

2009 ATC & SEI CONFERENCE
PRELIMINARY PROGRAM

ATC & SEI



**CONFERENCE ON IMPROVING THE SEISMIC PERFORMANCE
OF EXISTING BUILDINGS AND OTHER STRUCTURES**

**DECEMBER 9–11, 2009
SAN FRANCISCO, CALIFORNIA**

www.atc-sei.org

Organized by the Applied Technology Council and
the Structural Engineering Institute of ASCE

EARN UP TO 13.5 PDH'S

▶▶ CONFERENCE SCHEDULE AT A GLANCE

▶▶ TUESDAY, DECEMBER 8, 2009

3:00 PM – 8:00 PM Registration

▶▶ WEDNESDAY, DECEMBER 9, 2009

6:30 AM – 5:30 PM Registration
7:00 AM – 8:30 AM Continental Breakfast
8:30 AM – 10:00 AM Opening Plenary Session
10:00 AM – 10:30 AM Refreshment Break
10:00 AM – 5:30 PM Exhibit Hall
10:30 AM – 12:00 PM Concurrent Technical Sessions
12:00 PM – 1:30 PM Opening Luncheon (with speaker)
1:30 PM – 3:00 PM Concurrent Technical Sessions
3:00 PM – 3:30 PM Refreshment Break
3:30 PM – 5:00 PM Concurrent Technical Sessions
5:30 PM – 7:00 PM Grand Opening Reception

▶▶ THURSDAY, DECEMBER 10, 2009

7:00 AM – 5:30 PM Registration
7:00 AM – 8:30 AM Continental Breakfast
7:00 AM – 5:00 PM Exhibit Hall
8:30 AM – 10:00 AM Plenary Session
10:00 AM – 10:30 AM Refreshment Break
10:30 AM – 12:00 PM Concurrent Technical Sessions
12:00 PM – 1:30 PM Luncheon (with speaker)
1:30 PM – 3:00 PM Concurrent Technical Sessions
3:00 PM – 3:30 PM Refreshment Break
3:30 PM – 5:00 PM Concurrent Technical Sessions
6:30 PM – 10:00 PM Black Tie ATC-SEI Endowment Fund Gala

▶▶ FRIDAY, DECEMBER 11, 2009

7:00 AM – 1:00 PM Registration
7:00 AM – 8:30 AM Continental Breakfast
7:00 AM – 12:00 PM Exhibit Hall
8:30 AM – 10:00 AM Plenary Session
10:00 AM – 10:30 AM Refreshment Break
10:30 AM – 12:00 PM Concurrent Technical Sessions
12:00 PM – 1:30 PM Lunch (on own)
1:30 PM – 3:00 PM Concurrent Technical Sessions
3:00 PM – 3:30 PM Refreshment Break
3:30 PM – 5:00 PM Concurrent Technical Sessions



ATC-SEI CONFERENCE ON IMPROVING THE SEISMIC PERFORMANCE OF EXISTING BUILDINGS AND OTHER STRUCTURES

**A STATE-OF-THE-ART EVENT ORGANIZED BY THE APPLIED
TECHNOLOGY COUNCIL AND THE STRUCTURAL ENGINEERING
INSTITUTE OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS**

DECEMBER 9 – 11, 2009
Hyatt Regency San Francisco

The Applied Technology Council (ATC) and the Structural Engineering Institute (SEI) of the American Society of Civil Engineers are pleased to invite you to attend this inaugural conference dedicated solely to improving the seismic performance of existing buildings and other structures. The conference program has been structured to provide a forum for the presentation, exchange, and documentation of new information on the seismic evaluation and seismic rehabilitation of existing buildings, including case studies, new discoveries, innovative use of new technologies and materials, nonstructural component anchorage and bracing, implementation issues, needed improvements to existing standards and methods, and socio-economic issues.

Originally scheduled for 2½ days, the conference has been expanded to three days, as a result of the high number of paper abstracts received and accepted for presentation. The resulting conference program includes plenary session presentations by nationally recognized specialists in the field, invited luncheon talks, technical presentations on a broad range of issues in more than 30 sessions in four concurrent tracks, poster papers, exhibits, and a gala dinner (a separately ticketed event) celebrating the top U.S. seismic strengthening projects over the last decade. The goal is to provide an invaluable opportunity to advance your understanding of the tools, techniques and innovations available to assist you in meeting the challenges of seismic evaluation and rehabilitation. Papers presented at the conference will be documented in the conference proceedings, which will be available at the outset of the conference.

