

SCHOOL EARTHQUAKE SAFETY INITIATIVE (SESI)

2015 ACTIVITIES REPORT



CHARGE

SESI is a global and collaborative network of diverse, expert, and passionate professionals who are committed to creating and sharing knowledge and tools that enable progressive, informed decision making around school earthquake safety.

Our goal is to leverage our extensive expertise and reputation to conduct regionally appropriate actions that make a tangible and positive difference in communities around the world, by protecting the lives of all who inhabit school buildings. We strive to serve the world as a leader in the science, public policy, and advocacy of school earthquake safety.

More information about the committee, its goals and action plans, as well as the subcommittees can be found on the SESI Webpage: <https://www.eeri.org/projects/schools/>

MEMBERSHIP

SESI has an open membership with 99 members, an executive committee, and 4 active subcommittees. The following figures show detailed statistics of our membership.

Affiliation Types for SESI Participants

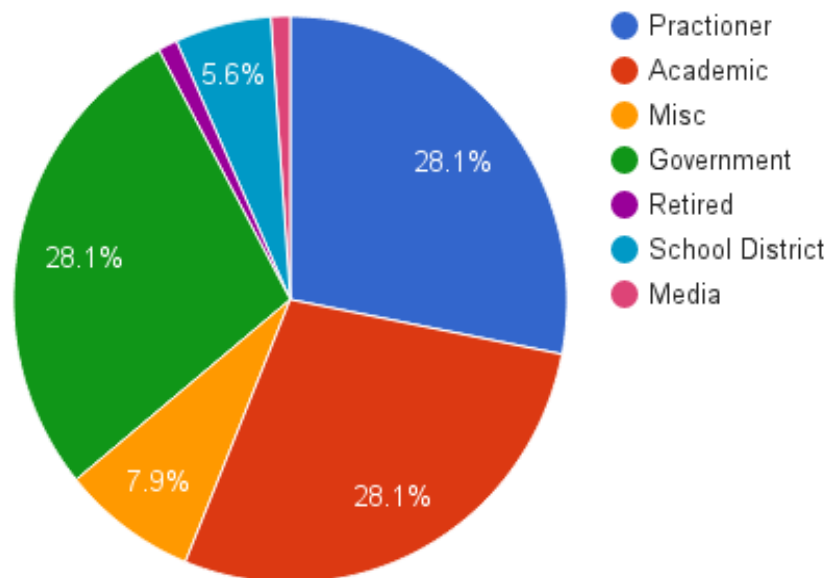


Figure 1: The pie chart above shows the professional affiliations of SESI's 99 members (as of Nov 2015).

