

A Message from the President

I am currently on my Christmas/New Year's holiday break and contemplating the remainder of my SEAONC Presidency. I vow to come out of the holidays with renewed energy and to accomplish as much as possible in five months before I hand the reins to the incoming President, Steve Tipping, in June. I believe it is time for a mini state-of-the-association article on SEAONC.

The personnel at the SEAONC office have finally settled down since the departure of Grace Lee and James Steen in 2001. Rochelle Venuto, as expected, has turned out to be a fantastic Executive Secretary. Kristina Peltier and Tito Jacques offer staunch support at the SEAONC Office and Kam Choy is on top of the accounting system and working out accounting bugs left by predecessors. I would also like to give thanks to Ken Miles who was the interim Executive Secretary from June to September and helped keep SEAONC

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February 5th San Francisco Dinner Program

James R. Harris to Give Report on the Pentagon

by Jamison Curry, Program Chair
The Structural Engineering Institute of ASCE has established teams to study the structural performance of the buildings impacted by the tragic attacks of September 11 at the World Trade Center in New York and the Pentagon in Washington. Jim Harris, of J. R. Harris & Company Structural Engineers, Denver, Colorado, is a member of the team focusing on the Pentagon and will give us a report on the progress of their study at our meeting on February 5, 2002.

The Pentagon, famous for being the largest single office building in the world, was constructed in sixteen months



beginning in September 1941. The five-story building is a cast-in-place concrete space frame. The Boeing 757 airplane entered the first story, and the debris traveled approximately 300 feet through the structure. Although a portion of the exterior ring did collapse within a half-hour of the impact, the structure exhibited remarkable toughness.

Join us for a description of the overwhelm-

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February 12th South Bay Dinner Program



San Jose Joint Library

James Guthrie, Forell & Elsesser

by Jamison Curry, Program Committee Chair

Our second South Bay meeting will take place on February 12th at Michael's at Shoreline in Mountain View. This is

another first for SEAONC – having two dinner meetings in one month! Mr. James Guthrie, of Forell & Elsesser, will offer a presentation on the new San Jose Joint Library.

The Joint Library is a new landmark eight-story, 475,000-square-foot structure located at the northwest corner of the San Jose State University campus. The project is a joint venture of San Jose State University and the City of San Jose and is the first such joint library project in the country. The structural design faced challenges in the building's architectural form, the site conditions and the project's limited budget. The architectural form,

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Meeting Notices

There are **TWO** dinner meetings in February:

February 5th, 2002

The City Club

155 Sansome Street, 10th Floor

San Francisco

February 12th, 2002

Michael's at Shoreline

2960 N. Shoreline Boulevard

Mountain View

Fax registration form on the back of this newsletter to the SEAONC office by

San Francisco Meeting: 12 noon Fri., Feb. 1
South Bay Meeting: 12 noon Fri., Feb. 8

A Message from the President

Continued from page 1

afloat. I believe that, in the future, SEAONC should consider a strong Executive Director role to give the Association a consistent and stronger voice.

At the State Association (SEAOC), Melvin Green (of SEAOSC) is now the State President (2001-2002) and has several agenda items to tackle. Mel is continuing the momentum created by the Robert Hendershot Administration (of SEAOSD) developed at the SEAOC Five-Year Planning Session in February 2001 and adding in some new agenda issues of his own. One of Mel's goals is to create a code simplification document for smaller and regular buildings (90% of the buildings in California) that would include only the required basic code provisions without the complex requirements required for larger more complex structures. Mel's other major goals are to implement the Structural Standards Committee working structure and procedures, to develop a SEAOC Continuing Education Committee in charge of training courses and seminars, and to get the Business Practices and

Operations committee into operation.

The SEAOC Certification Committee will continue to assist NCSEA with development of a national certification program. The certification issue seems to be churning, but noticeable results are still to be found. Anyone willing to help with SEAOC Committees will be appreciated-- please e-mail me to get involved. Please also remember to download "Plan Review" from the SEAOC website to stay abreast of SEAOC activities.

The SEAONC Professional Practices Committee is working on two important issues for the State Association. First, is the review of the AISC Code of Standard Practice. The SEAONC PPC has forwarded a review document to SEAOC, and Bill Andrews is attending meetings with AISC to pass along SEAOC concerns and to help shape the future edition of the AISC CSP. SEAONC is still in a mode of refining our review comments between the Board and the PPC committee. Second is the issue of the "duty to warn," when a structural engineer is contracted under an attorney and bound by the attorney-client confidence agreement. This second issue will also be addressed by the PPC commit-

tee this year, and comments will be forwarded to the SEAOC Board.

Incoming SEAOC Presidents will be Bill Steahlin (SEAOCC, 2002-2003) and Jim Malley (SEAONC, 2003-2004). Jim Malley will continue to be involved on the SEAOC Executive Committee and is an excellent resource for questions about the State Organization.