Details about the conference program are provided in this brochure, along with instructions and forms for registering and instructions on how to reserve sleeping room accommodations at the conference hotel. For local participants, a special corporate conference registration packet has been developed to enable multiple individuals from one corporation/organization to participate in the conference at a reduced rate. Additional information about the conference is available at the conference web site: www.ATC-SEI.org.

We look forward to seeing you in San Francisco.

▶ PLENARY SESSION & LUNCHEON SPEAKERS

WEDNESDAY, DECEMBER 9, 2009

Opening Plenary Session: 8:30 AM – 10:00AM

Speaker: *Mary Lou Zoback*, Geophysicist, Risk Management Solutions

Presentation: *National Seismic Hazard and Risk – The Problem*



Description: Seismic hazard assessment is based on two primary components: (1) establishing the likelihood of earthquake occurrence and (2) quantifying earthquake effects, such as the distribution of strong shaking. The seismically active western United States (U.S.) has relatively young crust that is actively deforming, and in some cases uplifting, part of a broad plate boundary with the Pacific Plate. This on-going deformation is easily measured with GPS instrumentation and generates relatively frequent large earthquakes, particularly along the San Andreas fault system. In contrast, the central and eastern U.S. resides on older, generally stable crust that is not rapidly deforming. Large earthquakes can occur in this stable crust (e.g., 1811-1812 New Madrid or 1886 Charleston, South Carolina earthquakes), but they are much less frequent than in the western U.S. However, the older (and colder) crust beneath the central and eastern U.S. transmits seismic energy much more efficiently than in the western U.S., so despite lower rates of earthquake occurrence, the potential effects of equivalent sized earthquakes in the eastern and central U.S. is larger than in the West. Furthermore, effects such as directional fault rupture or geologic subsurface complexity, such as the existence of a large basin filled with soft sediments, can locally greatly amplify shaking levels. A variety of earthquake sources and examples of these effects on ground motion will be demonstrated with "likely" earthquake scenarios from around the U.S., together with the expected losses as well as the ratio of insured to total economic loss.

Bio: Dr. Zoback is Vice President, Earthquake Risk Applications with Risk Management Solutions in Newark, California, where her responsibilities include leading initiatives on the significance of risk quantification for expanding the societal role of earthquake insurance, disaster management, and risk reduction activities worldwide.

Speaker: *William T. Holmes*, Structural Engineer, Rutherford & Chekene

Presentation: *Report Card on Seismic Rehabilitation Progress*



Description: The progress on mitigating the seismic risks from existing buildings will be summarized for states with the highest Annualized Earthquake Loss and/or Annualized Earthquake Loss Ratios. In this context, mitigation is defined as seismic rehabilitation or demolition controlled by jurisdictional programs or significant voluntary trends. Numerical risk reduction from the normal renewal or replacement process is not estimated. Examples of programs include federal, state, city/county and institutional mandated or triggered rehabilitation. These programs usually focus on critical buildings (e.g., schools, hospitals, post-earthquake emergency buildings), or targeted high-risk model building types (e.g., Unreinforced Masonry, tilt-up construction).

Private voluntary seismic risk reduction has also been undertaken to lower Probable Maximum Loss (PML) calculations used for refinancing, or to avoid business interruption.

Bio: Mr. Holmes, a Principal at Rutherford & Chekene, has been responsible for the structural design and seismic retrofit of numerous buildings as well as being active in significant research and development in structural and earthquake engineering. In the mid-seventies he had a key role in the conceptual development of the *NEHRP Guidelines for the Seismic Rehabilitation of Buildings* (FEMA 273) and the subsequent FEMA 356 *Prestandard and Commentary for the Seismic Rehabilitations of Buildings*.

