

FRIEDMAN FAMILY VISITING PROFESIONALS PROGRAM

Visit to University of Michigan: March 29, 2023



This report summarizes the visit of **John Hooper** from Magnusson Klemencic Associates that took place at the University of Michigan on March 29th, 2023

ITINERARY OR AGENDA

Provide the itinerary of the visit. For example:

TIME:	ACTIVITY:
9:50-10:00 am	Welcome at the department by Srinivasan and Shreya
10:00 - 10:30 am	Jeremy Bricker (GGB 2016)
10:30 - 11:00 am	Evgueni Phillipov (2036 GGB)
11:00 - 11:30 am	Enrica Bernardini (2004 GGB)
11:30 - 12:00 pm	Jason McCormick (2040 GGB)
12:00 - 1:00 pm	Lunch with Srinivasan (President of EERI UM student chapter) and Shreya (Michigan Seismic Captain) at Fireside
1:00 - 1:30 pm	Seminar preparation
1:30 - 2:30 pm	Seminar 2029 GGB - <i>Performance-Based Seismic Design: Today's Approaches and a Vision for the Future</i>
2:30 - 3:00 pm	Seymour Spence (2056 GGB)
3:00-3:30 pm	Sherif El-Tawil (2048 GGB)

STUDENT CHAPTER VISIT PLANNING COMMITTEE

LEAD ORGANIZER(S): {enter name of student members who lead the visit, chapter role, email}

- Shreya Jain, Michigan Seismic/Undergraduate EERI President, jshreya@umich.edu
- Srinivasan, EERI Graduate President, sriarun@umich

Also include names of any faculty, industry advisors or others who helped.

- Seymour Spence, Michigan Seismic/ EERI Faculty Advisor, smjs@umich.edu

VISITING PROFESSIONAL LECTURE OVERVIEW



Lecture Abstract

Today's PBSD approaches focus on providing Life Safety for Design Earthquake (DE) ground shaking and Collapse Prevention for Maximum Considered Earthquake (MCE) ground shaking for the design of new buildings. An overview of this process will be presented. A FEMA-sponsored, Applied Technology Council-managed research effort has been underway for over 20 years developing a new approach to PBSD. The results of this effort have been published in FEMA P- 58 Seismic Performance Assessment of Buildings. This portion of the presentation will focus on this new approach, which allows engineers to estimate the following loss information for their buildings:

- Repair costs
- Repair time
- Unsafe placards
- Embodied energy and carbon
- Casualties

Finally, the FEMA P-58 methodology has been extended to evaluate the time frame to achieve Functional Recovery, a new performance objective that is currently under development, which will be briefly discussed.

Professional Bio

John Hooper is a Senior Principal and the Director of Earthquake Engineering at Magnusson Klemencic Associates, a consulting structural and civil engineering firm in Seattle, Washington. He received his Bachelor of Civil Engineering from Seattle University and a Master of Science from the University of California at Berkeley. John has over 40 years of engineering experience in the fields of renovation, earthquake engineering, and structural analysis and has been involved in the majority of MKA's Performance-Based Seismic high-rise designs over the past 20 years. He is Past-chair of the American Society of Civil Engineer (ASCE 7's) Seismic Subcommittee, a member of ASCE 7's Main Committee, and Chair of the Building Seismic Safety Council (BSSC) NEHRP Provisions Update Committee. He also currently serves on AISC's TC-3, TC-5 and Committee on Specifications.

SUPPLEMENTAL ACTIVITES

Introduction to Department

Srinivasan and I (Shreya Jain) welcomed Mr. Hooper to the Civil and Environmental Engineering Department at the University of Michigan. Following our own introductions, we took Mr. Hooper on a tour of the department and introduced him to faculty members that are doing work surround seismic and civil engineering. Jeremy Bricker, Evgueni Fillipov, Enrica Bernardini, Jason McCormick, and Seymour Spence all described their work and spoke to Mr. Hooper about his background.

Seminar Presentation

Performance-Based Seismic Design: Today's Approaches and a Vision for the Future. Mr. Hooper prepared and gave his presentation regarding Performance based design programs that are currently used and being developed in the seismic engineering industry. He spoke about how these practices can be improved, how they work with safety codes and regulations, and how this impacts design. The presentation was given to faculty and graduate and undergraduate students. A 30-minute question panel was given following the presentation where all participants could inquire about Mr. Hooper's presentation.

Debrief and Dinner

Faculty members later met with Mr. Hooper to further discuss his studies and work. Following this debrief, they went to dinner together where they continued discussion and questions regarding seismic, civil, and environmental engineering.

RESULTS, FEEDBACK AND LESSONS LEARNED

Brief description of challenges during the process, general reception of the program and Visiting Professional. Also, a description of other topics or disciplines the Student Chapter would like to cover in future visits, and related goals.

- This was not the first time the University of Michigan has hosted a Friedman Visit, but every year we believe they get better. The speakers are always well prepared and give insightful presentations.
- We hope that we allow for a professional, comfortable environment for the guests to share their experiences and knowledge.
 - We have found that there tends to be a higher graduate student attendance compared to undergraduate, so in following years we may try to emphasize the event to undergraduates more

ACKNOWLEDGEMENTS

The University of Michigan EERI Student Chapter gratefully acknowledges the support of the Friedman Family for sponsoring the travel of John Hooper 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: