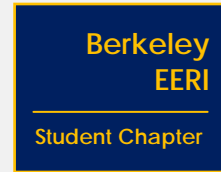


FRIEDMAN FAMILY VISITING PROFESIONALS PROGRAM



Visit to University of California at Berkeley: May 4, 2017

This report summarizes the visit of **Dr. Ronald L. Mayes** from Simpson Gumpertz & Heger that took place at the University of California at Berkeley on May 4, 2017.

ITINERARY OR AGENDA

TIME:	ACTIVITY:
10:30 AM – 11:00 AM	Student Chapter President meets & welcomes Visiting Professional to campus
11:10 AM – 12:15 AM	Guest lecture by Visiting Professional
12:30 PM – 2:00 PM	Lunch with student chapter leadership and faculty advisor
2:00 PM – 2:15 PM	Brief tour of structural testing lab and on-going experimental projects
2:30 PM – 4:00 PM	Informal meeting with department graduate students (soon to be graduating) for career guidance and discussion of topics covered during the guest lecture

STUDENT CHAPTER VISIT PLANNING COMMITTEE

LEAD ORGANIZER(S): Xin (Cindy) Qian, President, cindyqian@berkeley.edu

- Astaneh-Asl, Abolhassan, Faculty Advisor, astaneh@berkeley.edu

VISITING PROFESSIONAL LECTURE OVERVIEW

Dr. Mayes's lecture was offered to the students of the CEE department as the EERI Student Chapter special seminar during lunch time. Although it was during the Review week, about 30 graduate students and several undergraduate students attended, as well as a couple of faculty members. Dr. Mayes first talked about the US Resiliency Council (USRC) and the Building Rating System, and how can we use the system to communicate with the general public and its potential impact on the structural engineering field. Then, Dr. Mayes talked about the base isolation technology, the issues with the existing code requirements and the most significant simplifications and modifications of the next version of code provisions. The new provision will make the design and implementation of base isolation much more easily and more economical. He also pointed out how the Building Rating System can help to promote the use of base isolation technology since it can effectively reduce both drifts and accelerations as well as their associated damages and loss. Both of these two topics were interesting, informative and enlightening. Students were very interested and asked thoughtful questions after the lecture, and several even continued the discussion with Dr. Mayes during the informal meeting. After his visit, Dr. Mayes was also very kind to agree to send the students some additional material/slides on related topics such as construction process of the base isolation for existing buildings and the ASCE 7-10 Chapter 17 replacement document.

Lecture Abstract

Design requirements for seismically isolated buildings were first codified in the United States as an appendix to the 1991 Uniform Building Code. In the intervening years, those provisions have not been significantly changed. 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 using 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. Also included will be an overview of the USRC Rating System and a quantification of the economic benefits of base isolation utilizing FEMA P58/SP3.

Professional Bio

Ron Mayes, Ph.D., is a co-founder and Acting Executive Director of the US Resiliency Council and a life-long 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.



Figure 1 President of EERI Student Chapter introducing the visiting professional to the students