LUNCHEON SPEAKER: NOON - 1:30 PM (SPEAKER TO BE CONFIRMED)

THURSDAY, DECEMBER 10, 2009

Opening Plenary Session: 8:30 AM – 10:00AM

Speaker: *Ronald O. Hamburger*, Structural Engineer, Simpson Gumpertz & Heger

Presentation: *Performance-based Seismic Rehabilitation of Building Structural Systems – A 2020 Vision*



Description: Performance-based seismic engineering initiated with the problem of existing buildings. Owners would not retrofit existing structures unless they first understood that there was a problem (poor performance) and then understood that acceptable performance could be attained with reasonable expenditure. This need engendered the series of Applied Technology Council (ATC) and Federal Emergency Management Agency (FEMA) publications embodied today in the ASCE 31 *Standard, Seismic Evaluation of Existing Buildings*, and the ASCE 41 *Standard, Seismic Rehabilitation of Existing Buildings*. Under the ATC-58 project, ATC and FEMA are developing next-generation performance-based seismic design guidelines applicable to new and existing buildings. The procedures will combine Building Information Modeling (BIM), Structural Reliability, and Engineering Economics to both improve the reliability of performance-based engineering and its usefulness to Owners and other decision-makers. The procedures are expected to be in widespread practice by the year 2020.

Bio: Mr. Hamburger has more than 30 years of experience in structural design, evaluation, upgrade, research, code and standards development, and education. Throughout his career he has been extremely active in numerous professional organizations, including the Building Seismic Safety Council (BSSC), American Institute of Steel Construction (AISC), the Structural Engineering Institute (SEI) of the American Society of Civil Engineers (ASCE), and the National Council of Structural Engineers Associations (NCSEA).

Speaker: [Maryann Phipps](#), Structural Engineer, Estructure

Presentation: *Seismic Anchorage and Bracing of Nonstructural Components – a 2020 Vision*



Description: By 2020 there will be widespread availability and increasing use of assessment tools capable of estimating building specific potential earthquake losses. Modeling advancements, built on BIM technology, will facilitate comprehensive building evaluations. The standard of care for design professionals will expand to include direct consideration of potential losses and translation of building specific performance objectives into reliable designs. Structural systems will focus on damage control and new strategies for nonstructural protection will be in common use.

Bio: Ms. Phipps, President of Estructure, has over twenty-five years of experience as a practicing Structural Engineer evaluating, designing and renovating facilities in areas of high seismicity, with a particular focus on nonstructural components.

LUNCHEON SPEAKER: 12 NOON-1:30PM

Speaker: [Masayoshi Nakashima](#), Director of Hyogo Earthquake Engineering Research Center (E-Defense)

Presentation: *The Role of Large Scale Structural Testing in Seismic Rehabilitation*



Description: In research and development on evaluation and enhancement of structural safety, structural testing plays an important role in that it provides us with actual data on structural performance. When scaled up, however, structural testing becomes very costly in the facility development, maintenance, and operation as well as in the test specimens. At the very large three-dimensional shake table facility in Kobe, Japan (dubbed E-Defense), which was constructed by the Government of Japan following the very serious damage observed in the 1995 Hyogoken-Nanbu (Kobe) Earthquake, the question of whether or not it is worthwhile to pursue large scale testing is constantly being addressed. To answer this question, the value of large scale testing is analyzed in terms of the comparisons of "real scale" versus "reduced scale", "elements and components" versus "overall structures", "quasi-static loading" versus "dynamic loading", and "test" versus "numerical simulation". This presentation examines these issues, provides an overview of the tests conducted at E-Defense, and discusses the experiences accumulated through the tests, reproduction of table (ground) motion, safety of the specimen and facility during the test, sensing and data acquisition/storage, and public appeal.

Bio: In addition to his position with E-Defense, Dr. Nakashima is Professor of Disaster Prevention Research Institute, Kyoto University, Japan. His fields of research include inelastic, stability, and collapse behavior of steel members and frames, seismic analysis and design of steel building structures, experimental techniques for simulating the earthquake responses of large structural systems, and seismic design of base-isolated buildings.

