



President's Message

By Peter Lee

In this time of thanksgiving, we have much to be thankful for. I hope you, your family and friends are well and are enjoying this special season. I would like to take this opportunity to share with you a few highlights from my attendance at the recent National Council of Structural Engineers Associations (NCSEA) Nineteenth Annual Conference held in Oklahoma City, OK this past October 20-22, 2011, and also point out some of the NCSEA benefits and opportunities that are available to you as a SEAONC member.

Membership

As a reminder, you are represented as an individual member of the NCSEA through SEAOC's membership to NCSEA as a Member Organization (MO). While SEAONC is one of four member organizations (MOs) of SEAOC, SEAOC is one of 43 current member organizations of the NCSEA. And, as previously noted, \$20 of your SEAOC annual membership fee goes to the NCSEA to help maintain this membership and NCSEA activities. SEAOC past-President, Bill Warren (SEAOSC) is currently serving as SEAOC delegate and voting member to the NCSEA with Norm Scheel (SEAOCC) as alternate delegate.

NCSEA's mission statement reads, "NCSEA serves to advance the practice of structural engineering and, as the autonomous national voice for practicing structural engineers, protect the public's right to safe, sustainable and cost effective buildings, bridges and other structures." And, as further re-

Continued on Page 2

December 6th Dinner Meeting at The Faculty Club, UC Berkeley

California Memorial Stadium

Presenters: Chris Petteys, Rene Vignos, and David Friedman Forell/Elsesser Engineers, Inc.

Built as a memorial to fallen heroes of World War I from California, Memorial Stadium has endured as one of the most picturesque venues in college football from its opening in 1923 for the "Big Game" versus Stanford to the present day. Over the years the Stadium has shown its age and also shown signs of how the earth is slowly creeping on the Hayward Fault beneath it. This movement has shown up through leaning columns, building cracks, and column offsets and misalignments. The challenge for the design team was how to preserve this monument in place and ensure the safety of its occupants should a large earthquake hit.



Due to the site location and geology, design for large ground motions dominated the engineering decisions that were made about the structure. The unique thing about Memorial Stadium is that it not only needed to be designed for the strong ground motions, but also needed to accommodate potential surface rupture of the Hayward Fault below certain portions of the building. Geologists on the project located and mapped the Hayward Fault around the Stadium and due to the historic nature of the Stadium and its location adjacent to campus, it was decided to retrofit the structure in place and come up with a scheme to safely accommodate the potential surface rupture.

Through an interdisciplinary effort between structural engineers, geologists, seismologists, and geotechnical engineers, a scheme was designed to accommodate the estimated 6 feet of lateral movement and simultaneous 2 feet of vertical movement that could occur on site. For Memorial Stadium this meant breaking the seating bowl into discrete blocks where the fault crossed, so that these

Continued on Page 2

Meeting Notices

SEAONC Dinner Meeting Tuesday, December 6, 2011 5:30 pm General Assembly 6:15 pm Dinner 7:15 pm Program Faculty Club, UC Berkeley see above for program & last page for registration

SEAONC Business Forum Tuesday, December 20, 2011 12pm SGH The Landmark @ One Market Suite 600 San Francisco see page 3 for more info

In the December News:

President's Message..... 1 December Dinner Meeting.....1 CA SE Exam Writers Needed.....3 December Business Forum..... 3 Applied Tech Council News.....5 Professor Joseph Penzien.....7 Job Forum.....8

President's Message (Cont. from Page 1)

inforced in opening remarks by NCSEA President Jim Malley (SEAONC), "The NCSEA exists to serve its MO's and act as the national voice of practicing structural engineers."

On Saturday, at the early morning roll call of the 43 MO's made up of mostly state represented organizations, it was very interesting to hear each delegate stand and report in on membership, previous year's activities and active committee agendas. With the size of each MO representing memberships ranging from as low as approximately 30 to as many as 3,600 with a total of more than 10,000, there was a strong sense that the potential of the collective whole was to be much greater than the sum of its individual parts.

Code Advisory Committee

Of particular note, on Friday afternoon, Code Advisory Committee (CAC) Chair Ron Hamburger spoke on "The Building Code Process Today" followed by a "Building Code Panel Discussion" which included several past-Presidents and those attending. Ron spoke to the difficulties involved in pursuing development of responsible structural building codes and consensus standards in light of the International Code Council's (ICC) recent move to a 3-year code development cycle instead of previous traditional code cycle which permitted revisions at 18-month intervals. With this change, the 2015 IBC code revision proposals are due as soon as this January 2012 prior to formal use of the 2012 IBC version of the code. The Committee intends to continue to pursue negotiations with the ICC to revise this process to allow an 18-month cycle while continuing to publish on a 3-year cycle.

The primary focus of the CAC is to work directly with standards development organizations, such as SEI (ASCE 7), AISC, ACI, etc, to obtain improvements in the building code on behalf of practicing structural engineers. The panel discussion addressed several questions regarding future building code development including recent trends toward more performance based design codes and standards – a trend that may lead to more simplified and less complex prescriptive based codes.

The CAC is also pursuing interest to partner with both the ICC and SEI in the development of new standards to convert IBC Chapters 17 and 18 into separate standards to address both Foundation and Quality Assurance requirements. The Code Advisory Committee is currently made up of six sub-committees including Seismic Provisions, Existing Buildings / Structural Retrofit, General Engineering, Special Inspection / Quality Assurance, ICC Evaluation Service Advisory and Wind Engineering. See www.ncsea.com for additional information on committee activities and chair contacts.

