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# ANDREI M. REINHORN PE, PhD

**Clifford C. Furnas Eminent Professor of Engineering**

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Dr. Andrei Reinhorn is a Professor of Structural Engineering at University at Buffalo for the last 32 years. He was educated at the Technion - Israel Institute of Technology where he obtained the undergraduate and graduate degrees (1968, 1978, resp.) A structural engineer and professor of civil engineering, he is experienced in research, testing, analysis, design and development of structural systems, including buildings, bridges and special structures, and advanced vibration reduction systems and vibration control for seismic retrofit. Dr. Reinhorn has directed multiple research experiments investigating the behavior of structures under dynamic loads near collapse, nonstructural building components as well as nonstructural electrical substation equipment. He carried pioneering experiments of actively controlled structures and developed design procedures for controlled systems with active or passive damping components. Experienced in implementation and testing of several active control systems, such as active bracings and mass dampers, with novel control strategies of fuzzy sets and nonlinear feedback, he developed numerous analytical methods for evaluation and analysis of structures in damage state without and with control systems. For the last decade he specialized in seismic qualification testing of electrical components of substations, control systems of machineries and operation systems, suspended nonstructural architectural components, etc. He developed, or helped modifying, current standards for seismic qualifications in several areas.

Experienced in structural dynamics and earthquake engineering as employee of various firms in Israel (Israeli Army Corps of Engineers, Milstein and Singer Engineers) and in US (Fruchtbaum Engineers) and as independent consultant (Reinhorn Consulting Engineers). Experience include seismic evaluations of existing buildings / bridges and retrofit using advanced techniques of vibration control, energy dissipation, base isolations and combinations of conventional concrete technologies and epoxy based coatings. Additional experience in design, construction and site inspections of residential and industrial buildings. Special experience in structural design of machine tools and instrumentation. Holding two US patents related to machine tools and diagnostic systems. Recent experience (ten years) in qualification testing of complex structures using shake tables and programming servo-controlled laboratory equipment.

Prof. Reinhorn led the design and construction of the large seismic shaking table facility at University at Buffalo and developed the seismic laboratory operations. He led the expansion of the \$21M large scale dynamic testing system and networking of University at Buffalo Equipment Site of NSF's George E. Brown Jr. Network of Earthquake Engineering Simulation (UB-NEES). He is currently the past-director of the SEESL which supports services for the UB's Department of Civil Structural and Environmental Engineering (CSEE), for the Multidisciplinary Center for Extreme-events Engineering (MCEER), for George E. Brown Jr. Network of Earthquake Engineering Simulation (NEES) and for industry research and development.

Registered Professional Engineer (PE) in New York State and in Israel. Fellow of the American Society of Civil Engineers (ASCE) and Earthquake Engineering Research Institute (EERI). Current member of ASCE committees on structural control and seismic effects and of EERI committee on experimental research. Former President of ASCE/Buffalo Section and founding chair of national ASCE/structural control committee. Technical Program Chairman of 7th National Conference of Earthquake Engineering, Boston, 2002 among other local and national activities

Received several professional awards, i.e. [2011 ASCE Newmark Medal](#), [2007 SUNY Chancellor's Award for Excellence in Scholarship and Creative Activity](#), [2006 UB - University at Buffalo Sustained Achievement Award](#), [2005 ASCE/CERF Charles Pankow Award for Innovation](#). [2002 Engineer of the Year Award NYSPE \(2002\)](#) [1995-NYSPE/Buffalo Historical Society-Historical Achievement Award: "Active Control Implementation" 1992.](#), among numerous others.

### **CONSULTING (excerpts of experience)**

*ABB INC*- Seismic Qualification of ABB 500kV Transformer Bushings; (2008-2010)  
*PASCOR PACIFIC INC.*- Seismic Qualification Testing of Pascor 345 kV Disconnect Switch (2008-2010)  
*CALIFORNIA GENERAL SERVICES ADMIN./ JARRET STRUCTURES INC* /- Qualification Testing of Dampers for Renovation of State of CA Office Bldgs #8&#9 (2009-2010)  
*HVB AE POWER SYSTEMS, INC* - Seismic Test-Qualification Report HVB Circuit Breaker (2009)  
*AREVA T&D INC* - Seismic Test-Qualification Report for AREVA Current Transformer (2009)  
*BONNEVILLE POWER AUTHORITY* - Seismic Qualification of Electrical Composite Post Insulators (2008-2009)  
*CHICAGO METAIC CORP* - Seismic Qualification Testing of Suspended Ceiling Systems (2007-...)  
*ATC –APPLIED TECHNOLOGY COUNCIL* Peer review and development of prototype codes. (2005-2009)  
*ARMSTRONG WORLD INDUSTRIES, INC.*- Seismic Qualification Testing of Suspended Ceiling Systems (2001- ..)  
*EARTHQUAKE WARNING DEVICES INC* - Experimental Study of EQ System (1995-1996)

