

2014-2015 ANNUAL REPORT

University of Texas at Austin Student Chapter of the Earthquake Engineering Research Institute



Report Date: April 28,, 2015

This report summarizes the membership and activities conducted by the University of Texas at Austin Student Chapter of the Earthquake Engineering Research Institute during the 2014-2015 academic year.

MISSION & GOALS

The Student Chapter of the Earthquake Engineering Research Institute (EERI) at the University of Texas (UT) at Austin, hereafter referred to as the Chapter, serves to further the mission of EERI by disseminating knowledge about earthquakes and their effects, and the mitigation of earthquake hazards through engineering. To this end, the Chapter organizes seminars and outreach activities, and encourages the student body to join EERI. The Chapter was founded in 1992 and has been continuously active since that time. In the following report, we present information about the membership in the chapter and its activities during the 2014-2015 academic year.

MEMBERSHIP

The University of Texas at Austin Student Chapter had a total of 16 members in 2014-2015.

OFFICERS

The Board consisted of the following members:

| Role | Name | EERI Member # | Email | Student Status |
|----------------|-----------------------|---------------|-----------------------|------------------|
| President | Anne Hulsey | 16179 | annehulsey@utexas.edu | Graduate student |
| Vice President | Stalin Armijos | 17355 | starmijos@utexas.edu | Graduate Student |
| Secretary | Wiam Al Aawar | 17549 | wiam@utexas.edu | Graduate student |
| Treasurer | David Teague | 16035 | dteague@utexas.edu | Graduate Student |
| | Andrew Stolte | 16034 | a.c.stolte@utexas.edu | Graduate Student |
| | Xiaoyue Wang | 18066 | xy_wang@utexas.edu | Graduate Student |

Board meetings were held on the following dates to plan activities: 10/3/2014, 10/10/2014, 10/24/2014, 10/14/2014, 2/13/2015, 2/27/2015, 3/11/2015, and 4/13/2015.

FACULTY & INDUSTRYADVISORS

Patricia Clayton, Ph.D.

Assistant Professor, 301
E. Dean Keeton St. ECJ 4.708
Austin, Texas 78712
clayton@utexas.edu
(512) 471-9176

Ellen Rathje, Ph.D

Professor

E. Dean Keaton St. ECJ 9.227C

Austin, TX 78712

e.rathje@mail.utexas.edu

(512) 232-3683

MEMBERS

A complete list of members is shown below.

| Name | EERI Member Number | Email | Student Status |
|------------------|--------------------|-----------------------------|------------------|
| Ahmet Ozcelik | 17587 | yigit@utexas.edu | Graduate student |
| Albert Limantono | 18012 | albert_aqvan@utexas.edu | Graduate student |
| Ali Helwa | 17588 | ali.f.helwa@gmail.com | Graduate student |
| Andrew Jouben | 17551 | andrew.jouben@utexas.edu | Graduate student |
| Anne Hulsey | 16179 | annehulsey@utexas.edu | Graduate student |
| Anshul Goyal | 17630 | anshul.goyal@utexas. | Graduate student |
| Benchen Zhang | 17566 | zhangbenchen920312@163.com | Graduate student |
| Boqin Xu | 18064 | boqinxu@utexas.edu | Graduate student |
| David Teague | 16035 | dteague@utexas.edu | Graduate student |
| Julia Roberts | 15195 | jnroberts@utexas.edu | Graduate student |
| Olivia Deterling | 17669 | odeterling@utexas.edu | Graduate student |
| Sedef Kocakaplan | 17955 | sedef.kocakaplan@utexas.edu | Graduate student |
| Stalin Armijos | 17355 | starmijos@utexas.edu | Graduate student |
| Wiam Al Aawar | 17549 | wiam@utexas.edu | Graduate student |
| Xiaoyue Wang | 18066 | xy_wang@utexas.edu | Graduate student |
| Yumeng Tao | 18065 | yumeng.tao@utexas.edu | Graduate student |

BUDGET & FINANCIALS

The student chapter of EERI at UT Austin has an account with the university, which has a current balance of \$277.72