Volunteer – Join a Committee and Participate

Like SEAONC and SEAOC, NCSEA depends on volunteers to further the work of its committees and make a difference for the structural engineering profession. If you think you are interested, a volunteer application with additional information is available at <http://ncsea.com/NCSEACcommittees.aspx>.

Policy on Separate SE Licensure

On Saturday afternoon, past-President Bill Bast and Licensing Committee Chair Susan Jorgensen, presented the "NCSEA Policy on Separate Structural Engineering Licensure"

December Dinner Meeting Cont. from Page 1

portions of the building could move in response to possible surface rupture without affecting the rest of the structure. The challenging part was to determine the best location for these joints and the optimum width for these joints while still accommodating the architectural design of the building. Through study of this problem with advanced finite-element modeling and through physical study models, along with many meetings and debates between the engineers, geologists, and seismologists, a final scheme was developed that satisfied the requirements of all the stakeholders.

While a large portion of our engineering effort was devoted to solving the issue of accommodating surface rupture, another large engineering challenge also dominated the design of the stadium. One of the signature architectural features of the Stadium is a two story, 375 foot long press box that hovers above the west side of the seating bowl. This press box will not only house print, radio, and TV media, but will also have a club space with views and seating facing the field as well as a dramatic 25' cantilever balcony that faces campus with views of the San Francisco Bay and the Golden Gate beyond.

While designing a press box on limited supports to give the appearance of "hovering" is a challenge, the real challenge came in safely bracing this structure for large potential ground motions at this site. The press box structure is designed as a 3D space truss with diagonals in all directions which allows the structure to cantilever toward the field, span 90 feet between vertical supports, and to be braced seismically between the supporting cores. Even with the extensive bracing, the press box is still relatively flexible when compared with the concrete stadium seating bowl below. As our design progressed, we realized that a large flexible steel structure on four slender concrete core walls attaching to a very stiff triangular seating bowl created a dynamic incompatibility within the combined structure. In addition to conflicting dynamics, there would also be a high concentration of damage to the core walls where they attached to the seating bowl, which was a big concern since the cores serve as the only path for exit stairs and elevators as well as providing gravity support for the press box itself.

Through many iterations of design we came upon a solution that simultaneously solved our biggest concerns: provide a separation between the bowl and press box structures and allow them to move independently and link them with fluid viscous dampers. These dampers would buffer the movements between the two structures, tempering the accelerations in the press box. To protect the tall slender core walls supporting the press box, we wanted them to rock as a rigid body at their base instead of trying to fix them to the foundation system rigidly. Vertical post-tensioning was utilized in all the cores and allowed them to rock by providing a restoring force and a constant compression force to help them remain elastic. The combination of the vertical post-tensioning and fluid viscous dampers allows the two structures to work together to resist strong ground motions. With this project complete, Memorial Stadium will be safe for the effects of surface rupture and ground shaking from the Hayward fault while retaining its iconic historic façade and providing UC Berkeley with all the amenities of a modern facility. Memorial Stadium will be the envy of the PAC12 and will provide Cal fans with a safe place to spend a fall afternoon cheering on their team.

Continued on Page 4

Requirement for a California-Specific Structural Exam is Eliminated...Except...

Governor Brown signed Senate Bill 543 which, among other things, eliminates the requirement for a California-specific SE exam. That said, however, the new law won't take effect until January 2012 and, according to Board counsel, the new law does not apply to engineers who have taken the 16-hour NCEES Structural Exam in 2011---they are still required by law to pass a CA-specific SE exam. If they do not take (or pass) the CA-specific SE exam, they will not be licensed. This is true even if those candidates wait until the new law goes into effect or even if they do not get the results of the October NCEES exam until 2012. BPELSG has written and tested a CA-specific SE exam for designed specifically for examinees who have passed the NCEES 16-hour exam. The exam is about 2-3 hours in length and contains about 30 multiple choice questions. It is not as rigorous as the CA-SE exams have been in the past, but it is not inconsequential either. That exam has been provided to the engineers who passed the 16-hour NCEES Structural Exam in April, and it, or a similar exam, will be given to those engineers who pass the 16-hour NCEES Structural Exam that was given in October.

Carl H. Josephson, S.E.
Member, California Board for Professional Engineers, Land Surveyors and Geologists

A Call for SE Exam Writers

With the elimination of the California specific portion of the SE exam in 2012, input from California Structural Engineers becomes more critical. NCEES will be conducting an exam writing session during the last weekend in January, near the Los Angeles International Airport. Details of the session are pending. Please contact SEAOC Chair of the Professional Licensing and Certification Committee, Carl Josephson, at cjosephson@jwa-se.com for information if you are interested in participating in this important effort.

Opinions expressed in the SEAONC NEWS are not necessarily those of the Structural Engineers Association of Northern California. Advertising rates and information sent upon request. Acceptance of advertising and informational brochures in the SEAONC NEWS does not constitute endorsement or approval by SEAONC of the products or services advertised. SEAONC reserves the right to refuse any advertising.

The SEAONC NEWS is published monthly by the Structural Engineers Association of Northern California, 575 Market Street, Suite 2125, San Francisco, CA 94105-3411. It is distributed to members of SEAONC as a membership benefit. Reproduction for noncommercial purposes is allowed if the source is acknowledged.