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*JOHN A. MARTIN & Associates*, Los Angeles, CA 1993-pres;  
*BASE ISOLATION CONSULTANTS*, San Francisco, CA 1993;  
*ANDCO ENVIRONMENTAL PROCESSES, Inc.*, Amherst, NY 1993;  
*LE MESSURIER & Associates*, Boston, MA 1992-1993;  
*FLEMING Corp.*, San Francisco/ Los Angeles, CA 1990-1994;  
*WALTER P. MOORE & Associates*, Houston, TX; 1991-1992;  
*DAMES & MOORE*, Los Angeles, CA 1989-1990;  
*T. SULLIVAN/WEST VALLEY NUCLEAR DUMP*, Buffalo, NY 1987-1993;  
*WESTINGHOUSE ELECTRIC CO.*, Bloomington, IN 1986-1987;  
*WALT DISNEY WORLD CO.*, Lake Buena Vista, FL 1985-1986;  
*WATSON, BOWMAN AND ACME, INC.*, Buffalo, NY; 1984-1985;  
*WESTWOOD PHARMACEUTICALS, INC.*, Buffalo, NY 1983-1986;  
*WSF INDUSTRIES, INC.*, Buffalo, NY 1981-1992;  
*NIAGARA MACHINE AND TOOLS WORKS, Ltd.*, Buffalo, NY 1972-1979;  
*MESCO FORMWORKS AND CONSTRUCTION TOOLS*, Haifa, Israel 1981-1992;  
*INTERNATIONAL FERROCEMENT INFORMATION CENTER*, AIT, Bangkok, Thailand 1981-1982;  
*PENNSYLVANIA PLASTICS PRODUCTS*, Eldred, PA 1981-1982

### **ACADEMIC EMPLOYMENT**

*STATE UNIVERSITY OF NEW YORK AT BUFFALO*, Buffalo, NY  
Clifford C. Furnas Eminent Professor, 2002- ; Department (CSEE) Chairman 1996-1999; Professor 1990-2002;  
Associate Professor 1986-1990; Assistant Professor 1981-1986; Visiting Assistant Professor 1979-1981  
*TECHNION - ISRAEL INSTITUTE OF TECHNOLOGY*, Haifa, Israel  
Visiting Professor, Lady Davis Fellowships (Fall 1999); Visiting Professor, Theresa Palay Manson (Spring 1991);  
Lecturer - Equivalent of Assistant Professor, 1978-1979; Instructor, 1975-1978; Teaching Assistant 1973-1975  
*UNIVERSITY OF PAVIA*, Pavia, Italy  
Visiting Professor (Fall 1999)

### **PROFESSIONAL EMPLOYMENT**

*OFFICE OF J. FRUCHTBAUM*, Buffalo, NY 1980-1986; Consulting - Structural Engineer (Part-Time);  
*PRIVATE PRACTICE*, Reinhorn Consulting, Haifa, Israel -Structural Engineer 1973-1979;  
*MILSTEIN-ZINGER CONSULTING ENGINEERS*, Tel - Aviv, Israel-Structural Engineer- 1972-1973;  
*CORPS OF ENGINEERS - ISRAEL DEFENSE FORCES*, Haifa, Israel 1968-1972 Design Engineer and Project Manager (Acting Captain)

### **MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS**

*NETWORK FOR EARTHQUAKE ENGINEERING SIMULATIONS (NEESinc)*- Member (2002), Board of Directors

(2003-2008), Chair, Data Sharing and Archiving Committee,  
*MULTIDISCIPLINARY CENTER FOR EARTHQUAKE ENGINEERING RESEARCH (MCEER)* (1997-pres.); -  
Member Executive Committee and Investigator  
*AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)* - Fellow #196569 (1981-pres.); Fellow since December 1,  
1994; President Buffalo Section (1993-1994), [President Elect, Vice President, Secretary, Treasurer, Director  
(Buffalo Section)](1988-1996); Chairman, Committee on Active Control/Engineering Computations (1991-  
1994); Member of National Committee of Dynamics/Engineering Mechanics Division (1989-1993); Chairman,  
Structures / Computer Committee, (Buffalo Section 1986-1990); Faculty Adviser, (Buffalo Section 1981-1984)  
*STRUCTURAL ENGINEERING INSTITUTE (SEI) of ASCE*, Fellow #196569 (2000-pres.); (subset of ASCE)  
*EARTHQUAKE ENGINEERING RESEARCH INSTITUTE (EERI)* Member #470 (1986-pres.); Member EERI  
Committee on Experimental Research, Member of Editorial Board of Earthquake Spectra, Associate Editor  
(2004-  
*AMERICAN CONCRETE INSTITUTE (ACI)* - Member #3/615694 (1982-2002); Member of Committees:  
ACI-449 Seismic Loadings, ACI-118 Use of Computers  
*ASSOCIATION OF ENGINEERS AND ARCHITECTS IN ISRAEL* (1969-1979)  
*INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS*- Member #0446805

Details of his performance can be found in the extended curriculum vitae: <http://civil.eng.buffalo.edu/~reinhorn>

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