "Earthquake Analysis of Concrete Dams Including Base Sliding," *Earthquake Engineering and Structural Dynamics*, Vol. 24, No. 5, 1995, pp. 673-686.
  20. J.W. Chavez and G.L. Fenves, "Earthquake Response of Concrete Gravity Dams Including Base Sliding," *Journal of Structural Engineering*, ASCE, Vol. 121, No. 5, 1995, pp. 865-875.
  21. Fenves, G.L., and McKenna, F., Discussion, *Journal of Structural Engineering*, ASCE, Vol. 123, No. 3, 1997, pp. 377-381.
  22. R. DesRoches and G.L. Fenves, "Evaluation of Recorded Earthquake Response of a Curved Highway Bridge," *Earthquake Spectra*, Vol. 13, No. 3, 1997, pp. 363-386.
  23. J.P. Stewart, G.L. Fenves, "System Identification for Evaluating Soil-Structure Interaction Effects in Buildings from Strong Motion Recordings," *Earthquake Engineering and Structural Dynamics*, Vol. 27, 1998, pp. 869-885.
  24. J. Lee and G.L. Fenves, "Plastic-Damage Model for Cyclic Loading of Concrete Structures," *Journal of Engineering Mechanics*, ASCE, Vol. 124, No. 8, 1998, pp. 892-900.
  25. J. Lee and G.L. Fenves, "A Plastic-damage Model for Earthquake Analysis of Dams," *Earthquake Engineering and Structural Dynamics*, Vol. 27, No. 9, 1998, pp. 937-956.
  26. G.C. Archer, G.L. Fenves and C. Thewalt, "A New Object-Oriented Finite Element Analysis Program Architecture," *Computers & Structures*, Vol. 70, No. 1, 1999, pp. 63-75.
  27. J.P. Stewart, G.L. Fenves and R.B. Seed, "Seismic Soil-structure Interaction in Buildings, I: Analytical Methods," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 125, No. 1, 1999, pp. 26-37.