December Business Forum Luncheon

Winning More Work in a Challenging Economy

DATE & TIME

Tuesday, December 20 2011
12:00 pm – 1:30 pm: lunch/Program

LOCATION

SGH
The Landmark @ One Market
Suite 600
San Francisco, CA

In today's challenging economic environment, there are simply fewer opportunities than before. As a result, every successful engineering firm must do all they can to maximize their marketing and business development efforts. This includes enhancing our ability to sell our professional services more effectively. During this Business Forum, we will be discussing the following topics:

- Getting in front of more new prospects & projects on a regular basis
- Enhancing our ability to differentiate our services (and ourselves)
- Avoid wasting time chasing unqualified prospects
- Why we frequently hear "I want to think it over" or some form of "maybe"
- Shorten the time to win the project (or get a decision)
- Minimize doing "unpaid consulting" with premature proposals
- Balancing time servicing current clients and business development efforts
- How our attitude and beliefs can impact our results

Who Should Attend?

- Owners, Principals and Partners
- Marketing and Business Development Managers
- Project Managers

About the speaker:

Joe Diliberto is a nationally recognized speaker. His background includes executive level positions in Sales & Marketing with both Fortune 100 and start-up companies. An expert in his field, Joe is the Principal of Sandler Training. The Sandler System has been recognized by Entrepreneur Magazine as #1 Sales Management Training Program for the past five consecutive years.

RSVP at http://www.seaonc.org/member/member_s/events/order_form.asp

Registration Deadline: Friday, Nov. 11th at 12:00pm

President's Message (Cont. from Page 2)

(www.ncsea.com STRUCTURE, Oct 2011, p. 36) as approved at the July 2011 Board meeting. Developed by the Committee working with the Board, the new policy statement represents a focused effort to implement separate structural engineering licensure in all jurisdictions and encourages their MO's to take the lead in making these changes in each jurisdiction.

Sam Rihani followed the discussion with a presentation of the Structural Engineering Institute (SEI) of the American Society of Civil Engineers, "SEI Policy Statement 101: Structural Engineering License", as adopted by the SEI Board of Governors in January 2010. The policy statement supports Structural Engineer licensing by complying with a jurisdiction's specified requirement for education, experience and examination. The policy statement further encourages Structural Engineer licensing as a post-PE (Professional Engineer) credential and also seeks to encourage new legislation to contain an equitable transitioning clause for engineers currently practicing structural engineering. See the following link for the complete policy statement and additional information. <http://content.seinstitute.org/inside/SELicensure.html>

The key impetus for the structural engineering licensure effort continues to focus on the need to protect the safety, health, and welfare of the public due to potential loss of life and property. The Committee continues to encourage and support separate licensing of structural engineers in each and every state. The Committee is also encouraging structural engineers across the country to become active in the further development of the NCEES SE exam and to step up to become members of their licensing board and participate.

A roll call vote in support of the policy statement only by the MO delegates was conducted. Of the 39 MO delegates present, there was unanimous support for the policy. Breakout sessions and discussion groups followed which focused on goals to continue to move this initiative forward. The session topics included establishing a committee to pursue structural licensing, gaining support within the engineering community, gaining support outside the engineering community, understanding and overcoming opposition, working with licensing boards and working with legislatures. Written summaries of these sessions are to be made available soon by the Committee to the MOs and at www.ncsea.com.

Continuing Education

The Continuing Education Committee (CEC) has been very active on several fronts. Meeting typically on a monthly basis, the CEC has successfully established NCSEA's Diamond Review Program to help state MO's develop, approve and monitor their own Diamond Review approved courses thereby allowing MO members to fulfill nationwide mandatory continuing education requirements. More than 14 seminars have been included to date.

With some 19 technical webinar presentations to date this year, NCSEA's webinar program has been successfully launched with the goal of providing one to two webinars a month addressing current topic areas. See www.ncsea.com for discounts available to MOs. A first set of webinars were given this year addressing the new 16-hour SE Exam. Plans are underway to provide the course again prior to the April 2012 exam while continuing to improve the quality of the course. Additionally, the CEC has planned the twelfth annual Winter Institute titled "Soft Soil – Water and Wind" to be held in New Orleans February 10-11, 2012. See www.ncsea.com for additional information on these and other activities.

Publications

NCSEA publications include the monthly STRUCTURE magazine which includes a two-page NCSEA News section, and supplemented by the monthly e-newsletter emailed on the 15th of each month for distribution to members. Note also that NCSEA members are eligible for International Code Council's (ICC) 25% member discount on specific publications. Link from www.ncsea.com and enter code "NCSEA" to receive the reduced rate.

The Publications Committee reported that it continues to develop major publications with the completion of its third book this past year titled "Inspection, Testing, and Monitoring of Building and Bridges". The book is scheduled to be available in early 2012. A fourth publication addressing the analysis, design and detailing of sheet pile wall systems is currently underway. Three additional publications scheduled to be completed in 2012 by the Committee include the following (draft titles): 1) Guide to the Design for Serviceability (ASCE-7-10 and IBC 2012); 2) Guide to Design of Foundation Systems (IBC 2012); and, 3) Guide to Design of Signs (ASCE 7-10 and IBC 2012).

Communication and Partnering

Also of particular note on Friday, Jim Malley announced that the NCSEA Board has decided to form an ad hoc committee to focus on the interaction between MO's and the national organization. With Jim acting as committee chair, the committee will be composed of MO Delegates, NCSEA Board Members, and other interested parties, with input from MO leaders. It is important to note that this effort is guided by NCSEA's Rules of Policy and Procedures with the goal to support and augment related activities of the MO's while avoiding duplication and conflicting efforts. See (www.ncsea.com STRUCTURE, Sep 2011, p. 44) for additional information.

