



University at Buffalo

The State University of New York

Department of Civil, Structural and Environmental Engineering



Student Chapter
University at Buffalo

Earthquake Engineering Research Institute

University at Buffalo Student Chapter
(UB-EERI)

Annual Report 2014-2015

This report summarizes the membership and activities conducted by the Student Chapter of the Earthquake Engineering Research Institute at the University at Buffalo, State University of New York, during the 2014–2015 academic year.

Mission and Goals

The mission of this student organization is to build a community of students and professionals. Social activities are supported among the student chapter, bringing together students with similar career objectives and interests and thus allowing a space for lifelong friendships to form. Networking events with engineering professionals can also bridge the gap between our local EERI chapter and the greater EERI community. Our goals include reaching out, beyond the research lab and classroom, to give back to our local community. Finally, direct volunteer efforts that specifically use our talents as engineers, in addition to fundraising efforts, are undertaken to positively affect the community.

Affiliation of UB-EERI

The parent organization of the Student Chapter of EERI at the University at Buffalo (abbreviated as UB-EERI) is the Earthquake Engineering Research Institute (EERI). UB-EERI is headquartered at the Department of Civil, Structural and Environmental Engineering (CSEE) at the University at Buffalo (UB), the State University of New York. The UB-EERI Student Chapter is recognized as a Special Interest Club by the Graduate Student Association (GSA) of the University at Buffalo.

Contact Address

UB-EERI Student Chapter 212 Ketter Hall, North Campus
Department of Civil, Structural and Environmental Engineering University at Buffalo – State
University of New York
Buffalo, NY 14260-4300 U. S. A.

UB-EERI Website

Our website presents reports, abstracts, pictures, additional links and material regarding all our activities. Please visit our website to learn more about each of the activities listed in this report.

Webpage: <http://gsa.buffalo.edu/eeri/>

Executive Officers 2014-2015

The board consisted of graduate students in the Department of Civil, Structural, and Environmental Engineering (CSEE) as well as the Department of Political Science (Poly Sci). Detailed information regarding the officers is provided below.

Position	Name	Email	Department
President	Laura Liliana Hernández	(lhernand@buffalo.edu)	CSEE
Vice President	Basit Qayyum	(basitqay@buffalo.edu)	CSEE
Treasurer	Daniel Baissa	(dkbaissa@buffalo.edu)	Poly Sci
Secretary	Joshua Reichardt	(jgreicha@buffalo.edu)	Poly Sci
Senator	Ramla Karim Qureshi	(ramlakar@buffalo.edu)	CSEE
Senator	Arvin Ebrahimkhanlou	(arvinkhanlou@gmail.com)	CSEE
Senator	Arpita Girish Kurdekar	(arpitagi@buffalo.edu)	CSEE
Senator	Aaron M Behnke	(ambehnke@buffalo.edu)	CSEE

Executive Officers



Laura Hernández
President



Basit Qayyum
Vice President



Daniel Baissa
Treasurer



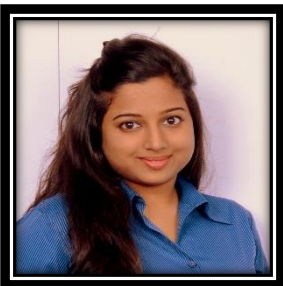
Joshua Reichardt
Secretary



Ramla Qureshi
Senator



Arvin Ebrahimkhanlou
Senator



Arpita Kurdekar
Senator



Aaron Behnke
Senator



Aikaterini Stefanaki
Past President

2014–2015 UB-EERI Faculty Advisor

Dr. Michel Bruneau

Department of Civil, Structural and Environmental Engineering

130 Ketter Hall,

State University of New York at Buffalo

Buffalo, New York 14260



Websites:

- http://engineering.buffalo.edu/civil-structural-environmental/people/faculty_directory/michel-bruneau.html
- <http://www.eng.buffalo.edu/~bruneau/>

UB-EERI Members during 2012-2013

The majority of the members are registered graduate students in the Department of CSEE at the University at Buffalo – State University of New York. Some members are graduate students in the Department of Mechanical Engineering; Department of Computer Science; Department of Industrial Engineering; Department of Communications; Department of Electrical Engineering; Department of Political Science; Department of English; Department of Biostatistics; Department of History; Department of Sociology and The Department of Management and Accounting.