FRIDAY, DECEMBER 11, 2009

Opening Plenary Session: 8:30 AM – 10:00AM

Speaker: [Lucile Jones](#), Chief Scientist, Multi Hazards Project, U. S. Geological Survey

Presentation: *The Great California ShakeOut: Inspiring Community Action*



Description: The Great Southern California ShakeOut was a week of special events in November 2008 featuring the largest earthquake drill in United States history. Based on a plausible scenario of a magnitude 7.8 earthquake on the southern San Andreas Fault, it engaged over 5 million people in preparing for a significant earthquake. The goal of the ShakeOut was to change the culture of earthquake preparedness in southern California, making earthquakes a reality that are regularly discussed by making use of the sociological finding that "milling," discussing a problem with loved ones, is a prerequisite to taking action. As one measure of the success of the ShakeOut, Home Depot showed a 270% increase in the sale of earthquake fastening supplies in 2008 compared to 2007.

Bio: Dr. Jones has been a seismologist with the U.S. Geological Survey (USGS) and a Visiting Research Associate at the Seismological Laboratory of Caltech since 1983. At USGS, she is developing a new program to integrate hazards science in urban areas with economic analysis and emergency response to increase community resiliency to natural disasters, which led to the creation of The Great Southern California ShakeOut.

Speaker: [Chris D. Poland](#), Structural Engineer, Degenkolb Engineers

Presentation: *Call to Action at the Professional and Political Level*



Description: Design practices make improving the seismic performance of individual structures possible, Guidelines and Standards allow for uniform application, but only political action can create an environment where enough rehabilitation is done to save a city from demise. Structural engineers must assert their expert knowledge, crafted into public policies that make rehabilitation attractive, affordable and achievable, for communities to become disaster resilient. This is possible when we actively participate in policy discussions within our own communities and speak in common, understandable, and transparent terms.

Bio: Mr. Poland is Chairman and Chief Executive Officer of Degenkolb Engineers, San Francisco. His structural engineering career spans 35 years and includes a wide variety of new building designs and rehabilitation projects. A passionate seismic safety advocate, he actively participates in the academic, ethical and social advancement of his field.

WEDNESDAY, DECEMBER 9, 2009

8:30 AM – 10:00 AM	Open Plenary ▶ Mary Lou Zobach: <i>National Seismic Hazard and Risk – The Problem</i> ▶ Bill Holmes: <i>Report Card on Seismic Rehabilitation Progress</i>	
TRACK	Analysis and Rehabilitation Case Studies	Suggested Improvements to Guidelines, Standards and Analysis Procedures
10:30 AM – Noon	Case Studies in Seismic Evaluation and Rehabilitation	Improving ASCE 31 and 41
Noon – 1:30 PM	Lunch Speaker – To Be Confirmed	
1:30 PM – 3:00 PM	ASCE 41 Case Studies	Current Experimental and Analytical Research on Existing Reinforced Concrete Columns
3:30 PM – 5:00 PM	Seismic Mitigation Program Case Studies	Development of Guide for Seismic Rehabilitation of Existing Concrete Buildings

THURSDAY, DECEMBER 10, 2009

8:30 AM – 10:00 AM	Open Plenary ▶ Ron Hamburger: <i>Performance-based Seismic Rehabilitation of Building Structural Systems – A 2020 Vision</i> ▶ Maryann Phipps: <i>Seismic Anchorage and Bracing of Nonstructural Components – a 2020 Vision</i>	
TRACK	Analysis and Rehabilitation Case Studies	Suggested Improvements to Guidelines, Standards and Analysis Procedures
10:30 AM – Noon	Incremental Seismic Rehabilitation and Cost-Benefit Studies	All About PMLs
Noon – 1:30 PM	Lunch Speaker – Masayoshi Nakashima: <i>The Role of Large Scale Structural Testing in Seismic Rehabilitation</i>	
1:30 PM – 3:00 PM	Seismic Evaluation and Rehabilitation of School Buildings: An International Perspective	Improving Acceleration Demands for Acceleration-Sensitive Nonstructural Components in Buildings
3:30 PM – 5:00 PM	Earthquake Performance Assessment and Retrofit of Public Buildings in Istanbul: ISMEP Project	Seismic Performance of Nonstructural Components

