

# FRIEDMAN FAMILY VISITING PROFESIONALS PROGRAM

Visit to UC Los Angeles: May 12, 2016



This report summarizes the visit of **Dr. Ronald Mayes** from Simpson Gumpertz & Heger that took place at the University of California, Los Angeles on May 12, 2016.

## ITINERARY OR AGENDA

TIME:	ACTIVITY:
11:00 AM – 12:00 AM	Faculty advisor meets & welcomes Visiting Professional to campus
12:00 AM – 1:30 PM	Luncheon meeting with student chapter and faculty members
2:00 PM – 3:00 PM	Informal meeting with department undergraduate and graduate students for career guidance
3:00 PM – 4:00 AM	Tour of structural testing lab with Visiting Professional
4:00 PM – 5:15 PM	Guest lecture by Visiting Professional
5:30 PM – 6:30 PM	Dinner with chapter officers and faculty advisor at local restaurant

## STUDENT CHAPTER VISIT PLANNING COMMITTEE

**LEAD ORGANIZER(S):** Yazhou Xie, President, [xieyazhou@ucla.edu](mailto:xieyazhou@ucla.edu);

- Jian Zhang, Faculty Advisor, [zhangji@ucla.edu](mailto:zhangji@ucla.edu);
- Yi Tyan Tsai, Secretary and SLC Representative, [tsaiyityan@gmail.com](mailto:tsaiyityan@gmail.com)
- Soheil Kashani, Vice President, [soheilka@ucla.edu](mailto:soheilka@ucla.edu)
- Christopher Segura, Student member, [segurac@ucla.edu](mailto:segurac@ucla.edu)

## VISITING PROFESSIONAL LECTURE OVERVIEW

Dr. Mayes's lecture was co-listed as the UCLA CEE 200 and EERI student chapter seminar between 4:00 pm to 5:15 pm. The lecture was attended by approximately 40 graduate students and a handful of faculty members. In his lecture, Dr. Mayes firstly addressed the current problems of code requirements of designing base isolation devices for buildings, namely the conservative and burdensome code regulations shapely impeded the implementation of base isolation devices in U.S. Sequentially, Dr. Mayes talked about the most significant modifications of code provisions that will be applicable in near future, which will make the design and implementation of base isolation devices easy and economic. Given that one class of graduate students in structural engineering are currently learning the base isolation technology, this topic was well understood by most of the students. It served as an ideal supplementation of students' coursework by linking what have been learned in class and the real applications. The second topic covered in Dr. Mayes's lecture was the US Resiliency Council (USRC) and the Building Rating System. This topic offered the students a good sense of how to effectively connect the structural engineering profession with the general public about the buildings we design and retrofit. Especially, it clarified the long-time misunderstanding of the public about the seismic performance of buildings under different levels of earthquake hazards. Both of these two topics were interesting and enlightening. Students were attentive during the lecture and asked thoughtful questions afterwards.



**Figure 1:** Dr. Mayes introducing EERI and encouraging students to broaden their understanding of the field by being involved in their local chapters.



**Figure 2:** Base isolation as an alternative to improve seismic performance of structures

## Lecture Abstract

After being firstly codified as an appendix to the 1991 Uniform Building Code, seismic isolation has been perceived as expensive, complicated, and time-consuming in both design and execution. While these criticisms were valid, the fault does not lie with the technology itself. The drawbacks to utilize seismic isolation stemmed from the design professions' ability to fully quantify the benefits of the technology coupled with the conservative and burdensome code requirements. The presentation will describe the revisions to Chapter 17 of ASCE 7-10 that will be applicable to ASCE 7-16 provisions. The recommendations are the most significant modifications since the 1991 provisions were adopted. The recommended changes will make the design and implementation process as economic and as easy to implement as possible and should expand the use of seismic isolation technology in the US.

