

FRIEDMAN FAMILY VISITING PROFESIONALS PROGRAM

Visit to University of Notre Dame: April 8th, 2022



This report summarizes the visit of **Mr. David Cocke** from Structural Focus, Gardena, CA that took place at the University of Notre Dame on April 8th 2022.

ITINERARY OR AGENDA

Provide the itinerary of the visit. For example:

TIME:	ACTIVITY:
8:00 AM – 9:30 AM	Student Chapter President meets & welcomes Visiting Professional to campus over Breakfast at Rohr's in Morris Inn hotel on campus
9:30 AM – 10:00 AM	Meeting with faculty (Dr. Brewick)
10:00 AM – 10:30 AM	Meeting with faculty (Dr. Kijewski-Correa)
10:30 AM – 11:00 AM	Meeting with EERI faculty advisor (Dr. Taflanidis)
11:00 AM – 11:30 AM	Meeting with faculty in the professional master's program (Dr. Khasawneh)
11:30 AM -12:00 PM	Meeting with faculty in the professional master's program (Dr. Fargier Gabaldon)
12:00 PM – 1:15 PM	Lunch with EERI graduate student members – informal discussion on career paths, challenges and other professional matters
1:30 PM – 2:30 PM	Guest lecture by Mr. Cocke on "Public/Private Partnership to Increase Community Disaster Resilience"
2:30 PM – 3:00 PM	Tour of Engineering Facilities and Labs related to EERI disciplines
3:00 PM – 3:30 PM	Meeting with faculty (Dr. Khandelwal)
3:30 PM – 4:15 PM	Meeting with faculty (Dr. Kurama) - Tour of HIBAY lab
4:30 PM – 5:30 PM	Tour of Campus with a tour guide from the Eck Center
6:45 PM – 9:00 PM	Dinner with student chapter members at local restaurant

STUDENT CHAPTER VISIT PLANNING COMMITTEE

LEAD ORGANIZER(S): Aikaterini Kyprioti, President of the student chapter, akyriot@nd.edu

- WoongHee Jung, Vice President of the student chapter, wjung2@nd.edu
- Dimitrios Patsialis, Member of the student chapter, dpatsial@nd.edu
- Alexandros Taflanidis, EERI faculty advisor, ataflani@nd.edu

External help from EERI community:

- Silvana Cobos, Friedman Family Visiting Professional Program coordinator, silvana@eeri.org

VISITING PROFESSIONAL LECTURE OVERVIEW

Mr. Cocke's presentation titled "Public/Private Partnership to Increase Community Disaster Resilience" attracted a lot of attention in our university from both faculty and students. The lecture attracted at least 15 participants, with some of them coming even from different disciplines. Mr. Cocke, as an experienced engineer, was able to provide valuable insights regarding the necessity of building owners to invest on a partnership with a private company that will allow them to pre-certify a post-earthquake inspection of their building by qualified engineers and specialty contractors reducing significantly the downtime after an earthquake event. He was able to discuss challenges and solutions regarding this initiative and how it would benefit both the building owners and the state officials. Numerous questions were asked by the audience regarding the liability process, the broader applicability of such an initiative to different hazards (i.e. hurricanes), as well as the bureaucracy and any implications of such a tool for building owners that would not be part of such a partnership. Mr. Cocke was more than happy to discuss and elaborate on such questions offering his vision and problems he has already identified down the road.

Lecture Abstract

As shown in Santa Cruz, CA in 1989, and again in Christchurch in 2011, disasters such as earthquakes not only can destroy buildings, but also destroy businesses, and in fact, entire communities. In recent years, there has been an emphasis in the engineering community on recovery. There are structural solutions, but in addition, there need to be plans to assist in recovery. After a regional disaster, the affected building departments are often overwhelmed with the demand to evaluate damaged structures which delays community recovery. The first priority for post-disaster evaluations must be the essential facilities, such as healthcare facilities, fire departments and emergency shelters. As a result, evaluations of commercial and other facilities often take weeks, and in the meantime, occupants are reluctant to re-enter the structures. A Building Occupancy Resumption Program (BORP) directly addresses this issue. The delay in evaluating structures for safety and re-occupancy is significantly reduced, and temporary shoring and repairs leading to recovery can begin immediately. However, a BORP requires an understanding and detailed cooperation between the facility owner (not always the same as the occupant), the Building Department and the assigned engineering consultant. This presentation explains the benefits and the complexities of putting a program in place and the role of structural engineers in the future.

Professional Bio



David Cocke, SE, F.SEI, F.ASCE, F. SEAOC is the founder and former President of Structural Focus in Gardena, CA. He has been practicing Structural Engineering since 1981 and is a registered Structural Engineer in California and several other states, with expertise in seismic evaluation, historic preservation, retrofits and new design. Some notable projects include the Red Bull Headquarters, Wallis Annenberg Center for Performing Arts in Beverly Hills, the new Amazon Studios campus at The Culver Studios, and restoration of the Wilshire Boulevard Temple. In addition to currently leading several interesting projects, David is also the Project Technical Director of a FEMA-funded Applied Technology Project to develop guidelines for the implementation of Building Occupancy Resumption Programs. David joined EERI in 1992 and is a Charter Member of the Southern California Chapter, serving currently as the President of the Institute. David has served on the Board of Directors of numerous other organizations including the California Preservation Foundation, Pasadena Heritage, USC, Architectural Guild, SEAONC, SEAOSC, and SEAOC. In 2014, David was appointed to Los Angeles Mayor Eric Garcetti's Mayoral Seismic Safety Task Force to perform a year-long study of seismic risk in Los Angeles, resulting in the Mayor's Resilience by Design report. He was the President of the Structural Engineers Institute of ASCE in 2019. Currently, David is on the Board of Directors of Los Angeles Conservancy, EERI Board and NEHRP's Advisory Committee on Earthquake Hazards Reduction (ACEHR). Since

2010, David has also been leading the effort to bring Back to Business (B2B), a building occupancy resumption program, to Southern California.