SEAONC issues for 2002 are: South Bay dinner meetings which could increase to five starting in Fall 2002; a special seminar in January 2002 about the Synopsis of the World Trade Center Disaster and Recovery; a February 2002 dinner meeting on the Pentagon disaster; renewed activity and vigor in the Younger Member's Forum; a renewed effort to make the joint AIA dinner meeting in March a meaningful event for both organizations; the second year of the Three Brick Bridge project by EAA; the first year to bring the U.C. Irvine - Lego project to Northern California schools; the Spring Seminar delineating design issues in reinforced concrete; the Computer Applications committee is resurrecting itself this year with computer forums; the professional renovation of the SEAONC

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February 12th South Bay Program

Continued from page 1

intended to create a link between the city and the campus, resulted in a sculpted form with long spans at both of the building entrances. Site conditions included difficult sub-soil conditions, a high water table and a tight site with occupied adjacent buildings.

The structural system that successfully met these challenges is a combination of steel and concrete framing supported on a pile foundation system. The superstructure is steel framed with cellular deck and a heavy slab to support the library stacks. The seismic system, composed of eccentric braced frames and secondary moment frames, provides an appropriate level of protection for the building. Careful integration of the structural, architectural and MEP systems resulted in an efficient and regular layout of the braced frames with a symmetrical grouping of the primary braced frames into four core elements and is an example of the collaborative approach used throughout the

project. Long-span Vierendeel trusses and girders were used to meet the architectural goals at the building entrances. The ground floor framing is cast-in-place concrete responding to the complex configuration, depth limitations and cost. A mix of precast concrete and low vibration Tubex piles and a mat slab support the building, and assist with providing a high level of water-proofing protection.

The success of the structural design is due to the manner in which it comprehensively integrated the structural and the architectural designs to meet the project goals.

The project team was composed of the following firms: Structural Engineer was Forell/Elsesser; Executive Architect was Carrier Johnson; Design Associate Architect was Gunnar Birkerts Architects; Local Associate Architect was Anderson Brulé Architects; and MEP Engineer was Flack + Kurtz.

NOTICE

If you are a SEAONC Member, grade Member or Member SE, and did not receive a copy of the

Guidelines for Seismic Evaluation and Rehabilitation of Tilt-up Buildings and Other Rigid Wall/Flexible Diaphragm Structures

please contact the SEAONC office, by e-mail at SEAONC@ix.netcom.com, or by phone at 415/974-5147.

Los Angeles' New Base-Isolated Cathedral

Nabih Youssef & Associates

by Jay Yin, Program Committee

Our first dinner program in the year of 2002 was a great success. One hundred seventy SEAONC and ACI members attended. Our thanks to Mr. Nabih Youssef who presented a passionate and enthusiastic speech in front of a capacity crowd. Mr. Youssef spoke about the architectural, structural, and liturgical aspects of the Cathedral of Our Lady of the Angels located in downtown Los Angeles.

The architect is Madrid-based Spanish designer Jose Rafael Moneo and the Cathedral's design is a modern interpretation of Gothic architecture. The three main architectural themes of the Cathedral are Light, Journey, and California Mission Heritage. Through the abundant use of alabaster and creative wall openings, the architect was able to achieve impressive natural lighting for the interior. Instead of

having a traditional central entrance and a direct path toward the altar, this church has its main entrance on the side and an indirect path. A visitor will start the Journey at the exterior plaza and pass through the ambulatory after entering the Cathedral. The Journey then continues by the side chapels and finally turns back into the nave before reaching the end of the building. The Cathedral has exposed architectural concrete walls with a light sandy color to reflect the Mission Heritage.

Mr. Youssef said Cardinal Roger Mahony had studied articles about base isolation before the initial project meeting and suggested that it be used as a component of the seismic force resisting system. The Cardinal wanted the Cathedral to be a sacred edifice for centuries to come (the building has a design life of 500 years) and a place of refuge after a major earthquake.

This Cathedral complex has five building structures: the main Cathedral Church, Campanile, Residence, Conference Center and an underground parking structure. The main Cathedral's four structural

components are the foundation, base isolators, moat, and superstructure. The foundation system is a combination of mat, strip and spread footings connected with tie beams. Various retaining wall systems create the 28" wide moat around the building. The isolation system consists of high damping rubber and sliders. The superstructure has concrete shear walls with a roof that is supported by nine steel trusses. A series of 10' to 17' deep concrete girders/collectors support the roof trusses and tie together all the shear walls. The City of LA approved Nabih Youssef & Associates (NYA) as the base isolation special inspector. All inspection and observation of isolator testing and manufacturing were performed by NYA.

The Campanile is also a shear wall structure but sits on four friction pendulum bearings.