The US Resiliency Council (USRC) offers the structural engineering profession a unique opportunity to transform the way it communicates with both clients and the public about the performance of buildings we design and retrofit. Building on the work of the Structural Engineers Association of Northern California (SEAONC) Existing Buildings Ratings Committee over the past eight years, and the recommendations of an Applied Technology Council (ATC) User's workshop, in 2011, the U.S. Resiliency Council® (USRC) was formed as a 501(c)3 nonprofit organization to establish a rating system for certifying the resiliency of buildings to natural and man-made hazards. Efforts to develop a building rating system have included many technical and philosophical challenges, and the USRC has formed a diverse coalition of technical organizations, engineering firms, individuals, industry supporters, and government agencies to develop a consensus-based approach to solving these challenges. Like the U.S. Green Buildings Council (USGBC®), the USRC will certify practitioners and best practices, and technically review ratings shared with the public so that USRC ratings are credible and consistent. The USRC was officially launched in late-2015. This presentation will describe the goals and objectives, and organization of the USRC, the need for a building rating system, the potential users, the information it provides and the measures that will be used to maintain the long term credibility of the system.

## Professional Bio

Ron Mayes, Ph.D., is a co-founder and Acting Executive Director of the US Resiliency Council and a lifelong advocate for improved earthquake resilience of our communities. Currently a Staff Consultant with Simpson, Gumpertz & Heger in San Francisco, Ron is the firm's in-house expert on the application of innovative technology. He founded and served as President of Dynamic Isolation Systems, Inc. a firm that pioneered the use of base isolation technology in the United States. Ron has served as the co-chair of the Building Ratings Committee of the Structural Engineers Association of Northern California since 2006. He has also served as the Chair of ASCE 7 and ASCE 41 committees on base isolation and energy dissipation. He is a past Secretary/ Treasurer of the Earthquake Engineering Research Institute (EERI) and a former Technical and Executive Director of the Applied Technology Council (ATC). He was selected "Structural Engineer of the Year" by the Wiley Journal "Design of Tall and Other Buildings" in 2006 and is a Fellow of both the Structural Engineers Association of California (SEAOC) and SEAONC. Ron received his Ph.D. in structural engineering from the University of Auckland, New Zealand, in 1972.



## SUPPLEMENTAL ACTIVITIES



### Luncheon Meeting with Student Chapter and Faculty Members

Dr. Mayes had a luncheon meeting with seven chapter members and four faculty members (department chair Jonathan Stewart, department vice chair Scott Brandenburg, professor Mladen Vucetic, and professor Jian Zhang) from 12:00 pm to 1:30 pm. During the luncheon meeting, Dr. Mayes introduced his current work as the Acting Executive Director in the US Residency Council to develop the Building Rating System. The achievements and challenges of the Building Rating System are discussed in the meeting, where constructive suggestions have been provided by the professors, and engaging experiences were well-delivered to students.



**Figure 3:** Luncheon with Dr. Mayes at the faculty center with students and professors.



**Figure 4:** Group photo in front of the engineering building

## Career Guidance Session with Graduate and Undergraduate Students

An informal career guidance session was held after the lunch, where about fifteen undergraduate and graduate students attended the session and asked questions about their career development to Dr. Mayes. By combining his own career experiences with students' questions, Dr. Mayes talked about the general picture of the civil engineering profession, provided guidance to properly choose the career path based on personal interests, introduced new challenges in both the research and practical communities, as well as interacted with students about the motivation of choosing civil engineering as the career. The career guidance session was well-liked by the attendees and can facilitate in confidence the career development of students.



**Figure 5:** Career session and open discussion about the engineering profession with Dr. Mayes

## Tour of Structural Testing Laboratory

Prior to his lecture, Dr. Mayes was guided on a tour of the Structural Testing Laboratory by chapter member Christopher Segura, who is a Ph.D. candidate conducting experimental studies on concrete shear walls. During the lab tour, Dr. Mayes discussed with Chris about his ongoing projects and suggested him to compare the test results with numerical studies under the Performance Based Earthquake Engineering framework.

## Dinner

Dr. Mayes was treated to dinner at Wolfgang in UCLA campus. Student chapter officers and faculty advisor Professor Zhang were in attendance. During the dinner, the attendees discussed career-related advices, general life lessons, NBA games, and memorable Ph.D. research experiences. Everyone had a wonderful time during the dinner.

## RESULTS, FEEDBACK AND LESSONS LEARNED

Coordinating Dr. Mayes's visit was difficult in the initial stages, given that multiple layers of communications – those between the EERI student chapters, faculty members, department staff, seminar instructor, graduate and undergraduate students, and Dr. Mayes himself – are required. However, after the itinerary of the visit was finalized, everything else was resolved smoothly.

Overall, the Friedman Family Visiting Professional program of Dr. Mayes's visit was extremely well-received. The various events we organized have provided opportunities for the chapter members, undergraduate and graduate students, and faculty members to highly interact with Dr. Mayes, and all parties benefited from this interaction.

## ACKNOWLEDGEMENTS

The University of California, Los Angeles EERI Student Chapter gratefully acknowledges the support of the Friedman Family for sponsoring the travel of Ronald Mayes through their Friedman Family Visiting Professional Program endowment.

In addition, the FEMA \$10/member donation to UCLA EERI Student Chapter is highly appreciated to cover the expenses of hosting the visiting professional.

## 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, fliers for the events



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## Friedman Family Visiting Professionals Program

**Ronald L. Mayes, Ph.D.**

Staff Consultant  
SIMPSON GUMPERTZ & HEGER

**Thursday, May 12**  
**UCLA, 11:00 am – 6:00 pm**

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11:00 am – 12:00 am	Meet with Faculty Advisor: Dr. Jian Zhang	BH 5731G
12:00 am – 2:00 pm	Luncheon Meeting	Faculty Center
2:00 pm – 3:00 pm	Career Guidance Session	Franz 2288
3:00 pm – 3:50 pm	Structural Testing Lab Tour /Campus Tour	BH Structures Lab UCLA Campus
4:00 pm – 5:00 pm	CEE 200 Seminar	BH 4275
5:00 pm – 6:30 pm	Dinner	Wolfgang, Ackerman Union

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## **UCLA EERI Student Chapter**

### **Career Guidance Session with Dr. Ronald Mayes 12 May | 2pm - 3pm | Franz 2288**

*Snacks and coffee will be served. Please RSVP as space is limited.*

The UCLA EERI student chapter will be hosting Dr. Ronald Mayes from Simpson Gumpertz & Heger as part of the Friedman Family Visiting Professionals Program. He will have a casual career guidance session from 2 - 3 pm on 12 May (Thursday) at Franz 2288. If you have any questions about career development or are curious about the industry, come attend the event!



Dr. Ron Mayes has over 35 years of industry experience. He is an active advocate of improving earthquake resilience of our communities, and is the Acting Executive Director of the US Resiliency Council. Ron is a staff consultant at Simpson, Gumpertz & Heger and is their in-house expert on the application of innovative technology at the San Francisco office.

Dr. Mayes received his Ph.D. in structural engineering from the University of Auckland, New Zealand, in 1972. He founded Dynamic Isolation Systems, Inc. which pioneered the use of base isolation technology in the United States. He has served as the co-chair of the Building Ratings Committee of the Structural Engineers Association of Northern California (SEAONC) since 2006. He has also served as the Chair of ASCE 7 and ASCE 41 committees on base isolation and energy dissipation. He was the past Secretary/Treasurer of the Earthquake Engineering Research Institute (EERI) and the Technical and Executive Director of the Applied Technology Council (ATC). He was selected as the Structural Engineer of the Year in 2006 by the Wiley Journal "Design of Tall and Other Buildings".



## **C&EE 200 / EERI Student Chapter Seminar**

**Ronald L. Mayes, Ph.D.**

Staff Consultant, SIMPSON GUMPERTZ & HEGER

**Base (Seismic) Isolation Technology, US Resiliency Council and the Building Rating System**

**4 p.m. – 5 p.m. Thursday, May 12**

**Boelter Hall 4275**

**Abstract:** After being firstly codified as an appendix to the 1991 Uniform Building Code, seismic isolation has been perceived as expensive, complicated, and time-consuming in both design and execution. While these criticisms were valid, the fault does not lie with the technology itself. The drawbacks to utilize seismic isolation stemmed from the design professions' ability to fully quantify the benefits of the technology coupled with the conservative and burdensome code requirements. The presentation will describe the revisions to Chapter 17 of ASCE 7-10 that will be applicable to ASCE 7-16 provisions. The recommendations are the most significant modifications since the 1991 provisions were adopted. The recommended changes will make the design and implementation process as economic and as easy to implement as possible and should expand the use of seismic isolation technology in the US.

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