FRIEDMAN FAMILY VISITING PROFESIONALS PROGRAM

Visit to the University of Nebraska—Lincoln: April 2025

This report summarizes the visit of Mr. **Jay Wilson** from Clackamas County Disaster Management that took place at the University of Nebraska—Lincoln in April 2025.

ITINERARY OR AGENDA

TIME:	ACTIVITY:
08:00 AM – 09:00 AM	Meet Mr. Jay for breakfast & travel to campus
09:00 AM – 10:00 AM	Tour of structural and laboratory facilities
10:15 AM – 10:30 AM	Break and preparation for the presentation
10:30 AM – 11:30 AM	Presentation by Mr. Jay at City Campus
11:30 PM – 12:00 PM	Q&A session and informal discussion with EERI student chapter members
12:00 PM – 1:00 PM	Lunch with EERI student chapter officers
01:00 PM – 02:00 PM	Drive to Omaha
02:15 PM – 03:15 PM	Tour of research laboratories at PKI with lab director and students
03:15 PM – 03:30 PM	Break and preparation for the presentation at PKI
03:30 PM – 04:30 PM	Presentation by Mr. Jay, hosted by the Smart Resilient Infrastructure and Urban Systems (SiRIUS) Lab
04:30 PM – 05:00 PM	Q&A session and informal discussion with students from the SiRIUS Lab
05:00 PM – 06:00 PM	Dinner with EERI local chapter leadership at a local restaurant
06:00 PM –	Departure to the airport, accompanied by an EERI local chapter representative

STUDENT CHAPTER VISIT PLANNING COMMITTEE

LEAD ORGANIZER(S):

- Saeid Ghasemi, President, sghasemigavabar2@unl.edu
- Mohammadreza Rajaee, Vice President, mrajaee2@huskers.unl.edu
- Pramodit Adhikari, Secretary, adhikaripramodit@huskers.unl.edu
- Christine Wittich, Faculty Advisor, cwittich@unl.edu
- Milad Roohi, Faculty Advisor, milad.roohi@unl.edu

VISITING PROFESSIONAL LECTURE OVERVIEW

Lecture Abstract

In Oregon, there is a six-mile stretch of the lower Willamette River in Portland where over 90% of the state's petroleum products, like gasoline, diesel, and asphalt, are stored in large old tanks on extremely poor soils. It's called the Critical Energy Infrastructure (CEI) Hub. Counting in at over 400 storage tanks holding approximately 360 million of gallons of petroleum products, only twelve were constructed with "adequate" seismic design codes. During a Cascadia Subduction Zone earthquake, these facilities will have cascading failures due to long-duration and long-period amplified shaking, that will produce liquefaction, differential settlement and lateral spreading – likely creating the worst oil spill in U.S. history.

Oregon has a Climate Protection Program with goals to reduce emissions 50% by 2035 and 90% by 2050, but as of now, it does not include the CEI Hub as a factor in its goals or strategies. Can we leverage the need to reduce fuel use with the need to reduce seismic risk? Unfortunately, our seismic, climate, environmental, and energy policies are not in alignment and actually compete for political attention and funding. Fortunately, there are multiple wins in this situation if policy makers, private industry, community members and environmental activists can find common ground. We need to define this as a resilience imperative and create a unified 2050 vision to align these policies and capitalize on the shared benefits.

Professional Bio

Jay Wilson is the Clackamas County Resilience Coordinator with the Department of Disaster Management and spearheads the county's efforts to reduce risks and assess hazards including flood, earthquake, wildfire, volcano, and climate change impacts. Wilson is the former chair (2014-17) of the Oregon Seismic Safety Policy Advisory Commission and has previously worked for Oregon Emergency Management and as a mitigation reservist with Federal Emergency Management Agency (FEMA) Regions IX and X. Wilson recently completed a two-year appointment as a resilience fellow with the National Institute of Standards and Technology during the development of the 2015 community resilience planning guide. He is an Earthquake Engineering Research Institute member and has completed post-earthquake reconnaissance trips to Japan (2011) and central Italy (2017).

SUPPLEMENTAL ACTIVITIES

Lunch Meeting with the Organizers and a Faculty Member

Three PhD students and Dr. Milad Roohi from the **SiRIUS** lab joined **Mr. Wilson** for lunch at a local restaurant in Lincoln. The students had the chance to talk about their research, where Mr. Wilson asked questions about their research, and each student had prepared questions to ask Mr. Wilson about the best way to make engineering research on seismic resilience more accessible to policymakers.

Visiting Both Structural Labs in Lincoln and Omaha

As part of the visit, faculty members and lab managers at the University of Nebraska–Lincoln provided an in-depth tour of our structural engineering laboratories. They introduced the advanced testing facilities available on campus and highlighted the range of experimental capabilities, including large-scale structural component testing, dynamic load simulation, and material behavior analysis. The demonstration showed our expertise in seismic simulation, full-scale load testing, and innovative research in structural resilience. This hands-on exposure gave our guest a clearer understanding of the university's ongoing contributions to earthquake engineering and fostered valuable discussions about potential research collaborations.

Q/A session with graduate students

Civil engineering graduate students joined us for an informal session with Mr. Wilson, where they had the opportunity to ask questions about his extensive experience in resilience-focused projects. The discussion touched on various dimensions of resilience—such as social, physical, and institutional factors—as well as the critical role of interdisciplinary collaboration in effective disaster risk management. The open dialogue created a valuable learning environment and encouraged students to consider broader perspectives in their research and professional development.

RESULTS, FEEDBACK AND LESSONS LEARNED

Mr. Wilson's visit was highly impactful, sparking meaningful discussions on seismic resilience and the importance of integrating risk communication with engineering practice. Attendees appreciated his ability to bridge technical and policy perspectives, making the topic accessible and engaging. The informal Q&A session with graduate students was particularly well-received, offering insights into career paths and the real-world challenges of resilience planning.

ACKNOWLEDGEMENTS

The University of Nebraska—Lincoln EERI Student Chapter gratefully acknowledges the Friedman Family's support for sponsoring Mr. Jay Wilson's travel through their Friedman Family Visiting Professional Program endowment.

Moreover, we thank the Durham School of Architectural Engineering and Construction and the Department of Civil and Environmental Engineering at the University of Nebraska–Lincoln for generously supporting and covering the expenses associated with Mr. Wilson's visit.