

FRIEDMAN FAMILY VISITING PROFESIONALS PROGRAM



Visit to University of Washington: March 4, 2019

This report summarizes the visit of **Jay Wilson** from the Clackamas County Department of Disaster Management that took place at the University of Washington on March 4, 2019

ITINERARY OR AGENDA

TIME:	ACTIVITY:
8:30 AM – 9:30 AM	Breakfast and discussion at Portage Bay Café with EERI Student Chapter Officers
9:30 AM – 10:00 AM	Campus tour and walk to More Hall (Civil Engineering building)
10:00 AM – 11:00 AM	Meeting with Prof. Jeffrey Berman, discussion on multi-disciplinary M9 project at UW
11:00 AM – 12:00 PM	Meeting with Prof. Joseph Wartman, discussion of NHERI RAPID reconnaissance facility
12:15 PM – 1:30 PM	Lunch and discussion with graduate students and postdoctoral students at Agua Verde Cafe
1:00 PM – 2:30 PM	Walk through northern part of campus, meeting with Bob Freitag, discussion on hazard mitigation
5:00 PM – 6:30 PM	Jay Wilson presents lecture to UW EERI Student Chapter and EERI Washington Professional Chapter
6:30 PM – 8:30 PM	Social hour with student chapter and professional chapter officers

STUDENT CHAPTER VISIT PLANNING COMMITTEE

LEAD ORGANIZERS:

- Andrew Makdisi, Vice President, amakdisi@uw.edu
- Sarah Wichman, President, wichman@uw.edu
- Karen Izumoto, Outreach Coordinator, kizumoto@uw.edu
- Kamal Ahmed, Secretary, kamal2@uw.edu
- Alex Baird, Treasurer, abaird2@uw.edu

VISITING PROFESSIONAL LECTURE OVERVIEW

Mr. Wilson presented to a group of approximately 25 students, professors, and industry professionals on the role of local emergency management in implementing national and state resilience goals. He provided numerous vivid examples from his experiences in earthquake reconnaissance in Italy and Japan.

Lecture Abstract

This EERI Professional Lecture will frame the concept and purpose of community disaster resilience from the perspective of local emergency management leadership. How can national and state resilience goals be implemented locally? How is resilience translated into action for decisions and investments? How can communities facing high seismic risk better align with climate resilience initiatives? In this lecture Jay will broadly

address these topics by examining the context of the 2013 Oregon Resilience Plan and the 2015 Community Resilience Planning Guide by the National Institute of Science and Technology and how resilience is being demonstrated in the Portland metro region. Jay will also reference examples from his multiple EERI Learning From Earthquake trips to the Tohoku tsunami zone and central Italy.

Professional Bio

Jay Wilson is the Clackamas County Resilience Coordinator with the Department of Disaster Management and spearheads the County's efforts to reduce risks and assess hazards including flood, earthquake, wildfire, volcano, and climate change impacts. Mr. Wilson is the past-Chair (2014-17) of the Oregon Seismic Safety Policy Advisory Commission (OSSPAC) and previously worked for Oregon Emergency Management and as a Mitigation Reservist with FEMA Regions IX and X.

Jay recently completed a two-year appointment as a Resilience Fellow with the National Institute of Standards and Technology during the development of the 2015 Community Resilience Planning Guide. He is a member of the Earthquake Engineering Research Institute and has completed post-earthquake reconnaissance trips to Japan (2011) and Central-Italy (2017). Jay holds an M.A. in geography and a B.A. in film and lives in Portland, Oregon.



SUPPLEMENTAL ACTIVITES

Breakfast and Lunchtime Discussions with Graduate Students and Postdoctoral Researchers

The breakfast and lunch mealtimes were used as an opportunity for an informal discussion with Jay Wilson about his role as Clackamas County resilience coordinator, as well as the various topics that each of the graduate students are researching at UW. As the UW EERI student group is comprised mostly of students in the Civil Engineering department, this was a unique opportunity for us to gain critical insights regarding hazard mitigation from a public policy perspective. Joining Mr. Wilson for breakfast were EERI student officers Andrew Makdisi, Sarah Wichman, Kamal Ahmed, Karen Izumoto, and Alex Baird. Joining Mr. Wilson at lunch was Andrew Makdisi, and former EERI Student chapter president Andy Sen, who is a current postdoctoral researcher at UW. The discussion was extremely lively, and both breakfast and lunch lasted somewhat longer than initially scheduled.

