FRIEDMAN FAMILY VISITING PROFESIONALS PROGRAM

Visit to Oregon State University: April 16, 2025

This report summarizes the visit of **Ramin Golesorkhi** from Langan that took place at Oregon State University on April 15-16, 2024.

ITINERARY OR AGENDA

Provide the itinerary of the visit. For example:

Tuesday, April 15, 2025	
TIME:	**ACTIVITY:**
12:00 PM	Ramin arrives at the Eugene airport
6:30 – 8:00 PM	Student chapter officers (6) welcome Ramin to Corvallis and take him to dinner at McMenamins
Wednesday, April 16, 2025	
TIME:	**ACTIVITY:**
9:00 AM – 9:30 AM	Geotechnical Engineering Lab tour with GIGSO student chapter members
9:30 AM – 10:00 AM	Coffee break with GIGSO and EERI Student chapter members
10:00 AM – 11:00 AM	Guest lecture in Geotechnical Earthquake Engineering class
11:00 AM – 12:00 PM	Break/free time
12:00 PM – 1:00 PM	Lunch with Geotechnical and Structural graduate students
1:30 PM – 2:00 PM	Meeting with Dr. Erica Fischer
2:30 PM – 4:30 PM	Tour of structural labs and campus
4:30PM – 5:30 PM	Flex time/ presentation setup
5:30 PM – 6:30 PM	Main Friedman Family Visiting Professional Lecture

STUDENT CHAPTER VISIT PLANNING COMMITTEE

LEAD ORGANIZER(S):

- Amy Metz, Treasurer, metzamy@oregonstate.edu
- Tanner Field, President, tanner.field@oregonstate.edu

VISITING PROFESSIONAL LECTURE OVERVIEW

Ramin gave two different presentations as part of his visit, with the first taking place in CE578 Geotechnical Earthquake Engineering taught by Dr. Armin Stuedlein and the second in the evening after classes had wrapped up so more students could attend. The class lecture was tailored to fit into the topics being covered that week in class. It introduced geotechnical seismic design in general and then Ramin discussed site-specific recording and response spectra and ground motion models and levels of shaking for design. The presentation concluded with the discussion of methods that are used to develop site-specific response spectra through an example project. For the main lecture, Ramin presented on how performance-based design allows for more design flexibility and opportunities for enhanced structural performance and innovation. The talk focused on the selection, methods of development, and advantages and disadvantages of different methods and what issues may arise when developing site-specific ground motion time series.

Figure 1. Ramin's Class Guest Lecture

Lecture Abstract

Class Guest Lecture:

Development of Site-Specific Response Spectra – A Practitioner's Approach

By Ramin Golesorkhi, PhD, PE, GE, F. ASCE

The talk will present introduction to seismic design. Discuss site-specific recordings and response spectrum with a brief discussion of ground motion model and levels of shaking for design. The presentation will be followed by discussing methods of developing site-specific response spectra with more in-depth discussions of deterministic and probabilistic seismic hazard analyses including determination and quantification of uncertainties. The talk will conclude with an example project.

Main Lecture:

Development of Site-Specific Time Series for Performance-Based Design –

Art or Science?

By Ramin Golesorkhi, PhD, PE, GE, F. ASCE

Recent seismic design codes are Performance-Based Design (PBD). PBD is a methodology that allows for design flexibility and opportunities for enhanced structural performance and innovation. Nonlinear time series evaluations and analyses are an integral part of PBD. As such, development of site-specific time series for PBD is an important part of PBD. This talk discusses the selection, methods of development, advantages and disadvantages of different methods, and some of the issues with the development of site-specific time series.

Professional Bio

Ramin Golesorkhi is a registered civil (California and New York) and geotechnical engineer (California) and a Fellow of ASCE. He is a principal/vice president and director of earthquake engineering services at Langan, an over 1,050-person geotechnical, environmental, and civil design engineering firm, with more than 30 years of experience in seismic analysis and foundation engineering. He received his Bachelor of Science and Master of Science degrees from Tufts University and his PhD from the University of California, Berkeley. Dr. Golesorkhi directs the development of seismic and geotechnical design criteria appropriate for industrial, residential, private and government office buildings, hospitals and healthcare facilities, bridges, elevated freeways and viaducts, base isolated structures, tunnels, and seismic strengthening of existing structures. He has developed seismic design criteria for performance-based design of structures since early 2,000's and has been active in the development of seismic design criteria in building codes. He is one of the primary authors of Council of Tall Buildings and Urban Habitat (CTBUH) Technical Guide on Performance-Based Seismic Design for Tall Buildings (2017). Some of his projects include: the new Asian Art Museum, numerous high-rise towers, a major refinery in Peru, AT&T Park, Levi's Stadium, and the State office building in San Francisco. His experience stretches throughout the United States, Central and South America, Southeast Asia, India and the Middle East.

