FRIEDMAN FAMILY VISITING PROFESIONALS PROGRAM

Visit to Rice University: April 20, 2015

This report summarizes the visit of David Friedman from Forell/Elsesser Engineers that took place at Rice University on April 20, 2015.

ITINERARY OR AGENDA

Provide the itinerary of the visit. For example:

TIME:	ACTIVITY:
9:00 AM – 10:00 AM	Breakfast with Student Chapter President and Vice-President
10:00 AM – 10:30 AM	Arrive on campus and guided tour of Oshman Engineering Design Kitchen (OEDK)
10:30 AM – 11:00 AM	Tour of Ryon Lab, the Civil Engineering building
11:00 AM – 12:00 PM	Walking tour with key campus highlights
12:00 PM – 1:00 PM	Informal meeting luncheon with department graduate and undergraduate students, and members of the EERI Seismic Design Competition team
1:00 PM – 3:00 PM	Meetings with Faculty members
3:00 PM – 3:45 PM	Short break and preparation for quest lecture
3:45 PM – 5:00 PM	Guest lecture
5:00 PM – 6:00 PM	Interaction with faculty and students at departmental Spring picnic
6:00 PM – 8:00 PM	Dinner with student chapter officers, members of the Seismic Design Competition team and faculty advisor at local restaurant

STUDENT CHAPTER VISIT PLANNING COMMITTEE

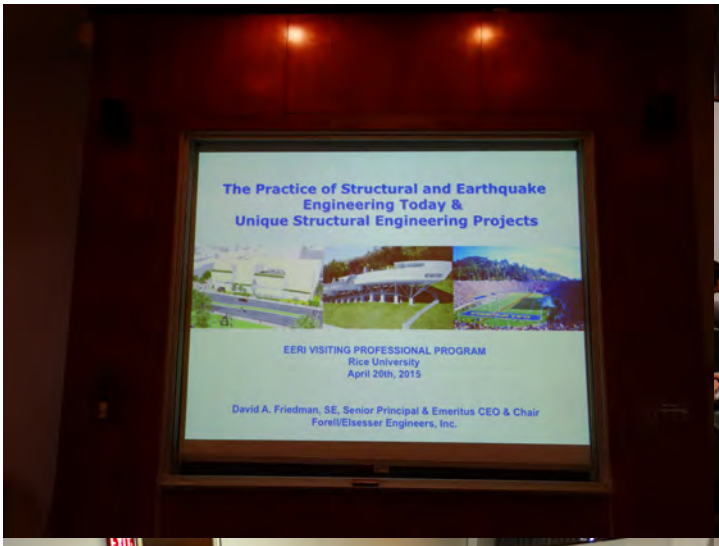
LEAD ORGANIZER(S): {enter name of student members who lead the visit, chapter role, email}

- Mihaela Nistor, President, mn17@rice.edu
- Kameshwar Sabarethinam, Vice-President, sk56@rice.edu

Professor Jamie Padgett, faculty advisor of the student chapter and Jennifer Mashburn, staff in the Civil and Environmental Engineering assisted in the organization of this event.

VISITING PROFESSIONAL LECTURE OVERVIEW

David highlighted challenging projects that he worked on during his professional career. His presentation focused on the novel techniques that were employed in the projects, particularly base isolation techniques. The attendees, comprising of undergraduate and graduate students along with faculty, found the talk very interesting and informative. Following the talk, students and faculty interacted with David and further discussed on a variety of earthquake engineering topics. The students found the talk motivating and it gave them a perspective on what to expect from a career in industry.





Lecture Abstract

The practicing structural engineer today must not only have a broad understanding of not just structural engineering, but must be knowledgeable about architecture, M/E/P systems, construction delivery methodologies, and the construction process. The project's budget, the selected performance and design criteria, the architectural form, and the operating systems all affect the selection of the appropriate structural materials and lateral force resisting system. Then the analysis must get translated into a design, and the design must clearly and carefully be delineated into construction documents including plans, details, sections and technical specifications, with appropriate attention to sequencing, phasing and constructability. This all gives rise to the notion of today's structural engineer as a "Master Builder," one who can articulate their way through a complex labyrinth of form finding, criteria setting, risk evaluation, design and documentation, and construction (and hopefully not litigation).

Professional Bio

David approaches projects with experience of more than 34 years at Forell/Elsesser and almost 40 years in the industry, His particular strength is in holistic approaches to project planning, design and construction, and the collaborative integration of creative structural solutions with architects, engineers, and builders. He absolutely LOVES what he does and his involvement in EERI has provided a broad and global view of earthquake risk reduction.

David is committed to worldwide seismic risk reduction, and is an active Member of the Board of Directors for the Earthquake Engineering Research Institute (EERI), which disseminates lessons learned from earthquakes around the world. David served on EERI Post-Earthquake Reconnaissance teams in Kobe, Japan (1995) and Wenchuan, China (2008). He is also involved in many institutional, academic, philanthropic and not-for-profit Boards including the San Francisco Foundation (SFF), San Francisco Planning + Urban Research Association (SPUR), UC Berkeley Foundation (UCBF), and Jewish Senior Living Group (JSLG). David is a licensed Structural Engineer in California, Nevada, and British Columbia.

SUPPLEMENTAL ACTIVITES

Visit of OEDK, Ryon Lab and campus tour

Upon arrival on campus, officers of EERI took David on a tour of the Oshman Engineering Design Kitchen (OEDK) where the undergraduate students have hands on experience on design projects. The visit continued with a short tour of Ryon Lab, the Civil Engineering Department building. The tour ended after a walk with key campus highlights.