28. J.P. Stewart, R.B. Seed and G.L. Fenves, "Seismic Soil-structure Interaction in Buildings, II: Empirical Finding," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 125, No. 1, 1999, pp. 38-48.
29. R. DesRoches and G.L. Fenves, "Design of Seismic Cable Hinge Restrainers for Bridges," *Journal of Structural Engineering*, ASCE, Vol. 126, No. 4, 2000, pp. 500-509.
30. J. Lee, and G.L. Fenves, "A Return-Mapping Algorithm for Plastic-Damage Models: 3-D and Plane Stress Formulation," *International Journal for Numerical Methods in Engineering*, Vol. 50, No. 2, 2001, pp. 487-506.
31. R. DesRoches, and G.L. Fenves, "Simplified Restrainer Design Procedure for Multiple-Frame Bridges," *Earthquake Spectra*, Vol. 17, No. 4, 2001, pp. 551-567.
32. A.S. Gilani, A.S. Whittaker, G.L. Fenves, "Seismic Evaluation and Retrofit of 230-kV Porcelain Transformer Bushings," *Earthquake Spectra*, Vol. 17, No. 4, 2001, pp. 597-616.
33. A.S. Whittaker, G.L. Fenves, and A.S.J. Gilani, "Earthquake Performance of Porcelain Transformer Bushings," *Earthquake Spectra*, Vol. 20, No. 1, 2004, pp. 205-223.
34. G. Mosqueda, A.S. Whittaker, and G.L. Fenves, "Characterization and Modeling of Friction Pendulum Bearings Subjected to Multiple Components of Excitation," *Journal of Structural Engineering*, Vol. 130, No. 3, 2004, pp. 433-442.
35. D.N. Grant, G.L. Fenves, A.S. Whittaker, "Bidirectional Modeling of High-Damping Rubber Bearings," *Journal of Earthquake Engineering*, Vol. 8, Special Issue 1, 2004, pp. 161-185.
36. M.H. Scott, P. Franchin, G.L. Fenves, and F.C. Filippou, "Response Sensitivity for Nonlinear Beam-Column Elements," *Journal of Structural Engineering*, Vol. 130, No. 9, 2004, pp. 1281-1288.
37. Y. Takahashi and G.L. Fenves, "Software Framework for Distributed Experimental-Computational Simulation of Structural Systems," *Earthquake Engineering and Structural Dynamics*, Vol. 35, 2006, pp. 267-281.
38. M.H. Scott and G.L. Fenves, "Plastic Hinge Integration Methods for Force-Based Beam-Column Elements," *Journal of Structural Engineering*, Vol. 132, No. 2, 2006, pp. 244-252.
39. A.S. Whittaker, G.L. Fenves, A.S.J. Gilani, "Seismic Evaluation and Analysis of High-Voltage Substation Disconnect Switches," *Engineering and Structures*, Vol. 29, No.12, 2007, pp 3538-3549.
40. M.H. Scott, G.L. Fenves, F. McKenna, and F.C. Filippou, "Software Patterns for Nonlinear Beam Column Models," *Journal of Structural Engineering*, Vol. 134, No. 4, 2008, pp. 519-687.
41. S.N. Pakzad, G.L. Fenves, S.K. Kim, and D. Culler, "Design and Implementation of Scalable Wireless Sensor Network for Structural Monitoring," *Journal of Infrastructure Systems*, Vol. 14, No. 1, 2008, pp. 89-101.
42. S.N. Pakzad and G.L. Fenves, "Statistical Analysis of Vibration Modes of Suspension Bridge Using Spatially Dense Wireless Sensor Network," *Journal of Structural Engineering*, Vol. 135, No. 7, 2009, pp. 863-872
43. G. Attanasi, F. Auricchio, G.L. Fenves, "Feasibility Assessment of an Innovative Isolation Bearing System with Shape Memory Alloys," *Journal of Earthquake Engineering*, Vol. 13, No. 1, 2009, pp. 18-39.
44. F. McKenna, M.H. Scott, and G.L. Fenves, "Finite Element Analysis Software Architecture Using Object Composition," *Journal of Computing in Civil Engineering*, Vol. 24, No. 1, 2010, pp. 95-107.
45. M.H. Scott and G.L. Fenves, "A Krylov Subspace Accelerated Newton Algorithm: Application to

Dynamic Progressive Collapse Simulation of Frames,” *Journal of Structural Engineering*, Vol. 136, No. 5, 2010, pp. 473-480.

46. G. Petropoulos and G.L. Fenves, “Interprocessor Communication for High Performance, Explicit Time Integration,” *Engineering with Computers*, Vol. 26, No. 2, 2010, pp. 149-157.
47. X. Ji, G.L. Fenves, K. Kajiwara, and M. Nakashima, “Seismic Damage Detection of a Full-Scale Shaking Table Test Structure,” *Journal of Structural Engineering*, Vol. 137, No. 1, 2011, pp. 14-21.