2011 Awards Banquet

On Saturday evening, the conference culminated with the annual 2011 Awards Banquet. The elegant and well-organized black-tie event featured special award presentations made by outgoing NCSEA President Jim Malley (SEAONC), Past President Bill Bast (SEAOI) and Awards Committee Chair Carrie Johnson (OSEA). Presentations included special individual awards to honor leaders in our structural engineering profession for the NCSEA Service Award, the James M. Delahay Award and the Robert C. Cornforth Award. These presentations were followed by the NCSEA 2011 Excellence in Structural Engineering Awards. With a record number of 91 entries representing a 30% increase from the previous year, there were a total of 24 awarded projects demonstrating a wide range of expertise, exceptional quality and excellence in the design of new buildings small and large, bridge and transportation structures, international, as well as, renovation, retrofit and rehabilitation of existing structures. Of these awarded projects, a total of 6 were received by SEAOC members!!

A pdf of this year's awards presentation featuring the special individual awards and awarded projects can be found at www.ncsea.com under "Hot Topics". The evening concluded with remarks by outgoing NCSEA President Jim Malley, recognition of outgoing Directors, introduction of new Board and closing remarks by incoming President Thomas DiBlasi (SEC-CT). Next year, the Twentieth Annual Conference of NCSEA is scheduled for October 4-6, 2012 at the Hilton St. Louis Frontenac, St. Louis, MO.

Continued on Page 6

Applied Technology Council News

By Bret Lizundia

The Applied Technology Council (ATC) is a nonprofit corporation founded to protect life and property through the advancement of science and engineering technology. With a historical focus on seismic engineering, and a growing involvement in wind, flood and coastal engineering and blast mitigation, ATC's mission is to develop and promote state-of-the-art, user-friendly engineering resources and applications for use in mitigating the effects of natural and other hazards on the built environment.

This is an update on some of ATC's recent products and current projects and activities.

Wind Speed Website: At the end of last year, ATC initiated a free utility on the web to provide users with site specific wind speed information. It has proven to be quite popular. Similar to the USGS website for obtaining site specific seismic hazard information, the ATC wind speed website uses latitude and longitude coordinates. Users can retrieve wind speeds for ASCE 7-10, ASCE 7-05 and ASCE 7-93. Wind speeds are also provided for serviceability purposes for 10, 25, 50 and 100-year return periods. The website URL is www.atccouncil.org/windspeed/index.php.

Webinars: ATC is now presenting webinars on the products that it has developed, including ATC-20 *Postearthquake Safety Evaluation of Buildings* and ATC-45 *Field Manual: Safety Evaluation of Buildings After Wind Storms and Floods*. A new seminar, entitled *Wind Design for Tornadoes*, is also being offered.

Recently Released Project Publications: Since its inception in 1973, ATC has developed and published more than 100 major technical publications on a wide variety of structural and earthquake engineering issues. Some recently released publications that may be of interest to SEAONC members include the following.

- Six reports in the ATC-52 Series, *Here Today—Here Tomorrow: The Road to Earthquake Resilience in San Francisco*, which document results from the recently completed Community Action Plan for Seismic Safety (CAPSS), City and County of San Francisco. San Francisco is in the process of addressing the CAPSS recommendations which provide a comprehensive approach to improving the ability of the City to withstand a major earthquake.
- FEMA E-74, *Reducing the Risks of Nonstructural Earthquake Damage: A Practical Guide, Fourth Edition*. This resource provides a comprehensive set of details for anchoring and bracing nonstructural components and has been implemented for interactive use on the web.
- FEMA P-695, *Quantification of Building Seismic Performance Factors*. This report lays the groundwork for refining the "R" factor in the building code and for quantifying the probability of collapse. A follow-up report FEMA P-795, *Quantification of Building Seismic Performance Factors: Component Equivalency Methodology* provides a recommended methodology for evaluate the seismic performance of components.

- Four technical briefs developed for NIST by a partnership of ATC and CUREE. Shorter reports specifically aimed at design issues facing practicing engineers, the briefs are: (1) *Seismic Design of Reinforced Concrete Moment Frames*; (2) *Seismic Design of Steel Special Moment Frames*; (3) *Seismic Design of Cast-in-Place Concrete Diaphragms, Chords, and Collectors*; and (4) *Nonlinear Structural Analysis for Seismic Design*.

Current Projects: ATC has over 30 current projects and associated reports underway. These include the following.

- The ATC-58-1 Project, under which ATC is developing next-generation performance-based seismic design guidelines for new and existing buildings (scheduled to be completed in 2012). The purpose of the project is to develop a series of resource documents that define procedures that can be used to reliably and economically design new buildings or upgrade existing buildings to attain desired performance goals, and to assist stakeholders in selecting appropriate design performance goals for individual buildings. The 75% *Draft Guidelines* document is available.
- FEMA P-807, *Guidelines for Cost-Effective Seismic Retrofit of Weak-Story Wood-Frame Buildings*. This document provides a new methodology, based on extensive analyses, for determining the appropriate level of ground-story seismic retrofitting. Proposed code language and an example are provided. The document is in final editing.
- ATC-83: *Soil-Structure Interaction for Building Structures*. This report, due by the end of 2011, presents a concise synthesis of knowledge and recommendations for modeling SSI effects for building structures.