Mr. Youssef emphasized that the project was a collaborative effort among the owner, architect, structural engineer, and contractor, and the overall success resulted from the use of state-of-the-art techniques in design and construction.

Omega Factor Discussion

by Doug Hohbach, SEAOC Structural Standards/Seismology Committee Chair

Last year the SEAOC Seismology Committee prepared the following verbiage intended to clarify the application of the Omega Factor.

The 1997 UBC introduced the seismic force amplification factor, W_0 , to account for structural overstrength. It is addressed in Section 1630.3.1

1630.3.1 Determination of Ω_0 . For specific elements of the structure, as specifically identified in this code, the minimum design strength shall be the product of the seismic force over-strength factor W_0 and the design seismic forces set forth in section 1630. For both Allowable Stress Design and Strength Design, the Seismic Force Overstrength Factor Ω_0 shall be taken from Table 16-N.

and most prominently utilized in Section 1630.1.1 Equation (30-2) $E_m = \Omega_0 E_h$, where E_h is the earthquake load due to the base shear, V , or the design lateral force, F_p , and E_m is the estimated maximum earthquake force that can be developed in the structure.

Note that the code paragraph regarding determination of Ω_0 states that it is to be used for specific elements of the structure, as specifically identified in this code. The code identifies the use of Ω_0 generally by invoking the Special Seismic Load Combinations.

1612.4 Special Seismic Load Combinations. For both the Allowable Stress Design and Strength Design, the following special load combinations for seismic design shall be used as specifically required by Chapter 16, Division IV, or by Chapters 18 through 23:

$$1.2D + f_1L + 1.0E_m \quad (12-17)$$

$$0.9D \pm 1.0E_m \quad (12-18)$$

Note that E_m is not divided by 1.4, thus if allowable stress design is being utilized, the base shear or design lateral force must be factored up by 1.4 prior to use of this equation.

The Special Seismic Load Combination is specifically identified in the following locations in Chapter 16:

1630.8.2 Elements Supporting Discontinuous Systems

1633.2.6 Collector Elements

Note that collectors are also required to be provided as necessary to resist the diaphragm force from equation (33-1), and designed per 1633.2.6.

In Chapter 22, Division V (ASD version) the Omega factor is specifically identified in multiple locations, often with the phrase Ω_0 times the design seismic forces. Note that design seismic forces is defined in Section 1627 as the minimum total strength

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Committees on Assignment

DES Committee

Interested in Getting Involved with USAR?

by Michael Fretz, DES Committee Chair

Are you interested in getting involved with an Urban Search and Rescue (USAR) team? Many people have been asking us about this program recently. The purpose of this article is to let you know a little bit more about the USAR program and how you can get involved.

There are two USAR teams in the Bay Area and each should have six rescue-trained engineers – called Structures Specialists in USAR-jargon – assigned to each. While most positions in a USAR team are filled by firefighters, the Structures Specialist positions are typically filled by volunteer structural engineers. When a USAR team is

activated – typically with only two hours notice – two Structures Specialists are sent with the team.

To avoid the possibility of being short-handed, both the Oakland and Menlo Park USAR teams need one or two more active volunteers. By getting involved in USAR now, you may be able to fill in these current or future positions.

The training required to be a Structures Specialist is typically provided on the weekends in Menlo Park and during the week in Oakland. There are also some critical, weeklong trainings that are offered every few months. After two years of active participation in these trainings, you could get assigned to one of the two local teams.

If you would like to learn more about USAR, there will be a handout available

on January 31st at the SEAONC-sponsored “Synopsis of the World Trade Center Disaster and Recovery.” Ray Lui – a Structures Specialist with the Menlo Park USAR team – will also give a brief presentation about USAR at the February SEAONC meeting. In addition, there is information available on the SEAONC and FEMA web-sites.

Perhaps the best way to learn more about this program and meet the people who can help you get involved is to become a member of the DES Committee; most of the active volunteers on the Oakland and Menlo Park teams are members. Our next committee meeting will be at the City Club before the SEAONC monthly meeting on February 5th. Our committee meets in the Stackpole Room on the 11th Floor starting at 5:30 PM. We hope to see you then.

Business Forum

February Luncheon Meeting

Date: Thursday, February 21, 2001

Time: Board Meeting: 11:00 am-12:00

Lunch/Program: 12 pm-1: 30 pm

Place: City Club, 155 Sansome Street, San Francisco

Speaker: Andrew Neitlich is the founder of The Sago Group

Topic: Advice for Tough Times

Cost: \$20.00 Business Forum Member
\$35.00 Non-Business Forum Member

Lunch Selection: Chicken, Beef, or Pasta

RSVP: Make reservations by calling the SEAONC office at 415/974-5147 by Tuesday, February 19th at noon and don't forget to make a meal selection for this event.