Many of the UB-EERI members are also members or officers of the Graduate Student Association of the Department of CSEE (CSEE-GSA). The list of members of UB-EERI during the academic year 2014-2015 is provided below.

Name	Department	Grad / Undergrad or Non-Student
Abrahamkhanlou, Arvin	CSEE	GRAD
Aghakhan, Hossein	Mechanical Engineering	GRAD
Anastassiadou, Myrto	History	UNDERGRAD
Apergis, Iraklis	Biostatistics	GRAD
Baissa, Dan	Political Science	GRAD
Behnke, Aaron	CSEE	GRAD
Demirors, Emrecan	EE	GRAD
Dhiman, Vikas	Computer Science	GRAD
Farasat, Alireza	Industrial & Systems Engineering	GRAD
Goswami, Kundan	Mechanical Engineering	GRAD
Hernandez, Laura Liliana	CSEE	GRAD
Ishfaq, Sarah	English	GRAD
Jorgali, Vangjel	Mg-Accounting	UNDERGRAD
Karampelas, Ioannis	CBE	GRAD
Koliou, Georgia Angeliki	Roswell Park - Bioinformatics And Biostatistics	GRAD
Kumar, Suren	Mechanical Engineering	GRAD
Kural, Melis S	Sociology	GRAD
Kurdekar, Arpita	CSEE	GRAD
Lao, Winifred	CSEE	GRAD
Loftian, Zahra	CSEE	GRAD
Markopoulos, Panagiotis	EE	GRAD
Maroulis, Andreas	Communication	GRAD
Milkidis, Stefanos	Visual Studies	GRAD
Mistriotis Panagiotis	CBE	GRAD
Qayyum, Basit	CSEE	GRAD
Quresh, Ramla	CSEE	GRAD
Reichardt, Joshua	Political Science	GRAD
Samadi, Mohammadreza	Industrial & Systems Engineering	GRAD
Santagati, Giuseppe Enrico	EE	GRAD
Sklivanitis, Georgios	EE	GRAD
Stefanaki, Aikaterini	CSEE	GRAD
Terranova, Brian	CSEE	GRAD
Toumazis, Iakovos	Industrial & Systems Engineering	GRAD
Tsagkarakis, Nikolaos	EE	GRAD

Financial Information

The UB-EERI student chapter is affiliated with the Earthquake Engineering Research Institute, while is also recognized as a Special Interest Club by the Graduate Student Association at the University at Buffalo. The club received \$600 from the Graduate Student Association at UB for the 2014-2015 academic year. The above support has been used to fund the activities of the UB-EERI student chapter, which are listed below.

The student club also receives \$10 from FEMA for each subscribed EERI student member. At the end of the academic year, \$400 were received and will be used towards the activities organized in the 2015-2016 academic year.

2014-2015 UB-EERI Activities

A major activity of the UB-EERI Student Chapter is the **Engineering Seminar Series** which is jointly organized and sponsored by UB-EERI, the Graduate Student Association of CSEE at UB (CSEE-GSA), the MCEER (formerly known as the Multidisciplinary Center for Earthquake Engineering Research), and the Department of CSEE at UB. The purpose of this seminar series is to provide current information on topics of interest to the structural and earthquake engineering students at UB and provide a worthwhile opportunity for students to become familiar with industry and professional atmosphere through some technical presentations. This year, UB-EERI also held the 2015 **T.R. Higgins Lecture**, sponsored by the American Institute of Steel Construction.