FRIDAY, DECEMBER 11, 2009

8:30 AM – 10:00 AM	Open Plenary ▶ Lucile Jones: <i>The Great California ShakeOut: Inspiring Community Action</i> ▶ Chris Poland: <i>Call to Action at the Professional and Political Level</i>	
TRACK	Analysis and Rehabilitation Case Studies	Suggested Improvements to Guidelines, Standards and Analysis Procedures
10:30 AM – Noon	Practical Issues with Retrofit of Soft Story Residential Buildings	Analysis Methods For Seismic Rehabilitation and Evaluation
Noon – 1:30 PM	Lunch (on own)	
1:30 PM – 3:00 PM	Seismic Performance and Rehabilitation of Non-Building Structures	From Research to Practice: Transforming Analysis in the Design Office
3:30 PM – 5:00 PM	Seismic Evaluation and Rehabilitation Using Performance-Based Objectives	Simplified Analysis Methods for Low-Rise Buildings

Innovative Approaches to Rehabilitation	Mitigation Policy Issues, Strategies and Ongoing Programs
New Materials and Innovative Approaches for Seismic Rehabilitation	Addressing the Global Earthquake Risks Posed by Existing Buildings
Improving Seismic Performance using Seismic Isolation and/or Tuned Mass Dampers	Policy Issues with Soft Story Residential Buildings
Improving the Seismic Evaluation of Existing Structures through Monitoring	Emerging Seismic Mitigation Programs for Hazardous Wood-Frame Structures

Innovative Approaches to Rehabilitation	Mitigation Policy Issues, Strategies and Ongoing Programs
Improving Seismic Performance Using Viscous or Friction Dampers	Concrete Coalition: Finding and Fixing Dangerous Buildings
Improved Seismic Performance Using Other Types of Supplemental Damping - Session I	Overcoming Technical Impediments to Risk Awareness
Improved Seismic Performance Using Other Types of Supplemental Damping - Session II	Earthquake Surface Fault Rupture Design Construction

Innovative Approaches to Rehabilitation	Mitigation Policy Issues, Strategies and Ongoing Programs
Case Study of Comprehensive Nonlinear Analysis and Laboratory Testing of RC Concrete Structure	A Panel Discussion on the State of Risk Reduction Legislation
Infilled Non-Ductile Concrete Frames	Improving the Seismic Performance of Historic Buildings: An International Perspective
ATC Residential Retrofit Training	To Be Announced



ATC-SEI ENDOWMENT FUND GALA: CELEBRATING INNOVATIONS IN SEISMIC REHABILITATION OVER THE PAST DECADE

DECEMBER 10, 2009

The Historic San Francisco Ferry Building

An icon of San Francisco since the beginning of the 20th century, the Ferry Building is ideally located on the waterfront at the end of Market Street adjacent to the Conference Hotel. The Gala Event will take place on the second floor of this historic landmark, an open and airy event hall with dramatic reveals of the architecture of the time, including a striking mosaic of the Great Seal of the State of California embedded in the floor tile. Completed in 1898 as the passenger terminus for the bay's ferry routes, the steel-framed structure with its 240-ft tall clock tower survived two major earthquakes in 1906 and again in 1989.

- ▶ **Dress:** Black Tie, Formal
- ▶ **Cocktails:** 6:30 PM
- ▶ **Dinner:** 7:30 PM
- ▶ **Awards Celebration:** 9:00 PM
- ▶ **Cost:** \$250 per ticket
- ▶ **Sponsorship:** \$10,000 and \$5,000 tables (rounds of 10); net proceeds to be donated to ATC's Henry J. Degenkolb Memorial Endowment Fund and SEI's Endowment Fund

- ▶ **Seating Capacity:** 275 people
- ▶ **Program:** Celebration of Awards to the Top U. S. Seismic Strengthening Projects of the Past Decade

- ▶ **Media Promotion by:** Engineering News Record
- ▶ **Dinner Committee:** Charles Thornton and Jeremy Isenberg (Co-Chairs), (members now being appointed)

FOR MORE INFORMATION, PLEASE CONTACT:

- ▶ **Christopher Rojahn**, Applied Technology Council, 201 Redwood Shores Parkway, Suite 240, Redwood City, CA 94065, Phone: 650/595-1542, Fax: 650/593-2320, e-mail: crojahn@ATCouncil.org
- ▶ **Jim Rossberg**, Structural Engineering Institute of ASCE, 1801 Alexander Bell Drive, Reston, VA 20191, Phone: 800/548-2723, Direct: 703/295-6196, Fax: 703/95-6361, e-mail: jrossberg@asce.org

To purchase tickets or a table for this event, please complete the registration form on pages 9 and 10 or online at <http://www.atc-sei.org/registration.html>

CORPORATE REGISTRATION PACKAGE

With more than 30 high quality technical sessions being offered over three days, there will be a tremendous amount of new knowledge and information available at the 2009 ATC & SEI Conference. Recognizing that companies need to balance educating their employees against non-billable hours spent out of the office, a corporate registration option is offered for this event.

The Corporate Registration package consists of a minimum of four “corporate” registration badges, which will be tagged to the company rather than to an individual. Each badge can then be easily passed among various employees, enabling partial or full day attendance at the conference depending on need and interest of the individual. The bearer of the corporate badge would be entitled to attend any or all of the conference technical sessions and have full access to the exhibit hall and coffee breaks during normal exposition hours. One copy of the Proceedings is also included in the package, as well as one ticket to Wednesday evenings opening reception. The registration fee per badge is \$300, less than half the cost of a full registration package! Tickets for the luncheons and Gala Dinner may be purchased separately.

Attendance at the conference also earns participants Professional Development Hours (PDHs), nationally recognized units of record in non-credit education programs. Corporate registrants will be able to earn up to 13.5 PDHs for attending the numerous concurrent sessions of the technical program.

To take advantage of this special corporate discount package, please complete and return the attached form (see next page). Confirmation of the corporate package registration will be sent to the contact person identified on the registration form. Individual badges may be picked up at the registration desk at the meeting. For complete details, please visit <http://www.atc-sei.org>.

For additional questions, please contact Bernadette Hadnagy (650) 595 1542 registration@atc-sei.org

ATC-SEI STEERING COMMITTEE

Chair, Barry Goodno, Ph.D., P.E., F.ASCE

Georgia Institute of Technology

Robert Bachman, P.E., M. ASCE

Robert E. Bachman SE

Jerry Hajjar, Ph.D., P.E., F. ASCE

University of Illinois

William Holmes, P.E., M. ASCE

Rutherford & Chekene

Dawn E. Lehman, Ph.D

University of Washington

Jack Moehle, Ph.D., P.E., M.ASCE

Pacific Earthquake Engineering Research Center

Chris Poland, M. ASCE

Degenkolb Engineers

Gregory Soules, P.E., S.E., F. ASCE

Chicago Bridge and Iron Company

Michael Valley, P.E., M.ASCE

Structural Engineer

John W. Wallace, Ph.D., P.E

University of California

▶▶ CORPORATE REGISTRATION PACKAGE

Company Name: _____

Contact person: _____

Address: _____

Phone: _____ Fax: _____

E-mail (required): _____

Number of badges (Please circle number): 4 (minimum) 5 6 7 8 more

	Number of Badges	Rate	Total
Corporate Group Registration Fee:	_____ x	<input type="checkbox"/> Early bird-\$300 <input type="checkbox"/> Advance-\$325 <input type="checkbox"/> On-site-\$350	= _____
Wednesday Luncheon:	_____ x	\$65	= _____
Wednesday Grand Opening Reception:	_____ x	\$95	= _____
Thursday Luncheon:	_____ x	\$65	= _____
Black Tie Endowment Gala:	_____ x	\$250	= _____
Additional Proceedings:	_____ x	\$75	= _____
Total = \$			_____

▶▶ PAYMENT INFORMATION

Full payment must accompany this registration form. No refunds will be made for cancellations received after November 15, 2009. All checks must be issued in U.S. Dollars. A PO Form must accompany your registration form when paying by a Purchase Order.