Figure 2 Dr.Mayes giving the technical presentation

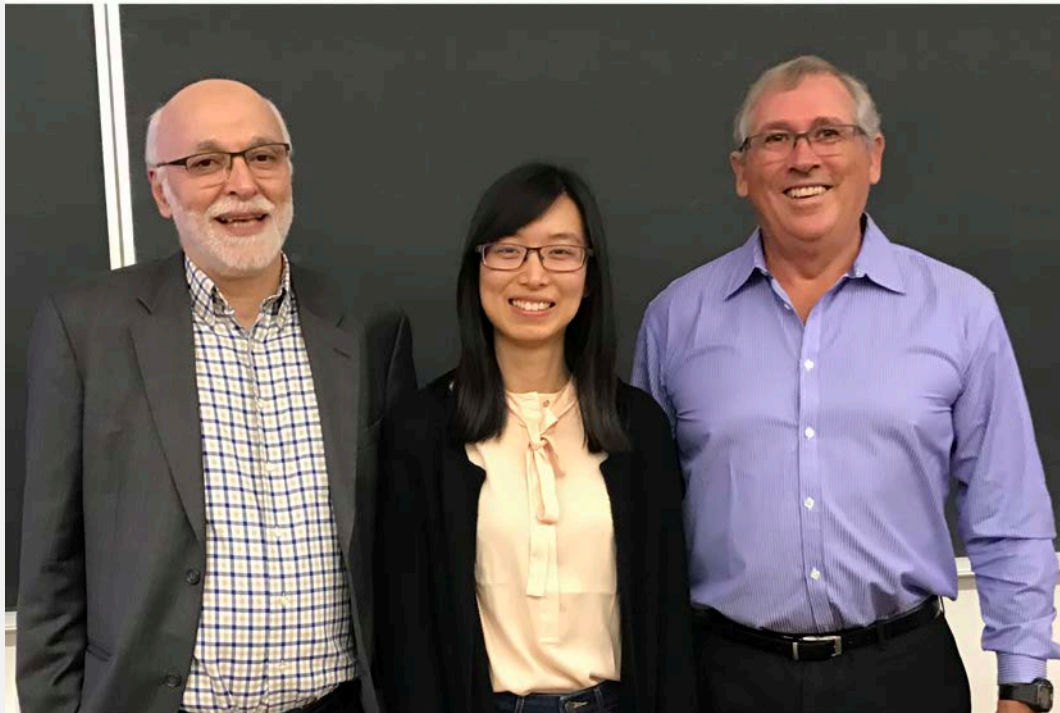


Figure 3 From left to right: Faculty Advisor, Prof.Astaneh-Asl, Student Chapter President, Cindy Qian, and Visiting Professional, Dr.Mayes

SUPPLEMENTAL ACTIVITIES

Luncheon Meeting with Student Chapter and Faculty Advisor

Dr. Mayes had a luncheon meeting with six chapter members, including the current and next year leader of the Cal Seismic Team, and the faculty advisor from 12:30 pm to 2:00 pm at the Faculty Club on campus. During the luncheon meeting, Dr. Mayes introduced his current effort in developing and promoting the Building Rating System. He shared his insight and vision of the potential impact of the Building Rating System on the structural engineering industry, as well as the milestones and challenges during the process, which inspired great discussion among the students and the faculty advisor and Dr. Mayes. Engaging experiences were well-delivered to students. Dr. Mayes also encouraged the undergraduate students to continue involvement with EERI student chapter and encouraged both grad and undergrad students to participate in various activities and conferences organized by EERI.

Informal Meeting with Graduate Students

An informal career guidance session was held after the luncheon meeting, where about ten graduate students attended the session and asked questions about their career development to Dr. Mayes, as well as topics related to the technical lecture. The meeting facilitated very enlightening conversation between the students and Dr. Mayes about various topics, such as the use of base isolation, the challenges during the process of establish and promoting the USRC and Building Rating System, the role of structural engineer in the construction industry and how fresh graduates can get engaged and help to promote better design and city resiliency. By combining his career experiences with students' questions, Dr. Mayes also provided guidance on choice of the career path based on personal interests and shared his view on possible future research areas based on the current industry needs, such as non-structural damage and regional resiliency study. The informal meeting session was well-liked by the attendees.

RESULTS, FEEDBACK AND LESSONS LEARNED

In general, the entire process was smooth although there are multiple layers of communication – between student chapter and the visiting professional, department staff, graduate and undergraduate students. Scheduling on the visit date was probably the most difficult part. Due to Dr. Mayes's travel plan to New Zealand, the visit has to be scheduled during the Review week, but the technical seminar was still very well attended during the busy time of the semester.

Overall, the Friedman Family Visiting Professional program of Dr. Mayes's visit was extremely well-received. The two major events organized by the student chapter 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 UC Berkeley EERI Student Chapter gratefully acknowledges the support of the Friedman Family for sponsoring the travel of Dr. Ronald L. Mayes through their Friedman Family Visiting Professional Program endowment.

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

Presents

Base (Seismic) Isolation Technology

Ronald L. Mayes, Ph.D.

Staff Consultant, Simpson Gumpertz & Heger

Thursday, May 4, 2017

11:00-12:00 pm in 502 Davis Hall

Abstract

Design requirements for seismically isolated buildings were first codified in the United States as an appendix to the 1991 Uniform Building Code. In the intervening years, those provisions have not been significantly changed. 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 using 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. Also included will be an overview of the USRC Rating System and a quantification of the economic benefits of base isolation utilizing FEMA P58/SP3.

Speaker:

Ron Mayes, Ph.D., is a co-founder and Acting Executive Director of the US Resiliency Council and a life-long 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.

Presents

Meet with Friedman Family Visiting Professional

Ronald L. Mayes, Ph.D.

Staff Consultant, Simpson Gumpertz & Heger

**Thursday, May 4, 2017
2:30-4:00 pm in 544 Davis Hall**

Snacks and coffee will be served!



The Berkeley EERI Student Chapter will be hosting Dr. Ronald Mayes from Simpson Gumpertz & Heger as part of the Friedman Family Visiting Professionals Program. He has kindly agreed to have a casual career guidance session from 2:30-4:00 pm on May 4 (Thursday) in 544 Davis Hall. If you have any questions about career development or the industry, come and join us!

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.