

# FRIEDMAN FAMILY VISITING PROFESIONALS PROGRAM

{Include Student  
Chapter University Logo  
Here}



## Visit to University of Nevada, Reno: April 08, 2022

This report summarizes the visit of **John Thornley** from Associate and Senior Geotechnical Engineer at Golder Associates USA Inc. (Member of WSP) in Anchorage, Alaska that took place at the University of Nevada, Reno on April 08, 2022,

### ITINERARY OR AGENDA

Provide the itinerary of the visit. For example:

TIME:	ACTIVITY:
10:00 AM – 11:00 AM	Meeting with graduate students (coffee and pastries)
11:00 AM – 12:00 PM	Launch
12:00 PM – 1:00 PM	Seminar
1:00 AM – 2:00 PM	Post-meeting discussion and career advising

### STUDENT CHAPTER VISIT PLANNING COMMITTEE

#### LEAD ORGANIZER(S):

- Mohammed Shaker Ibrahim, Co-President, m.s.ibrahim@nevada.unr.edu
- Stephen Waldvogel, Co-president, sewaldvogel@nevada.unr.edu

### VISITING PROFESSIONAL LECTURE OVERVIEW

Dr. Thornly delivered an outstanding presentation where he went through practical lessons and challenges related to the liquefaction topic. The students were interactive. Overall the presentation was filled with knowledge and practical experience.

#### Lecture Abstract

John will be presenting on a project he recently led related to liquefaction mitigation of loose coral sand below large tank foundations on the remote island of Kwajalein in the Marshal Islands. The results of initial CPT work indicated, based on typical liquefaction screening methods, significant potential for seismically-induced settlement. However, coral sand differs substantially from quartz and silica sand, which are the majority of case histories used to develop liquefaction screening methods. Bulk samples of the coral sands were collected and a series of CPT cone calibrations, triaxial and cyclic direct simple shear tests were performed to develop a constitutive framework that was used to understand the liquefaction triggering of coral sand. Findings from the study indicate that the Kwajalein coral sand is less susceptible to liquefaction

#### Professional Bio

John Thornley, PhD, PE is an Associate and Senior Geotechnical Engineer at Golder Associates USA Inc. (Member of WSP) in Anchorage, Alaska and is a UNR Bachelor's and Master's Alumni. He has over 16 years of geotechnical and earthquake engineering experience. Recently John was a co-lead for the EERI Learning from Earthquakes Reconnaissance effort for the November 30, 2018 M7.1 Anchorage, Alaska Earthquake. John is currently the chair of the Municipality of Anchorage Geotechnical Advisory Commission. He has served as field manager of geotechnical studies and prepared recommendations for a variety of infrastructure projects including buildings, roads and airports, large liquefied natural gas and water storage tanks, pipelines, wind and cellular towers, and utilities. As part of John's work, he has been involved in seismic hazard studies, seismic site response analyses, studies for large infrastructure buildouts, and cold regions and permafrost engineering. His design work includes ground improvement in liquefiable soils, deep and shallow foundations, slope stabilization, retaining structures, and embankments.

## SUPPLEMENTAL ACTIVITIES

### Meeting with graduate students (coffee and pastries)

Dr. Thornley met with the graduate students and the EERI student chapter leaders, where he discussed and guided the graduate students about future opportunities and careers. This meeting took place from 10:00 AM to 11:00 AM. Coffee and pastries were served during that meeting. Overall, the meeting was fruitful.

### Seminar

Dr. Thornley gave an insight into how real-life challenges are. He explained the theory and related it to his practical experience and the real on-site challenges that structural and geotechnical engineers face. The presentation went smoothly, and the students were interactive.

## RESULTS, FEEDBACK AND LESSONS LEARNED

One challenge is finding a suitable time that suits students and faculty. Also, the entrance of students from multiple hall entrances was a little distracting, so we will further organize the designated entrance and exit doors in the following presentation. Finally, the food was outside the hall, so it was always a little distracting to have students leaving the hall for the food and entering back again; next time, we will plan to have either the food in the hall or to have other students helping with the delivering the food.

## ACKNOWLEDGEMENTS

The University of Nevada, Reno EERI Student Chapter gratefully acknowledges the support of the Friedman Family for sponsoring the travel of John Thornley through their Friedman Family Visiting Professional Program endowment.

We want to thank Dr. Mohamed Moustafa and Dr. Ramin Motamed for their support and help. Finally, we thank the University of Nevada, Reno Civil and Environmental Engineering department for funding the event.

## 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
- Item 2, i.e. photos from the event ( Sr. Thornley's seminar and meeting with students)



# Earthquake Engineering Research Institute



## EERI@UNR Student Chapter Seminar Series

**Guest Speaker: John Thornley, Ph.D., PE**

**Liquefaction Susceptibility of Coral Sands**

**Friday, April 08, 2022 12:00 – 12:45 p.m.**

**EEL Auditorium**

**Simulcast on Zoom Meeting ID: 864 2696 9791 code 192698**

### Abstract

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### Speaker Biography

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Time	Description	Location
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