Check (Payable to ATC, U.S. dollars):

To pay registration fee by check, postmark your registration by the deadlines indicated above to:

Applied Technology Council
 201 Redwood Shores Pkwy., Suite 240
 Redwood City, CA 94065

Purchase Order #: _____

To pay registration fee by Purchase Order, postmark your registration by the deadlines indicated above to:

Applied Technology Council
 201 Redwood Shores Pkwy., Suite 240
 Redwood City, CA 94065
 Fax: 650-593-2320 e-mail: registration@atc-sei.org

Credit Card: Visa Mastercard Discover

Card Number: _____

Expiration Date (MM/YYYY): _____ Total to be Charged: \$ _____

Cardholder Name (please type or print): _____

Cardholder Signature: _____

▶ 2009 ATC-SEI CONFERENCE REGISTRATION

▶ CONTACT INFORMATION

Please complete the registration form including signature and payment information. Use one registration form per person. Registration will not be processed without full payment and registrant's full name.

First Name: _____ Last Name: _____

Organization: _____

Address: _____

City: _____ State: _____ Postal Code: _____ Country: _____

Work Phone: _____ Work Fax: _____

E-mail (required): _____

Member/Subscriber/Student Affiliation (Please check all that apply)

- ATC SEI ACI CASE CSSC EERI JSCA MAE Center
 MCEER NCSEA NZSEE OSHPD PEER SEAOC WSSPC

School: _____

Check here if you require vegetarian or other special meals.

Check here if you require special accommodations to fully participate. An SEI or ATC representative will contact you to discuss your needs.

▶ REGISTRATION RATES (PLEASE CHECK EVENT(S))

	Early Bird	Advance	On-Site
	Thru July 12, 2009	July 13 - November 15, 2009	November 16 - December 11, 2009
Full Registration (Member/Subscriber Rate)	<input type="checkbox"/> \$645	<input type="checkbox"/> \$695	<input type="checkbox"/> \$745
Full Registration (Non-member)	<input type="checkbox"/> \$695	<input type="checkbox"/> \$745	<input type="checkbox"/> \$795
Speaker Registration	<input type="checkbox"/> \$545	<input type="checkbox"/> \$595	<input type="checkbox"/> \$645
Student Registration	<input type="checkbox"/> \$175	<input type="checkbox"/> \$195	<input type="checkbox"/> \$245
Daily Registration (Wednesday)	<input type="checkbox"/> \$295	<input type="checkbox"/> \$295	<input type="checkbox"/> \$295
Daily Registration (Thursday)	<input type="checkbox"/> \$295	<input type="checkbox"/> \$295	<input type="checkbox"/> \$295
Daily Registration (Friday)	<input type="checkbox"/> \$195	<input type="checkbox"/> \$195	<input type="checkbox"/> \$195

Subtotal: \$ _____

Additional Ticketed Events/Options

Proceedings	<input type="checkbox"/> \$75	<input type="checkbox"/> \$75	<input type="checkbox"/> \$75
Opening Reception (Wednesday night)	<input type="checkbox"/> \$95	<input type="checkbox"/> \$95	<input type="checkbox"/> \$95
Black Tie Gala (Thursday night)	<input type="checkbox"/> \$250	<input type="checkbox"/> \$250	<input type="checkbox"/> \$250
Black Tie Gala Table for 10 (Thursday night)	<input type="checkbox"/> \$5,000 or <input type="checkbox"/> \$10,000	<input type="checkbox"/> \$5,000 or <input type="checkbox"/> \$10,000	<input type="checkbox"/> \$5,000 or <input type="checkbox"/> \$10,000
Wednesday Opening Luncheon	<input type="checkbox"/> \$65	<input type="checkbox"/> \$65	<input type="checkbox"/> \$65
Thursday Luncheon	<input type="checkbox"/> \$65	<input type="checkbox"/> \$65	<input type="checkbox"/> \$65

Total: \$ _____

Cancellations/Refunds

Cancellations submitted must be in writing by fax or e-mail. A refund will be issued, minus a \$50 processing fee, if the cancellation notice is received by SEI by November 15, 2009. No refunds will be made for cancellations received after the three-week deadline of Thursday, November 15, 2009. Send cancellation to registration@atc-sei.org or fax to 650-593-2320. Speakers are required to register by July 15, 2009, and not eligible for a refund.