Meeting with Prof. Jeffrey Berman and Prof. Joseph Wartman

Mr. Wilson spent about one hour meeting with Dr. Jeff Berman, professor of structural engineering at UW. Prof. Berman is one of the principal investigators of the “M9” project, a multi-year, multi-disciplinary effort from various researchers at UW, considering the impacts of a magnitude-9 Cascadia Subduction Zone earthquake on the Puget Sound Region and Pacific Northwest. The discussion focused on how many of the technical aspects (seismological, geotechnical, and structural) of the project are being used to inform urban planning and public policy decisions. Mr. Wilson then spent one hour meeting with Dr. Joe Wartman, professor of geotechnical engineering at UW. Prof. Wartman is the director of the NHERI RAPID facility, hosted at UW, which provides numerous, state-of-the-art tools for researchers to quickly collect high-quality data in areas recently affected by natural disasters.

Social Hour with EERI Students and Professional Members

At the conclusion of Mr. Wilson's evening lecture, an informal discussion with several EERI students and professional members took place at a nearby restaurant. The main discussion consisted of the Washington EERI Chapter's efforts in URM and seismic safety advocacy, and Mr. Wilson's corresponding experience with such efforts in the Portland area. Attendees included student officers Sarah Wichman, Alex Baird, and Andrew Makdisi; and EERI professional chapter members Kyle Steuck (EERI Washington president, Degenkolb Engineers), and Cale Ash (Degenkolb Engineers).

RESULTS, FEEDBACK AND LESSONS LEARNED

Overall, Mr. Wilson's visit was an excellent, positive experience for the UW Student Chapter. It was our goal from the beginning to bring in a professional with extensive experience from outside our core disciplines (structural and geotechnical engineering), and Jay's experience and affability made it an absolute pleasure to interact with him throughout the day. The decision to present his evening lecture as a joint event with the Washington Professional Chapter was a significant benefit, as it allowed for exposure to a wider range of attendees, and presented a chance to showcase both the student and professional chapters to the greater Seattle area – given that both chapters are relatively new, we viewed this as a valuable opportunity.

Several challenges were encountered during the planning phase – the most significant of which was the need to postpone Mr. Wilson's initially scheduled visit (February 11th) due to adverse winter conditions, resulting in closure of the UW campus. The re-scheduled date of March 4th, which was the day before the beginning of the EERI annual meeting in Vancouver, saw a substantially smaller attendance than previously hoped. Secondly, the student organizers found that coordinating logistics for an event through UW can be somewhat challenging. Subsequent EERI events hosted at UW have been coordinated (i.e. venue and food reservations) by the UW Civil Engineering faculty, and we have found that this results in a much smoother process. While we

still believe that the student organizers should be responsible for setting the visitation date and activities schedule, deferring to the supporting faculty on providing the venue and food logistics is a far more efficient option.

For future potential Friedman visits, the UW Student Chapter, we hope to continue the tradition of bringing in speakers with a relatively broad background, or speakers with expertise in areas that our members are typically less familiar with. We also hope to increase our undergraduate participation in these events. Some potential future topics may include:

- Hazard and risk analysis
- Public policy and urban planning around disaster resilience
- Earthquake reconnaissance

ACKNOWLEDGEMENTS

The University of Washington EERI Student Chapter gratefully acknowledges the support of the Friedman Family for sponsoring the travel of Mr. Jay Wilson through their Friedman Family Visiting Professional Program endowment.