ABOUT THE SUBJECT:

Advice for Tough Times. Based on a feature article, this seminar discusses the steps leading organizations are taking to cope with -and even emerge stronger from - the current economic climate.

ABOUT THE SPEAKER:

Andrew Neitlich is the founder of The

Sago Group, a consulting firm that focuses on executive and organizational development. He is a master executive coach and facilitator, with over 12 years in management, consulting, facilitating complex processes, and executive coaching. Since 1994, he has consulted to and coached executives at leading organizations, helping them become more effective leaders, formulate strategy, improve productivity, accelerate sales, and develop nimble and effective organizations. He has also facilitated numerous sessions to help professionals develop client relationship strategies, plan to pursue and win complex projects, and develop organizational strategies. Most recently, he has developed a training program for aspiring corporate coaches.

Join the Business Forum and save \$15.00 a month on the luncheon! Yearly dues is \$150 for firms of 6+ employees and only \$75 for 5 employees or less. Call the SEAONC office directly at 415/974-5147 to join. This is an opportunity to join a committee who's only requirement is that you eat a great lunch each month with us and receive some good information about running your business.

Program Committee

Program Committee Seeks South Bay Members

If you are interested in helping with the South Bay Meetings of SEAONC, the Program Committee would like to hear from you. We've had one successful South Bay meeting so far, and two more are scheduled for this season. One is advertised in this month's newsletter; the other meeting will be on May 14th. In order to continue these meetings, the Program Committee would like to have more direct input from the South Bay membership of SEAONC.

If this is something that interests you, please contact the Program Committee Chair, Jamie Curry. He can be reached at 510-740-3246 or at jcurry@ruthchek.com.

Reminder:

**March Newsletter Deadline:
Friday, February 8, 2002**

*Submit your articles by
e-mail!*

SEAONC@ix.netcom.com

TWO \$1,000 SSEC STIPENDS AVAILABLE

Young Members Forum (YMF) announces call for young member entries to receive the Structural Steel Educational Council (SSEC) stipends for the North American Structural Steel Conference.

The SSEC is generously offering two **\$1,000** stipends to send two SEAONC young members to the North American Steel Construction Conference (NASCC) in Seattle, WA from April 24 – 27, 2002. In addition to plenary sessions with invited speakers, a complete track of presentations intended for structural engineers is included in the technical program. The conference also includes a large exhibition show of technical products used in the steel construction industry. According to AISC, “The North American Steel Construction Conference is a once-a-year opportunity for successful professionals to learn the latest design and construction trends and techniques that directly impact their business and work practices.”

The intent of the SSEC stipends is to cover the cost associated with conference registration, and travel and lodging expenses.

In order to distribute the two stipends, the YMF committee will be accepting brief

essays from qualified SEAONC young members. To be qualified, you must:

- Be a SEAONC Member, Member SE, Associate Member or Student Member of age 33 or less with current association dues paid.
- Submit a typed essay of 500 words or less describing why you think this experience would benefit you. The essay should be submitted to:

Jason Towle, 2001-02 SEAONC YMF Chair
c/o Simpson Gumpertz & Heger, Inc.
222 Sutter Street, 3rd Floor
San Francisco, CA 94108
or e-mail the essay to jltole@sgh.com

The essay must be received by **March 13, 2002**. Please attach a business card or sheet containing all pertinent personal contact information. Any other materials submitted in addition to this will not be considered.

Winners will be selected by a joint SEAONC Board of Directors/YMF Panel and announced no later than March 20, 2002.

The following web site contains more detailed information regarding the conference program of events and other details, <http://www.aisc.org/calendar.asp?ar=32&co=131>.

by David Bonneville,
Public Relations Committee Chair

The purpose of the SEAONC Public Relations Committee is to make the public aware that structural engineering is a profession that makes valuable contributions to society. Enhancing our visibility not only improves our public image, but also encourages people to enter and stay in the profession and improves the structural engineer's sense of self-worth. In the long run, it may also lead to compensation that is comparable to other professions that require high levels of specialized training and responsibility.

The PR Committee does not actually create PR opportunities, but strives to take advantage of opportunities being created by our illustrious and hard working SEAONC members and committees. For example, the PR committee is currently working with other SEAONC members in two areas. First, as we did last year, we will take advantage of the outstanding PR opportunity created by the Engineering Alliance for the Arts as it implements its Three Brick Bridge project in local high schools. You may recall last year seeing TV news reports showing SEAONC members instructing high school students in the structural basics needed for bridge construction. That will be repeated this

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Young Members Forum

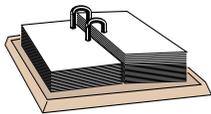
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Bulletin Board

CALENDAR OF EVENTS

February 5th Dinner Meeting - The City Club, San Francisco, RSVP: 415/974-5147 (YMF Design Forum at 5:30, prior to meeting)



February 12th Dinner Meeting - South Bay, Michael's at Shoreline, Mountain View, RSVP: 415/974-5147

February 21st - Business Forum Luncheon City Club, San Francisco RSVP: 415/974-5147

March 13, 20 - Spring Seminar, Practical Concrete Design and Construction (see flyer included in this newsletter for more information).