SUPPLEMENTAL ACTIVITIES

Lunch with EERI graduate student members

Mr. Cocke had lunch with members of the EERI Graduate Student Chapter and was able to describe his career path, the challenges he encountered in founding his own company, the things he values the most to civil engineering profession and the characteristics he looks for in the new generation and junior engineers. He was excited to discuss about current and past projects along with any problems he has encountered stressing the importance of restoring old buildings, reinforcing them against earthquakes across California. He showed interest on the research the graduate members (Ph.D and Master students) conduct and the applicability of that research to the engineering profession. Overall, lunch time proved to be a relaxing time that both Mr. Cocke and the members took advantage to ask questions and engage in fruitful conversations on how research in civil engineering and the civil engineering profession can collaborate and provide significant advancements.



Tour of HIBAY lab



Accompanied by Dr. Kurama who is the director of Structural Systems Laboratory at Notre Dame (also known as High Bay), Mr. Cocke took a tour of the facility and he was given details about ongoing projects that Dr. Kurama and his group are working upon. Among many of the successful projects the lab is leading is one for buckling-restrained-brace systems (BRB-systems) that attracted Mr. Cocke's attention, since it has a direct applicability on construction and restoration cases. Overall, various structural testing is performed in the High Bay lab, from testing the stiffness and stability of a foot brace to testing grouted connections between wall panels. Current work, as was already mentioned above, in the High Bay

lab includes experimental testing of a novel precast concrete buckling-restrained brace to use as a lateral force resisting element, aiming to popularize seismic bracing systems within the precast concrete industry.

Tour of Notre Dame Campus

Mr. Cocke towards the end of his visit took a private guide tour accompanied also by the president of the EERI Student Chapter around Notre Dame Campus. Despite the weather which was quite cold for the season, he was able to see the most iconic campus structures, including the Basilica, the Main Building with the Golden Dome, Hesburgh Library and the Notre Dame Stadium. The two senior Notre Dame students were able to provide even some structural information for some of the buildings and some ongoing construction sites were also visited during the walk around campus. Mr. Cocke had some time to relax and ask questions regarding the architecture of the buildings, their construction year, and the new development projects Notre Dame is currently holding for new structures and renovations on existing buildings.



RESULTS, FEEDBACK AND LESSONS LEARNED

The EERI@ND Graduate Student Chapter is thankful that was selected for a second consecutive year to host a professional and this time in person. The easy application process and the variety of professionals EERI is offering are two of the main advantages and reasons we are more than excited every year to participate in this program. Overall, the participation was lower than expected this year (regarding undergraduate students) due to the fact that Mr. Cocke's visit coincided with ASCE conference where Notre Dame sent 35 students and for Juniors with a midterm examination that prevented them from attending. Since we had made reservations with the professional before even the semester had started we were not able to make any further accommodations for undergraduates that could have been interested in attending the lecture. Mr. Cocke received a warm welcome from the faculty in the department, since many of them expressed interest in meeting with him once his visit was announced. Summing up, from the chapter's perspective, Mr. Cocke's visit is considered a highly successful event that showcased the interest the department has on earthquake engineering and staying close to professional engineers, and the work that the chapter on its own is doing in serving the department's needs. Mr. Cocke was a valuable source of information regarding industry and the challenges it entails, when it came to talking to graduate and master students, who he happily offered his contact information and promised to guide them through their search in the job market.

Description of other topics or disciplines the Student Chapter would like to cover in future visits, and related goals.

- Professionals that look into sustainability and connection to earthquake induced damages
- Professionals that are working in insurance companies
- Hold one lecture virtually every year that all members from all universities can attend (complementary to the in person FFVP program)

ACKNOWLEDGEMENTS

The EERI@ND Student Chapter gratefully acknowledges the support of the Friedman Family for sponsoring the travel of Mr. David Cocke through their Friedman Family Visiting Professional Program endowment.

The EERI@ND Student Chapter, would also like to thank the Faculty Advisor Dr. Taflanidis and the department for sponsoring part of Mr. Cocke's activities while on campus and in South Bend.

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:

- Lecture's flyer that the EERI@ND team prepared for sharing with the university via email and creating posters across the department to advertise the event.



UNIVERSITY OF
NOTRE DAME

College of Engineering



The Earthquake Engineering Research Institute (**EERI**) and the Friedman Family Visiting Professionals Program present the 2022 seminar:

“Public/Private Partnership to Increase Community Disaster Resilience”

by **David Cocke**

founder and former President of Structural Focus

Friday April 8th @ 1:30-2:30pm in DeBartolo 136

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David will offer some professional guidance and be available for questions regarding any topic related to the life of a practicing structural engineer.



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