Detailed information about ATC projects, reports, conferences, and upcoming webinars is available on the ATC website (www.ATCCouncil.org).

2011-12 Board of Directors

<i>President</i> Peter Lee 415/352-6878 peter.lee@som.com	<i>Immediate Past President</i> Kelly Cobeen 925/708-0143 kcobeen@wje.com
<i>Vice President</i> Grace Kang 415/837-0700 g.kang@forell.com	<i>Treasurer</i> Colin Blaney 650/367-8189 colin@crobygroup.com
<i>Director</i> Richard Dreyer 415/693-1760 rdreyer@holmesculley.com	<i>Director</i> Darrick Hom 510/588-5540 dbhom@structvis.com
<i>Director</i> Tim Hart 415/87-0700 t.hart@forell.com	<i>Director</i> Michael Gemmill 415/392-9637 mgemmill@nyase.com
<i>Director</i> Taryn Stubblefield 415/495-3700 ext. 3070 tnstubblefield@sgh.com	<i>Administrative Office</i> Ken Miles 415/974-5147 kmiles@seaonc.org

Oklahoma City Memorial

On Friday evening, on my way over to the reception held at the Oklahoma Museum of Art, I made a brief detour to walk over and see the Oklahoma City National Memorial, a tribute to the victims, survivors, rescuers and all who were affected by the Oklahoma City bombing on April 19th, 1995. The design of the memorial is stunning and impressive – a moving and lasting tribute to those that perished. It also serves as a grim reminder of the importance of structural engineering in all of our lives. The photos below, taken from my cell phone, show the extent of the memorial where the building once stood.



Pending Members

Associate

Nick Sherrow-Groves,
Graduate Engineer, Arup

Matthew Williams, Designer,
Degenkolb

Marty Mashlakian, Field Engineer,
Powers Fasteners

Reece Relatores, Yu Strandberg
Engineering

John Lyrenmann, SOM

David Reber, Engineer in Training,
SolarCity

Member

Jennifer Hsiaw, Staff Engineer
Nishkian Menninger

Student

Andrew Martin, Cal Poly SLO



Routinely recognized as one of the best places to work, Degenkolb Engineers is actively recruiting structural engineers looking for a long-term career with a clear path to leadership and ownership. We encourage life-long learning and support professional and community-based activities. Degenkolb engineers have the opportunity to follow their interests and develop their own book of work. And when we're not doing that, we are playing...sometimes in one of four company cabins in Tahoe, Big Bear, Monterey, and Sunriver. As renowned leaders in seismic and structural engineering, we offer a diverse, challenging mix of projects on both new and existing structures. Minimum requirements are an MS in Structural Engineering, excellent communication skills, and a desire to work in a challenging, collaborative environment. We have offices in San Francisco, Oakland, Los Angeles, San Diego, Portland and Seattle and are seeking engineers with all levels of experience. EOE

If you're interested in joining our award-winning firm, please apply through our website: www.degenkolb.com/careers/openings

For questions, please contact Russell Kaltschmidt at
rkaltschmidt@degenkolb.com.

Professor Joseph Penzien

By Reinhard Ludke

UC Berkeley Professor Joe Penzien passed away on the morning of September 20, 2011. Joe had two major surgeries in the past six months, one on his back and the other about a month ago on his heart. Both were major surgeries. Joe was recovering from surgery, felt much better and perhaps overextended himself (as was his tendency to do) and he fell while gardening on September 8th. He hit his head, but did not think much of it, wiping it off and having a bandage put on it by Mi-Jung. He reportedly felt fine later that evening, refused to go to the hospital, and went to bed. The following day, he did not answer when people contacted him, but that was not considered unusual as he had several appointments and activities he was to do that day. The following day, Saturday, after not responding to calls, he was found unconscious in his house. He was rushed to the hospital where it appears that he had a brain hemorrhage, and after surgery, according to his family, the doctors were not optimistic about his condition, he began to have seizures, his health continued to deteriorate, and he passed away.



Professor Penzien was one of the extraordinary faculties that resulted in the UC Berkeley Structural Engineering and Structural Mechanics department recognized as the "best in the world". Professor Penzien's pioneering science and engineering research covered a broad range of subject areas in structural dynamics and structural engineering, including earthquake response of highway bridges, dynamic response of offshore oil-drilling platforms, and probabilistic methods in earthquake engineering. His teaching and research experience in dynamics of structures and earthquake engineering led to publication of the book Dynamics of Structures, which he co-authored with R. W. Clough. Clough and Penzien's book was the first textbook for the emerging science of earthquake engineering. It continues to be one of the most respected technical references describing the physics, mathematics, and engineering for the dynamic response of structures.

The design and construction of the first modern earthquake shake table in 1969 at U.C. Berkeley is attributed to Professor Penzien. This shake table is the prototype for similar tables around the world. It is one of the largest in the United States and one that continues to be continuously used for seismic performance research and testing. It is among the most technically sophisticated in the world. The Earthquake Simulator Laboratory large earthquake shaking table, includes two damper test machines, an expansion joint test machine, and all the associated data acquisition equipment.