UCB-CUREE Clough-Penzien Symposium

On May 10 and 11, 2002, the **University of California at Berkeley-CUREE Symposium in Honor of Ray Clough and Joseph Penzien** will be held on the Berkeley campus. The event will recognize the notable contributions made by two of the most influential researchers and educators in structural and earthquake engineering.

The wide-ranging careers of Professors Ray Clough and Joseph Penzien at UC Berkeley included teaching, research and consulting on topics such as the finite element method; shake table testing; seismic analysis and design of dams, bridges, water tanks, offshore structures, power plants, and buildings; analysis of strong ground motion records; and development of seismic design criteria. They jointly authored the classic textbook *Dynamics of Structures*, used by generations of students in structural dynamics and earthquake engineering. Both were instrumental in establishing the Earthquake Engineering Research Center in 1968 at UC Berkeley. Penzien served as the Founding Director of EERC and Clough followed him as Director from 1973 to 1976.

Hobbach-Lewin Inc. Announces Promotions

Hobbach-Lewin Inc. is pleased to announce the promotion of SEAONC Members Greg Rodrigues, S.E. and Chih-Hung Cheng, S.E. to Associate.

Greg Rodrigues, S.E., has over 20 years of structural engineering experience. He received a B.S. in Civil Engineering from Santa Clara University and a M.S. in Civil Engineering from U.C. Berkeley. He began his career working for Bob Matheu and subsequently was a Senior Associate

HAVE YOU PAID YOUR DUES?

SEAONC Members who have not paid their 2001-2002 dues by February 15th will be dropped from membership.

Questions? E-mail or call the SEAONC Office:
SEAONC@ix.netcom.com, 415/974-5147

DON'T FORGET

The Symposium will feature a technical program having broad appeal for practicing engineers, researchers, teachers and students. The program will combine historical perspectives of earthquake engineering and structural engineering with state-of-the-art discussions on topics represented by the seminal works of the honorees. Social functions will provide opportunities to meet with the honorees.

In honor of the contributions made by Professors Clough and Penzien to education, the University of California at Berkeley has established the *Clough & Penzien Fund*. The fund will provide support for enriched education in structural and earthquake engineering, and outreach to future generations of students. Contributions to the *Clough & Penzien Fund* can be made by sending a check to the attention of G. Partee, 721 Davis Hall, MC 1710, University of California, Berkeley, CA 94720-1710. Make the check payable to "The

with Boley Associates. His project experience includes the Hiller Aviation Museum, the St. Simon Church in Los Altos and the new Cell Genesys Manufacturing Facility in Hayward.

Chih-Hung Cheng, S.E., has ten years of structural engineering experience. He received a B.S. in Civil Engineering from National Taiwan University and a M.E. in Civil Engineering from U.C. Berkeley. He began his career at Forell/Elsesser and subsequently was an Associate with Dasse Design. His project experience includes a four story eccentric braced frame building

Regents of UC" with a note that it is intended for the "*Clough & Penzien Fund* in SEMM." All contributions will be acknowledged in the Symposium program booklet.

Further information is posted on the worldwide web at: <http://www.curee.org>, <http://www.ce.berkeley.edu> and <http://semm.berkeley.edu>.

SEAONC EXCELLENCE IN STRUCTURAL ENGINEERING COMPETITION 2002

Call For Entries

For details on eligibility and submission of entries, please see flyer included in this newsletter. Entry forms can be downloaded from the SEAONC website: www.SEAONC.org. If you have any questions, please contact the SEAONC office at 415/974-5147, or SEAONC.ix.netcom.com. Deadline: 1 p.m. March 29, 2002

for Inhale Therapeutics, several KLA/Tencor buildings in Milpitas and the Neo Center Office Building in Union City.

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Forell/Elsesser Engineers, an award-winning structural/civil engineering firm, offers outstanding career opportunities to engineers and CAD drafters with all levels of experience who seek a dynamic, challenging and rewarding work environment (www.forell.com). Work on exciting projects and collaborate with innovative design engineers. We offer an unparalleled salary & benefits package, including employer matched 401(k), pension and incentive compensation plans. Contact: Jim Guthrie, 160 Pine St. #600, San Francisco, CA 94111; fax 415/837-0800 or jim@forell.com.

Interactive Resources Architects & Engineers (www.intres.com) offers competitive compensation & benefits, ongoing career development, interesting projects, and a unique firm culture in a great historic coastal town in the East Bay. We also offer ownership potential. Registered PE minimum, SE preferred. CA/West Coast experience necessary. See our website for more information. Send résumé to 117 Park Place, Point Richmond, CA 94801. Fax: 510/232-5325.

