



**University at Buffalo**  
*The State University of New York*

Department of Civil, Structural  
and Environmental Engineering



Student Chapter  
University at Buffalo

# **EARTHQUAKE ENGINEERING RESEARCH INSTITUTE**

## **EVENT REPORT 2011**

**2011 EERI FRIEDMAN FAMILY VISITING PROFESSIONAL:**

**WILLIAMS T. HOLMES**

*Structural Engineer, Rutherford and Chekene, San Francisco, CA*

**UNIVERSITY AT BUFFALO'S STUDENT CHAPTER**

**DEPARTMENT OF CIVIL, STRUCTURAL AND ENVIRONMENTAL  
ENGINEERING**

**UNIVERSITY AT BUFFALO – THE STATE UNIVERSITY OF NEW YORK**

**EVENT REPORT:**  
**2011 EERI FRIEDMAN FAMILY VISITING PROFESSIONAL:**

**WILLIAMS T. HOLMES**

*Structural Engineer and Principal, Rutherford and Chekene, San Francisco, CA*

With the support of the Earthquake Engineering Research Institute's (EERI) Friedman Family Visiting Professional Program, the EERI Student Chapter at University at Buffalo (UB) invited Williams T. Holmes, Structural Engineer, Rutherford and Chekene, San Francisco, CA, on March 9 and 10, 2011.

Mr. Holmes arrived at University of New York at Buffalo (UB) on March 9, 2011 at approximately 9:15 am. His visit started with welcome meetings with some faculty members, namely, Professors Andrew Whittaker, Amjad J. Aref, Salvatore Salamone, Michael Constantinou, Michel Bruneau, Andrei M. Reinhorn, Andre Filiatrault, and Gilberto Mosqueda. The meetings were followed by a tour around the NEES site and the state-of-art Structural Engineering and Earthquake Simulation Laboratory (SEESL) facility of the Department of Civil Structural and Environmental Engineering (CSEE) at UB led by the officers of EERI Student Chapter (UB-EERI) and the CSEE Graduate Student Association (CSEE-GSA). Lunch with officers from both student chapters and CSEE faculty members followed.

At approximately 2:00 pm, Mr. Apostolos Sarlis, President of the UB-EERI Student Chapter, opened the seminar by welcoming the audience and introducing Mr. Holmes. Mr. Holmes' presentation entitled: "An Update on California's Program to Seismically Strengthen Hospitals" (see flyer attached). The presentation was followed by a short talk entitled "Life on a Design Office", which provided valuable insight into the first step of the career of civil and structural engineers in design and construction firms. The next day, March 10, 2011, the officers of the UB-EERI Student Chapter and CSEE-GSA accompanied Mr. Holmes to a visit at Taylor Devices Inc (<http://www.taylordevices.com/>),

Mr. Holmes' lecture (sponsored by the Friedman Family Visiting Professionals family program) was also part of the "*UB-EERI/CSEE-GSA/MCEER/Dept. of CSEE*" *Lecture Series*. The purpose of the seminar series is to widen accessibility to timely technical presentations on several aspects of civil engineering. Presentations are typically given by academic researchers, graduate students, industry associates and practicing engineers. This seminar series is co-organized and sponsored by the University at Buffalo's Earthquake Engineering Research Institute Student Chapter (UB-EERI), the Graduate Student Association of the Department of CSEE (CSEE-GSA), the MCEER (formerly known as Multidisciplinary Center for Earthquake Engineering Research), and the Department of Civil, Structural and Environmental Engineering at the University at Buffalo (UB-CSEE). All events/seminars of our lecture series are announced in the MCEER's website (<http://mceer.buffalo.edu/education/webcast/default.asp>) and the UB-EERI's website (<http://gsa.buffalo.edu/eeri/>).

Guest lecturers that have already participated in this year's "UB-EERI/CSEE-GSA/MCEER/Dept. of CSEE" Lecture Series are:

- 1) Dr Ahsan Kareem,  
Professor, University of Notre Dame
- 2) Dr Andrei Reinhorn,  
Professor, University at Buffalo and 2011 ASCE Newmark's Medal Recipient
- 3) Mr Douglas Taylor,  
President/CEO, Taylor Devices Inc.
- 4) Dr Alessandro Palermo,  
Assistant Professor, University of Christchurch New Zealand
- 5) Dr Gian Paolo Cimelaro,  
Assistant Professor, University Politecnico of Turin Italy
- 6) Mr Steve Glowny and Mr. Dave Keller,  
Weidlinger Associates Inc ([www.wai.com](http://www.wai.com))
- 7) Dr Ahmad Rahimian,  
Chief Executive of WSP Cantor Seinuk
- 8) Dr Dimitrios Lignos,  
Assistant Professor, McGill University  
Dr Michel Bruneau, Professor, University at Buffalo and Ms. Myrto Anagnostopoulou,  
UB-SEESL Structural and Test Engineer

while, the list of upcoming invited speakers for this academic year includes:

- 1) Mr. Will Cothen,  
Clean Energy America ([www.cleanenergy4america.org](http://www.cleanenergy4america.org))
- 2) Dr Constantin Christopoulos,  
Professor, University of Toronto, Canada
- 3) Stephanie E. Chang, EERI Distinguished Lecturer,  
Professor, University of British Columbia, Canada