LIST OF ATTACHMENTS

Included at the end of this report are the following:

- The flyer for Mr. Wilson's evening lecture
- Distinguished Lecture from Tom Tobin, former EERI president and past director of the California Seismic Safety Commission. This was sent to the UW student chapter by Mr. Wilson, who often refers to this call to action, and hoped it may provide some vision and motivation for the UW EERI Chapter members.



UNIVERSITY of WASHINGTON

Please join us for the EERI at UW Friedman Family Visiting Professionals Program Lecture

Pursuing Community Disaster Resilience: Challenges and Opportunities

Featuring Jay Wilson, Clackamas County Resilience Coordinator

RESCHEDULED TIME: Monday, March 4, 5:30pm
Alder Hall Auditorium
University of Washington



This EERI Professional Lecture will frame the concept and purpose of community disaster resilience from the perspective of local emergency management leadership. How can national and state resilience goals be implemented locally? How is resilience translated into action for decisions and investments? How can communities facing high seismic risk better align with climate resilience initiatives? In this lecture Jay will broadly address these topics by examining the context of the 2013 Oregon Resilience Plan and the 2015 Community Resilience Planning Guide by the National Institute of Science and Technology and how resilience is being demonstrated in the Portland metro region. Jay will also reference examples from his multiple EERI Learning From Earthquake trips to the Tohoku tsunami zone and central Italy.

Jay Wilson is the Clackamas County Resilience Coordinator with the Department of Disaster Management and spearheads the County's efforts to reduce risks and assess hazards including flood, earthquake, wildfire, volcano, and climate change impacts. Mr. Wilson is the past-Chair (2014-17) of the Oregon Seismic Safety Policy Advisory Commission (OSSPAC) and previously worked for Oregon Emergency Management and as a Mitigation Reservist with FEMA Regions IX and X.

Free and open to the public. No RSVP required. Social Hour to follow at Big Time Brewing.



For questions or more information,
contact the EERI at UW student chapter
at EERIatUW@uw.edu

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EERI Distinguished Lecture 1996 A Covenant for Seismic Safety

L. Thomas Tobin, M.EERI

INTRODUCTION

When we fail to pursue public and private policies for earthquake risk reduction, we fail to provide for a fundamental human right of all people to avoid unnecessary threats to their safety, we forsake our societal responsibilities as professionals, and we risk losing the public's trust. Like misers, we sit on our treasure, smug with the knowledge sought by others, failing to invest the effort needed to sustain vigorous risk reduction programs. We need to do more to influence policy.

Mr. President, members of the Board of Directors, and colleagues, the opportunity to deliver your 1996 distinguished lecture is a humbling task--and a great honor. I thank you for that honor, and for the opportunity to speak on issues important to all of us as earthquake professionals. These issues are of even greater importance to us as husbands and wives, mothers and fathers, sons and daughters, citizens of numerous nations, and products of many cultures. We are, after all, part of the vast population on this earth whose lives, families, and livelihoods are at risk from earthquake hazards.

As professionals and experts who enjoy special status in society, we have special obligations. We are responsible to advance our knowledge, and to use that knowledge actively in order to help humankind.

We share a bond: You, like me, chose this field for your life's work in large measure because you care about others more than you care about power, fame, and fortune. And, while it may sound trite, in the end all we want to do is make the world a better place in which to live.

We also all share the frustration of knowing that avoidable seismic risk exists throughout our society, and that while each of us works diligently, the pace of reducing earthquake risk is far too slow. Our bond, our professional obligations, and our frustrations cry out for changes in public and private policies.

Many of you already are committed to the principles I will discuss, and your achievements are substantial. You are my role models, my heroes. But, as a group of professionals, we need to be more influential.

Tobin & Associates, 134 California Avenue, Mill Valley, CA 94941

I call the activities to make us more influential "A Covenant for Seismic Safety." A covenant is a binding and solemn agreement among individuals to pursue a cause. I will use this platform to seek your ideas, discuss them with you, and then promote them in pursuit our cause.