MKM & Associates of Santa Rosa, CA seeks engineer with minimum 2 years experience with emphasis in timber construction in residential & commercial low-rise buildings. Salary with Bonus considerations dependent on experience & availability to start. Excellent benefits. Please fax résumé to 707/578-7153 or e-mail: office1@mkmassociates.com.

RPSE is a 30+ employee Palo Alto firm currently seeking talented EIT's, PE's, & SE's. If you are a dynamic individual with great communication skills and enjoy diverse and challenging projects, we want to talk to you! RPSE offers growth

opportunity, competitive salary, great benefits, and a superb working environment. Please fax cover letter & résumé to HR, Attn: Sharon at 650/428-2861 or email to sharonberman@rpse.com. For more details please visit www.rpse.com.

Career opportunities in the structural design of prestigious projects await you at **Rutherford & Chekene**, a recognized leader in structural design and seismic engineering. We have a large current workload and a significant backlog. Projects include museums, libraries, research laboratories, and hospitals. Opportunities are available in our San Francisco and Oakland offices for engineers with 3+ years of experience who have enthusiasm for participating in the design of some of the most exciting engineering projects in the Bay Area. CE/SE license and prior building design/detailing experience are a plus. If you wish to learn more, please contact Peter Revelli by phone at 510/740-3200 or e-mail at prevelli@ruthchek.com. Also visit our web site at www.ruthchek.com.

Simpson Gumpertz & Heger Inc. (SGH), founded in 1956 by three M.I.T. professors, is a growing and dynamic consulting engineering firm with \$20M in gross revenues, a staff of 170, and offices in Boston, MA, San Francisco, CA, and Washington, DC. SGH has an international reputation in design, investigation, research and development of structural and building envelope systems, mechanical components, and materials. The variety of our expertise enables the firm to undertake investigative, research, and design projects of a complex and unusual nature. We seek creative, enthusiastic, motivated individuals for positions in all three offices. We offer an excellent compensation and benefits package in a corporate culture based on learning and growth. At SGH you'll gain the strength of our reputation and the creativity of diverse and complex projects. To learn more about SGH, please visit our web site at www.sgh.com. We are an equal opportunity employer and value the diversity of our workforce. Please forward your résumé and letter of interest to Dept. LAS, SGH, 297 Broadway, Arlington, MA 02474; FAX 781/643-2009; e-mail jobs@sgh.com.

Sverdrup Civil, a major nationwide multi-discipline professional services firm, is seeking a structural engineer with a CE license and a BSCE in Civil Engineering. A Master's degree in structural engineering is preferred. Experience with an IBM PC is desirable. Good communication

skills and the ability to work with peers and clients is required. A minimum of 3 years experience desired. Candidate should have an interest in proceeding into management. Our office is conveniently located next to the Pleasant Hill BART Station. Please send résumé to: Personnel Manager, Sverdrup Civil, Inc., 1340 Treat Blvd., Suite 208, Walnut Creek, CA 94596. EOE WKW

Tipping Mar + associates is an award-winning structural engineering firm. We have an enthusiastic staff of twenty-five who work collaboratively. Our approach is innovative, and our projects are diverse. We are seeking a bright, creative, self-motivated individual for a challenging position as a structural engineer. Please send your résumé with a cover letter to Tipping Mar + associates, 1906 Shattuck Ave, Berkeley, CA 94704, fax to 510/549-1912, or e-mail steve@tippingmar.com

Watry Design, Inc. which is located in the San Francisco Bay Area, is in search of highly motivated engineers to join our rapidly growing team. Watry is a full service Architectural/Engineering Firm specializing in the design of large concrete structures, including high-rise hotels and apartments as well as award-winning parking structures. This position offers the right individual an opportunity to play an integral role in the design of multi-million dollar projects with a firm that fosters a cohesive family like environment. The applicant must possess a B.S. in Structural Engineering (or equivalent) with a P.E. or S.E license being highly desirable. A background in the design of concrete and post-tensioned structures, strong computer skills, and excellent communication skills are beneficial. If you would like further information regarding Watry Design, Inc., please visit our web site at www.watrydesign.com. Submit all résumés to: Watry Design Inc., 815 Hamilton Street, Redwood City, CA 94063 attn: Lisa Blanton or you can send electronically to lblanton@watrydesign.com

Dynamic Isolation Systems, seismic isolation systems design/manufacture company, offices in NV and CA, seeks Director of Engineering at CA location. MS in structural engineering, with emphasis on seismic isolation, 3 years experience. E-mail résumés to kbutler@dis-inc.com or fax to 925/283-4307. EOE.

