

FRIEDMAN FAMILY VISITING PROFESIONALS PROGRAM

Visit to Rice University: January 26-27, 2017



This report summarizes the visit of **Dr. Nathan Gould** from ABS Consulting, St. Louis, MO, that took place at the Rice University on January 26 and 27, 2017.

ITINERARY OR AGENDA

Provide the itinerary of the visit.

January 26, 2017

TIME:	ACTIVITY:
4:00 PM	Student Chapter welcomes Dr. Nathan Gould at the airport
7:00 PM – 9:00 PM	Dinner with the student chapter officers from this year and next year's officers

January 27, 2017

TIME:	ACTIVITY:
8:00 AM – 9.30 AM	Breakfast with Dr. Jamie Padgett (faculty advisor of the student chapter)
9:30 AM – 10:30 AM	Tour of Civil department and the Rice design initiative, Oshmann Engineering Design Kitchen (OEDK) with student chapter president
10:30 AM – 11:15 AM	Informal meeting with undergrad students from Civil, Mechanical and Architecture departments, who are part of the EERI Seismic Design Competition team
11:15 AM – 12:00 PM	Meeting with Faculty members in the Civil department
12:00 PM – 1:30 PM	Informal meeting with department graduate students (soon to be graduating) for career guidance over lunch
2:00 PM – 3:00 PM	Talk on "Multi-hazard design in performance based design" by Dr. Nathan Gould to students, post-docs and faculty in the Civil department
3:15 PM	Dr. Nathan Gould leaves for the airport

STUDENT CHAPTER VISIT PLANNING COMMITTEE

LEAD ORGANIZER(S): Navya Vishnu, President, EERI-Rice University: nv7@rice.edu

- Roger Paredes, Vice-President, EERI-Rice University: rlp4@rice.edu
- Carl Bernier, Treasurer, EERI-Rice University: cb36@rice.edu
- Sabarethinam Kameshwar, Member (ex-President), EERI-Rice University: sk56@rice.edu
- Majid Ebad Sichani, Member, EERI-Rice University: me15@rice.edu
- Hesam Talebayan, Member (next year's officer), EERI-Rice University: ht20@rice.edu

Faculty: Dr. Jamie E. Padgett, Faculty advisor, EERI-Rice University: Jamie.padgett@rice.edu

Staff: Maria Corcuera, Visits & Seminar Coordinator, Civil and Environmental Engineering Department, Rice University: Mariacorcuera@rice.edu

VISITING PROFESSIONAL LECTURE OVERVIEW

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

Lecture Abstract

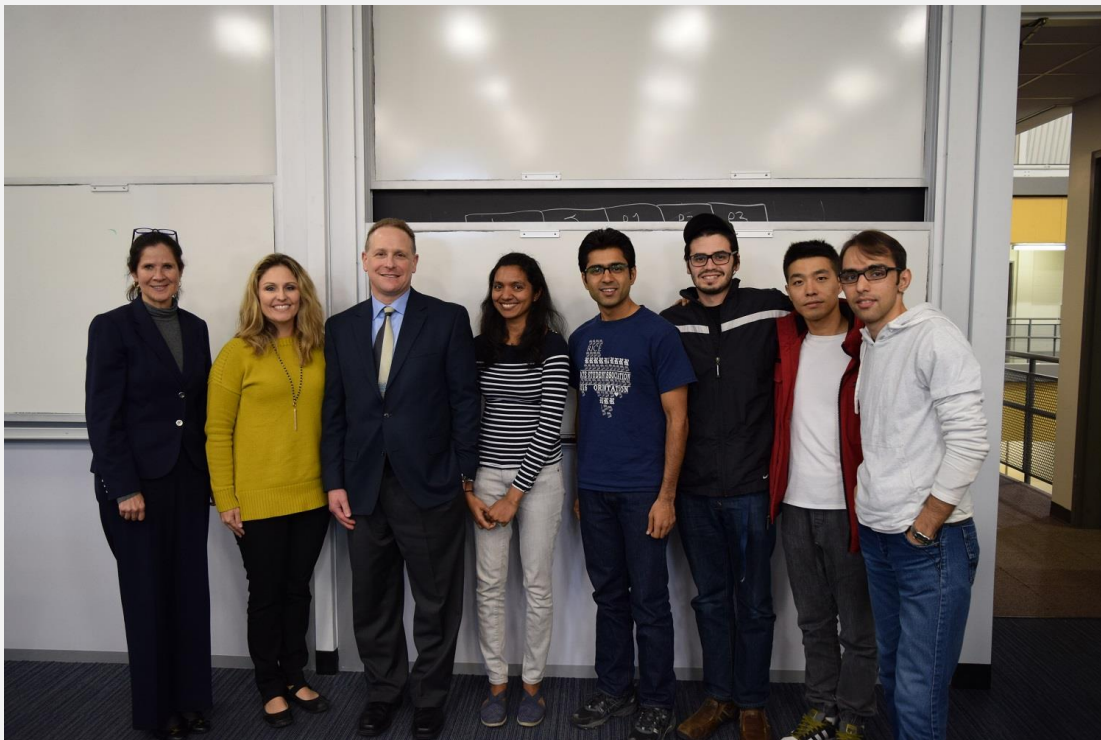
Multi-Hazard design, which incorporates both natural and manmade hazards, has become a popular design requirement for critical structures. While many Owners and various project team members anticipate a relatively easy integration of the respective hazards based on their understanding of the loads generated 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 25 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.



