FRIEDMAN FAMILY VISITING PROFESIONALS PROGRAM

Visit to the University of Nevada, Reno: April 08-09, 2021

This report summarizes the visit of **Dr. Troy Morgan** from Exponent that took place at the University of Nevada, Reno on April 8-9, 2021.

ITINERARY OR AGENDA

Itinerary of the visit (All meetings were conducted via Zoom):

Date & TIME:	**ACTIVITY:**
April 8th	
9:00 AM – 10:00 AM	Guest lecture and meeting with soon-to-graduate department undergraduate students for career guidance
April 9th	
12:00 PM – 12:45 PM	Guest lecture by Dr. Troy Morgan
12:45 PM – 2:00 PM	Informal meeting with department graduate students for career guidance

STUDENT CHAPTER VISIT PLANNING COMMITTEE

LEAD ORGANIZERS:

- William Roser, UNR EERI Student Chapter President, wf.roser@gmail.com
- Stephen Waldvogel, UNR SDC Team Captain, sewaldvogel@nevada.unr.edu
- Ahmad Hassan, SLC Chair, hasanpour@nevada.unr.edu
- Mohamed Moustafa, UNR Faculty, mmoustafa@unr.edu
- Keri Ryan, UNR Faculty, klryan@unr.edu

VISITING PROFESSIONAL LECTURE OVERVIEW

Briefly describe the Visiting Professional's presentation, and attendee response. Include photos if applicable.

Dr. Morgan offered a presentation on applying seismic risk mitigation to practice. He used examples from nuclear plant reliability analysis with a focus on the Fukushima plant and post-earthquake reconnaissance with a length example of an insurance investigation Dr. Morgan assisted. This example was especially well received by students as it provided a window into how they might use their engineering and investigative expertise in practice.

After Dr. Morgan's presentation, the floor was opened to students to freely ask Dr. Morgan for advice about starting one's career in structural engineering. Students jumped on this opportunity and animatedly asked Dr. Morgan questions. Overall, Dr. Morgan's visit was extremely well received. Some weeks later, one student commented, "Dr. Morgan was *wonderful*!"

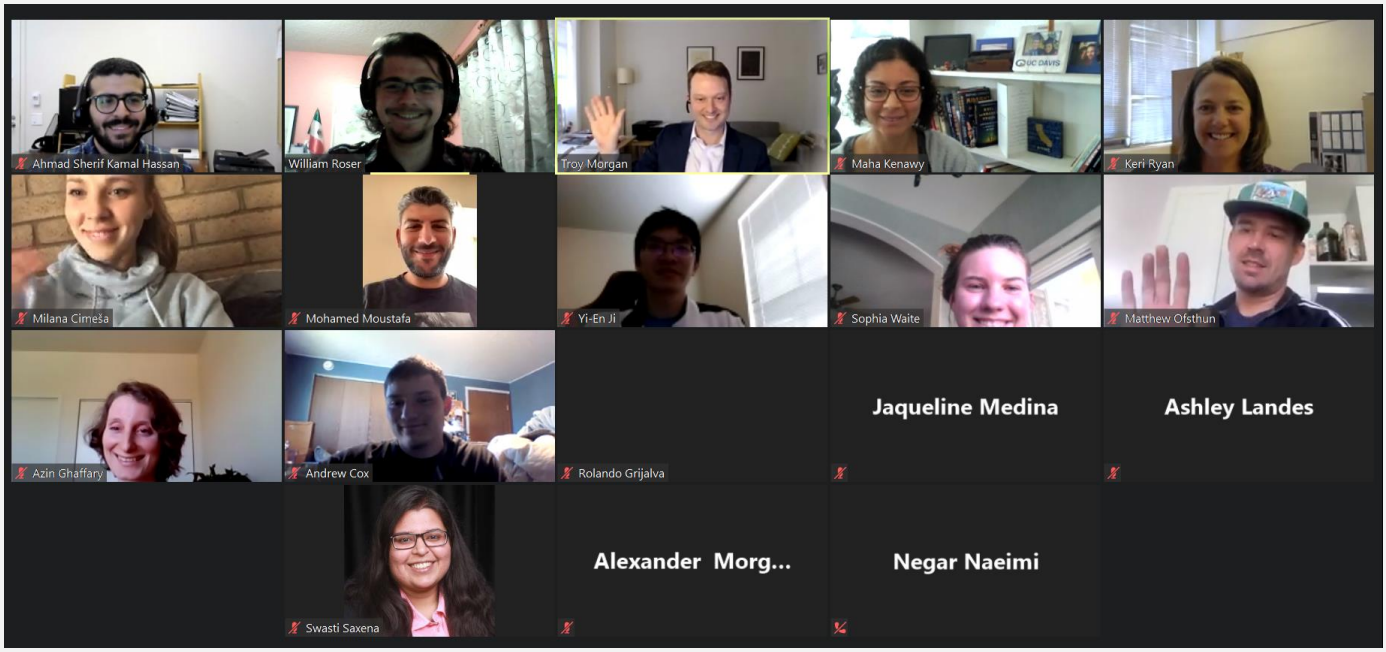

Figure 1 - A screenshot of some of the attendees at the Zoom meeting.

Lecture Abstract

The modern era of civilization is marked by immense networks of complicated, interdependent systems and rapidly evolving technologies, including the world of civil infrastructure. Many of these technologies, while born from academia, are implemented and refined in the world of industry. As today's complex ideas are put into practice, there is an increasing tendency for things to fail under extreme loading such as earthquakes, and an urgent desire to prevent such failures. This talk explores the field of seismic risk mitigation in practice, drawing on projects from structural engineering, including nuclear plant reliability analysis, urban post-earthquake reconnaissance, and insurance investigations related to alleged earthquake damage. Extensions of infrastructure risk assessment and mitigation frameworks outside earthquake engineering are presented and discussed.

Professional Bio

Dr. Troy Morgan is a recognized expert in the field of seismic isolation and passive energy dissipation systems and specializes in performance of structures under extreme loading such as earthquakes, wind, flood, and explosions. He has performed extensive research on the numerical simulation and experimental behavior of innovative seismic protective devices and optimization of their use within performance-based engineering frameworks. Prior to joining Exponent, Dr. Morgan was Assistant Professor at the Center for Urban Earthquake Engineering at the Tokyo Institute of Technology in Japan. He has taught courses at the University of California, Berkeley, and San Francisco State University. He has also held positions as a post-doctoral researcher at the Pacific Earthquake Engineering Research Center and as a design engineer at Forell/Elsesser Engineers Inc. Dr. Morgan received his B.S., M.Eng., and Ph.D. degrees from the University of California, Berkeley.

SUPPLEMENTAL ACTIVITES

Meeting with Undergraduate Civil Engineering Students

Dr. Morgan visited an undergraduate capstone class. He gave his lecture and then gave career advice in a Q&A session. It was especially valuable to have Dr. Morgan meet with students who are about to start their careers and give them a vision of how they can transition from academia to practice.

Guest Lecture and Meeting with Graduate Civil Engineering Students

This was the main event of Dr. Morgan's visit. It was made open to the entire student body, but it was mainly attended by graduate students since many interested undergraduate students were present for Dr. Morgan's visit the previous day. After Dr. Morgan's lecture, a more informal career advice session was held. Because this session was attended by more advanced and, in general, more involved, students, much more time was allocated for this Q&A session than the previous day's session.

RESULTS, FEEDBACK AND LESSONS LEARNED

The greatest challenge to this year's visit was the COVID-19 pandemic, which precluded Dr. Morgan from visiting our university in person. Due to this, we elected to forgo many of the regular activities that would accompany a FFVP visit. In order to avoid online meeting fatigue, we spread Dr. Morgan's "visit" over two days, and we combined Dr. Morgan's formal guest lecture and student career advice sessions by combining these into one meeting in which Dr. Morgan gave his lecture followed by a Q&A session with the students in attendance.

After the visit, students showed unusual excitement and interest when talking about the event, a testament to the quality of Dr. Morgan's presentation and the usefulness of his career advice. One lesson we learned is that students appreciate practicing professionals' experiences somewhat more than research presentations given by pure academics. Our student chapter would like to have more opportunities to have professionals visit and give career-related presentations, rather than solely focusing on new developments in earthquake engineering.

We also look forward to receiving future visits in person. Having to host this visit online was difficult and prevented us from having as much time to interact with Dr. Morgan. Additionally, it was harder to attract attendance and interest from students for an online visit.

ACKNOWLEDGEMENTS

The University of Nevada, Reno EERI Student Chapter gratefully acknowledges the support of the Friedman Family for sponsoring the travel of Dr. Troy Morgan through their Friedman Family Visiting Professional Program endowment.
We would also like to thank Silvana Cobos from EERI for helping organize Dr. Morgan's visit and Ahmad Hassan from the SLC for organizing and hosting Dr. Morgan's visit.