FRIEDMAN FAMILY VISITING PROFESIONALS PROGRAM

Visit to Instituto Tecnológico de Santo Domingo: July 2nd, 2025

This report summarizes the visit of **Jorge Menesses** from The Worley Group that took place at the Instituto Tecnologico de Santo Domingo on July 2nd, 2025.

ITINERARY OR AGENDA

The activity was conducted through the Microsoft Teams platform, meaning the meetings took place virtually, except for the first session. For this initial session, members of the Student Chapter, along with other invited Civil Engineering students, gathered in a physical classroom to attend the meeting together.

TIME:	**ACTIVITY:**
10:00 AM – 11:10 AM	Presentation of the first session titled "Meeting with Jorge Meneses and Presentation on Geotechnical Engineering" (Microsoft Teams)
11:10 AM – 11:20 AM	Q&A session regarding Session 1 (Microsoft Teams)
4:00 PM – 5:20 PM	Presentation of the second session titled "Importance of Earthquake Scenarios" (Microsoft Teams)
5:20 PM – 5:45 PM	Q&A session regarding Session 2 (Microsoft Teams)

STUDENT CHAPTER VISIT PLANNING COMMITTEE

LEAD ORGANIZER(S):

- Johanny Perez, Student Chapter President, 1114916@est.intec.edu.do
- Arlette Ramirez, Student Chapter Vicepresident, 1114986@est.intec.edu.do
- Safeylis Rivera, Student Chapter Webmaster, 1114711@est.intec.edu.do

VISITING PROFESSIONAL LECTURE OVERVIEW

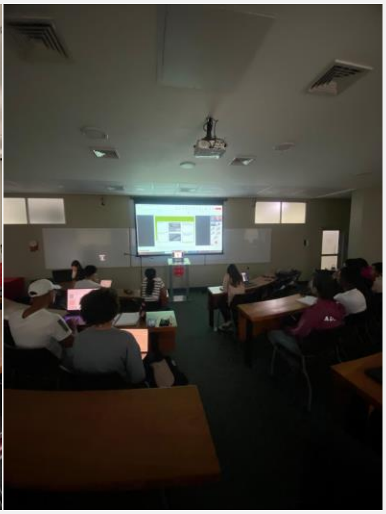
Dr. Jorge Meneses's presentation was highly interesting and engaging. Students demonstrated great enthusiasm and interest in the topics covered, which were delivered clearly, and in an enriching manner. The slides used were notable for their appealing design, precise content, and well-organized structure, which facilitated understanding and maintained the audience's attention. Each session was attended by approximately 15 students from both the EERI INTEC Student Chapter and the broader Civil Engineering Faculty, who all responded positively to the experience and the exchange of knowledge.

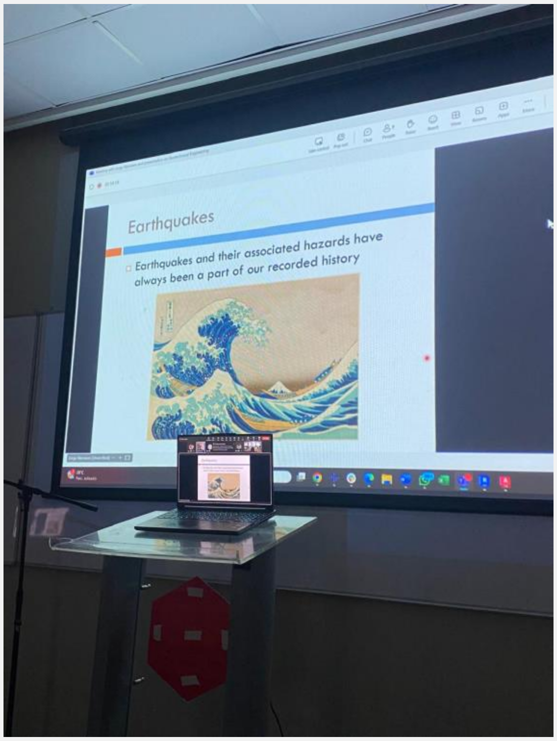
Lecture Abstract

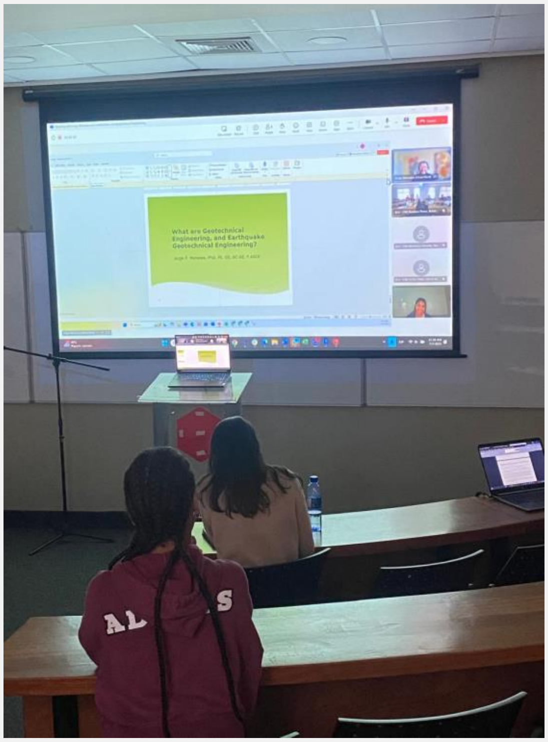
SESSION 1: Meeting with Jorge Meneses and Presentation on Geotechnical Engineering

The first session focused on the fundamental importance of soil study for the safety and functionality of buildings and infrastructure. It emphasized how soil properties directly influence construction projects such as airports, roads, and marine structures, and how a proper understanding of soil behavior can prevent issues like settlement or structural overturning. The session also clearly distinguished the roles of the engineering geologist (focused on geological terrain analysis and modeling), the geotechnical engineer (responsible for lab testing, design, and execution of foundation works), and the specialist in contaminated soils.