CHAPTER ACTIVITIES

SEMINARS

Dr. Brady Cox and Dr. Patricia Clayton (October 22, 2014)

Dr. Brady Cox and Dr. Patricia Clayton, both professors at UT Austin, presented on geotechnical and structural aspects of Earthquake Engineering, respectively. Dr. Cox's presentation was titled "Deep Vs Profiling for Dynamic Site Characterization of Christchurch, New Zealand" and it discussed seismic site characterization that he and his colleagues performed in Christchurch, NZ in response to the February 2011 Christchurch Earthquake. Dr. Clayton's presentation was titled "Are High-Performance Structures Really High Performing?" Her presentation focused on design aspects of self-centering structural systems.

Dr. Cliff Frohlich (November 5, 2014)

Dr. Cliff Frohlich is a geophysics professor at UT Austin. His presentation discussed the topic of anthropogenic-induced earthquakes and was titled "Human-caused Earthquakes: Everything You Know is Wrong."



Figure 1: Dr. Frohlich lectures on Human-caused Earthquakes

Drit Sokoli and Julia Robers (November 24, 2014)

UT Austin graduate students Drit Sokoli and Julia Roberts presented on their earthquake-related research projects. Drit's presentation was titled "Seismic Performance of Concrete Columns Reinforced with High-Strength Steel" and it described results from an experimental program aimed at evaluating the seismic performance of concrete columns reinforced with various grades of steel. Julia's presentation was titled "The Challenges of Preventing Soil Liquefaction: Experience from the Field in Christchurch, New Zealand" and it discussed liquefaction susceptibility testing performed on various full-scale foundations.

Dr. Michael Engelhardt (April 8, 2015)

Dr. Michael Engelhardt is a structural engineering professor at UT Austin. His presentation was titled "Recent Research on Panel Zone Behavior in Steel Special Moment Resisting Frames." The presentation detailed an on-going research project to examine the role of column panel zone yielding in steel moment frames.

Outreach Activities

Participation in Explore UT (March 7, 2015)

Explore UT is an open house organized by the university and is a major university-wide outreach event attracting the general public, especially primary, middle, and high school students. The Chapter attempted to introduce the concepts of seismic design to the students through the construction of buildings using tooth picks (for members) and marshmallows (for joints), as shown in Figure 3. The buildings were then testing on a small hand-operated shake table. The Chapter also displayed a set of posters describing earthquakes, earthquake safety, geotechnical seismic hazards, historical earthquake damage, and how earthquakes affect buildings.



Figure 2: Elementary school students creating buildings to be tested on a shake table at Explore UT



Figure 3: An EERI member securing the miniature buildings to the shake table at Explore UT

Shake Table Competition for St. Stephen's Episcopal School Students (April 16, 2015)

EERI officers organized a shake table competition for approximately 25 students from St. Stephen's Episcopal School. The format of the competition was similar to EERI's annual Undergraduate Seismic Design Competition. Students teamed up to create nine structures, which were tested on a shake table at UT Austin's Ferguson Structural Engineering Laboratory (FSEL). Immediately after the competition, students were given a presentation by the EERI officers pertaining to opportunities to get involved in student groups as an undergraduate student. Additionally, Dr. Patricia Clayton presented on earthquake engineering and structural engineering research, followed by a tour of current FSEL projects. *No photos are included to maintain the privacy of the students.*

SEISMIC DESIGN COMPETITION TEAM

We are raising interest among undergraduate students in hopes of having a seismic design competition team for the year 2015-2016.

ELECTION & ELECTION RESULTS

An election for officers for the 2015-2016 academic year was held on April 8, 2015. The table below shows the new officers appointed to the Chapter board who will take office in September 2015.

| Role | Name | EERI Member ID | Email | Student Status |
|----------------|-----------------------|-----------------------|-------------------------|-----------------------|
| President | Anne Hulseley | 16179 | annehulseley@utexas.edu | Graduate student |
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| Vice President | Stalin Armijos | 17355 | starmijos@utexas.edu | Graduate Student |
| | Andrew Stolte | 16034 | a.c.stolte@utexas.edu | Graduate Student |
| | Xoab Perez | | xp1@utexas.edu | Graduate Student |