SUPPLEMENTAL ACTIVITES

Dinner with Student Chapter Officers

Dr. Ramin Golesorkhi joined 6 of the current and incoming student chapter officers for dinner on the evening he arrived in Corvallis at the local restaurant McMenamins. During this dinner the officers went over the schedule for the following day to see if Ramin had any questions or concerns. Following that, the officers chatted with Ramin about a variety of different topics, varying from their research, activities the student chapter has hosted over the past year, Ramin's educational journey and career, and any advice he had for them as the move towards graduation and potentially into industry.

Tour of the Geotechnical Engineering Laboratory Facilities

Three members of the Oregon State's Geo-Institute Graduate Student Organization (GIGSO) provided Ramin a tour of the geotechnical research lab facilities here on campus and provided an explanation of some of the research currently being completed.

Coffee with EERI@OSU Student Chapter Members and GIGSO Student Chapter Members

Ramin grabbed coffee with student chapter members of both EERI and GIGSO after his laboratory. During this coffee break he had the opportunity to get to know the students, learn about their work, and pass along any relevant advice.

Lunch with Graduate Students

A total of 10 graduate students met with Ramin for lunch. During this time everyone talked about their work and learned more about Ramin and his career trajectory.

Campus and Structural Engineering Lab Tours

In the afternoon, before Ramin's guest lecture, two of the EERI student chapter officers took him around campus for tours of our two main structural laboratories (Emerson and Hinsdale) showing highlights of campus along the way.

Meeting with Erica Fischer

Ramin met with Dr. Erica Fischer to discuss the research her lab group completes and EERI as she is the student chapter advisor and had previously hosted Ramin as a Friedman Family Visiting Professional when she was president of Purdue's EERI student chapter when she was completing her PhD.

RESULTS, FEEDBACK AND LESSONS LEARNED

Dr. Ramin Golesorkhi's visit to Oregon State University provided students with a new understanding of site specigic ground motions can contribute to both geotechnical and structural design. The lectures provided built off of one another and with the first being less technical and providing some background to understand the second, main lecture. Though the topics covered were very technical, Ramin did a good job making the presentations regardless of students' chosen concentration areas. Overall, the students in attendance found this lecture beneficial and enjoyed learning from Ramin.

For future Friedman Family Fellow visits, our student chapter would be most interested in learning about the following topics:

- Cascading hazards due to earthquakes
- Emergency response coordination following seismic events
- Implementation of functional recovery mindset in earthquake engineering

ACKNOWLEDGEMENTS

The Oregon State University EERI Student Chapter gratefully acknowledges the support of the Friedman Family for sponsoring the travel of Dr. Ramin Golesorkhi 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:

- Flyers posted to promote guest lecture

A GEOTECHNICAL EARTHQUAKE ENGINEERING GUEST LECTURE

Development of Site-Specific Response Spectra – A Practitioner's Approach

DR. RAMIN GOLESORKHI

- Principal/ Vice President and Director of Earthquake Engineering Services at Langan
- 30+ years of experience in seismic analysis and foundation engineering
- Fellow of the American Society of Civil Engineers
- Member of seismic working group of Council of Tall Buildings and Urban Habitat (CTBUH)

ABSTRACT:

Dr. Ramin Golesorkhi is giving a guest lecture in CE578 Geotechnical Earthquake Engineering. The guest lecture will introduce geotechnical seismic design before discussing site-specific recordings and response spectra with a brief discussion of ground motion model and levels of shaking for design. The presentation will be followed by discussing methods of developing site-specific response spectra with more in-depth discussions of deterministic and probabilistic seismic hazard analyses including determination and quantification of uncertainties. The talk will conclude with an example project.

April 16, 2025
Kearney 205 at 10:00 AM
(Seats are first-come, first-serve for those not in the course)

Oregon State University

KEARNEY 205

AN EERI FRIEDMAN FAMILY FELLOW GUEST LECTURE

Development of Site-Specific Time Series for Performance-Based Design – Art or Science?

DR. RAMIN GOLESORKHI

- Principal/ Vice President and Director of Earthquake Engineering Services at Langan
- 30+ years of experience in seismic analysis and foundation engineering
- Fellow of the American Society of Civil Engineers
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April 16, 2025
Kearney 311 at 5:30 PM
(Food provided for attendees)

Oregon State University

KEARNEY 311

G-I ASCE

EERI