THE CURRENT SITUATION

Seismic risk is increasing worldwide. It increases as the population grows, as time passes since the last damaging earthquakes struck San Francisco and Boston, Northridge and Memphis, Charleston and Seattle, St. Louis and San Diego. Seismic risk increases each time new facilities are built without adequate standards, each time we fail to recognize design and construction errors, and each time a vulnerable building is given longer life by renovating without retrofits. It increases each time we ignore site-specific hazards, each time we finance, insure, or purchase without accounting for the effect of seismic risk on the value of our investment or its threat to our business. Seismic risk increases each day we delay improvements needed for emergency response. It increases while our government and corporations delay using the considerable body of knowledge at our disposal.

While we focus on doing our work well, vulnerable structures remain in use, the glaring design and practice deficiencies and inappropriate land use practices which create greater risk continue, and emergency responders, lacking adequate plans and resources, cross their fingers and hope disaster won't happen on their watch, or ignore the threat because they don't know better.

These practices result from policy deficiencies, and they are widespread. Vulnerable buildings and practice deficiencies can be found in the twice-hit San Fernando valley, near active faults throughout California, and throughout the nation in all seismically active regions. Entire cities remain vulnerable to catastrophic damage and fire. The fact that these conditions and practices exist points to the extent of public and private sector policies and practices that allow them in the face of our knowing better.

You might respond that we are making progress; that retrofit guidelines will be available soon; that many cities have adopted new requirements for older buildings; that many, many businesses have voluntarily strengthened their facilities; that building codes are now mandatory in states where two years ago they were not; that federal executive orders demand better performance for new and existing buildings built, leased, and financed by federal agencies; and that earthquake risk now has a cost in the market place. Exemplary progress has been made by many companies and many cities.

You also might respond with the question: "What is wrong that progress is so meager, so slow?" Perhaps the problem is that we, the professionals society expects to lead the effort, are not leading.

While we focus on doing our jobs well, we often are ineffective in bringing about the changes we know are needed. This does not have to be the case. This cannot continue to be the case.

PRIORITIES FOR THE FUTURE

Although we can point to considerable success, we know that there is more to do than has been done, that the pace of risk reduction must increase, and that the processes of risk decision making, design, and construction need improvement. We must accept that leading the earthquake risk reduction effort is our responsibility.

If we are to lead successfully, we must focus our efforts in ways that over the long term will produce results. I suggest three objectives:

- improve the knowledge and practice of earthquake risk reduction among our members and colleagues;
- publicize our expectations and disclose earthquake risk so those affected can make informed risk decisions; and
- use our earthquake knowledge to change policy.

While achieving well-designed and well-built facilities depends on the rigor of each site investigation and each detail, improving public and private policy is a broader undertaking requiring a larger, interdisciplinary, longer-term view of the endeavor. Changing policies will require us to earn and hold the trust of the public. It will take ethical conduct of the highest level.

IMPROVE THE KNOWLEDGE AND PRACTICE OF EARTHQUAKE RISK REDUCTION

While there remain significant gaps in our knowledge of earth sciences, engineering, and social sciences, a concern of equal importance is what many of our colleagues regard as an increasing gap between knowledge and practice. Let me illustrate the problem with quotes from three leaders of our professions:

- The majority of the practicing engineering geology community is at or below a 1985 understanding of California neotectonics. (Personal Communication, Eldon Gath, October 12, 1995.)
- Too many structural engineers are comfortable using the code as a design manual. They have lost their appetite to learn how buildings really perform, and to use what we have learned. (Personal Communication, Paul F. Fratessa, February 1, 1996)
- Local government emergency managers are not well prepared for earthquake emergencies and are not able to use available knowledge. A straw poll of 43 emergency managers showed that less than half had ever read an EERI post-earthquake report. (Personal Communication, Kent Paxton, February 7, 1996)

It may be unwise to generalize, but active members of EERI seem to be aware of technological progress and motivated to take advantage of available educational resources. Your attendance at our annual meeting is evidence that you are committed to learning more and to practicing better.