Discipline Types for SESI Members

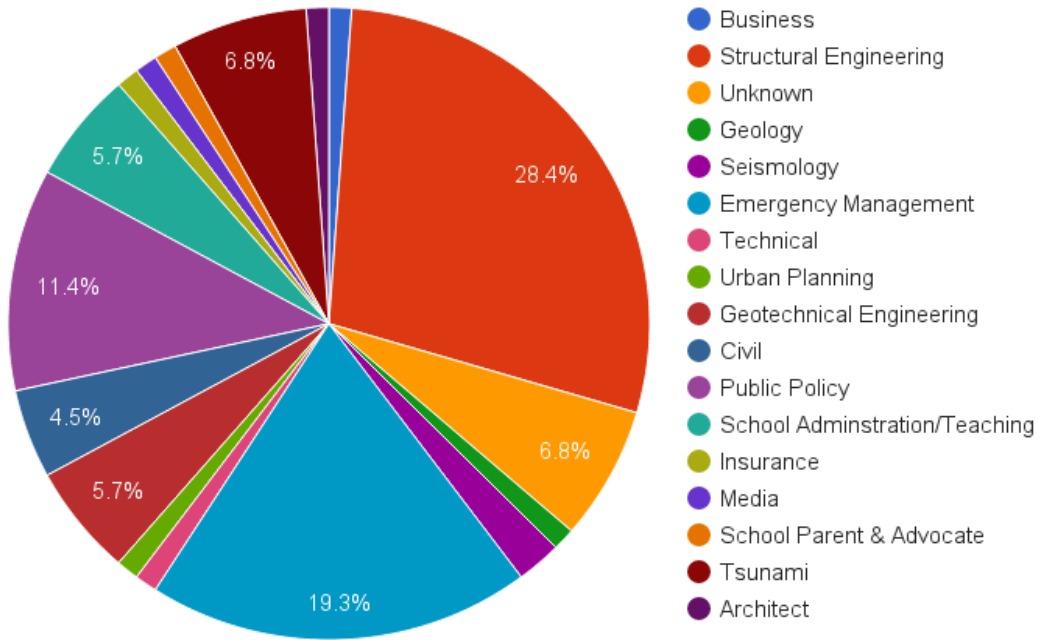


Figure 2: The graphic demonstrates the disciplinary backgrounds of SESI Members. There is a great amount of diversity in the committee, as shown in the figure above.

Geographic Regions of SESI Members

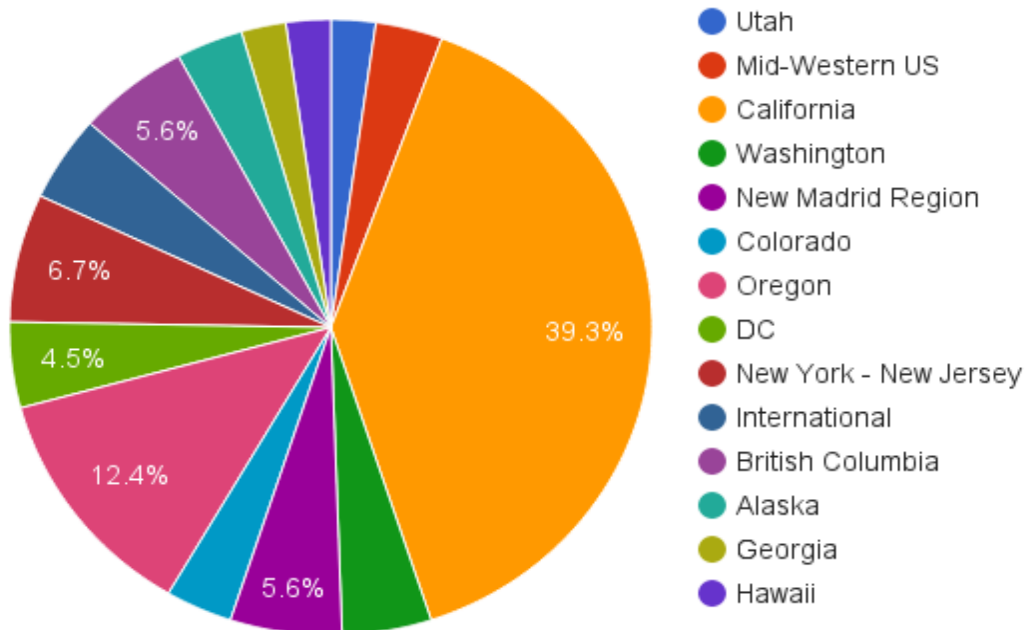


Figure 3: The figure above shows the geographic location of all the members of SESI. As shown, the membership spans across the United States and abroad.

The 13-member SESI Executive Committee is an invitational group of members who guide and make decisions for the Initiative with the SESI Chair as its leader. The chair of each sub-committee is automatically appointed to the Executive Committee. The current Executive Committee members are show below:

<i>Name</i>	<i>Role</i>	<i>Affiliation</i>	<i>Email</i>
Barry Welliver	Chair	BHW Engineers	bhwelliver@mac.com
Lucy Arendt	Board Contact & Subcommittee Chair	University of Wisconsin, Green Bay	arendtl@uwgb.edu
Ken Goettel	Subcommittee Chair	Goettel & Associates Inc	KenGoettel@aol.com
Rob Jackson	Subcommittee Chair	AECOM	rob.jackson@aecom.com
Thalia Anagnos	Subcommittee Co-Chair	San Jose State University	thalia.anagnos@sjsu.edu
Lelli Van Den Einde	Subcommittee Co-Chair	University of California, San Diego	lellivde@eng.ucsd.edu
Veronica Cedillos	Member	Applied Technology Council	vcedillos@atcouncil.org
Phil Gould	Member	Retired	pgoul@seas.wustl.edu
Bill Holmes	Member	Rutherford + Chekene	wholmes@ruthchek.com
Vince Pericoli	Member	UC Davis	vspericoli@ucdavis.edu
Eddie Vega	Member	Holmes Culley	evega@holmesculley.com
Yumei Wang	Member	OR Dept of Geology & Mineral Industries	yumei.wang@comcast.net
Ivan Wong	Member	AECOM	ivan.wong@aecom.com

