

FRIEDMAN FAMILY VISITING PROFESIONALS PROGRAM

Visit to Ain-Shams University: April 28, 2023



This report summarizes the visit of **Mr. David Cocke** from Structural Focus that took place at Ain-Shams University (**Virtually**) on April 28, 2023,

ITINERARY OR AGENDA

Provide the itinerary of the visit:

TIME:	ACTIVITY:
8:00 AM – 8:15 AM	Student Chapter President welcomes Mr. David Cocke & virtual tour to campus
8:15 AM – 9:30 AM	"A structural engineer's role in our world's future" lecture by Mr. David Cocke
9:30 AM – 10:00 AM	Open discussion with Mr. David Cocke
10:00 AM – 10:15 AM	Break
10:15 AM – 11:10 AM	"Seismic design criteria of bridges in the US" lecture by Dr. Ali Hammad
11:10 AM – 11:25 AM	Open discussion with Dr. Ali Hammad
11:25 M – 11:45 AM	Meeting with our SDC team
11:45 AM – 12:00 PM	Ending the day with giveaways to attendees

STUDENT CHAPTER VISIT PLANNING COMMITTEE

LEAD ORGANIZER(S): Mostafa Ashraf, Student Chapter President, mostafaashraf113@gmail.com

- Mohamed Masbouba, SDC Team Captain, Mohammedmasbouba@gmail.com
- Abdelaziz Ayman, Managerial Team Advisor, abdelazizkhedrofficial@gmail.com
- Rawan Abulkassem, Managerial Team Head, 19P6558@eng.asu.edu.eg
- Mohamed Elahmar, PR Team, mohamed1elahmar@gmail.com

VISITING PROFESSIONAL LECTURE OVERVIEW

Lecture Abstract

A Structural Engineer's Role in Our World's Future

As the world has learned in the last couple of months, earthquakes can cause huge losses of life and devastate community economies. To increase our communities' resilience will require the hard work and collaboration of seismologists, geologists, planners, policy makers, economists, social scientists and structural engineers. David Cocke will review his own career path including his engineering education, early career steps, opening a branch office and starting his own firm. Along the way, he will discuss a few projects, the importance of Structural Engineers' role in the world, and some potential keys to career success.

Professional Bio

David Cocke, S.E. has been practicing Structural Engineering since 1981 when he followed his fiancé from Virginia to the San Francisco Bay Area. He relocated from Degenkolb's San Francisco office to open their Los Angeles office in 1995 after the Northridge EQ and his first client was Warner Bros. assisting them with their earthquake repairs and retrofits. David left Degenkolb in 2001 to start Structural Focus. He is a registered Structural Engineer in California and several other states, with expertise in seismic evaluation, historic preservation, retrofits and new design. Some of his most notable projects include the Hotel del Coronado, Glendale Masonic Temple, Wilshire Boulevard Temple, Red Bull North American Headquarters, Walls Annenberg Center for Performing Arts, Netflix Egyptian Theater, Culver City's new Amazon Studios, the new Sunset Glen Oaks Studios, and numerous projects for all of the major Southern California film studios.

David has been very involved in numerous professional associations throughout his career. He is the immediate Past President of the Earthquake Engineering Research Institute and has been president of the national Structural Engineers Institute of ASCE, as well as the U.S.C. Architectural Guild. He has served on the board of directors of the Structural Engineers Association of California, of both the Southern and the Northern California Structural Engineers Associations, the California Preservation Foundation, Pasadena Heritage and the Los Angeles Conservancy. Since 2007 David has served as the SEAOC appointed Alternate Structural Engineer Member on the California Historical Building Safety Board and he is currently on the NIST federal Advisory Committee on Earthquake Hazards Reduction.

SUPPLEMENTAL ACTIVITIES

"Seismic design criteria of bridges in the US" lecture by Dr. Ali Hammad

Dr. Ali Hammad is one of the teaching team in structural department in Ain-Shams University and he gave a simple introduction about "Seismic design criteria of bridges in the US".

Meeting with our SDC team

A presentation given by ASU EERI SDC team to let all attendees know more about SDC and about the team to encourage them to participate in the next years, in addition to open discussion for answering their questions.

Ending the day with giveaways to attendees

Engineering courses-giveaway to the event attendees.

RESULTS, FEEDBACK AND LESSONS LEARNED

- Virtual visits are not attractive as actual ones.
- Professional was well prepared for the topic and the attendees enjoyed it.

ACKNOWLEDGEMENTS

Ain-Shams University EERI Student Chapter gratefully acknowledges the support of the Friedman Family for providing the virtual visit of Mr. David Cocke through their Friedman Family Visiting Professional Program endowment.

LIST OF ATTACHMENTS

A list of the attachments is included below:

- Fliers for the event and more on our social media channels.




- Student Chapter President welcomes Mr. David Cocke & virtual tour to campus





- “A structural engineer’s role in our world’s future” lecture by Mr. David Cocke

Recent Turkey EQ Sequence


- On February 6, 2023, at 4:17 a.m. local time, a 7.8 magnitude earthquake rocked southeast Turkey near the Syrian border.
- The initial quake strikes at a depth of 11 miles (17.9 km) near Nurdagi in Gaziantep province.
- After the first quake, aftershocks numbering in the thousands rumble across the region.
- On February 20, 2023, a 6.3 magnitude earthquake strikes Hatay province in southern Turkey, causing more damage and killing three people.
- More than 850,000 children remain displaced in Turkey and Syria.
- Over 1.9 million people are seeking shelter in tents and temporary shelters in Turkey and 500,000 people in Syria are homeless.
- Even before this disaster, more than 6.5 million children in Syria needed humanitarian aid due to the ongoing conflict.



