

FRIEDMAN FAMILY VISITING PROFESSIONALS PROGRAM



Visit to Portland State University: February 23, 2017

This report summarizes the visit of Mr. Ivan G. Wong from Lettis Consultants International that took place at the Portland State University Maseeh College of Engineering on February 23rd, 2017.

AGENDA

TIME:	ACTIVITY:
10:30 AM – 11:45 AM	Student Chapter members welcome and meet Mr. Wong
12:00 PM – 1:00 PM	Presentation by Mr. Wong titled "Predicting earthquake hazards and developing seismic design ground motions in the Cascadia subduction zone: What we know, don't know, and the challenges ahead"
1:30 PM – 2:30 PM	Lunch with the Civil Engineering faculty
2:30 PM – 3:30 PM	Tour of the iStar Lab

STUDENT CHAPTER VISIT PLANNING COMMITTEE

LEAD ORGANIZERS:

- {Tamae Spruell, Event Coordinator, tamae@pdx.edu}
- {Erin Chew, Event Coordinator, echew@pdx.edu}
- {Melissa Preciado, Communications Officer, prec@pdx.edu}
- {Ke Lillah Slingluff, EERI PSU member, keliilahvara02@gmail.com}
- {Dr. Arash Khosravifar, EERI Faculty Advisor, karash@pdx.edu}

VISITING PROFESSIONAL LECTURE OVERVIEW

The lecture presented by Mr. Ivan Wong focused on the geology of the Pacific Northwest and why that geology makes the region earthquake prone. Mr. Wong warned about comparing two earthquakes in different parts of the world because every earthquake is region specific. Paleoseismic studies are based on past earthquakes and can help analyze and predict future failures. Mr. Wong talked about the Tohoku earthquake in Japan, the magnitude of their earthquakes and the early warning systems that helped with the evacuation and saved many lives. He recommended that such systems be implemented in seismically active zones.

Mr. Wong also explained the difference between earthquake hazards and risks. Hazards pertain to the effects of an earthquake, whereas the risks of an earthquake correspond to the exposure and vulnerability of a region.

Most of the attendees were professionals, civil engineers, structural engineers, geotechnical engineers, geologists, and engineering geologists from private and public companies around the Portland- Metro area.

Lecture Abstract

In only the past two to three decades has it become accepted that the Cascadia subduction zone is capable of generating giant earthquakes (moment magnitude [Mw] 8.5 and larger). Hence in this relatively short timeframe, the earthquake scientific and engineering communities have been playing catchup in terms of characterizing the hazards from such megaquakes and developing adequate seismic design criteria for ground shaking and tsunamis. The next Cascadia subduction zone megaquake will be the most severe natural hazard threat that the Pacific Northwest has ever seen. The Pacific Coast will be subjected to a devastating tsunami with wave heights in excess of 30 m in some locales and the areas from the coast inland up to 200 km will be hit by strong and sustained ground shaking. Two to three decades is a very short period of time to prepare the region for such formidable hazards and although significant progress has been made, there are significant holes in our knowledge and challenges in filling those holes. In this presentation, I will describe what we know and don't know in terms of the earthquake potential of the CSZ megathrust and its impacts, and how the available information is being used by the engineering community to not only develop seismic design criteria for new buildings, facilities, and structures but probably most challenging, assessing the seismic stability of our existing inventory.

Professional Bio

Mr. Wong is a principal seismologist at Lettis Consultants International in Walnut Creek, CA. He has more than 40 years of experience in the fields of engineering seismology and seismic geology. A major focus in his career has been earthquake hazard reduction and awareness and public outreach. He is a past member of the EERI Board of Directors, past President of the EERI Northern California Chapter, past member of the Editorial Board for EERI's Earthquake Spectra, and currently serves as an Associate Editor for the Bulletin of the Seismological Society of America.

SUPPLEMENTAL ACTIVITIES

Student Chapter welcomes and meets Visiting Professional

The visit of Mr. Ivan G. Wong began with a warm welcome from the EERI PSU student chapter and Dr. Arash Khosravifar at the Portland State University Maseeh College of Engineering. After the initial meeting, a short conversation was developed between Mr. Wong and the students regarding the importance of earthquake engineering. The students also introduced Mr. Wong to the progress made to the Seismic Design Competition Project. The goal was to allow Mr. Wong and the students to exchange knowledge/understandings and become familiar with each other.



Fig. 1 Mr. Wong meeting with PSU's EERI student chapter

Guest lecture by Ivan Wong

The main event was the lecture presented by Mr. Wong. An audience of professionals, students, civil engineering faculty members, and community members attended the lecture. Earthquake awareness was the main topic presented in the lecture and was the main goal of this event.



Fig. 2 Mr. Wong presenting his lecture to the audience

Lunch with Mr. Wong and civil engineering faculty

Mr. Wong and PSU civil engineering faculty members had lunch together with the purpose of sharing professional ideas and understandings relevant to the participant's professions.