Ex-officio Members:

<i>Name</i>	<i>Role</i>	<i>Affiliation</i>	<i>Email</i>
Heidi Tremayne	EERI Staff Lead	EERI	heidi@eeri.org
Mike Mahoney	Ex-officio Member	FEMA	Mike.Mahoney@fema.dhs.gov
Karen Izumoto	Intern	EERI	karen@eeri.org
Shizza Fatima	Intern	EERI	shizza@eeri.org

2015 ACTIVITIES AND ACCOMPLISHMENTS

EERI's [School Earthquake Safety Initiative \(SESI\)](#) formally launched at the EERI Annual Meeting in 2015 after a year of careful planning. The initial focus of SESI is on school buildings in the U.S., but the network hopes to expand in future years to have impact internationally. In its first year of existence, the SESI network of participants has exceeded 100 professionals from a diverse set of disciplinary backgrounds and regional areas—all dedicated to improving school earthquake safety.

The specific work and accomplishments of each active subcommittee is briefly described in the following sections. More information about the subcommittees can be found at:

<https://www.eeri.org/projects/schools/subcommittees/>

The following table lists the timeline and milestones achieved by the committee in 2015.

SESI 2015 Timeline & Milestones

February 2015	SESI Executive Committee established at Workshop in Oakland to refine Mission, Goals, and Action Plan for 2015.
Spring 2015	Proposal written to acquire EERI funding to promote year 1 activities for SESI.
April 2015	Official launch of SESI at EERI Annual Meeting in Boston during SESI Plenary Session and Committee Meeting.
May 2015	Funds awarded by EERI Initiatives Development Committee for 2015 SESI activities and subcommittees
Jun-Dec 2015	Executive & Subcommittee calls and various activities
Nov 2015	Exec. Committee Meeting in Oakland to review progress to date, develop 2016 Priorities, and explore funding opportunities at SESI

Safety Screening, Inventory & Evaluation Subcommittee

Chair: Ken Goettel

Members: David Bonowitz, Phil Gould, Barry Welliver

Charge: Facilitate and encourage implementation of risk reduction measures by developing and helping to carry out stepwise screening methodologies to identify school buildings with the highest seismic risk efficiently while minimizing the effort and expense for school districts.

2015 Accomplishments: With support of Intern Karen Izumoto, a draft compilation of best practice examples of school screening programs in Oregon, Washington, Utah, Alaska and Missouri has been compiled. The draft will be refined into a document with recommendations for school screenings to be disseminated in 2016.

Classroom Education and Outreach

Co-Chairs: Thalia Anagnos and Lelli Van Den Einde

Members: Vince Pericoli, Eddie Vega, Ivan Wong, James Mallard, Alex Lee, and Mary Fatih Silva (leading a 9-member UC Berkeley pilot group)

Charge: Use education in the classroom to create an ongoing dialog with parents, teachers, and administrators and to develop advocates for earthquake school safety. Bring together EERI regional and student chapters to collaborate on delivering the activities and serving as expert resources for stakeholders.

2015 Accomplishments: The subcommittee is refining seismic design challenge curriculum originally developed through the NEES program for 4th grade and high school classroom outreach. Two pilots were launched in 2015 to finalize the curriculum documentation, develop training materials, and trail implementation utilizing student chapters. One pilot started at UC Berkeley for the 4th grade curriculum, and the other at UC San Diego for the high school curriculum. The subcommittee will assess outcomes at the end of the 2015-2016 academic year and develop a plan to expand the pilot locations in 2016 to other interested groups in Stanford, Utah, and beyond.