In addition to these series of seminars, the UB-EERI organizes and participates in educational, social and outreach activities. This year some activities held included the Engineering Week Showcase at the Buffalo Museum of Science, the Habitat for Humanity community service event, the Departmental Poster Competition (CSEE Annual Graduate Poster Competition), the trip to the New York State Office of Emergency Management, and the end of the semester social outing

events. Additionally, this year, the UB EERI student chapter invited the McMaster University EERI Student Chapter in Canada for a collaborative event where students from both universities presented their research. Also, the undergraduate seismic design competition team members from both universities met to discuss their ideas for the upcoming competition.

Engineering Seminar Series

- **Dr. Marco Preti:** Assistant Professor in the Department of Civil Engineering, Architectural Engineering and Mathematics at the Università degli Studi di Brescia, Italy, “*Seismic Performance of Ductile Infills with Sliding Joints and Design Criteria*” (October 22, 2014).
- **Dr. Brian E. Tucker:** President, GeoHazards International, “*Reducing Earthquake and Tsunami Risk in the World’s Most Vulnerable Communities: Example of Prototype Tsunami Evacuation in Indonesia*” (November 10, 2014).
- **Dr. Dimitrios Konstantinidis:** Assistant Professor, McMaster University, “*Seismic Behavior of Sliding Equipment and Contents*” (January 26, 2015).
- **Dr. Constantin Christopoulos:** Professor and Canada Research Chair in Seismic Resilience of Infrastructure at the Department of Civil Engineering, University of Toronto, “*Recent Developments in Self-Centering Structures*” (March 27, 2015).



Professor Christopoulos with several attendees of his presentation

- Dr. Daniel Fenz, ExxonMobil Upstream Research Company, “*Technologies for Offshore Structures in Extreme Environments*” (April 17, 2015).

T.R. Higgins Lecture

Dr. Chia-Ming Uang, Professor in the Department of Structural Engineering, University of California, San Diego (UCSD), “*What Seismic Steel Design Is All About*” (April 24, 2015).



Professor Uang with several attendees of his presentation

International EERI Student Chapters Symposium

The UB-EERI student chapter invited the student EERI student chapter at McMaster University located in Ontario, Canada to visit the University at Buffalo, across the border. A total of 8 students attended from McMaster University. During this symposium, the visiting students were given a tour of the Smart Structures Research Laboratory and the Structural Engineering and Earthquake Simulation Laboratory (SEEL) as well as of the university. The students were also accompanied by Professor Dimitrios Konstantinidis who gave an engineering seminar. At noon, as a social activity, students from both universities as well as CSEE faculty from UB had a lunch provided by the UB-EERI chapter. Then, graduate students from both universities presented their current

research; this included a question and answer session per presentation. During the graduate student presentations, the undergraduate team members from the seismic design at each university had a meeting and discussed their ideas. This was indeed a great event to network as well as to learn from what other students are working on.



Tour of the Smart Structures Research Laboratory at the University of Buffalo, SUNY



Tour of the SEEL Lab at the University of Buffalo, SUNY



Ph.D. student from UB conversing with students from McMaster University



**2014-2015 EERI Student Chapter Advisors, Left to right: Dr. Michel Bruneau (UB),
Dimitrios Konstantinidis (McMaster)**



Students from both universities networking during lunch

Engineering Week Showcase at the Buffalo Museum of Science

This special outreach activity on February 18th at the Buffalo Museum of Science inspired kids to build stable bridges with Blue Tack and popsicle sticks.



Kids showing their structures proudly

Habitat for Humanity Community Service

The UB-EERI student chapter volunteered on Saturday, March 28th with the Habitat for Humanity in Buffalo to help with the renovation of a house.



