FRIEDMAN FAMILY VISITING PROFESSIONALS PROGRAM

Visit to University of Texas at Austin: April 08, 2025

This report summarizes the visit of **Rebecca Laberenne**, a Built Environment Resilience Consultant to the World Bank, that took place at the University of Texas at Austin on April 08, 2025.

ITINERARY OR AGENDA

TIME:	ACTIVITY:
11:00 AM – 12:00 PM	Student Chapter President meets & welcomes Rebecca Laberenne to campus. Rebecca also meets with the Chapter's Advising Professor, Dr. Ellen Rathje
12:00 PM – 1:00 PM	Informal meeting over Lunch with the student chapter leadership from this year (and next year's leaders). The undergraduate Seismic Design Competition Team students are also present to discuss the outcome of their competition and professional development goals with Rebecca.
1:00 PM – 2:00 PM	Rebecca Laberenne meets with another Professor, Dr. Yunlan Zhang
2:00 PM – 3:30 PM	Guest lecture by Rebecca Laberenne
3:30 PM – 4:00 PM	Informal meeting with the graduate students where they discuss their research projects and/or professional goals to obtain insight from Rebecca.

STUDENT CHAPTER VISIT PLANNING COMMITTEE

LEAD ORGANIZER(S):

- Bhushan Raj Selvaraj, Chapter President 2024-2025, bhushan@utexas.edu
- Shruthi Dandamudi, Undergraduate Seismic Design Team Lead, shruthisiri12@gmail.com
- Dr. Ellen Rathje, Chapter Academic Advisor, e.rathje@mail.utexas.edu

VISITING PROFESSIONAL LECTURE OVERVIEW

Rebecca Laberenne, P.E., a resilience consultant for the World Bank, delivered a lecture on April 08, 2025, at UT Austin on the topic of "Applying Engineering Skills to Resilience, Urban Development, and Beyond." She discussed how structural engineers can apply their analytical and collaborative skills to fields beyond traditional design—such as resilience planning and urban development. Using her own career as a case study, Laberenne shared project experiences ranging from international reconstruction efforts to urban risk reduction strategies. The session included an interactive discussion between Laberenne and the attending students on evolving engineering education and nonorthodox career paths. Overall, the lecture was well-received, with a Q&A session that explored Rebecca Laberenne's international reconstruction projects and provided guidance on aligning structural engineering careers with broader resilience and development goals. Attendees appreciated this non-traditional insight.

Lecture Abstract

Structural engineering is a highly specialized field that plays a critical and sometimes overlooked role in the functioning of society. Because of our specialized knowledge and keen awareness of risk, structural engineers may feel that our skills are best used within the bounds of our specific field of expertise. However, the discipline and rigor of our training, the systems-thinking and problem-solving skills we have acquired through practice, and our orientation towards multi-disciplinary collaboration position structural engineers to be highly adept at working in fields like resilience and urban development. In these fields, framing problems and developing strategies for addressing uncertainty are essential. This lecture will present the evolution of one structural engineer's career from practicing structural designer to resilience specialist including influences from EERI and the earthquake community. It will use specific project examples to highlight the ways in which skills acquired as a structural engineer can be more broadly applied beyond building design. It will touch upon challenges in striking the right balance between being a specialist and a generalist. There will also be time for an interactive discussion on how structural engineering education is evolving to meet today's needs and other career-related topics.

Professional Bio

Rebecca Laberenne is a former practicing Professional Engineer (P.E.) with over 20 years of experience in the design of the built environment. She has worked on building and bridge design, project management, and resilience consulting, focusing on housing and infrastructure in high-risk urban areas. Rebecca has led projects like the National Museum of African American History and Culture and contributed to post-earthquake reconstruction in China and Haiti. She has worked with organizations including the World Bank, the Rockefeller Foundation's 100 Resilient Cities Initiative, Geohazards International, and Build Change. Rebecca holds degrees from Princeton University, UC Berkeley, and NYU, and serves on the board of the Earthquake Engineering Research Institute. She was named a 2017 Housner Fellow by EERI.

SUPPLEMENTAL ACTIVITES

Seismic Design Team Lunch Meeting, 12:00-1:00 PM

This informal lunch meeting provided Seismic Design Competition (SDC) undergraduate team members the opportunity to connect directly with Rebecca Laberenne. The goal of the activity was to foster mentorship and allow students to gain insights into applying structural engineering beyond traditional design roles. Topics of the discussion ranged from her experience working in high-risk urban environments with international organizations, to the value of interdisciplinary collaboration in resilience planning.

Attendees included members of the SDC team, as well as faculty and chapter officers. The conversation also touched on each individual's career goals, navigating graduate school, and Rebecca's own trajectory from a traditional structural designer to resilience consultant for the World Bank.

Meeting with Dr. Yunlan Zhang, 1:00-2:00 PM

Rebecca Laberenne met with Dr. Yunlan Zhang, an assistant professor in structural engineering at UT Austin, to discuss ongoing research and shared interests in seismic risk mitigation. The goal of the meeting was to discuss the collaboration between academic research and field implementation, especially in the context of global development and post-disaster recovery. Topics of the discussion included performance-based seismic design and integrating resilience metrics into engineering practice. Dr. Zhang also shared updates on her current research projects in the field of mechanical metamaterials, deployable structures, and nature-based solutions.

Graduate Student Session, 3:30-4:00 PM

The final item on the agenda was an informal meeting between Rebecca Laberenne and graduate students in structural, geotechnical, and earthquake engineering. The session aimed to provide students with direct access to a visiting professional following non-traditional career paths to ask questions, seek career advice, and discuss emerging trends in the field of disaster risk reduction.

Graduate students also shared their own research projects and interests, prompting a discussion on how technical expertise can be applied in interdisciplinary roles, including urban policy and post-disaster recovery. Students share their experience at the Ferguson Structural Engineering Laboratory, and how their experience with academic research has influenced their goals for the industry following graduation. Rebecca emphasized the importance of communication skills and adaptability in today's global challenges. The session generated thoughtful questions, leaving students inspired to consider broader applications post-graduation.

RESULTS, FEEDBACK AND LESSONS LEARNED

Challenges During the Process:

Coordinated meetings across faculty, student groups, and Rebecca's schedule required careful planning and flexibility. Managing logistics for multiple events in one day–including room reservations and lunch accommodations–was a minor challenge, but was handled successfully with early preparation.

General Reception:

The Visiting Professional Program was well-received by both students and faculty. In particular, the students appreciated Rebecca's insight into her global resilience work and her ability to connect engineering principles to broader societal impacts. The engaging Q&A session and informal discussions that followed sparked meaningful dialogue.

Future Topics and Goals:

- The chapter aims to host future speakers with similar non-traditional structural career trajectories to highlight the versatility and broad applicability of a structural engineering education.
- Future events may include experts in emerging technologies, such as computational modeling and digital tools, for structural engineering applications.
- The chapter is interested in exploring how engineers can effectively influence public policy and engage with decision-makers on infrastructure resilience and sustainability.

ACKNOWLEDGEMENTS

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The Student Chapter also extends sincere gratitude to CSI, KPFF, and Pho Saigon for their generous support of the Seismic Design Competition Team throughout all phases of the annual competition—from design and construction to travel and participation at the conference.

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:

- Flier for event
- Photos