Tsunami Mitigation of Schools Subcommittee

Chair: Chair pending, Heidi Tremayne is current contact

Members: Veronica Cedillos, Greg Deierlein, Lori Dengler, Doug Dougherty, Lesley Ewing, Hermann Fritz, Sue Graves, Karen Izumoto, Alicia Lyman-Holt, Kevin Miller, Cindy Pridmore, Jay Raskin, Kevin Richards, Althea Rizzo, Ian Robertson, John Schelling, Jeri Siegel, Tom Tobin, Heidi Tremayne, Yumei Wang, Jay Wilson, Rick Wilson, Harry Yeh

Charge: Support schools with tsunami hazard by provide them access to experts and sharing best practices for tsunami risk mitigation.

Accomplishments: After launching work in Fall 2015, the subcommittee members have developed list of schools and address in the coastal regions of California, Oregon, Washington, Hawaii, Alaska and Puerto Rico. With support of Ian Robertson, all the schools have been mapped alongside new ASCE tsunami design zones to identify at-risk schools. Work is underway to update the map to include also the inundation maps for each state as an additional layer. Once the mapping is complete, and outreach program will be developed to contact at-risk schools and provide them tsunami mitigation resources. The work of this subcommittee in 2015 and 2016 is supported by a grant from the Coastal Zone Foundation.

Code Updates & Improvements

Chair: Rob Jackson

Members: Bill Holmes, Mike Mahoney (*ex officio*), Sissy Nikolaou, Gary Patterson, Menzer Pehlivan, Alissa Tan, Barry Welliver

Charge: Advocate for code improvements, refinement and/or implementation practices that will enhance school safety and use after major earthquakes.

Accomplishments: In 2015, the subcommittee held several meetings and developed various documents to outline possible positions and topics related to building codes and school safety. Topics that surfaced for possible continued study included risk categories, seismic design categories, non-structural, code transparency, and use of schools as emergency shelters.

Other Collaborative Activities

EERI was involved in 2015 with several FEMA-supported projects yielding great outcomes for school seismic safety. School assessment and screening efforts took place in Fall 2015 for the Kenai Borough School District in Alaska and Thurston County School Districts in Washington ([more information from EERI's Pulse](#)). These projects provided necessary knowledge for school districts to determine which buildings in their portfolio provide an adequate level of safety and which buildings do not. The school districts can use the results to develop mitigation strategies to retrofit or replace the buildings with the highest risk, and prioritize resources. While the links to SESI are currently weak from these grant-funded projects, we hope to involve representatives from these projects in SESI activities during 2016.

Various members of SESI are also involved in the two-year ATC 122 project for FEMA that is developing a school safety guide detailing multi-hazard mitigation strategies and communication best practices. The guide aims to equip school safety advocates and stakeholders, including school administrators, teachers, school emergency managers, and concerned parents, with information and resources to help improve the safety of their schools. SESI hopes to utilize the information in the final document and help with its dissemination upon its completion in 2016.

SESI Chair Barry Welliver was invited to participate and report on SESI activities at the United Nations Disaster Risk Reduction (UNISDR) Second Safe Schools Meeting in Tehran, I.R. Iran on October 4-5, 2015. His presentation was

well received and he made key international contacts that could strengthen SESI in the future. A summary report that includes his recommendations for possible actions to align with the 'Worldwide Initiative for Safe Schools' is posted at: <https://www.eeri.org/projects/schools/resources/>.

2016 GOALS, PLANS, AND ACTIVITIES

2016 Strategic Priorities

In 2016 the SESI Program will focus on the following key efforts:

1. Establishing funding for ongoing SESI operations and initiating activities needed to support solicitation of funding.
2. Outreach to current SESI members and participants via the Program Committee to increase their involvement. A new email announcement system and a webinar series will be launched in spring 2016, to keep participants and EERI members more informed about SESI's progress in advancing and advocating for improved school earthquake safety.
3. Finalize the SESI working products including screening case studies, curriculum, and guidance documents.
4. Shake-Out involvement.
5. Outreach to stakeholder community.

These priorities were identified to streamline the SESI Executive Committee and EERI Staff focus in 2016 and to allow the program to realize significant gains in product development and member involvement.