» INCLUDED IN YOUR REGISTRATION FEES

	Sessions & Exhibit Hall	Wednesday Continental Breakfast & Breaks	Wednesday Luncheon	Wednesday Opening Reception	Thursday Continental Breakfast & Breaks	Thursday Luncheon	Friday Continental Breakfast & Breaks	Proceedings
FULL REGISTRATION Member & Non-member	✓	✓	✓	✓	✓	✓	✓	✓
FULL-TIME STUDENT	✓	✓			✓		✓	
DAILY REGISTRATION MEMBER, NON-MEMBER								
WEDNESDAY	✓	✓	✓					
THURSDAY	✓			✓	✓			
FRIDAY	✓					✓		

» PAYMENT INFORMATION

A PO Form must accompany your registration form when registering by Purchase Order. Otherwise, full payment must accompany this registration form. No refunds will be made for cancellations received after November 15, 2009. All checks and money orders must be issued in U.S. Dollars.

Registration Total: \$ _____

Check (Payable to ATC, U.S. dollars):

To pay registration fee by check, postmark your registration by the deadlines indicated above to:

Applied Technology Council
201 Redwood Shores Pkwy., Suite 240
Redwood City, CA 94065

Purchase Order #: _____

To pay registration fee by Purchase Order, postmark your registration by the deadlines indicated above to:

Applied Technology Council
201 Redwood Shores Pkwy., Suite 240
Redwood City, CA 94065
Fax: 650-593-2320 e-mail: registration@atc-sei.org

Credit Card: Visa Mastercard Discover

Card Number: _____

Expiration Date (MM/YYYY): _____ Total to be Charged: \$ _____

Cardholder Name (please type or print): _____

Cardholder Signature: _____

2009 ATC & SEI

◀◀ CHECK INSIDE FOR REGISTRATION FORM

▶▶ HOTEL INFORMATION AND RESERVATIONS

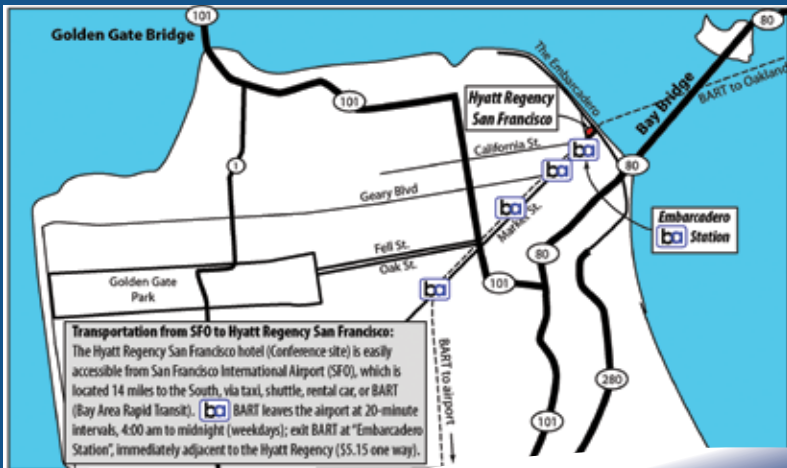
Hyatt Regency San Francisco
5 Embarcadero Center,
San Francisco, California 94111
Tel: +1 888-421-1442
Fax: +1 415-398-2567



Room Rates: Single/Double: \$229.00
(Current taxes are 1.5.5% occupancy tax per room per night and a \$.13 per room night California Tourism assessment fee.)

For Online Reservations, go to our website: <http://www.atc-sei.org>

Hotel Reservations Deadline: November 16, 2009. When making your room reservations by phone, please request a room in the ATC-SEI Joint Conference room block to receive the special conference rate. The hotel will extend the group rate to attendees three days before and three days after the conference dates, based on availability.



Applied Technology Council
201 Redwood Shores Pkwy., Suite 240
Redwood City, CA 94065

ATC&SEI

**CONFERENCE ON IMPROVING THE SEISMIC
PERFORMANCE OF EXISTING BUILDINGS
AND OTHER STRUCTURES**

A state-of-the-art conference organized
by the Applied Technology Council and the
Structural Engineering Institute of ASCE

**DECEMBER 9-11, 2009
SAN FRANCISCO, CALIFORNIA**

www.atc-sei.org

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