Dr. Nathan Gould with EERI officers, Dr. Jamie Padgett and Maria after the seminar

SUPPLEMENTAL ACTIVITIES

Dinner with EERI officers

Dr. Nathan Gould arrived at Houston airport on January 26, 2017. EERI-RU president, Navya Vishnu, and two previous officers, Sabarethinam Kameshwar and Majid Ebad Sichani, received him at the airport. Later that evening, Dr. Gould joined them for dinner at a local restaurant called Cyclone Anaya where he was treated to some 'Tex-Mex' cuisine. Current EERI-RU vice-president, Roger Paredes and next year's officer Hesam Talebiyan also joined for the dinner. The dinner was a casual affair, with some exchange of research backgrounds and interests and DR. Gould's reminiscence of his graduate student life.



Dr. Nathan Gould with current and future EERI officers at dinner

Networking session with graduate students and undergraduate students

The networking session with graduate students was done over lunch and the session with undergraduates was over coffee. The lunch session had attendance from a lot of PhD as well as Post-doctoral scholars.



Networking with graduate students over lunch

The students asked Dr. Gould a variety of questions, ranging from challenges in transitioning from academia to industry as well as research opportunities in industry. Dr. Gould also took this opportunity to mention how activities with EERI helped bridge this gap and how much involvement in such professional groups help one's career. As for the session with undergraduates, Dr. Gould stressed upon them the importance of doing a master's level degree as soon as possible. This interaction greatly helped the senior undergraduates, who are facing an imminent choice between grad school and job in the industry.

Tour of OEDK

Oshmann Engineering Design Kitchen (OEDK) is an innovative experimental design workshop at Rice University, mainly for the undergraduate students. OEDK showcases various design projects students have undertaken, either as part of a course or out of self-learning interest. OEDK was in fact the design workshop for the Rice University Seismic Design team this year. OEDK has technicians and latest equipment to help our students achieve their dreams. Dr. Nathan Gould, along with Navya Vishnu, took a tour of the OEDK facility and the OEDK staff impressed upon him the importance of such a platform for students' growth outside classrooms.

RESULTS, FEEDBACK AND LESSONS LEARNED

It was a great learning experience to coordinate, plan and execute a professional visit to Rice University. The EERI website was very helpful in planning Dr. Nathan Gould's visit. Also, help from former EERI-RU officers, who have hosted EERI speakers in previous years, was indispensable. One of the biggest challenges during the visit was over-scheduling Dr. Gould's visit. With the talk, student and faculty meetings, the day was a bit hectic for Dr. Gould. Next year, we can plan to merge the graduate and undergraduate networking sessions, so that the professional is not repeating his talk and advice. If possible, next year, a poster session highlighting graduate research at Rice University can be carried out.

ACKNOWLEDGEMENTS

The Rice University 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.

The student chapter also thanks the funding support from the Student Activities President's Programming (SAPP) fund at Rice University and the Civil and Environmental Engineering Department.