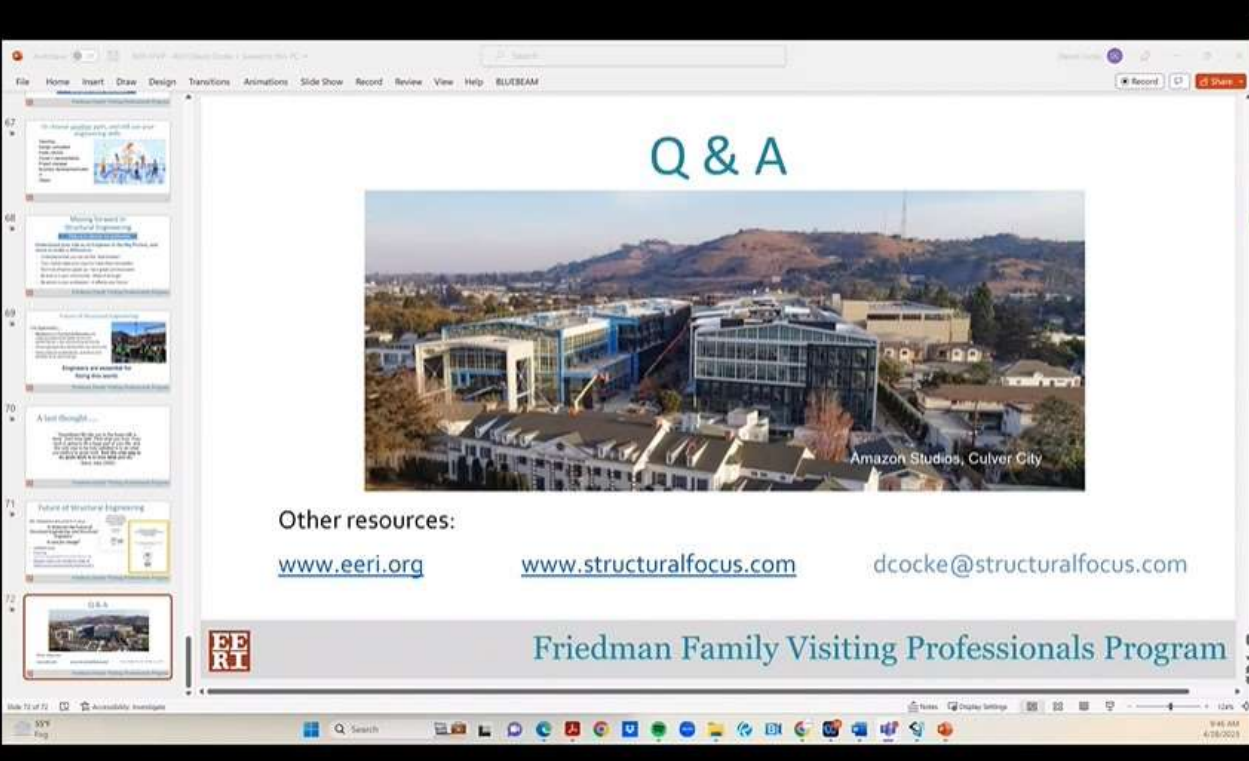




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- Open discussion with Mr. David Cocke





Other resources:

www.eeri.org
www.structuralfocus.com
dcocke@structuralfocus.com



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- "Seismic design criteria of bridges in the US" lecture by Dr. Ali Hammad

Leaning Objective

- › Bridges Design Criteria in the US
- › Force Based Approach Vs Displacement Based Approach
- › Bridges Ductility and Redundancy



The Golden Gate Bridge, CA, US

Seismic Design Criteria of Bridges in the US - Ali Hammad, Ph.D., P.E.

M2
Muhammad Ahmed...

G2
Gehad Medhat A...

M1
Mostafa Ashraf...

AH
Ali Hammad H...

DC
David Locke

M1
Mahmoud Mohamed...

M2
Muhammad Ashraf...

F2
Farah Nabil Moha...





H2
Habib yasser al...

A1
Abdullah Ashraf...

+50

Introduction

› 1994; Northridge EQ 6.7 M_w

› Aftermath: Inadequate ductility; inadequate shear strength; displacement based design was introduced and kept the force design approach using R factors

› 1999; California Seismic Design Criteria; performance-based strain levels, damage control, ductile response at selected locations and capacity design principles

Seismic Design Criteria of Bridges in the US - Ali Hammad, Ph.D., P.E.

J1
Julia Magid Foua...

K2
Khaled Khaled mo...

AH
Ali Hammad H...

E2
Eman Elmalik Mo...

G2
Gehad Medhat A...

F2
Farah Nabil Moha...

+43

- Meeting with our SDC team



MEET ASU EERI SDC TEAM

Presented by ASU EERI TEAM



WHO ARE WE

ASU EERI Student Chapter is a branch of the Earthquake Engineering Research Institute (EERI) at Ain Shams University. EERI is a non-profit organization based in the USA that aims to understand and reduce earthquake risk and enhance resilience in communities worldwide.



Our Models

2018 2019 2020 2021 2022

EGYPT

- Ending the day with giveaways to attendees