Job Forum

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E.A. Bonelli + Associates, Inc., a medium-size A & E firm seeks all levels of structural design engineers. BSCE minimum. If you are interested in a rapidly growing firm with excellent opportunities for advancement and working on challenging Light Industrial structures of various types, send résumé to 8450 Edes Avenue, Oakland, CA 94621 or fax to 510/740-0160, attn Structural Department.

Happy New Year! Is it time for a positive career change? If yes, then come join us in downtown Walnut Creek in our growing, professional office environment. **MBA Structural Engineers, Inc.** seeks project structural engineers with 3 yrs. min. experience. We offer a strong compensation package, including flexible hours, retirement plan, bonuses, and full family medical coverage. Send your résumé to 1717 N. California Blvd., Suite 2A, Walnut Creek, CA 94596, or fax to 925/933-6140, or e-mail to mbaeng@pacbell.net.

SHA Coffman Engineers (Encino) seeks Sr. Engineer w/ 6+years experience in steel & concrete commercial/institutional buildings. Registered SE in CA or obtain by reciprocity; experience w/ ETABS or similar; comfortable consulting w/ architectural firms; proven project experience; great staff management & communication skills; desire to work on a multi-discipline team. Excellent potential for advancement. Qualified applicants fax/email résumé to 818/285-2651 hr@la.coffman.com www.coffman.com

Theophanous Structural Engineers

(<http://home.pacbell.net/nctheose>) seeks a designer & a project level engineer. Min: 2 years CA experience in design of concrete, masonry, steel & wood bldgs; Good communication skills & conversant in AUTOCAD 14 or 2000. Competitive compensation, benefits & interesting projects. Send résumé to: 75 Silverwood Drive, Lafayette, CA 94549, fax: 925/284-9745 or e-mail: nctheose@pacbell.net.

Tri-Valley Engineering, LTD has unique employment opportunities for a building design engineering manager (C.E. required); also Civil/Structural design engineers & CADD Draftsmen wishing to work in a non-conventional environment. Our firm uses "telecommuting" methods, requiring little or no time to be spent in our office. Full-time, part time or "moonlighters" needed. Successful candidates will have a BSCE minimum, with 3-5 yrs experience in structural design of commer-

cial and residential buildings using wood, concrete, masonry and steel design. C.E. or S.E. license a plus, but not required. Computer literacy, home computer and Internet access on-line is required. E-mail résumé to wjones@prado.com, by fax send to 925/462-9289, or by "snail-mail" to Tri-Valley Engineering, LTD, 1228 Quarry Ln. #D, Pleasanton, CA 94566.

Wagner Construction J.V., a design build shoring, foundation and geotechnical contractor, seeks a structural or geotechnical engineer with 2 years experience for the position of Project Manager. Duties will include review of

plans, preparation of preliminary designs, cost analysis, and project planning. The exceptional candidate will have the ability to become the Project or Area Manager for Northern California. Please forward résumé and letter of interest to Wagner Construction J.V. at PO Box 883183, S.F., CA 94188-3183 or e-mail to mapagano@aol.com.

Job Forum insertion fee:

\$150 up to 450 characters/spaces

\$15 for each 45 characters/spaces thereafter

All job forum ads will be posted on the SEANOC web site.

New Members

Member SE

John McLucas
President, McLucas Engineers
Jawed Umerani
Principal, Umerani Associates

Member

Matti Adan
Managing Engineer, Exponent
Robert Lyon
Owner, Robert Lyon Associates
Steven Reel
Engineer, C + D Consulting

Associate

Bobby Chan
Staff Engineer, Hohbach-Lewin, Inc.
Douglas Gadow
Engineer 2, Wiss Janney Elstner Associates
John Leuenberger
Designer, Degenkolb Engineers

Stuart Lowe

Design Engineer, Hohbach-Lewin, Inc.

David McMillan

Project Engineer, KPFF Consulting Engineers

Stuart Oliver

Structural Design, Holmes Culley

Dean Roesner

Staff Engineer, Morrison Structures, Inc.

Richard Sanguinetti

Assistant Engineer, Biggs Cardosa Associates

Student

Che-Han Lee

Graduate Student, Stanford University

Alexander Lornie

Graduate Student, San Francisco State University

Eugene Suk

Graduate Student, University of California, San Diego

Posting for Membership

Life Member SE

Keith Bull

Anita Gupta

Structural Designer, Watry Design Group

Member

Derek Chau
Project Engineer, McGuire & Hester
Catherine Haynes
Project Manager, Kleinfelder
Farid Shahrivar
Associate Civil Engineer, City of San Jose, Public Works Department
Louay Shamroukh
R&D Engineer, Simpson Strong-Tie

Maria Nagy

Structural Engineer, Van Maren & Associates

Katherine Steinhardt

Engineer, Ove Arup + Partners

Industry

Mary Kerns

ISMIS/Seismic Program Manager, Enidine Incorporated

Corresponding

Brian Kung

Engineering Design Group Inc.