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 advertising the seminar
- The official agenda sent to Dr. Nathan Gould



RICE[®]

**DEPARTMENT OF CIVIL & ENVIRONMENTAL ENGINEERING
SEMINAR**

**Enhanced Seismic Design Integrated Into
A Multi-Hazard Design Approach**

**Nathan C. Gould, D.Sc., P.E., S.E.
Chief of Technology, Advanced Engineering
ABS Consulting
St. Louis, MO**

**Friday, January 27, 2017
2:00 PM - Ryon Lab 201**

Summary: 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.

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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 25 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.

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Directions to Rice University
Civil & Environmental Engineering
6100 Main Street
Houston, TX 77005



Department of Civil &
Environmental Engineering

Directions from LAH

From Intercontinental's terminal road, follow signs to US 59 South.

Once on US 59 proceed south approximately 25 miles and exit at Greenbriar.

Turn left under US 59 and follow Greenbriar to the light at Rice Boulevard.

Turn left onto Rice Boulevard. Rice campus entry gates will be on your right.

Turn right into Gate #20 and park in the visitor's parking section of the North Lot.

Use your credit card to enter the lot.

Your host or the event coordinator can provide a voucher to waive the parking fee.

Directions from Hobby

From Hobby's parking area, exit onto Broadway and follow signs to I-45 North.

Take I-45 North approximately 6 miles to US 59 South.

Once on US 59 proceed south approximately 3 miles and exit at Greenbriar. Follow steps 4 and 5 above

Rice University
Department of Civil & Environmental
Engineering
6100 Main Street
Houston, TX 77005

713-348-4949

SEMINAR

**Enhanced Seismic Design
Integrated Into
A Multi-Hazard Design
Approach**

Nathan C. Gould
Chief of Technology, Advanced
Engineering
ABS Consulting
St. Louis, MO

Friday, January 27, 2017
2:00 PM
Ryon Lab 201

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LOGISTICS:

FLIGHT: Southwest Airlines - HOBBY
Arriving: 1/26/17 @ 4:00 p.m. flight 657
Departing: 1/27/17 @ 4:45 p.m. flight 4135

TRANSPORTATION:
Grad Students will pick you up at the airport

HOTEL:
Confirmation # 92564162
Hilton Houston Plaza/Medical Center
6633 Travis Street, Houston, TX 77030
T: 1 713-313-4000
Arriving: January 26, 2017
Departing: January 27, 2017

PARKING & GENERAL CEE VISIT
LOGISTICS:
Taxi drop/pickup: Use entrance #21 off Rice Blvd. At the first stop sign inside the campus take a left. On your right, after the first building take the access road that runs along the west side of Ryon Lab and dead ends into Keck Hall. Download the campus map [here](#).

AV:
You are welcome to present from a flash drive or bring your laptop, whichever you prefer. MAC users, please bring your AV dongle with you.

Primary Audience:
Graduate and post-doctoral students and faculty in Civil & Environmental engineering – please tailor presentation to appeal to interests in both focus areas with 40-45 lecture/15 minutes Q/A).

CONTACT/Cells:
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Email:
Phone
Email:

SEMINAR SUPPORT:
Maria Corcuera
O: (713) 348-6161
C: (281) 7034302
Email: mec3@rice.edu

Thursday, January 26	
4:00 p.m.	Receiving at Hobby airport by EERI Officers
5:30 p.m.	Check-in at Hotel
6:30 p.m.	Dinner with EERI student chapter
Friday, January 27	
TBA	Breakfast with Dr. Jamie Padgett
9:30 a.m.	Campus tour with Navya Vishnu
10:00 am	OEDK Tour
10:30 a.m.	Undergraduate SDC team meeting over coffee
11:00 a.m. 213 Ryon Lab	Meeting with Dr. Satish Nagarajaiah
11:30 a.m. 208 Ryon Lab	Meeting with Dr. Ilinca Stanculescu
12:00 p.m. 112 Ryon Lab	Lunch interaction with graduate students
1:45 p.m. 201 Ryon Lab	Set up in room for lecture
2:00 p.m. 201 Ryon Lab	SEMINAR
3:00 p.m.	Leave for airport