The challenge to improve the state of the practice is created by the ninety percent of our colleagues who are not here, who don't intend to come next year, and who don't participate in EERI, Structural Engineers Associations of many states, ASCE, AEG or other professional organizations. They don't read the journals or feast on the rich soup of continuing learning offered by professional organizations, universities, and others. They live and practice in California and nationwide. They lag in their knowledge and don't know it.

We have an obligation and strong self-interest to encourage all our colleagues to improve their skills. Not only can they help advance seismic safety through the quality of their work, but their ill-informed comments and advice to clients, public officials, and employers undermine our ability to influence policy. Improving knowledge of seismic safety fundamentals and the state-of-practice will take a long-term interdisciplinary effort. This effort should be our objective.

I propose that EERI work with the other organizations and the state licensing boards that represent our membership to devise a strategy to reach our hard-to-reach colleagues. Continuing education requirements for structural engineers can be taken as an example. EERI should also pursue wider use of independent peer review as a technique to engage interdisciplinary discussions, to test ideas and assumptions, and to hone professional judgment.

PUBLICIZE EXPECTATIONS AND DISCLOSE RISK

Publicizing our expectations and disclosing risk allows those affected to make informed decisions. While we are seeing a growing awareness of seismic risk and its consequences, most people, leaders and followers alike, have little useful knowledge. Dire news does not help change policies as much as we would like. Seismic safety efforts can bear fruit only when there is awareness of the hazard and knowledge of the measures needed to reduce risk.

Our failure to convey useful information fails the public and our clients, raises questions of liability, and can undermine the public's trust in us. Explaining after each earthquake how the damage could have been anticipated is not good enough if we have failed in our duty to provide the victims with useful information ahead of time.

Most people want to make their own decisions, and they generally will act to protect their interests and to be responsible to others. But decision-makers often are unable to make informed decisions simply because they lack timely and useful information or sound professional advice from people they trust.

Learning to communicate so that decision makers will accept our message and use the information we provide requires us to learn new skills. Learning these skills will take an ongoing, proactive effort. EERI can help us communicate more effectively by sponsoring training programs and issuing publications like the White Paper, *Public Policy and Building Safety*.

EERI scenarios, like the Los Angeles basin and Hayward fault scenarios presented at the last two annual meetings can likewise provide powerful public messages. They also serve as occasions for personal meetings between an EERI member and selected leaders from affected jurisdictions. I believe EERI should prepare a scenario for the host city each time we meet.

CHANGE POLICIES

Changing policies requires improving the state of the practice, communicating more effectively, and actively seeking policy change. It requires us to lead the cause. In areas where earthquake risk is unacceptably high, we have a choice: We can rest on our good intentions and wait until an earthquake opens the window-of-opportunity for policy change, or we can work to open a window before an earthquake strikes.

Waiting is passive. It reduces our chances of success, does not build relationships and trust before they are needed, and neglects our obligation to use our knowledge. It undermines our effectiveness. We can work for policy change by giving decision makers options to reduce risk. We can build their confidence and trust by helping them solve their problems. When human tragedy and suffering open the window of opportunity even further, our relationships will be established, and our advice will be accepted.

Consensus is also needed to change policy. When professional experts are unwilling to forge consensus and instead air technical differences in public, policy inaction is the result. We must put personal considerations aside for the greater good. While disagreement and dispute are healthy components of our learning process, finding and promoting consensus on policy is vital, and too often overlooked.

One example of successful preparation within the policy arena could be seen following the Loma Prieta earthquake, when California Assembly Speaker Willie Brown instructed his staff to contact the Seismic Safety Commission for suggested legislation. At that moment, years of working on small problems paid off as our staffs were on a first name basis. Speaker Brown readily agreed to carry a bill to require mapping of seismic hazard areas and the use of the information in land use and building permit actions. He trusted his advisors and wanted to enact our ideas.

We must understand the policy arena. Policy makers, whether CEOs, agency directors, or voters, are frequently skeptical of new programs and new problems and often distrust experts who are seen as pursuing their own interests. Policy makers lack time to glue together disparate facts and unstructured arguments. They are influenced by people whose opinions they trust, who understand the "big picture," and who are able to integrate earthquake risk reduction efforts with operational programs.