Graduate students helping with the renovation of the house

Civil, Structural and Environmental Engineering Annual Graduate Poster Competition

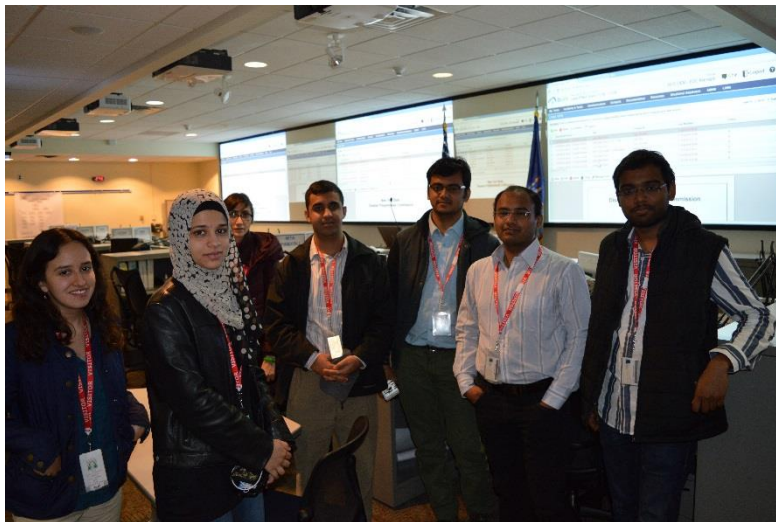
The Annual CSEE Graduate Student Poster Competition was co-organized and co-sponsored by the UB-EERI, the CSEE-GSA and the department of CSEE at UB. The poster competition took place on March 27th at the University at Buffalo. Prof. Constantin Christopoulos served as a guest judge of the student posters along with faculty from the department of CSEE at UB. The posters covered a wide range of topics in civil engineering, including computational mechanics (1), earthquake engineering (6), environmental engineering (2), and transportation engineering (1).



2015 Annual CSEE Graduate Student Poster Competition Winners. From left: Arvin Ebrahimkhanlou (1st place), Aikaterini Stefanaki (2nd place), Seyedsina Yousefianmoghdam (3rd place)

Trip to the New York State Office of Emergency Management

The graduate student members of the UB-EERI took a one day trip to Albany to visit the New York State of Office of Emergency Management (NYS OEM) on April 20th, 2015. The NYS OEM is one of the five offices within the NYS Division of Homeland Security and Emergency Services. The students attended a presentation describing how all the activities at the NYS OEM are coordinated to protect New York's communities from natural, technological and manmade disasters and other emergencies than threaten the state. The students also visited the OEM facility, which is a one of a kind three-story, underground facility, once built to resist nuclear attacks. This was definitely a learning experience as well as memorable.



Students visiting Albany and the NYS OEM Facility

Social Outings

After finals, at the end of the Spring semester, there were two events that brought together the graduate students to celebrate the start of the summer. These activities, a night out at a bar/restaurant and a bbq for the CSEE students, were cosponsored by the CSEE graduate student.



Students and alumni playing Jenga at Brickhouse Taver + Tap



Students and their families during CSEE End-of-Year BBQ

Elections

Elections for the 2015-2016 academic year will be held at the beginning of Fall 2016 in order to give incoming graduating students the opportunity to participate.