Informal meeting luncheon

David interacted with graduate and undergraduate students over lunch. The purpose of this meeting was to facilitate discussion between the students and our guest. During the luncheon, he described his journey and learning experiences with EERI and motivated students to passionately pursue their interests. He also shared his experiences as the CEO of Forell/Elsesser Engineers and gave tips on how to interview for positions in industry; the tips were highly valued by the students.

Meeting with faculty at Rice University

The faculty of the Department of Civil and Environmental Engineering met with David.

Dinner at a local restaurant

Dr. Jamie Padgett, the seismic design team members and the EERI officers had dinner with David at a local restaurant where further discussions on various topics followed. The seismic design team members were happy to discuss with David about the competition, since the visit was after the competition where David was a judge.

RESULTS, FEEDBACK AND LESSONS LEARNED

The process for the Friedman Family Visiting Professional Program was very easy. After the notification that our student chapter was selected as part of the program we contacted our guest. David responded promptly to our email and from there it was just a matter of finding a convenient time for the visit. Organizing the visit was an interesting experience from which we learned to better communicate and coordinate because it involved discussions with professors, staff and students in a different setting.

As a new student chapter, the members appreciated David's visit and showed increased interest in the EERI activities and mission. We believe that this type of visits strongly encourage students to better understand earthquake engineering.

The student chapter will continue to apply to the Friedman Family Visiting Professional Program as it is a great opportunity to interact with professionals that promote the importance of understanding earthquake engineering. For future visits we are interested in topics related to:

- geological and social aspects of earthquakes

- lessons learned from earthquakes
- retrofit of historical buildings

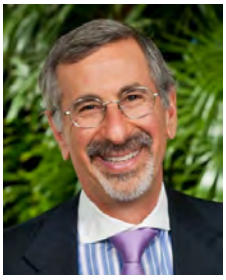
ACKNOWLEDGEMENTS

The Rice University EERI Student Chapter gratefully acknowledges the support of the Friedman Family for sponsoring the travel of David Friedman through their Friedman Family Visiting Professional Program endowment. The support of our faculty advisor Dr. Jamie Padgett is gratefully acknowledged.

LIST OF ATTACHMENTS

Included at the end of this report are various attachments to supplement the information included above. A list of the attachments is included below:

- Item 1, i.e. flier for event



DEPARTMENT OF CIVIL & ENVIRONMENTAL ENGINEERING

In coordination with The EERI-RU Chapter and
The Friedman Family Visiting Professionals Program

SPECIALTY SEMINAR

The Practice of Structural & Earthquake Engineering Today
3 Unique Structural Engineering Projects

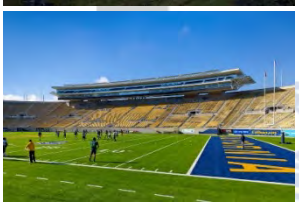
David A. Friedman, SE
Senior Principal, Emeritus CEO & Board Chair
Forell/Elsesser Engineers, Inc. (F/E)

Mon., April 20, 2015 - 3:45 PM - Ryon Lab 201

Abstract: The practicing structural engineer today must not only have a broad understanding of not just structural engineering, but must be knowledgeable about architecture, M/E/P systems, construction delivery methodologies, and the construction process. The project's budget, the selected performance and design criteria, the architectural form, and the operating systems all affect the selection of the appropriate structural materials and lateral force resisting system. Then the analysis must get translated into a design, and the design must clearly and carefully be delineated into construction documents including plans, details, sections and technical specifications, with appropriate attention to sequencing, phasing and constructability. This all gives rise to the notion of today's structural engineer as a "Master Builder," one who can articulate their way through a complex labyrinth of form finding, criteria setting, risk evaluation, design and documentation, and construction (and hopefully not litigation). Some current projects that highlight these issues include:

San Francisco City Hall: Forell/Elsesser served as Prime Engineer for the complete repair and base isolation seismic upgrade of the 550,000 sq.ft., 4-story City Hall which contains both Superior and Municipal Courts for the City and County of San Francisco. This "essential facility" is a classic steel framed structure with a 310-foot high dome clad with perimeter granite walls. Base isolation was selected because it is cost-effective, allowed for minimum disruption to the ornate historic building, and provided maximum protection.

UCSF Parnassus Ray & Dagmar Dolby Regeneration Medicine Building: The construction of this 80,000 SF stem cell research building utilized the design/build delivery system. The program included wet laboratories, laboratory support, offices, an auditorium, and "green roofs." This building is situated on a steeply sloped site and terraces vertically through a series of steps along its length. The structure is steel framed with special friction pendulum isolators protecting the structure and the sensitive equipment from the effects of earthquakes.



UC Berkeley California Memorial Stadium: This historic concrete football stadium originally built in 1923 sits atop the northern segment of the Hayward Fault. The project included seismic strengthening and modernization of this non-ductile concrete frame. The retrofit of the fault rupture segments includes "blocks," separated from the adjacent building portions, and frees to move independently when the fault ruptures and displaces. The West Bowl utilized vertically-post-tensioned rocking concrete walls and passive viscous dampers.

Bio: David approaches projects with experience of more than 34 years at Forell/Elsesser and almost 40 years in the industry, His particular strength is in holistic approaches to project planning, design and construction, and the collaborative integration of creative structural solutions with architects, engineers, and builders. He absolutely LOVES what he does and his involvement in EERI has provided a broad and global view of earthquake risk reduction.