#### **Executive Officers of the EERI Student Chapter at UB for the 2010-11 Academic Year**

President:	Apostolos A. Sarlis	(aasarlis@buffalo.edu)
Vice President:	Konstantinos Oikonomou	(ko24@buffalo.edu)
Treasurer:	Maikol Del Carpio Ramos	(mdcarpio@buffalo.edu)
Webmaster:	Juan Bautista Aleman Hernandez	(jbaleman@buffalo.edu)
Senator:	Armin Masroor Shalmani	(am249@buffalo.edu)
Senator:	Yasser E. Alzeni	(yealzeni@buffalo.edu)
Senator:	Bismarck N Luna	(bismarck@buffalo.edu)
Past-President:	Petros Sideris	(psideris@buffalo.edu)

**Executive Officers of the Graduate Student Association of the Dept. of Civil Structural and Environmental Engineering at UB (CSEE-GSA) for the 2010-11 Academic Year**

President:	Maria Koliou	(mkoliou@buffalo.edu)
Vice President:	Ricardo Ecker	(raecker@buffalo.edu)
Treasurer:	Armin Masroor Shalmani	(am249@buffalo.edu)
Senator:	Konstantinos Oikonomou	(ko24@buffalo.edu)
Senator:	Juan Bautista Aleman Hernandez	(jbaleman@buffalo.edu)
Senator:	Aikaterini Stefanaki	(astefana@buffalo.edu)
Senator:	Joshua F. Rocks	(jfrocks@buffalo.edu)
Senator:	Parthasarathy Chandran	(parthasa@buffalo.edu)
Senator:	Gonzalo Alejandro Roberts Cervantes	(gonzaloa@buffalo.edu)



**During Mr. Holmes' presentation**



**Mr. Holmes with several attendees at the presentation**





## **Engineering Seminar: EERI - The Friedman Family Visiting Professionals Program**

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### ***“An Update on California’s Program to Seismically Strengthen Hospitals”***

***William T. Holmes***

***Principal and Structural Engineer, Rutherford and Chekene, San  
Francisco, CA, USA***

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#### **Abstract**

The State of California took over control of construction of new hospitals in the state in 1972 as a result of the 1971 San Fernando earthquake. At the time, there was concern about the performance of “pre-act” (pre 1972) hospitals but insufficient political will to do anything about it. At the request of the Seismic Safety Commission in 1986 the Hospital Building Safety Board (HBSB) drew up a plan to bring all California Hospitals into conformance with the 1972 Act in a 30 year period. After the 1994 Northridge earthquake, the State passed SB 1953 adopting many aspects of the HBSB plan. The regulations resulting from this law and many of the implementation issues will be described, including the use of HAZUS to estimate relative risk of the nonconforming buildings.

Very little of the retrofitting of existing hospitals that was expected as a result of the original regulations has occurred due to the high expense and disruption of construction work in hospitals. Instead, in many cases, new replacement hospitals have been constructed. One such facility, Mills Peninsula Hospital in Burlingame will be described. This hospital comprises 433,000 sq ft of space and contains 278 beds. The total project cost, including an adjacent Medical Office Building is \$580 million. It is located very near the San Andreas Fault and is base isolated.

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**DATE:** Wednesday, March 09, 2011

**TIME:** 2:00 P.M.

**LOCATION:** 140 KETTER HALL, NORTH CAMPUS, UNIVERSITY AT BUFFALO

**SPONSORED BY:** *Earthquake Engineering Research Institute (EERI)- Friedman Family Visiting Professionals Program*

**ORGANIZED BY:** *Student Chapter of EERI at UB, CSEE-GSA, MCEER and Dept. of CSEE*

***Snacks and Refreshments will be served !!!***



***William T. Holmes***  
*Principal and Structural Engineer, Rutherford and Chekene, San  
Francisco, CA, USA*

Mr. Holmes received his BS and MS from Stanford University and joined Rutherford and Chekene in 1965, where is now a Principal. Mr. Holmes has been responsible for the structural design or seismic retrofit of many buildings as well as being active in significant research and development in structural and seismic engineering. He has been active in the development of seismic codes and guidelines since he served on the SEAOC Seismology Committee in the mid-seventies and had a key role in the conceptual development of the *NEHRP Guidelines for the Seismic Rehabilitation of Buildings* (FEMA 273/356-ASCE 41). He also served as Chair of the Provision Update Committee, responsible for updating the *NEHRP Recommended Provisions for Seismic Regulations for New Buildings*, 1997 and 2000 editions and is currently Chair of the Building Seismic Safety Council's Board. He serves on the Board of the Consortium of Universities for Research in Earthquake Engineering (CUREE) and on the NEES Governance Board.

Mr. Holmes has traveled to Armenia, Azerbaijan, Canada, China, Ecuador, Greece, India, Italy, Japan, Mexico, New Zealand, Pakistan, Thailand, and Turkey to speak at conferences and workshops or to consult with local officials relating to seismic design and retrofit.

He is currently Chair of the Project Steering Committee on the FEMA-funded project, *Development of Next Generation Performance Based Design*, ATC 58, and serves on the Project Management Committee on several other ATC and BSSC research-to-practice projects.