Tour of the iStar Lab with Visiting Professional

Dr. Khosravifar accompanied Mr. Wong for a tour of PSU's iStar Lab to share the technological features and efforts of PSU to understand the impacts of earthquakes to society. Graduate students at the iStar lab described their ongoing research efforts on an NSF-funded project focused on the seismic response of laminated wood beams and columns.

RESULTS, FEEDBACK AND LESSONS LEARNED

- The lecture venue should accommodate a high turn out. EERI PSU sent out invites to multiple departments that we believed would benefit from and be interested in the talk by Mr. Wong. We also sent out invites to many professionals in the area. We did not predict such a large RSVP response. Due to the short notice and amount of replies just prior to the lecture, it was difficult to change the location for the presentation. Perhaps in the future invitees should RSVP by an earlier date.
- Mr. Wong's lecture was geared towards college students of a freshman to junior level. We believe most professional lectures from visiting speakers are developed with students as the presumed main audience. For future visiting lectures, we would like to encourage students as the primary audience attendees as they would benefit the most from these visits.
- Visiting professional lectures are a great way of recruiting new students into the student chapter. In the future, we would like to take some time prior to the lecture to speak about EERI, PSU and our goals as a chapter.

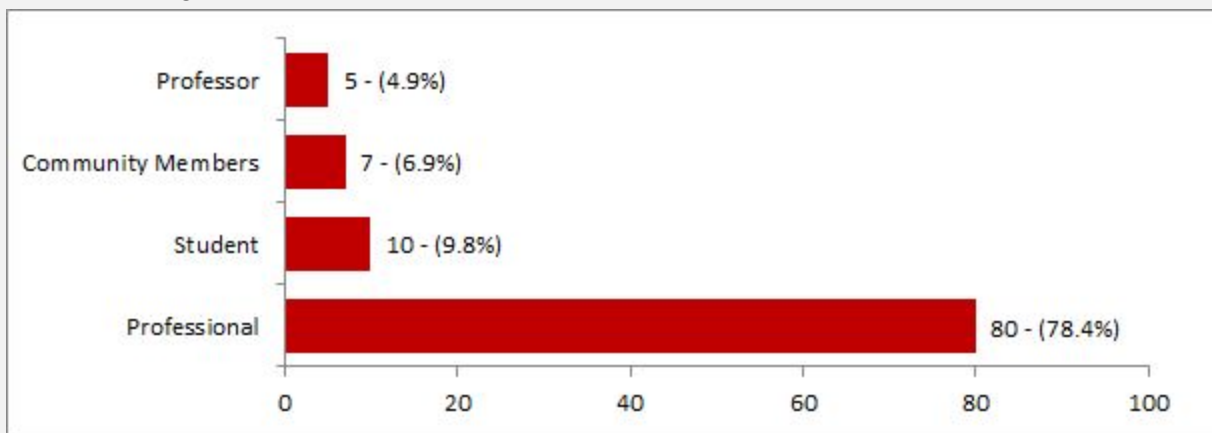
ACKNOWLEDGEMENTS

The Portland State University EERI Student Chapter gratefully acknowledges the support of the Friedman Family for sponsoring the travel of Mr Ivan G. Wong through their Friedman Family Visiting Professional Program endowment.

We would also like to thank the involvement of Portland State University's chapter of the American Society of Civil Engineers (ASCE) for co-sponsoring the lecture.

LIST OF ATTACHMENTS

- Demographic Data from RSVPs



- Event Flier

Maseeh College of Engineering and Computer Science
 Department of Civil and Environmental Engineering
 Post Office Box 751-CEE 503-725-4282 tel
 Portland, Oregon 97207-0751 503-725-5950 fax



Thursday, Feb 23, 2017. 12:00 p.m. - 1:00 p.m.
Engineering Building 310 315 (UPDATED). 1930 SW 4th Ave. Portland OR, 97201

CEE Infrastructure Seminar Series:
 EERI (Earthquake Engineering Research Institute) and ASCE Student Chapters at PSU Present:
 Friedman Family Visiting Professionals Lecture

Guest Speaker: Ivan G. Wong

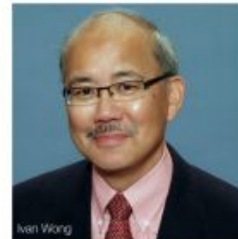
“Predicting earthquake hazards and developing seismic design ground motions in the Cascadia subduction zone: What we know, don’t know, and the challenges ahead”

Abstract

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Biography

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To RSVP to this event, please fill out the following link:

<https://docs.google.com/a/pdx.edu/forms/d/e/1FAIpQLScTpNKG00Lh2moehMzzlO7X0zMil1m5vj4IfOLqXvifvfoFg/viewform?c=0&w=1>