2016 Program Activities

In 2016, the SESI committee and subcommittees will implement the activities of SESI along with the SESI Executive Committee, and SESI Staff. The actions currently underway by the Executive Committee, EERI Staff, and subcommittees are listed below:

1. SESI Executive Committee

- a. Oversight of SESI Staff action items
- b. Interaction of Chair with Initiatives Development Committee and EERI Board of Directors
- c. Oversight of subcommittee activities and grant funded projects.
- d. Explore and solicit additional funding sources to support the program in 2016, 2017 and beyond.
- e. Brainstorm and participate in the development of communication activities (webinars and email distribution systems) that engage and inform the SESI program committee and school earthquake safety advocacy community.
- f. Work with subcommittee chairs to consider feasible, meaningful Shake-Out involvement.
- g. Hold quarterly SESI Executive Committee calls to update and review SESI program progress on 2016 activities.

2. SESI Staff-Led Activities

- a. Implement two webinars to share SESI progress and school safety best practices with the full SESI program committee and community.
- b. Launch email blast service and distribution system, first as a pilot and then, as a system for the full the SESI program committee and school earthquake safety advocacy community.
- c. Provide support for subcommittee chairs and members to finalize products (with help of interns, as possible).
- d. Support development of proposals to potential funding agencies.
- e. Complete Coastal Zone Foundation Grant requirements and activities.

3. Safety Screening, Inventory, and Evaluation of Schools

- a. Complete comparison matrix of various best practice screening and inventory programs throughout the US.
- b. Use the best practice comparison document to discuss and determine specific SESI recommendations specifically aimed at helping new advocates in making good decisions as they develop screening programs.
- c. Compile final products that clearly communicate SESI recommendations and share best practice findings to help school earthquake safety advocates understand the many variables in a screening program and make decisions about appropriate methods for their unique situation.
- d. Strategize a dissemination strategy to promote and share with state departments, school districts, school administrators, and EERI members.

4. Classroom Education and Outreach Subcommittee

- a. Complete pilots for 4th grade and high school curriculum in Winter and Spring 2016.
- b. Finalize lesson documentation and training materials for 4th grade and high school curriculum.
- c. Evaluate and assess both impact and implementation of pilots in Summer 2016.
- d. Recruit involvement of other regions (beyond the pilot locations) and launch expanded program in Fall 2016 depending on outcome of assessment.

5. Tsunami Mitigation for Schools Subcommittee

- a. Complete the identification and mapping phase for schools in both the current evacuation zones, as well as newly released ASCE 7 – 16 Tsunami design zones in states along the Pacific Ocean (Alaska, California, Hawaii, Oregon, Puerto Rico, and Washington).
- b. Review existing informational resources with recommendations and information about tsunami hazard mitigation for schools, and consider documenting several best practice case studies. Select exemplary and relevant resources for dissemination.
- c. Develop and conduct various advocacy, outreach and dissemination activities to put tsunami hazard mitigation information into the hands of school administrators, decision makers, and other stakeholder groups.
- d. Consider and propose various policy recommendations that could be used to enhance mitigation and preparedness for schools in regions with tsunami hazard.
- e. Share outcomes and findings with broader oceanographic community.

6. Code Updating and Improvements Subcommittee

- a. Support development of School Screening Subcommittee products and recommendations.
- b. Consider various code recommendations that are appropriate and aligned with SESI activities, followed by development of recommendations for the SESI Exec Committee before advocacy to committees for various codes and standards.

COMMITTEE NEEDS AND REQUESTS FOR THE BOARD OR EERI STAFF

Please indicate if you have any needs such as web content updating, member recruitment support, conference call lines access, budget, staff support, news updates to share in the Pulse, etc.

- Staff support has been the lifeblood of this program over the last two years. Continued support is greatly needed would be appreciated.
- The SESI web page will be a main focal point for our ability to attract new members and provide useful tools and guidance for school safety advocates. Continued web content support is needed.
- Conference call line support for the work of our subcommittees and webinar support for communications with our program committee and interested partners would be most helpful.
- Funding for an in-person annual executive committee workshop and meeting will help sustain the efforts of this body to direct and shape the vision of SESI.