



University of Nebraska-Lincoln Chapter

# FRIEDMAN FAMILY VISITING PROFESIONALS PROGRAM

Visit to University of Nebraska-Lincoln:  
March 09, 2022



This report summarizes the visit of **James O. Malley** from Degenkolb Engineers that took place at the University of Nebraska-Lincoln on March 09, 2022.

## ITINERARY OR AGENDA

The agenda of the visit is listed below. Please note that the time zone mentioned is based on visiting professional's location.

TIME:	ACTIVITY:
12:00 -12:30 p.m. CT	Student chapter president meet and welcome the guest
1:00 to 2:00 p.m. CT	Meeting with UNL Faculty Members
2:00 to 2:30 p.m. CT	Structural Engineering Laboratory Visit
2:30 to 4:15 p.m. CT	Meeting with Students (including student presentations)
4:30 to 5:40 p.m. CT	Friedman Family Lecture
5:40 to 6:00 p.m. CT	Post-lecture Q&A session
After 6:00 p.m. CT	Dinner at a nice local restaurant
8:00 p.m. CT	Farewell to the professional

## STUDENT CHAPTER VISIT PLANNING COMMITTEE

### LEAD ORGANIZERS:

- M. Khalid Saifullah, chapter co-president (Lincoln Campus), [khalidsaif356@gmail.com](mailto:khalidsaif356@gmail.com); [khalidsaif@huskers.unl.edu](mailto:khalidsaif@huskers.unl.edu)
- Collen Findall, chapter co-president (Omaha Campus), [cfindall@unomaha.edu](mailto:cfindall@unomaha.edu)
- Prof. Christine E. Wittich, chapter advisor (Lincoln Campus), [cwittich@unl.edu](mailto:cwittich@unl.edu)

## VISITING PROFESSIONAL LECTURE OVERVIEW

James's lecture was on the topic of "CHARACTERISTICS AND SEISMIC PERFORMANCE OF EXISTING TALL BUILDINGS". The presentation focused on the seismic performance of a large number of actual tall steel framed structures in San Francisco designed between 1960 and 1990. The topic was novel in the sense that most of the people in the school here in Nebraska were unfamiliar with these case studies on actual buildings. The attendees found the lecture unique and quite intriguing which was evident from some interesting questions during the Q&A session. The lecture was well attended, and the audience included associate dean of college of engineering, structural engineering faculty, graduate, and undergraduate students. The attendees really enjoyed the lecture and were grateful to James Malley for traveling all the way from San Francisco and delivering this great lecture.

## Lecture Abstract

The 25th anniversary of the 1994 Northridge, California Earthquake highlighted the potential vulnerability of older tall steel-framed buildings to large earthquakes in California. Articles in the New York Times raised concern about the potential vulnerabilities of buildings of this type in San Francisco, citing results reported. This lecture is presented as part of the EERI Friedman Family Visiting Professionals Program. In addition to design techniques, and analysis software. Case studies of more than thirty such buildings, with about half evaluated using nonlinear response history procedures specified in ASCE 41-17 to evaluate the seismic performance of each building. The presentation will discuss detailed modelling techniques used to simulate the potential for fracture of both the welded beam-to-column connections and the partial joint penetration column splices and how analysis and modeling techniques can drive analytical results. Evaluation of the results clearly demonstrated that it is difficult, if not impossible, to draw broad conclusions about the seismic performance of this entire class of buildings. However, these detailed evaluations allowed for comparison of this important class of existing buildings. The main presentation a short discussion about EERI's mission and how young engineers can participate will be presented. In the "Haywired" Scenario reports published by United States Geology Survey. This presentation will focus on the seismic performance of a large number of actual tall steel framed structures in San Francisco designed between 1960 and 1990. The presentation will discuss how the structural design and detailing of these buildings evolved due to changes in construction technology, architectural considerations, engineering between the different seismic performance features of these buildings and provide the ability to make some observations about the individual building performance characteristics.

As a part of this lecture, James also discussed the current state of structural engineering industry, and what level of education is required, and how students should approach the potential employer.

## Professional Bio

James O. Malley, S.E., is a Senior Principal with Degenkolb Engineers. He received both his Bachelors and Masters Degrees from the University of California at Berkeley. Mr. Malley has over 35 years of experience in the seismic design, evaluation and rehabilitation of building structures. He was responsible for the analytical and testing investigations performed as part of the SAC Steel Project in response to the Northridge earthquake damage. In 2000, AISC presented Mr. Malley its' Special Achievement Award. Mr. Malley is Chair of the AISC Specifications Committee and the Past-Chair of the AISC Seismic Subcommittee. He was named the 2010 T.R. Higgins Lectureship Award winner for his work on the AISC Seismic Provisions, and in 2012 was given presented with a Lifetime Achievement Award by AISC. Mr. Malley is also a member of the AWS Subcommittee on Seismic Welding Issues. Mr. Malley was also one of the authors of the PEER Tall Buildings Institute "Guidelines for the Performance-Based Seismic Design of Tall Buildings" and is involved in the peer review of numerous tall building projects in areas of high seismic risk. Jim has served as a member of the SEAONC and SEAOC Board of Directors, and was President of SEAONC in 2000-2001 and SEAOC in 2003-2004. He was named a SEAOC Fellow in 2007 and an Honorary Member of SEAONC in 2014. He also was a member of the Board of Directors of NCSEA, serving of Directors of EERI and is presently past President of the Applied Technology Council. He was also elected to the National Academy of Engineering in 2021 for his contributions to seismic design. as President in 2010-2011. Mr. Malley also served as a member of the Board

## SUPPLEMENTAL ACTIVITIES

### Meeting with UNL Faculty Members

In this meeting, University's structural engineering faculty members from both Lincoln and Omaha campus got an opportunity to meet with James. The faculty members discussed their research projects and activities, while James also shared some insight into current practices in the industry.

## Structural Engineering Laboratory Visit

The professional was given a tour of the structural engineering laboratory at the University of Nebraska-Lincoln. The operation and capabilities of a recently added state-of-the-art large 7' x 7' shake table (3 tons payload capacity), were demonstrated to familiarize him with the increasing potential that our university possesses in terms of earthquake engineering research. The professional was also briefed about the research projects ongoing on the shake table and also various other projects such as usage of LIDAR in dynamic testing.

## Meeting with Students (including student presentations)

Undergraduate and graduate students of our student chapter got an opportunity to meet with James. Students got a rare chance to discuss more about their resume, education, career goals, work-life balance and were lucky enough to get some valuable recommendations from one of the most experienced persons in their field. Five PhD students of Structural Engineering also presented their research to the professional and that resulted in a healthy discussion and feedback from the professional.

## Dinner with the professional at a nice local restaurant

Undergraduate and graduate students got an opportunity for dinner with the professional at a nice local restaurant, The Green Gateau. The dinner was generously sponsored by the Civil and Environmental Engineering Department of UNL. Students from other student chapter such as ASCE also joined the dinner. The students also got an opportunity to discuss about various topics including work-life balance, professional's interest in sports, and casual discussion on variety of other matters.

## RESULTS, FEEDBACK AND LESSONS LEARNED

The in-person visit attracted a lot of interest from the whole school. EERI should keep these visits as in-person and should keep on sending some great professionals like James Malley. In addition, it is very much in EERI's interest to focus on the Midwest region (such as Nebraska) with these visits and keep these chapters active while also increasing EERI's outreach.

## ACKNOWLEDGEMENTS

The University of Nebraska-Lincoln EERI Student Chapter gratefully acknowledges the support of the Friedman Family for sponsoring the in-person visit of James Malley through their Friedman Family Visiting Professional Program endowment. The Student Chapter would also like express their gratitude to James Malley for his time and efforts to make this lecture happen.

## 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. announcement for the event
- Item 2, welcome/introductory slides by the student chapter for the Visiting Professional
- Item 3, some photos from the dinner



SAVE  
THE  
DATE

## EERI UNL chapter (in collaboration with ASCE UNL chapter) invites you to the lecture of our distinguished guest, James O. Malley, S.E., NAE, sponsored by EERI's Friedman Family Visiting Professionals Program

### ABOUT OUR DISTINGUISHED GUEST



James O. Malley, S.E., is a Senior Principal with Degenkolb Engineers. He received both his Bachelors and Masters Degrees from the University of California at Berkeley. Mr. Malley has over 35 years of experience in the seismic design, evaluation and rehabilitation of building structures. He was responsible for the analytical and testing investigations performed as part of the SAC Steel Project in response to the Northridge earthquake damage. In 2000, AISC presented Mr. Malley its' Special Achievement Award. Mr. Malley is Chair of the AISC Specifications Committee and the Past-Chair of the AISC Seismic Subcommittee. He was named the 2010 T.R. Higgins Lectureship Award winner for his work on the AISC Seismic Provisions, and in 2012 was given presented with a Lifetime Achievement Award by AISC. Mr. Malley is also a member of the AWS Subcommittee on Seismic Welding Issues. Mr. Malley was also one of the authors of the PEER Tall Buildings Institute "Guidelines for the Performance-Based Seismic Design of Tall Buildings" and is involved in the peer review of numerous tall building projects in areas of high seismic risk. Jim has served as a member of the SEAONC and SEAOC Board of Directors, and was President of SEAONC in 2000-2001 and SEAOC in 2003-2004. He was named a SEAOC Fellow in 2007 and an Honorary Member of SEAONC in 2014. He also was a member of the Board of Directors of NCSEA, serving as President in 2010-2011. Mr. Malley also served as a member of the Board of Directors of EERI and is presently past President of the Applied Technology Council. He was also elected to the National Academy of Engineering in 2021 for his contributions to seismic design.