He engineered the table to produce three translation components of motion: vertical and two horizontal. These three degrees of freedom can be programmed to reproduce any wave forms within the capacities of force, velocity, displacement, and frequency of the system. It was designed to be stiff enough to have a natural frequency greater than 20 Hertz and thus behaves essentially as a rigid body in the operating range of 0 - 10 Hertz. A computer controller performs the primary control of the shaking table. The controller provides for closed loop control of motion on translation and rotation about the 3 principal axes. The controller is designed so that each of these 6 degrees of freedom can be programmed individually to run concurrently. Earthquake records of acceleration are used in programming and controlling the shaking table motions.

For those who may want to reflect on Joe's life and career, the EERI oral history by Bob Reitherman and Stan Scott help recall some of the activities of his career:

http://www.eeri.org/site/images/projects/oral_history/penzien.pdf

2011-12 Committee Chairs

Business Forum
Jason Towle
415/495-3700
jltowle@sgh.com

Bylaws
J.E. Goudie
925/399-5876
jegoudie@cs.com

Construction Quality & Assurance
Mark Gilligan
510/548-8029
m_k_gilligan@yahoo.com

Continuing Education Committee
Meris Ota
650/377-5806
ota.meris@gmail.com

Continuing Education Committee Vice-Chair
Lizzie Blaisdell
415/354-6442
lblaisdell@degenkolb.com

Computer Applications
Srinivas Vemuri
415/568-4400
SVemuri@ruthchek.com

Computer Applications Vice-Chair
Andrew Cussen
acussen@walterpmoore.com

Disaster Emergency Services
Kathy Martin
301/352-2282
kathymartin123@hotmail.com

Disaster Emergency Services Vice-Chair
Laura Whitehurst
415/963-6307
lwhitehurst@walterpmoore.com

Existing Building
Marko Schotanus
415/568-4400
mschotanus@ruthchek.com

Existing Building Vice-Chair
Brian McDonald
650/688-6946
mcdonald@exponent.com

Membership Committee
Andrew Shuck
415/354-6423
ashuck@degenkolb.com

Membership Committee Vice-Chair
Chris Putman
510/250-1242
cputman@degenkolb.com

Professional Practices
Mark Gilligan
510/548-8029
mark@gilligan.name

Program
Hamid Fatehi
510/267-7125
hmdf@gerwick.com

Program Co-Chair
Ibrahim Almufti
ibrahim.almufti@arup.com

Program (South Bay)
Bill Daley
650/617-5930
bdaley@hohbach-lewin.com

Carlos Machado
408/654-0475
carlos@gplains.com

Public Outreach
Andrew Shuck
415/354-6423
ashuck@degenkolb.com

Public Outreach Vice-Chair
Chris Putman
510/250-1242
cputman@degenkolb.com

Seismology & Structural Standards
Bryan Cortnik
650/617-5930
bcortnik@hohbach-lewin.com

Sustainable Design
Lindsey Maclise
415/837-0700
l.maclise@forell.com

Sustainable Design Co-Chair
Allen Nudel
415/837-0700
a.nudel@forell.com

Website
Darrick Hom
510/910-4142
dbhom@structois.com

Younger Member Forum
Bryan Bindrich
415/392-6952
bbindrich@degenkolb.com

Younger Member Forum Co-Chair
Milad Oliaee
510/450-5535
milad.oliaee@gmail.com

Letters to the Editor

Dear SEAONC Board of Directors:

While I very much appreciate that our efforts have earned an association award, the advertisement of this award in the SF Business Times Supplement was inaccurate and misleading. The detailed description of our project, "Laboratory Testing of Anchor Bolts Connecting Wood Sill Plates to Concrete with Minimum Edge Distances," may be inaccurately interpreted as an effort exclusively performed by the SEAOC Seismology Committee, when in fact the committee's participation was limited to review of others' work during two meetings. While the investigative team was comprised of multiple individuals (four members had served on SEAOC Seismology), the bulk of the work was performed by the Principal Investigator Andy Fennell of SCL, after his tenure with the Committee was complete.

Andy is an incredibly humble engineer and was reluctant to submit the project for award consideration; I talked him into having Certus submit the award on behalf of Scientific Construction Labs, to be sure that SEAONC and SEAOC were aware of our work. Leadership for the project was provided by gainfully employed individuals, mostly SEAONC members, volunteering time at their personal expense and at the expense of their employers. Generous commercial entities provided pro-bono consulting and testing facilities (Certus, SCL, Simpson Strong-Tie). Without the generosity of Simpson Strong-Tie, this project would not have happened. We are also appreciative that SEAONC provided direct financial support through the Special Projects Initiative.

This project exemplified what engineers and industry can do together: execute a research/testing program to develop defensible data in support of new code provisions. I want to be sure that appropriate credit and exposure is given to the primary project participants.

Kevin Moore, SE, Principal, Certus Consulting Inc.

Dear Mr. Moore:

Thank you for your letter dated October 3, 2011, to the Board of Directors of SEAONC regarding the 2011 Excellence in Structural Engineering Awards advertorial insert in the San Francisco Business Times. You are absolutely right that in fact none of the contributing individuals and firms were mentioned in the final version of the article regarding the awarded project: "Laboratory Testing of Anchor Bolts Connecting Wood Sill Plates to Concrete with Minimum Edge Distances." This was primarily due to an inadvertent and unfortunate cropping and shrinkage of the of the 30-inch high by 40-inch wide entry board to fit into a 15-inch high by 11-inch wide space in the publication. In the process, the logos of the contributing firms and the names of the individuals that performed the research were lost.