ENGINEERING SEMINAR

Seismic Performance of Ductile Infills with Sliding Joints and Design Criteria

Abstract

The seminar will discuss ongoing research focusing on the seismic vulnerability of buildings in Italy. The motivation for this research arises from the observation of damage suffered by reinforced concrete (RC) buildings, many of them built in the second post-war period with little or none consideration given to seismic actions. The research topics presented particularly deal with the seismic vulnerability of masonry infilled RC frames in the search for new design solutions to reduce their weakness. The focus of this presentation will be on an experimental campaign carried out to investigate the behaviour of engineered masonry infill walls subjected to both in- and out-of-plane loading will be presented. The aim of the research was to develop a design approach for masonry infill walls capable of solving their vulnerability and detrimental interaction with the frame structure when exposed to seismic excitation. A design solution with sliding joints to reduce the infill-frame interaction and ensure out-of-plane stability was developed. The aim of sliding joints is to ensure a predetermined mechanism in the infill wall, which is governed by hierarchy of strength and is capable of ensuring ductility and energy dissipation that can be taken into account in the design practice, thanks to the predictability of the response. The experimental findings were extended using numerical models, which allowed for a parametric analysis to better understand the collapse mechanism and define the most important design parameters of the construction technique. The possible benefits given by such infill walls in the seismic response of reinforced concrete structures will be discussed. The presentation will also briefly address the phenomena governing the collapse mechanisms of masonry and reinforced concrete structures such as rocking of walls and masonry diaphragm arch, vaults flexure, arch tie over-tension, friction and sliding mechanism. It will also examine the role of roof diaphragm in the response of masonry churches with examples of retrofit intervention on existing buildings.



Marco Preti, Ph.D., Eng.

Assistant Professor in the Department of Civil Engineering, Architectural Engineering and Mathematics at the Università degli Studi di Brescia, Italy.

Dr. Preti He received his Engineering Degree in Civil Engineering from the University of Brescia, Italy in 2002. He holds Ph.D.(2006) Degree in "Modeling, Conservation and Control of Materials and Structures" from the University of Trento, Italy. His research interests focus on reinforced concrete and masonry buildings design and strengthening, structural seismic behavior and experimental testing. For the last 10 years Dr. Preti has been involved in the Italian "Cofin" and "DPC-Reluis Research Project" which are funded by the National Department of Civil Protection and aim at reducing the national seismic risk. His current research focuses on the development of innovative technical solution for dissipative control of rocking mechanisms in existing masonry buildings and reinforced concrete structures.

Date: Wednesday, October 22, 2014

Time: 12:30 PM

Location: 140 Ketter Hall, North Campus, University at Buffalo

Refreshments will be served!

Organized by the Student Chapter of EERI at UB, CSEE-GSA, MCEER, and Dept. of CSEE

ENGINEERING SEMINAR

Reducing Earthquake and Tsunami Risk in the World's Most Vulnerable Communities: Example of Prototype Tsunami Evacuation Park in Indonesia

Abstract

GeoHazards International (GHI) is a California-based nonprofit organization that raises awareness about geophysical hazards, strengthens local disaster management organizations, and launches self-sustaining projects that help communities affordably mitigate risk. One on-going project concerns the tsunami risk of Padang, West Sumatra, Indonesia. Based on coring of offshore coral reefs and the absence of recent tsunamis offshore, the probability is high that a tsunami will strike the shores of Padang, flooding half of the area of the city, anytime during the next 30 years.

Since 2008, GHI has studied a range of options for reducing Padang's tsunami risk, including ways to accelerate evacuation to high ground with pedestrian bridges and widened roads, and means of "vertical" evacuation in multi-story buildings, mosques, pedestrian overpasses, and Tsunami Evacuation Parks (TEPs), which are man-made hills with recreation facilities on top. TEPs, located close to homes and schools, may reduce the disproportionately high lethality of women, children and the elderly observed in past tsunamis. The TEP design that GHI has recommended for Padang uses guidelines developed by FEMA and the experience with similar structures in Japan in the 2011 Tohoku tsunami. TEPs proved most practical and cost-effective for Padang, given the available budget, technology and time.



Brian E. Tucker, Ph.D
President, GeoHazards International

Brian Tucker received a B.A. in Physics from Pomona College, a Ph.D. in Earth Sciences from the Scripps Institution of Oceanography at the University of California, San Diego and a Masters in Public Policy from Harvard University. He headed the Geologic Hazards Programs of the California Geological Survey from 1982 to 1991. In 1991, he founded GeoHazards International, a nonprofit organization working to reduce the risk of natural hazards in the world's most vulnerable communities through preparedness, mitigation and advocacy. In 2000, he was honored for his service to the people of Nepal by the King of Nepal, and, in 2002, was named a MacArthur Fellow. In 2007, he received the U.S. Civilian Research and Development Foundation's George Brown Award for International Science and Technology Cooperation and was elected a Fellow of the California Academy of Sciences. In 2009, he was named one of UC San Diego's 100 Influential Alumni.

