

# 2017-2018 ANNUAL REPORT

## Virginia Tech Student Chapter of the Earthquake Engineering Research Institute



Report Date: May 1, 2018

This report summarizes the membership and activities conducted by the Virginia Tech Student Chapter of the Earthquake Engineering Research Institute during the 2017-2018 academic year.

### MISSION & GOALS

The EERI/VT Student Chapter aims to contribute to the dissemination of knowledge pertaining to research and professional activities associated with earthquake engineering and with the student community at Virginia Tech (VT). Additionally, the Chapter seeks to encourage the interaction and scientific collaboration among VT students and professionals interested in earthquake-related research. Providing new scenarios where students can learn from each other's research will advance the quality of their work while giving them a more comprehensive understanding of the field.

### MEMBERSHIP

The Virginia Tech Student Chapter had a total of 24 members in 2017-2018.

### OFFICERS

The Board consisted of the following members:

Role	Name	EERI Member Number	Email	Student Status
President	Cole Jaconski	18991	colej6@vt.edu	Graduate student
Treasurer	Logan Perry	19465	laperry@vt.edu	Graduate student
Secretary	Cody Farrow	19573	codyf95@vt.edu	Graduate student

Board meetings were held weekly, on Wednesdays at 5:15pm.

### FACULTY ADVISORS

Our advisor, Dr. Adrian Rodrigues-Marek, was on sabbatical for the year. In his place, Dr. Ioannis Koutromanos acted as the advisor for the year.

Dr. Adrian Rodrigues-Marek

- Email: [adrianrm@vt.edu](mailto:adrianrm@vt.edu)
- Phone: (540) 231-5778

- Email: [ikoutrom@vt.edu](mailto:ikoutrom@vt.edu)
- Phone: (540) 231-5979

## MEMBERS

A complete list of members is shown below.

Name	EERI Member Number	Email	Student Status
Kyle Polczynski	18900	pkyle1@vt.edu	Graduate
Perry Logan	19465	laperry@vt.edu	Graduate
Cole Jaconski	18991	colej6@vt.edu	Graduate
Raul Avellaneda	19094	rear93@vt.edu	Graduate
Cody Furrow	19573	codyf95@vt.edu	Graduate
Kristin Ulmer	17101	kjulmer7@vt.edu	Graduate
Wendy Reyes	18994	wendyar@vt.edu	Graduate
Edward Gil	19575	edwardmg@vt.edu	Graduate
Somayajulu Dhulipala	18932	lakshd5@vt.edu	Graduate
Bishal Khadka	19919	bkhadka@vt.edu	Graduate
Mary Douglas	19093	maryd96@vt.edu	Undergraduate
Carl Miler	19696	carlth6@vt.edu	Undergraduate
Tierney Lesinski	19723	tierl97@vt.edu	Undergraduate
Paul Jalowski	19613	jpaul96@vt.edu	Undergraduate
Ben Leonard	19681	benl7@vt.edu	Undergraduate
Rosie Dixon	19695	rosie27@vt.edu	Undergraduate
Gabriella Johnson	19654	gabmj98@vt.edu	Undergraduate
Matthew Leonard	19605	matth5@vt.edu	Undergraduate
Matt Chan	19675	mpc42@vt.edu	Undergraduate
Chris Klemmetz	19736	chrisk19@vt.edu	Undergraduate
Ryan Stevens	19022	ryans14@vt.edu	Undergraduate
Chris Tahara	19001	christ96@vt.edu	Undergraduate
Jiahong Pan	19726	jjahop1@vt.edu	Undergraduate
Anthony Gang	19734	ag336421@vt.edu	Undergraduate

## BUDGET & FINANCIALS

EERI primarily uses its budget for the Seismic Design Competition. The following table lists the expenses for the 2018 competition.

<b>Expenses</b>	<b>Expense</b>	<b>Unit Cost</b>	<b>Quantity</b>	<b>Total</b>
	Flights	\$500	5	\$2,500
	Model Shipping	\$600	1	\$600
	Hotel	\$1,600	1	\$1,600
	Transportation to/from Airports	\$200	1	\$200
	Airport Parking	\$7	5	\$35
				<b>\$4,935</b>

The following table contains all donations and sponsorships for the 2017-2018 school year.

<b>Sponsor Name/Organization</b>	<b>Contact Person</b>	<b>Amount</b>
VT CEE Department	-	\$500
Structural Focus	David Cocke (dcocke@structuralfocus.com)	\$500
Advanced Structural Concepts, Inc.	Finley Charney (advancedstructures@gmail.com)	\$500
Student Engineering Council	Director of Philanthropy (secdop@vt.edu)	\$2000
Student Budget Board	SBB (budgetboard@vt.edu)	\$2000
Parent Donor	-	\$3000

## CHAPTER ACTIVITIES

### REGULAR CHAPTER MEETINGS

During our regular chapter meetings, we usually discussed the upcoming events and planning for the Seismic Design Competition Team. This involved coordinating fundraising, outreach participation, and networking with industry and academic professionals. We also discussed recent and past earthquakes (Mexico 2017, Chile 2010, Nepal 2015) and the response efforts to each.