A historical overview of soil mechanics was presented, from early studies on slopes and lateral pressures in walls to modern developments grounded in key theories (like Terzaghi's) and the use of mathematical models. The link between geotechnical engineering and earthquakes was also discussed, analyzing how soil stiffness affects seismic behavior and addressing seismic hazards such as liquefaction, landslides, wall failures, tsunamis, seiches, and the vulnerability of critical infrastructure. Finally, the session encouraged reflection on past disasters as opportunities for learning, emphasizing that nature continuously offers lessons to seismic engineering in the pursuit of more resilient structures.





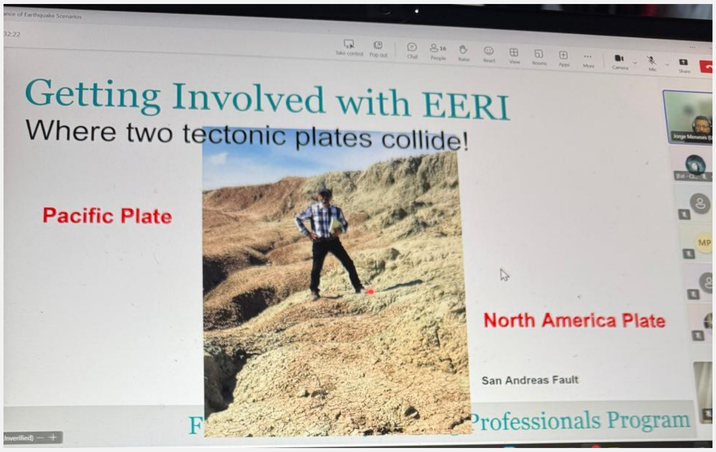


SESSION 2: Importance of Earthquake Scenarios

The second session focused on key aspects related to participation in the Earthquake Engineering Research Institute (EERI) and the importance of earthquake scenarios. The value of EERI membership was highlighted, including opportunities to connect, learn, and lead, as well as access to programs like the School Earthquake Safety Initiative, earthquake awareness campaigns, post-earthquake reconnaissance (such as the Friedman Visiting Professionals Program), and scholarships and mentorship opportunities for students.

Dr. Meneses shared how his personal experiences with earthquakes led to his interest in seismic engineering. He explained the concept of "scenario" as a strategic tool for preparing for uncertain futures—not to predict events, but to analyze potential consequences. These scenarios are applied in fields such as military, business, transportation, and emergency management, and must be updated regularly.

The session also discussed scenario-based planning, highlighting that artificial fill is particularly susceptible to liquefaction. The concepts of resilience and sustainability were presented as essential in seismic design: beyond avoiding collapse and protecting lives, infrastructure must be designed to resist and recover from extreme events. This includes appropriate site selection and preparation for climatic variability, acknowledging that climate change presents a major challenge for future resilience



Professional Bio

Dr. Jorge Meneses is an expert in geotechnical and seismic engineering, with extensive experience in seismic hazard assessment, liquefaction, shallow and deep foundation design, soil-structure interaction, and slope stability. He has led post-earthquake damage assessment missions, including after the 2011 Japan earthquake, and has worked on projects in the U.S., Japan, Peru, Venezuela, India, and Mexico. His experience spans energy, transportation, high-rise buildings, and industrial sectors.

Dr. Meneses teaches at San Diego State University and UC San Diego Extension, and he is the founder and president of the EERI San Diego Chapter. He has also served as honorary president of the ASCE Geo-Institute Chapter in San Diego, is a Fellow of the ASCE, and was a commissioner of the California Seismic Safety Commission (2017–2021).

RESULTS, FEEDBACK AND LESSONS LEARNED

One of the main challenges in organizing Dr. Jorge Meneses's visit was coordinating available spaces and encouraging student participation during an academically demanding period. Nonetheless, the professional's background and the relevance of the topics discussed led to a very positive reception. Students demonstrated high levels of engagement, enthusiasm, and appreciation for the knowledge shared, especially on geotechnical engineering, seismic hazards, and structural resilience.

As a result of this experience, the EERI INTEC Student Chapter aims to expand its scope to include complementary disciplines that enhance the comprehensive training of its members. The objective is to promote a multidisciplinary vision that connects civil engineering with research, innovation, and disaster preparedness.

Topic Ideas for Future Visits

- Use of artificial intelligence and sensors for real-time structural monitoring.
- Urban risk management and post-earthquake planning: approaches from urbanism and critical infrastructure.
- Design of sustainable and resilient buildings in the face of multiple natural hazards.
- Application of Building Information Modeling (BIM) in seismic mitigation projects.
- International standards and public policy for disaster risk reduction.

ACKNOWLEDGEMENTS

The Instituto Tecnologico de Santo Domingo (INTEC) EERI Student Chapter gratefully acknowledges the support of the Friedman Family for sponsoring the travel of Dr. Jorge Meneses 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:

- Item 1, Flier for event