Date: Monday, November 10, 2014

Time: 10:30 AM

**Location: 140 Ketter Hall, North Campus, University at Buffalo
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Refreshments will be served!

Organized by the Student Chapter of EERI at UB, CSEE-GSA, MCEER, and Dept. of CSEE

ENGINEERING SEMINAR

Seismic Behavior of Sliding Equipment and Contents

Abstract

During strong earthquake shaking, heavy equipment and building contents located at various floor levels of research laboratories, hospitals, emergency centers, and other critical facilities, may slide, rock, or even overturn. The high accelerations that develop during shaking of the equipment are a major concern for the functionality of the equipment or the integrity of items stored in the equipment. Excessive displacements and overturning of large equipment can endanger building occupants by direct impact or by blocking evacuation pathways.

This presentation discusses experimental and analytical studies on the seismic response of freestanding equipment. Results of shake table tests on full-scale free-standing equipment subjected to ground and floor motions of various hazard levels are shown. Numerical simulations with the proposed models for the equipment are performed. A physically motivated intensity measure and the associated demand parameter are identified with the help of dimensional analysis and easy-to-use fragility curves are presented.

Subsequently the presentation explores the effectiveness of base isolation as a seismic mitigation technique for reducing the seismic demands on sliding equipment. Numerical investigations conclude that, while seismic isolation is generally effective, in certain cases it results in amplification of the peak sliding displacement of free-standing equipment.



Dimitrios Konstantinidis, Ph.D.
Assistant Professor, McMaster University

Dimitrios A. Konstantinidis is an Assistant Professor in the Department of Civil Engineering at McMaster University. He received his Bachelor's (1999), Master's (2001), and Ph.D. (2008) degrees from the University of California at Berkeley. Before joining the faculty at McMaster University, he was Postdoctoral Fellow at UC Berkeley and the Lawrence Berkeley National Laboratory. His research interests and experience lie in the field of earthquake engineering and engineering mechanics with a primary emphasis on seismic isolation, response and protection of building equipment and contents, rocking structures, and seismic performance of components and systems in nuclear facilities. He has conducted extensive analytical and experimental research on the mechanics of multilayer rubber bearings, on the response of base-isolated buildings and their nonstructural components, and on low-cost seismic isolation solutions for developing countries, where the cost of conventional isolators is prohibitive. He is the co-author of the book *Mechanics of Rubber Bearings for Seismic and Vibration Isolation* (Wiley) with Professor J.M. Kelly, UC Berkeley. Professor Konstantinidis' work on rocking structures has resulted in a revised recommendation for the evaluation of rocking foundations in the latest ASCE 41 document (Seismic Rehabilitation of Existing Buildings). He recently led an effort to evaluate the ASCE 43-05 seismic design criteria for rocking objects in nuclear facilities, identifying various shortcomings in the current approximate methods.

Date: Monday, January 26, 2015

Time: 12:30 PM

Location: 140 Ketter Hall, North Campus, University at Buffalo

Refreshments will be served!

