

FRIEDMAN FAMILY VISITING PROFESSIONALS PROGRAM

Visit to Cal Poly SLO: February 25-26, 2024



This report summarizes the visit of **Dr. Charles Scawthorn** from SPA Risk LLC that took place at California Polytechnic State University, San Luis Obispo on February 25-26, 2024.

ITINERARY OR AGENDA

February 25, 2024	
TIME:	ACTIVITY:
6:00 PM – 8:00 PM	Dinner with ARCE faculty and EERI student members at Luna Red Restaurant
February 26, 2024	
8:00 AM – 9:00 AM	Breakfast with ARCE Dept Head Al Estes at Madonna Inn Copper Café
9:15 AM – 10:15 AM	Tour of CAED lab/shop facilities with ARCE students and faculty
10:15 AM – 11:30 AM	Meetings with CAED Associate Dean and ARCE faculty
12:10 PM – 1:00 PM	Guest lecture by Visiting Professional
1:10 PM – 2:00 PM	Lunch with ARCE faculty
2:10 PM – 3:00 PM	Graduate student presentations on research and projects
3:10 PM – 4:15 PM	Tour of Outdoor Poly Canyon Architectural Experimental Facility with ARCE students

Notes:

CAED = College of Architecture and Environmental Design

ARCE = Department of Architectural Engineering

STUDENT CHAPTER VISIT PLANNING COMMITTEE

LEAD ORGANIZER(S):

- Alycia Darby, EERI Student Chapter President, adarby@calpoly.edu
- Anahid Behrouzi, EERI Student Chapter Faculty Advisor, behrouzi@calpoly.edu

VISITING PROFESSIONAL LECTURE OVERVIEW

Lecture Abstract – “Engineering Critical Infrastructure – a conversation with a practitioner”

Water, energy, transportation and communications – infrastructure – is critical to modern life and indeed survival. Recent events from storms to Covid to hacking and ransomware attacks have shown how vulnerable our infrastructure and supply chains are. Dr. Charles Scawthorn speaks on lessons learned from infrastructure projects he's been involved with over the last five decades. These projects have ranged from design and analysis of EHV electric transmission lines, nuclear facilities, offshore platforms to large urban water supply networks and the development of national disaster reduction programs, from North American to Asia and Africa, and from large utilities and national/international agencies to teaching, research and individual consulting.

Today more than ever before, infrastructure is rapidly evolving to face challenges of clean water and protecting the environment, changing energy sources, ICT and transportation modes, climate change and the

need for resilience to disruption. The diverse nature of these challenges necessitates effective communication between engineers, policy makers, investors, and shareholders.

The fundamental purpose of his talk will be to share with students the wealth and variety of opportunities awaiting them, and some of the decisions they will need to make.

Professional Bio

Dr. Charles Scawthorn is recognized as an authority for the analysis and mitigation of natural and technological hazards. He has authored over 200 technical papers and is editor of the *Earthquake Engineering Handbook*, the *Critical Infrastructure Handbook* and several other books. He retired in 2008 as professor and head of the Earthquake Disaster Prevention Systems Laboratory, Kyoto University (Japan), has been Visiting Professor at Stanford, Beijing Normal and Waseda (Tokyo) Universities and is now Visiting Researcher, University of California at Berkeley. He taught courses on *Disaster Risk Assessment, Mitigation and Financing* at the World Bank and on California earthquake risk for Lloyds of London. As President of SPA Risk LLC, he consults to the global insurance industry, the World Bank, local/state/federal agencies and Global 1000 corporations. Dr. Scawthorn is a graduate of the Cooper Union, holds an M.S. of Civil Engineering degree from Lehigh University and received his D.Eng. from Kyoto University.

SUPPLEMENTAL ACTIVITIES

Dinner with Charles Scawthorn

Six members of the Cal Poly EERI Student Chapter, the Cal Poly EERI Student Chapter faculty advisor, and the Architectural Engineering (ARCE) Department Head went to dinner with Dr. Scawthorn. He was introduced to the ARCE program and culture and learned more about the department. He provided insight into his background as well as his current professional activities.

Tour of CAED Facilities

Cal Poly students showed Dr. Scawthorn the various facilities that the Cal Poly College of Architecture and Environmental Design (CAED) offers, including the High Bay Lab, Seismic Lab, Digital Fabrication Lab, Wood Shop and Metal Shop. Students were able to discuss their undergraduate coursework and types of research that utilized that respective lab space.

Graduate Student Presentations

After the guest lecture, graduate students presented their current thesis work or projects and received feedback from Dr. Scawthorn. Some topics included innovations in roller bearing base isolators and girt-haunch steel moment frame connection designs for improved seismic performance.

Meeting with the Department Head of the Architectural Engineering Program

Dr. Scawthorn had a discussion with the Department Head of the Architectural Engineering Program, Al Estes. They discussed the state of the department and its continuing mission to prepare graduates for industry through close connections with industry leaders.

Design Village at Poly Canyon Architectural/Structural Experimental Facility

Dr. Scawthorn and four students toured the Poly Canyon Architectural/Structural Experiment Facility. This outdoor space houses twenty-six student designed and built structures dating back to 1964. At the time of his visit, the students were working on their senior project of designing, fabricating, and installing their own structure

consisting of various special steel moment frames into the Poly Canyon Architectural/Structural Experiment Facility. This allowed Dr. Scawthorn to hear their perspectives of Cal Poly's "Learn-By-Doing" philosophy.

RESULTS, FEEDBACK AND LESSONS LEARNED

Results/Feedback:

- Dr. Scawthorn had a very positive experience visiting Cal Poly. He was especially impressed with the ARCE department's hands-on approach and its focus on materials, constructability, and analysis.
- Dr. Scawthorn emphasized the importance of communication in engineering, especially with leaders and investors that might not have an engineering background.
- Dr. Scawthorn's lessons and advice from his career were well-received by students who are eager to start their careers and internships. His visit had a recurring theme of inter-generational transfer of knowledge, which left students motivated and excited for the future.

ACKNOWLEDGEMENTS

The Cal Poly SLO EERI Student Chapter gratefully acknowledges the support of the Friedman Family for sponsoring the travel of Dr. Charles Scawthorn through their Friedman Family Visiting Professional Program endowment. They would also like to thank the CSI Structural Resiliency fund and the Cal Poly Instructionally Related Activities fund for supporting the various costs of hosting Dr. Charles Scawthorn.

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
- Item 2, Picture of Dinner with Dr. Scawthorn
- Item 3, Pictures of Dr. Scawthorn's Lecture and Student Presentations
- Item 4, Picture of Tour of Design Village in Poly Canyon



CAL POLY



**Earthquake Engineering
Research Institute**
Dedicated to reducing earthquake risk

ENGINEERING CRITICAL INFRASTRUCTURE

WITH GUEST SPEAKER



ABOUT:

Water, energy, transportation and communications - infrastructure - is critical to modern life and survival. Join us as Dr. Charles Scawthorn shares his wealth of knowledge in reducing infrastructure risk to natural and technological hazards he has been involved with over the last five decades.

WHEN:

Monday, February 26th, 2024
from 12:10pm - 1:00pm

WHERE:

Berg Gallery (Bldg. 05, Room 105)

Questions? Please contact Anahid Behrouzi at behrouzi@calpoly.edu

**LUNCH
INCLUDED!**

| Mr. Pickles Sandwiches



**CHARLES
SCAWTHORN, PHD**

Visiting Researcher, UC - Berkeley
President, SPA Risk LLC

Item 2





Item 4