I can assure you that it was never the intention of SEAONC to omit these firms and individuals from the article and publish it as

only a work performed only by the SEAOC Seismology Committee. We offer our most sincere apologies for the graphic mistake. We would further like to note that the following individuals and firms are to be credited for their dedicated efforts and contributions to this wonderful Research Project:

Andy Fennel Principal Investigator, SCL Scientific Construction Laboratories Inc.

Steve Pryor Simpson Strong-Tie

Kevin Moore Competition Entrant, Certus Consulting Inc

Phil Line American Wood Council

Tom VanDorpe CHUE

Gary Mochizuki Structural Solutions

Tom Voss SCL Scientific Construction Laboratories Inc

Going forward, it is the intention of the SEAONC Excellence in Structural Engineering Awards Committee to make modifications to the entry form for the program that will better address both Research and Guideline projects as well as projects using Alternative Project Delivery methods by ensuring that all the individuals and firms to be credited for a given entry are clearly identified and included in any text that will be used for publicity of the awards.

Yours Truly,

Richard C. Dreyer

SEAONC Director,

Chair of the 2011 Excellence in Structural Engineering Awards Program

**HAPPY HOLIDAYS FROM THE
SEAONC ADMINISTRATIVE
STAFF AND BOARD OF
DIRECTORS!**

Please note that the SEAONC Office will be closed December 26, 2011 - January 2, 2012. We look forward to working with you all in the new year!

Forell/Elsser Engineers, Inc. Would you like to work for Structural Engineering & Design Magazine's 2010 #1 Best Structural Engineering Firm to Work For? Are you looking to share your talents with a collaborative, fun group of engineers working in a dynamic downtown San Francisco office on some of the most challenging and exciting structural and seismic projects in California and around the world? Do you want to be part of an exciting and thoughtful team in a dynamic work environment that actively encourages and supports individual professional growth through ongoing education, training, and mentoring. If so, FORELL/ELSESSER wants to hear from you! Find out more about us at www.forell.com. Please contact Carolyn Smith at (415) 837-0700 or send your resume via e-mail to recruiting@forell.com.

FULCRUMSTRUCTURALENGINEERING has an opening for a full-time project engineer/manager to join our growing SOMA firm. Varied projects include historical retrofit and restoration, public buildings, challenging custom residential and commercial. Applicants must have 5-15 years of experience in structural detailing and preparing construction drawings for buildings, knowledge of CA/field observation and excellent communication skills. Professional engineering license preferred. Masters degree in Structural Engineering a plus. We are looking for someone who can run projects from start to finish as a project manager or ready to step up to a project manager position. Excellent salary and benefits package. Email resumes to mike@Fulcrumse.com or fax 415-543-0162

OLMM (www.olmm.com) is a successful and award-winning structural engineering firm with offices in Oakland and San Francisco. Diversity of our projects has generated continued strong business. We are interested in hiring a consummate structural engineer with entrepreneurial bent and strong communication and people skills to join our team and contribute to our success. You will have the opportunity to work on diverse and challenging projects in a nurturing and collaborative work environment and take a leadership role in the management and execution of our projects. Position requires PE or SE license and 5 to 15 years of increasingly responsible structural analysis and design experience in California. We offer top notch compensation and benefits and excellent opportunity for professional growth with ownership potential. Email resume to sunil@olmm.com. Come join us and make a difference!

Rutherford & Chekene, one of California's foremost engineering practices providing structural and geotechnical engineering, is actively seeking candidates for structural engineer, senior structural engineer, and structural project management positions. Candidates should have strong analytical, detailing and communication skills and should possess professional registration. We are seeking self-reliant engineers that are able to jump into a project and start working immediately. Basic qualifications for our current open positions include: * Familiarity with RAM and ETABS * Intermediate-level REVIT skills * Experience with low-rise construction * Ability to work and thrive in strong deadline-based environments * A master's degree in structural engineering or five-year architectural engineering degree * A minimum of three years of structural

engineering experience. Additional skills pertinent to specific job needs include: * Experience with tilt-up, pre-cast, and masonry * OSHPD submittals * Prior work experience in a smaller engineering office. For management positions, we are seeking collaborative individuals that respond to the strengths and needs of their staff. Managers should be effective at coordinating and motivating their team. Please submit cover letters, resumes, and references to eharshaw@ruthchek.com for immediate consideration.

Skidmore, Owings & Merrill LLP is a global, multidisciplinary practice providing architecture, engineering, planning, interior design and graphic design services to a broad array of public and private-sector clients. The firm's legacy of leadership in design and building technology has been honored with more than 1,150 awards for quality, innovation and management. The San Francisco office is actively seeking creative, articulate candidates for Structural Engineer and Structural Draftsperson positions. For the Structural Engineer position, which is at the entry level, qualified candidates should have a firm grounding in the principles of structural mechanics, analysis and design; particularly as they relate to earthquake engineering. Knowledge of finite element analysis, performance based design, and building information modeling are highly desirable. Candidates must have at least a Master's degree in Structural Engineering. For the Structural Draftsperson position, we are looking for individuals with a strong background and experience in building information modeling (BIM) of large-scale buildings, and REVIT in particular. Candidates should have an Associate Degree or two years of college training or equivalent. Strong CAD management and communication skills in addition to drafting abilities are essential. To apply, please submit resume and cover letter at www.som.com/careers under the SF - Structural Engineering Assistant or SF - Structural Draftsperson requisitions.