CHAMPIONS

Ultimately policy change will occur only if we provide the leadership. Activist-leaders are champions. We heard from one well-known champion, Los Angeles City Council Member Hal Bernson, at lunch. Council member Bernson spoke of his successful effort to require the retrofit of all unreinforced masonry buildings in his city, and new efforts to strengthen tilt-up and nonductile concrete frame buildings. While Hal deserves every accolade given, we also should recognize others in the Los Angeles administration, many of who are members of EERI, who supported Hal's efforts. They wrote the ordinances, made policies technically and legally feasible, and encouraged Hal. They provided leadership, they too are champions.

No one disputes that activism is needed. We seem to disagree on who the activist should be. We point to the need for champions and celebrate those who emerge. However, it seems the concept of "champions" leaves the misleading impression that only the superhuman among us will be successful. In reality this is not true.

Stop waiting for a champion to seek your support. Decide what you want to accomplish in your city or in your company and resolve to take action. You may strive to protect historic buildings, or to strengthen a school, a hospital, a fire house, or the homes in your neighborhood. Choose a course of action appropriate to your situation and the level of risk in your area. You be the champion.

ETHICAL FOUNDATIONS

One of the truly rewarding aspects of being active in EERI is the opportunity to associate with socially responsible people who have outstanding personal and professional ethics. Virtues such as concern for others, honesty, and generosity are commonplace.

By its very nature, our work is virtuous. Moral principles clearly underlie our objectives of improving the knowledge and practice of earthquake risk reduction, of publicizing and disclosing our expectations, and of influencing public policy.

Members of EERI, because of our knowledge, the social status we enjoy, and the role we play in society, have a moral duty to use our expertise for the betterment of society. Fulfilling that duty requires us, as individuals and as an organization, to speak proactively in order to influence policy. We are accountable to others just as we hold other professional communities accountable to us for information to make informed decisions about risk. We expect the medical profession to warn us of the health risks of smoking and unsafe sex. Others expect us to warn them of the dangers of earthquakes and unsafe buildings. Protecting public safety is the bottom line of what we do, and it is not limited to our projects.

All human beings have fundamental rights whether they live in Universal City or New York City, Tokyo or a village along the Anatolian fault. In the United States, our Declaration of Independence referred to these rights as inalienable rights: life, liberty and the pursuit of happiness. Reasonable extensions of these rights are the right to live without unnecessary risk of harm from earthquakes and the right to be given opportunities to make one's own informed risk-taking decisions. The public needs information to do this, and we have an obligation to provide it.

Fulfilling this obligation is not easy. Conflicting values will complicate many decisions, and the right answer will depend on the degree of risk and other situation-specific facts. We will never enjoy a personal relationship with those affected. Simply acknowledging the obligation is important.

Therefore, I propose that EERI discuss the ethical issues involved in our work. I would like us to acknowledge our obligation to protect public health, safety, and welfare by using our expertise to encourage improvements in public and private policies and practices, and to proactively inform the public and decision makers of earthquake risk and of measures to reduce and manage that risk.

Such an acknowledgment can guide our actions and decisions to serve society. I want to stress, however, that the process of considering ethical principles is as important as are the conclusions. Therefore, I propose a year-long dialogue on seismic safety ethics documented by a white paper on the topic.

CONCLUSIONS

Doing what we do, and doing it well, is fundamental to professional practice, but confining our activities to technical pursuits and the confines of business and employment relationships is not enough to effect the changes needed in earthquake risk policy.

- I am asking you to raise our standards of practice for ourselves and for our colleagues.
- I am asking you to use your knowledge and expertise to inform the public and disclose earthquake risk to those affected.
- I am asking you to participate in discussions regarding our obligation to protect life, liberty, and property.
- I am asking you to accept responsibility for influencing public and private policy.

I urge you to accept these challenges. We will not change policy overnight, but tonight we can begin a journey of change: We can enter into a Covenant for Seismic Safety.