### FRIEDMAN FAMILY VISITING PROFESSIONAL or DISTINGUISHED LECTURE VISIT

David Cocke was our EERI Friedman Family Visiting Professional this year. As a Virginia Tech alum, Mr. Cocke was able to connect with the VT graduate students during his lecture visit. Structural students were given the opportunity to have valuable one-on-one time throughout the day which included lunch and a couple of tours around campus to speak with him on topics such as career development, next steps, job opportunity ideas, lessons learned and much more. Following this networking opportunity, students were able to attend two of his lectures for the day. The first lecture was geared toward graduate construction students and how valuable team work between the owners/engineers/general contractor is in the real world with project examples from his company's portfolio. The second lecture was focused for structural/geotechnical students with again more real world experience and lessons learned from his Structural Focus company portfolio which highlighted key topics such as sustainability, public safety, the aesthetics of our built environment, community resilience and recovery from disasters, economic growth, preservation of historic structures and our client's needs for a viable

facility. The visit ended with another valuable networking reception with David and students which followed the lectures.

### Seismic Design “Crash Course”

Near the beginning of the year, a few graduate students put together a small course for the undergraduate design team to teach them the basics of structural dynamics and seismic design in buildings. The course received such positive feedback that we opened it up to any students who wanted a brief introduction to structural dynamics and seismic design. In future years, we plan to hold this again, and plan to add more to further help the design team.

### West Salem Elementary STEM Night

Each year, West Salem Elementary School hosts a night celebrating STEM fields. Groups and organizations from the local area come and put together demonstrations and activities for elementary students to get involved in the sciences. EERI Chapter members set up a booth with K’Nex building pieces and asked the kids to make a structure that could withstand an earthquake without any initial assistance from the EERI members. After completing their structure, we hooked their K’Nex structures up to a shake table and tested under various earthquake loadings. During and after testing, we engaged the students to think about what makes a building resist the earthquakes and why. If the students were particularly interested, they added pieces to their existing building and tested again. For the most part, this activity was geared toward the older children, who really enjoyed the exercise. The younger children had more fun with the hands-on building aspects than they did with the shake table.

### Kids Tech

Kids Tech is a special one-day event hosted by Virginia Tech to provide hands-on STEM experiences for kids in grades K-12. Student clubs with STEM-related interests set up booths to show the kids what their field of study is like. EERI Chapter members set up a booth with K’Nex building pieces and asked the kids to make a structure that could withstand an earthquake without any initial assistance from the EERI members. After completing their structure, we performed horizontal deflection tests (a basic free vibration test) on each one and discussed the strengths and weaknesses of each design such as stiffness, deflection limits, bending, and effective simple design ideas. We asked the participants to think about how they could improve their designs to make them safer and more resilient during earthquake conditions and encouraged them to be creative in their solutions. Overall, this event was a success with the amount of kids that came to the booth and all of them were actively engaged with the EERI members.

## SEISMIC DESIGN COMPETITION TEAM

In the team's second year in the competition, the main goal was to improve and aspire. The team chose to design and build a more challenging structure. Using notes and knowledge from members that participated the previous year, the team went on to construct a model to the best of their abilities. The team acquired laser cutting capabilities, and employed the use of shear walls. With a larger team than last year, the model built for competition is better looking, better to build, and we hope will perform better than last year's model.

### SDC Team Members

A complete list of members is shown below.

Name	EERI Member Number	Email	Role
Mary Douglas	19093	maryd96@vt.edu	Undergraduate
Carl Miler	19696	carlrm6@vt.edu	Undergraduate
Tierney Lesinski	19723	tierl97@vt.edu	Undergraduate
Paul Jalowski	19613	jpaul96@vt.edu	Undergraduate
Ben Leonard	19681	benl7@vt.edu	Undergraduate
Rosie Dixon	19695	rosie27@vt.edu	Undergraduate
Gabriella Johnson	19654	gabmj98@vt.edu	Undergraduate
Matthew Leonard	19605	matthl5@vt.edu	Undergraduate
Matt Chan	19675	mpc42@vt.edu	Undergraduate
Chris Klemmetz	19736	chrisk19@vt.edu	Undergraduate
Ryan Stevens	19022	ryans14@vt.edu	Undergraduate
Chris Tahara	19001	christ96@vt.edu	Undergraduate
Jiahong Pan	19726	jiahop1@vt.edu	Undergraduate
Anthony Gang	19734	ag336421@vt.edu	Undergraduate

### SDC Team Financial Sponsors

A list of financial sponsors for the SDC team.

Name	Email	Amount
Structural Focus	David Cocke (dcocke@structuralfocus.com)	\$500
Advanced Structural Concepts, Inc.	Finley Charney (advancedstructures@gmail.com)	\$500
Student Engineering Council	Director of Philanthropy (secdop@vt.edu)	\$2000
Student Budget Board	SBB (budgetboard@vt.edu)	\$2000
Parent Donor	-	\$3000

### Team results and lessons learned

One lesson learned from this year is the importance of fundraising. Our fundraising efforts for the year started late, so finalized planning could not happen until the end of the academic year. Since the competition occurs in late June, we do not have any results or lessons from the competition yet.

### ELECTION & ELECTION RESULTS

An election for officers for the 20XX-20XX academic year was held in April 2018. The table below shows the new officers appointed to the Chapter board who will take office on May 2018.

Role	Name	EERI Member Number	Email	Student Status
President	Wendy Reyes	18994	wendyar@vt.edu	Graduate student
Treasurer	Cody Furrow	19573	codyf95@vt.edu	Graduate student
Secretary	Raul Avellaneda	19094	rear93@vt.edu	Graduate student

## FEEDBACK FOR EERI

We have no questions or comments for EERI.

## LIST OF ATTACHMENTS

We have no attachments for this report.