Organized by the Student Chapter of EERI at UB, CSEE-GSA, MCEER, Dept. of CSEE and NEES

ENGINEERING SEMINAR

Recent Developments in Self-Centering Structures

Abstract

The development of self-centering seismic resistant systems is aimed at achieving more resilient structures that sustain little or no structural damage after a design level earthquake and can be repaired and made fully operational quickly following such an event. In this presentation, an overview is given of the most recent research developments of self-centering seismic resistant structures at the University of Toronto. First, the mechanics of the Telescoping Self-Centering Energy Dissipative (T-SCED) bracing system, which was designed to achieve a full-self centering response for inter-storey of up to 4%, are presented. Full-scale testing and modelling of these braces is also discussed and finally results of nonlinear time-history analyses of buildings designed with these next generation self-centering braces with both hysteretic and viscous damping are presented. Then an overview of the research carried out to develop engineered higher-mode mitigating mechanism for structures with base mechanisms is also presented. The work is focused on base rocking self-centering steel frames but the concepts that are discussed are applicable to all base yielding or rocking systems. The development of these higher-mode mechanisms will be presented and results from shake-table tests and numerical analyses will be used to confirm their effectiveness in enhancing the seismic response of structures that are affected by higher mode response.



Constantin Christopoulos, Ph.D., P.Eng.

Professor and Canada Research Chair in Seismic Resilience of Infrastructure

Department of Civil Engineering, University of Toronto

Associate Editor, Canadian Journal of Civil Engineering

Constantin Christopoulos is a Professor in the Department of Civil Engineering at the University of Toronto. He is the author of more than 130 technical papers, of two textbooks that are used in graduate course throughout the world, and the co-inventor on several international patents. Dr. Christopoulos is an associate member of the CSA-S16 Canadian Steel Code Committee, has been involved in a number of high-profile consulting projects involving the implementation of seismic isolation and supplemental damping devices in structures, and has presented numerous lectures on advanced seismic engineering with an emphasis on high-performance systems in the international community. Over the past decade his research at the University of Toronto has pioneered the development and implementation of self-centering structural systems such as braces and frames and rocking structures. His team has also developed advanced damping technologies such as viscoelastic coupling dampers and viscoelastic-plastic devices for both the wind and seismic protection of high-rise buildings. He has also been supervising research over the past decade on the use of cast steel in seismic engineering applications which has led to numerous developments that have been implemented in North America.

Date: Friday, March 27, 2015

Time: 3 PM

Location: 140 Ketter Hall, North Campus, University at Buffalo

Refreshments will be served!

Organized by the Student Chapter of EERI at UB, CSEE-GSA, MCEER, Dept. of CSEE and NEES

ENGINEERING SEMINAR

“Technologies for Offshore Structures in Extreme Environments”

Abstract

Global energy demand will be approximately 37 percent higher in 2040 compared to 2015, according to the World Energy Outlook published by the International Energy Agency (IEA). Meeting this demand will require oil and gas companies to push the boundaries of both technological and geographic frontiers – while maintaining a relentless and uncompromising commitment to safety. Offshore structures used in the oil and gas industry must be designed to resist various combinations of extreme wave, wind, earthquake and even ice/iceberg loads. They are constructed onshore and are towed (while floating) sometimes thousands of miles to the offshore installation site – therefore they must be designed to resist demanding transportation loads in addition to environmental loads. These challenges are highlighted using the Berkut platform as an illustrative example. This structure was installed in 2014 off the coast of Sakhalin Island in far eastern Russia. The platform must operate in a highly seismic environment – one that is also covered in sea ice over 6ft. thick several months of the year. The design, construction and installation of massive concrete structures (comparable in height to a 15-story building) to resist the ice loads will be described. In addition, the reliability-based methodology used to rigorously determine project-specific design factors will be discussed.



Daniel Fenz, Ph.D., P.E.
ExxonMobil Upstream Research Company,
Offshore and Environment Function - Arctic and Structures Section.

Daniel Fenz is an Engineering Specialist in the Offshore Function of ExxonMobil Upstream Research Company. He received his Bachelor's, Master's and Ph.D. Degrees all from The State University of New York, University at Buffalo. While at SUNY Buffalo, he performed analytical and experimental work formulating and verifying the behavior of the Triple Friction Pendulum bearing.