### Refereed Conference Proceedings

1. G.L. Fenves and A.K. Chopra, “Earthquake Response of Dams with Wave Absorbing Reservoir Bottom,” *Proceedings*, Fourth Engineering Mechanics Specialty Conference, ASCE, May 1983.
2. G.L. Fenves, “Nonlinear Analysis of External Prestressed Bridges,” *Proceedings*, Ninth Conference on Electronic Computation, ASCE, February 1986, pp. 192-200.
3. G.L. Fenves and A.K. Chopra, “Interaction Effects in the Earthquake Response of Concrete Gravity Dams,” Abstract, *Proceedings*, Structures Congress 86, ASCE, September 1986, pp. 167.
4. G.L. Fenves and A.K. Chopra, “Effects of Concrete Cracking on Earthquake Response of Gravity Dams,” Abstract, *Proceedings*, Engineering Mechanics Division Specialty Conference, ASCE, May 1987, pp. 99.
5. G.L. Fenves, “Object Representations for Structural Analysis and Design,” *Proceedings*, Fifth Conference on Computing in Civil Engineering, ASCE, March 1988, pp. 502-511.
6. L.M. Vargas-Loli and G.L. Fenves, “Nonlinear Response of Concrete Gravity Dams,” *Proceedings*, Ninth World Conference on Earthquake Eng., Vol. VI, Tokyo, Japan, August 1988, pp. 343-348.
7. G.L. Fenves, “Earthquake Induced Cracking in Concrete Gravity Dams,” *Seismic Engineering*, Structures Congress 89, ASCE, May 1989, pp. 337-346.
8. G.L. Fenves, “Object-Oriented Models for Engineering Data,” *Proceedings*, Sixth Conference on Computing in Civil Engineering, September 1989, pp. 564-570.
9. G.L. Fenves, M.E. Kreger, and K. El-Habr, “Finite Element Analysis of Externally Post-Tensioned Segmental Box Girder Construction,” *Proceedings*, ACI-PCI-PTI International Symposium on External Prestressing in Bridges, December 1989, pp. 389-407.
10. G. Serino and G.L. Fenves, “Evaluation of Soil-Structure Effects in the Earthquake Response of a Building,” *Proceedings*, Fourth U.S. National Conference on Earthquake Engineering, Vol. 3, Palm Springs, California, May 1990, pp. 895-904.
11. J.W. Chavez and G.L. Fenves, “Hybrid Frequency Time Domain Analysis of Nonlinear Fluid Structure Systems,” *Proceedings*, Fourth U.S. National Conference on Earthquake Engineering, Vol. 2, Palm Springs, California, May 1990, pp. 97-106.
12. O.L. Burdet, C.L. Roberts, D.H. Sanders, G.L. Fenves and J.E. Breen, “Models and Tests of Anchorage Zones of Post-Tensioned Tendons,” *Proceedings*, International Association for Bridge and Structural Engineering, Stuttgart, Germany, 1991, pp. 545-550.
13. J.W. Chavez and G.L. Fenves, “The Hybrid Frequency-Time Domain Procedure for Nonlinear Analysis,” *Proceedings*, Structures Congress 91, ASCE, May 1991, pp. 378-381.
14. S. Rahmann, G.L. Fenves and G.H. Powell, “Database Design for the San Francisco Bay Bridge,” *Proceedings*, Seventh Conference on Computing in Civil Engineering, ASCE, May 1991, pp. 769-778.
15. L.M. Bozzo and G.L. Fenves, “Qualitative Evaluation of Preliminary Structural Designs,” *Proceedings*, Eighth Conference on Computing in Civil Engineering, ASCE, June 1992, pp. 89-96.

16. G.L. Fenves, S. Mojtahedi and R.B. Reimer, "Nonlinear Earthquake Analysis of Arch Dam/Reservoir," *Proceedings*, Tenth World Conference on Earthquake Engineering, Vol. 8, Madrid, Spain, July 1992, pp. 4595-4600.
17. L.M. Bozzo and G.L. Fenves, "Qualitative Reasoning About Seismic Behavior of Buildings," *Proceedings*, Tenth World Conference on Earthquake Engineering, Vol. 10, Madrid, Spain, July 1992, pp. 6291-6296.
18. G.L. Fenves and F.C. Filippou, "Response of the Dumbarton Bridge in the Loma Prieta Earthquake," *Proceedings*, Third NSF Workshop on Bridge Engineering Research in Progress, University of California at San Diego, November 1992, pp. 175-178.
19. S.P. Singh and G.L. Fenves, "Earthquake Analysis of Elevated Freeway Structures," *Proceedings*, Third NSF Workshop on Bridge Engineering Research in Progress, University of California at San Diego, November 1992, pp. 179-182.
20. L.M. Bozzo and G.L. Fenves, "Reducing Ambiguity in Qualitative Reasoning," *Proceedings*, Fifth International Conference on Computing in Civil and Building Engineering, ASCE, Vol. 2, June 1993, pp. 1259-1266.
21. S. Rahmann and G.L. Fenves, "Design and Implementation of a Database for Seismic Evaluation of Structures," *Proceedings*, Fifth International Conference on Computing in Civil and Building Engineering, ASCE, Vol. 2, pp. 790-797.
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