OTHMER HALL,  
ROOM 106

**MARCH 9, WED,**  
**4:30 - 6:00 PM**

**JOIN**

<https://unl.zoom.us/j/97299353292>  
Meeting ID: 972 9935 3292

## LECTURE TOPIC: CHARACTERISTICS AND SEISMIC PERFORMANCE OF EXISTING TALL BUILDINGS

The 25th anniversary of the 1994 Northridge, California Earthquake highlighted the potential vulnerability of older tall steel-framed buildings to large earthquakes in California. Articles in the New York Times raised concern about the potential vulnerabilities of buildings of this type in San Francisco, citing results reported in the "Haywired" Scenario reports published by United States Geology Survey. This presentation will focus on the seismic performance of a large number of actual tall steel framed structures in San Francisco designed between 1960 and 1990. The presentation will discuss how the structural design and detailing of these buildings evolved due to changes in construction technology, architectural considerations, engineering design techniques, and analysis software. Case studies of more than thirty such buildings, with about half evaluated using nonlinear response history procedures specified in ASCE 41-17 to evaluate the seismic performance of each building. The presentation will discuss detailed modelling techniques used to simulate the potential for fracture of both the welded beam-to-column connections and the partial joint penetration column splices and how analysis and modeling techniques can drive analytical results. Evaluation of the results clearly demonstrated that it is difficult, if not impossible, to draw broad conclusions about the seismic performance of this entire class of buildings. However, these detailed evaluations allowed for comparison between the different seismic performance features of these buildings and provide the ability to make some observations about the individual building performance characteristics. This type of information will be important to building owners and building officials in determining the potential need for seismic upgrade of this important class of existing buildings.

This lecture is presented as part of the EERI Friedman Family Visiting Professionals Program. In addition to the main presentation a short discussion about EERI's mission and how young engineers can participate will be presented.

*For inquiries, contact: [khalidsaif@huskers.unl.edu](mailto:khalidsaif@huskers.unl.edu)*



University of Nebraska-Lincoln Chapter

# CHARACTERISTICS AND SEISMIC PERFORMANCE OF EXISTING TALL BUILDINGS

**EERI - Friedman Family Visiting Professionals Program**

**03/09/2022**



- **James O. Malley, S.E., N.A.E**
- He serves as the **Chief Operating Officer and Senior Principal** with Degenkolb Engineers in San Francisco.
- He received both his Bachelors and Masters Degrees from the **University of California at Berkeley**.
- He has over **35 years of experience in the seismic design, evaluation and rehabilitation of building structures**.
- Mr. Malley was responsible for the analytical and testing investigations performed as part of the **SAC Steel Project** in response to the Northridge earthquake damage.





- **James O. Malley, S.E., N.A.E**
- In 2000, AISC<sup>1</sup> presented Mr. Malley its' **Special Achievement Award**.
- He is **Chair of the AISC Specifications Committee** and the Past-Chair of the AISC Seismic Subcommittee.
- He was named the 2010 **T.R. Higgins Lectureship Award** winner for his work on the AISC Seismic Provisions, and in 2012 was presented with a **Lifetime Achievement Award by AISC**.
- Mr. Malley is also a member of the **AWS<sup>2</sup> Subcommittee** on Seismic Welding Issues.



<sup>1</sup> *American Institute of Steel Construction*

<sup>2</sup> *American Welding Society*



- **James O. Malley, S.E., N.A.E**
- He was also one of the authors of the PEER<sup>3</sup> Tall Buildings Institute “**Guidelines for the Performance-Based Seismic Design of Tall Buildings**” and is involved in the peer review of numerous tall building projects in areas of high seismic risk.
- He has served as a member of the SEAONC<sup>4</sup> and SEAOC<sup>5</sup> Board of Directors, and was **President of SEAONC** in 2000-2001 and **SEAOC** in 2003-2004.



<sup>3</sup> Pacific Earthquake Engineering Research Center

<sup>4</sup> Structural Engineers Association of Northern California

<sup>5</sup> Structural Engineers Association of California



- **James O. Malley, S.E., N.A.E**
- He also was a member of the **Board of Directors of NCSEA<sup>6</sup>**, serving as President in 2010-2011.
- He also served as a member of the **Board of Directors of EERI** and is presently **past President of the Applied Technology Council**.
- He was also elected to the **National Academy of Engineering** in 2021 for his contributions to seismic design.



- Q & A session will be after the presentation.
- All zoom attendees at Omaha campus should turn off their microphones during the lecture.
- For zoom attendees, please write your questions in the chat window (direct them to the host). All questions will be answered at the end of the lecture.



# Continuing Your EERI Membership & Involvement

Student members get the **1st year** of Young Professional membership **FREE** and reduced rates for the next 4 years!



**EERI** Friedman Do the work around Membership, etc. Do your 1st year of membership around to continue after they finish their student membership that year in May and remain active for 4 years. Young Professionals Program

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