FRIEDMAN FAMILY VISITING PROFESIONALS PROGRAM

Visit to University of Minnesota-Twin Cities: April 5, 2019

This report summarizes the visit of **Dr. Nathan Gould** from ABS Group, St. Louis, MO that took place at the University of Minnesota-Twin Cities on April 5, 2019.

ITINERARY OR AGENDA

Provide the itinerary of the visit. For example:

TIME:	ACTIVITY:
Thursday April 4th	
5:30pm	Arrive at MSP Airport (Southwest Flight 1058)
	Pick-up (Anu Tripathi (612-814-9067) can provide transportation from airport)
	Drop-off at the Graduate Hotel
7:15pm	Pick-up at lobby of the Graduate Hotel by Catherine French (763-227-6575)/ Anu Tripathi (612-814-9067)
7:30pm	Dinner at the Beacon with faculty (Catherine French, Lauren Linderman) and EERI officers at the Beacon
Friday April 5th	
8:00am	Pick-up at the Graduate by Catherine French (763-227-6575)/ Anu Tripathi (612-814-9067)
8:30am	Breakfast at the CEGE Department, Room 205
9:05am	**Seminar CEGE Room 205**
10:00am	Tour of MAST Lab with Prof. Catherine French
11:15am	Tour T. V. Galambos Structures Lab (Thao Truong)
Noon	Meet with Prof. Lauren Linderman
12:30pm	Meet with Prof. Henryk Stolarski
1:00pm	Lunch at D'Amico and Sons with faculty and EERI officers
2:00pm	Meet with students for Q/A session
3:15pm	Free time
5:00pm	Leave for the MSP airport
5:30pm	Arrival at MSP 80 minutes ahead of departure (Southwest Flight 2042 at 6:50 PM)

STUDENT CHAPTER VISIT PLANNING COMMITTEE

LEAD ORGANIZER(S): Anu Tripathi, President, tripa052@umn.edu

Vice President	**Thao Truong**	**truon228@umn.edu**	Graduate student
Member	**Juan Pablo Mendieta**	**mendi032@umn.edu**	Graduate student

Also include names faculty: Prof. Catherine French, Faculty Advisor, CSE Distinguished Professor, Department of Civil, Environmental, and Geo-Engineering, University of Minnesota-Twin Cities.

VISITING PROFESSIONAL LECTURE OVERVIEW

Briefly describe the Visiting Professional's presentation, and attendee response. Include photos if applicable.

The lecture was scheduled on Friday April 5, 2019 at 9:05-10:00 am, which is the regular weekly time slot for the structures group to hold their seminar. The seminar was well attended by many senior faculty members, graduate and undergraduate students. The speaker provided a good information on the design codes available for the hazard scenarios, such as blast, tornado, and a special emphasis on the seismic events. A case study of emergency communications facility highlighting the integration of different extreme load criteria was presented. The lecture was useful and informative, especially for students going to work on designing structures.

Lecture Abstract

Multi-Hazard design, which incorporates both natural and manmade hazards, has become a popular design requirement for critical structures. While many Owners and various project team members anticipate a relatively easy integration of the respective hazards based on their understanding of the loads generated by the hazards, numerous complexities arise during the actual integration of a multi-hazard design approach into construction documents.

A case study of recently designed emergency communications facility will be reviewed to understand the development of the design criteria and integration of the different conventional and extreme load criteria into a cohesive multi-hazard strategy to provide a higher level of protection for both structural and non-structural elements that are deemed to be critical to the post-event operations of the facility. Specific design features such as enhanced vertical and lateral load paths, and attachments of critical non-structural elements will be examined to illustrate the implementation of a multi-hazard strategy in the actual structure.

Professional Bio

Dr. Nathan Gould, Chief of Technology for the ABS Consulting Advanced Engineering Division, also serves as the General Manager of the St. Louis office of ABS Consulting. He is a practicing structural engineer with over 28 years of experience in the design, construction and rehabilitation of major structures in all regions of the United States. Dr. Gould is active in the utilization of performance based seismic design criteria and methodology for the design of new buildings and the retrofit of existing structures.

Dr. Gould is the author of numerous technical papers including recent articles on Performance Based Seismic Design, Progressive Collapse of Structures, Managing Extreme Wind Losses, and Terrorism Risk. He currently serves on several technical committees and organizations related to seismic analysis and design, including the NEHRP Advisory Committee on Earthquake Hazards reduction. He has been a member of several post earthquake reconnaissance groups, including teams that investigated damage following the 2010 Haitian and 2011 Christchurch events. Dr. Gould is a licensed Professional and Structural Engineer in several states.

SUPPLEMENTAL ACTIVITES

Lab Tour

The speaker was given a tour of the Multi-Axial Sub-assemblages Test lab by Prof. French and of the Structures Laboratory in the Civil Environmental and Geo- Engineering Department by the chapter members. During this tour we led Dr. Gould through the lab facilities and the on-going graduate as well as undergraduate projects, two of them related to earthquake engineering. The students described their research projects. The goal of this activity was information dissemination on the new research and facilities and exchange of ideas, such as what are challenges in the field and how can we design experiments to address these issues.

Meeting sessions with faculty and students

The visiting professional had meetings with faculty members to discuss the new challenges and new research in both academia and the practice. Afterwards, the professional also met with students to answer the career questions that they had. This was a particularly helpful session and it helped students get a perspective of what is expected of them and various opportunities available.

Dinner with Faculty and Lunch with Student Chapter Members

On the day of arrival, Dr. Gould was invited to have dinner with the Student Chapter Faculty Advisor Catherine French and Prof. Lauren Linderman from the Civil Environmental and Geo- Engineering Department.

The Visiting speaker was accompanied to lunch on Friday Prof. Theodore Galambos and by a small group of student officers and members. During the lunch the students had the opportunity to seek professional advice from Dr. Gould as well as discuss the future challenges and trends of the Civil Engineer profession.

RESULTS, FEEDBACK AND LESSONS LEARNED

The program was very well received by the students, faculty and industry as demonstrated by the excellent turnout of the Friday morning lecture. For future visit the Student Chapter would like to learn more about the details of the challenges of the multi-hazard design. We would also want to learn which structural systems are more suited in different scenarios.

The students should tell the lab-in-charge of the visit in advance, so as to avoid conflict with classes, or on-going experiments.

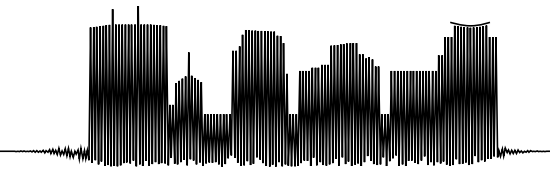
ACKNOWLEDGEMENTS

The University of Minnesota-Twin Cities EERI Student Chapter gratefully acknowledges the support of the Friedman Family for sponsoring the travel of Dr. Nathan Gould 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:

1. Flyer
2. Picture after the lunch event



EERI @ UMN

EARTHQUAKE ENGINEERING RESEARCH INSTITUTE AT UMN

Friedman Family Visiting Professional Lecture

Dr. Nathan Gould, ABS Groups

9:05 AM

Friday, April 5th

CEGE Building – Room 205

Q/A Session

with Dr. Nathan Gould

Open to Undergraduate and Graduate students


McNamara
Alumni