Daniel has worked in the Arctic and Structures Section of the Offshore and Environment Division since joining ExxonMobil Upstream Research Company in 2008. His research work has focused on conceptual development of Arctic bottom-founded structures and Arctic floating drilling vessels. In addition, he has also provided support to ExxonMobil projects in the areas of analysis and monitoring of traditional and seismically isolated offshore structures.

Date: Friday, April 17, 2015

Time: 11:15 AM

Location: 140 Ketter Hall, North Campus, University at Buffalo

Refreshments will be served!

Organized by the Student Chapter of EERI at UB, CSEE-GSA, MCEER, Dept. of CSEE

ENGINEERING SEMINAR

What Seismic Steel Design Is All About

Abstract

Significant revisions and additions of design requirements including new lateral load-resisting systems have been introduced to the AISC Seismic Provisions since it was first published in 1990. While the design requirements stipulated in these Provisions have seemingly become more complex and overwhelming over the years, the basic seismic design philosophy remains the same. A historical perspective of the code development, including the challenges faced and the strategies developed, leading to modern seismic design provisions is presented. Examples from laboratory testing are provided to demonstrate some key issues. This presentation also aims to demystify the intrinsic and yet significant relationship between the AISC Seismic Provisions and the R-factor seismic design procedure in ASCE 7, and show how they work together to provide well-designed steel building structures.



Chia-Ming Uang, Ph.D
Professor in the Department of Structural Engineering,
University of California, San Diego (UCSD)

Chia-Ming Uang is a Professor in the Department of Structural Engineering at the University of California, San Diego (UCSD). He received a B.S. in civil engineering from National Taiwan University, and M.S. and Ph.D. in structural engineering at the University of California, Berkeley. He is a member of the American Institute of Steel Construction, the American Society of Civil Engineers, the Earthquake Engineering Research Institute, the American Welding Society, and the Structural Engineers Association of California. For AISC, he serves on the Committee of Specifications, Committee of Research, and Connection Prequalification Review Panel.

Professor Uang's research is in the seismic design, rehabilitation, and testing of large-scale steel structures, including buildings and bridges. Uang received the T.R. Higgins Lectureship Award in 2015 and a Special Achievement Award in 2007 for his contributions in research and service to the steel industry. He also received three research awards from American Society of Civil Engineers: Raymond C. Reese Research Prize in 2001 as well as Moisseiff Awards in 2004 and 2014. Uang is coauthor of two textbooks on structural analysis and structural steel design and three book chapters.

Date: Friday, April 24, 2015

Time: 11:00 AM

Location: 140 Ketter Hall, North Campus, University at Buffalo

Refreshments will be served!

Organized by the Student Chapter of EERI at UB, CSEE-GSA, MCEER, Dept. of CSEE and NEES

2015 CSEE GRADUATE STUDENT POSTER COMPETITION



The competition will have a 1st, 2nd and 3rd place winner with \$300, \$200 and \$100 prizes, respectively. The posters will be judged by a panel of CSEE faculty and our guest judge Professor Christopoulos. The winning posters will be displayed in the Department after the competition and then participate in the Graduate Student Poster Competition organized by the School of Engineering and Applied Sciences.



IMPORTANT DATES

Abstract Due Date – Friday, March 13, 2015

Poster Date – Friday, March 27, 2015 (10:00 am – 1:00 pm)

SELECTION CRITERIA

- Originality of the research
- Impact on the field
- Organization, quality and clarity of presentation

COMPETITION REQUIREMENTS

Abstract (250-300 words, single-spaced in 12-point Times New Roman) should be submitted to Laura Hernández (lhernand@buffalo.edu) or Joshua Reichardt (jgreicha@buffalo.edu).

Poster size is limited to 48" x 48". However, if you would like your poster to be displayed in the Department after the competition, the poster should be 40" (vertical) x 32" (horizontal). Posters should have a heading that includes the poster title, author(s) and engineering department.