SUMMIT ENGINEERING, INC. in Santa Rosa is seeking candidates for a Project Engineer position in our Structural Division. Summit is a Consulting Engineering firm established over 35 years ago and located in California's beautiful Sonoma County wine country. In addition to being the leading provider of design services for winery projects, we are also involved in structural design for custom residential, municipal, commercial, and resort projects. This is a fast-paced environment that will continually challenge your skills and offer variety and the potential for growth. You will have the opportunity to work on multi-disciplined teams with our Civil, Electrical and Water/Wastewater divisions. Successful candidates will have 3-5 years relevant experience, EIT/FE Certification, PE License or in process of obtaining, experience using AutoCAD & Revit, strong communication skills for team based work, ability to work on several projects concurrently, & ability to solve problems and complete assigned tasks on time. Our employees voted Summit Engineering, Inc. one of The Best Places to Work in the North Bay Area. Summit is known for excellent, long-term client relationships and an unwavering commitment to quality. For more information, please visit our website at www.summit-sr.com. Salaries are competitive, based on education and experience. To Apply: Submit your resume and cover letter explaining the reason your experience makes

you the right fit for this position to recruiting@summit-sr.com.

Holmes Culley is part of the New Zealand based Holmes Group with a reputation for pushing the boundaries. Pushing boundaries means we put no limits on individual potential, basing rewards and advancement on achievements and entrepreneurship, not just seniority. This also means taking an imaginative and resourceful approach to projects, challenging established convention, and using cutting-edge technologies. If you, too, are a person who pushes the boundaries - in your achievements, interests, and abilities - then we want you as part of our energetic and collaborative San Francisco team. We are seeking structural engineers at all levels; Masters Degree and PE licensing are preferred. Check us out at www.holmesculley.com and send your resume with cover letter (as one PDF document) to hr@holmesculley.com.

Kitchell, most recently voted "Top 10 best workplaces" and ranked amongst the "Top 50 firms" in ENR, is seeking a Registered Structural Engineer to provide their expertise to an engineering and architectural department and support to construction management activities across all divisions of the company. Successful professional must have a Bachelor's degree from an accredited four-year college or university in structural engineering or related field required. Minimum 5 years position related work experience in structural engineering or related field required. Specific experience with OSHPD/DSA projects is highly desired. State of California Structural Engineer (SE) license required. Send resumes to ccunningham@kitchell.com and visit us at www.kitchell.com/careers for the full description.

WANTED

REGISTERED ENGINEERS

Nishkian Menninger is seeking experienced registered engineers with 5 or more years experience in various types of structures. Our firm designs many kinds of structures including:

- office buildings
- high-rises
- schools
- residential buildings
- commercial buildings
- parking garages
- seismic rehabilitation

We offer a competitive salary with excellent benefits and 401(k).

Please send your resume and salary requirements to:

**1200 Folsom Street
San Francisco, Ca 94103
Inishkian@nishkian.com**

Nishkian Menninger is a market leading, structural and consulting engineering firm located in the SOMA district of San Francisco. We specialize in bringing innovative, cost effective solutions to suit our clients' needs.

NISHKIAN MENNINGER
CONSULTING AND STRUCTURAL
ENGINEERS SINCE 1919

COMPUTERS & STRUCTURES, INC.

WISHING YOU A JOYOUS HOLIDAY SEASON AND A VERY HAPPY NEW YEAR!
FROM ALL OF US AT CSI

Celebrating **37** Years of
INNOVATION

ISO 9001:2015 CERTIFIED COMPANY
SAP2000, ETABS, SAFE and PERFORM 3D are registered trademarks of CSI. Copyright © 2011 Computers & Structures, Inc.

SAP2000® CSI BRIDGE® ETABS® SAFE® PERFORM 3D



COMPUTERS & STRUCTURES, INC.
1995 University Avenue, Berkeley, CA 94704
TEL: (510) 649-2200 www.csiberkeley.com

TECHNOLOGY FOR A BETTER WORLD

CSI is an ISO 9001 certified company.

upcoming events

DEC

6TH

**SEAONC DINNER MEETING
FACULTY CLUB, UC BERKELEY**

20TH

**SEAONC BUSINESS FORUM
SGH, SAN FRANCISCO**

Registration

SEAONC DINNER MEETING DECEMBER 6, 2011

Dinner Meeting 12/06

**FACUTLY CLUB
UC BERKELEY CAMPUS**

**5:30 pm General Assembly
6:15 pm Dinner
7:15 pm Program**

NAME _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

PHONE _____ FAX _____

Register early, seating is limited. No-shows are still responsible for full attendance fee.

Registration deadline: 12 noon, Thursday, November 3, 2011

No cancellations after noon, November 11

Cost -Monthly Meeting

	Pre-Registration	Late Reg.
SEAONC	<input type="checkbox"/> \$39	<input type="checkbox"/> \$44
Junior Member	<input type="checkbox"/> \$33	<input type="checkbox"/> \$38
Student	<input type="checkbox"/> \$15	<input type="checkbox"/> \$15
Non-Member	<input type="checkbox"/> \$44	<input type="checkbox"/> \$49
New Member	<input type="checkbox"/> \$20	<input type="checkbox"/> \$20

- Paying by check make payment to SEAONC.
 - Paying online (monthly meeting only) go to:
http://www.seaonc.org/member/member_s/events/order_form.asp
 - Paying by credit card provide the following:
(SEAONC Accepts VISA, MC, AMEX)
- Credit Card#: _____
- Expiration date: _____
- Signature: _____