Student

Jill Lindstrom

San Jose State University

Omega Factor

Continued from page 3

design base shear, thus the base shear should be factored up by 1.4 prior to applying Ω_0 .

The Special Seismic Load combination is also indirectly identified in Chapter 18, Section 1809, Foundation Construction – Seismic Zones 3 and 4.

1809.3 Superstructure-to-Foundation Connection. *The connection of superstructure elements to the foundation shall be adequate to transmit to the foundation the forces for which the elements were required to be designed.*

For instance, since Section 2213.5 Column Requirements specifically identifies the Ω_0 factor, Section 1809.3 requires the column-to-foundation connection to be designed for a load combination which includes the W_0 factor.

Where not specifically called out, the Special Seismic Load combination is not intended to be used, even when collectors or load transfers are involved. For example, the Standard Load combinations should be used to determine the force in the following case:

1921.6.2.3 Structural-truss elements, struts, ties and collector elements with compressive stresses exceeding $.2f_c$ shall have special transverse reinforcement.

A Message from the President

Continued from page 2

web site; and the overhaul of the SEAONC Awards program to make it better able to present awards to large and small firms. The Scholarship Committee will do its best to steer investments in a positive direction and award scholarships in this poor economic year. This year SEAONC will try to keep our budget balanced in light of a 5% membership drop and be happy that Fall 2001 has seen an increase in committee participation from recent past years.

Chris Poland, President of EERI, launched a local EERI Northern California Chapter in 2001. I believe it is in our interest to support this Chapter. The mission of the Chapter is to promote the mitigation of earthquake hazard in Northern California. EERI is well positioned for this task with its multi-disciplined membership. This mission ultimately elevates the structural engineering profession and will create new evaluation, retrofit and demo/rebuild work

February 5th Dinner Program

Continued from page 1

ing forces unleashed within the building, the construction of the building, along with its ongoing renovation, and the status of approximate analyses attempting to capture the response. The team also intends to extrapolate their findings on performance of the Pentagon to implications for modern buildings.

James R. Harris is president of J. R. Harris & Company, Structural Engineers, Denver, Colorado. Dr. Harris received his B. S. in Civil/Structural Engineering from the University of Colorado and his M.S. and Ph.D. from the University of Illinois. His

Public Relations Committee

Continued from page 5

year and a second similar type event will be added. The Public Affairs and Membership Committee will be initiating a Lego competition at one or more local middle schools, with the students' creations to be shake table tested on a portable table. Both of these events tend to capture media attention since students are involved and the technical content is a little easier to explain than a nonlinear analysis.

The other approach to finding PR opportunities is to have our membership prepared to take advantage of the special events that occur in which the public looks to structural engineers as experts. The obvious (and recurring) situation of course is the damaging earthquake, though this past September's disastrous events also brought

experience includes the design and evaluation of hundreds of structures, including buildings from homes to high rises, rehabilitation, and historic preservation. Dr. Harris spent six years researching snow and seismic loadings on structures and methodologies for improving engineering standards at the National Bureau of Standards (now NIST). Dr. Harris has also been active in professional organizations, including the ACI Committee that produced ACI 318 Standard, Building Code Requirements for Structural Concrete and the American Society of Civil Engineers committee that produces ASCE 7, Minimum Design Loads for Buildings and Other Structures, of which he is currently chairman.

the structural engineer into the spotlight. Recall Jon Kiland's report in last month's newsletter, describing the one-day workshop provided by SEAONC for the San Francisco Fire Department to raise the awareness of fire fighters who may need to respond to a terrorist event involving a major building. Although the Fire Department preferred not to have media present at the workshop, SEAONC members displayed their specialized knowledge very favorably to an important group of non-engineers. Currently the committee is planning for other ways that SEAONC members can be prepared to step forward when the opportunity arises. SEAONC members who are interested in participating on this committee should feel free to contact the SEAONC office or may email me directly at dbonneville@degenkolb.com.

for design professionals in the future. Therefore, I implore all SEAONC members to give consideration and effort to the success of the Northern California Chapter of EERI.

The Disaster Emergency Services Committee and the FEMA / Urban Search and Rescue program have been greatly utilized and needed at the September 11, 2001 disasters at the World Trade Center and Pentagon. The FEMA/US&R programs need interested SEAONC engineers to join the DES committee and support the US&R programs and teams as well as the OES earthquake damage assessment teams and SEAONC DES phone tree for the US&R and OES continued future successes.

Lastly, the Business Forum has been conducting some enlightening lunch presentations with timely topics for those running structural engineering practices. Please consider giving your support to the

Business Forum and attending a lunchtime presentation usually held mid-month at the City Club.

I have had a great time steering SEAONC for the past seven months, and look forward to my final spurt to June 2002. I am continually amazed at the effort and professionalism given to the Association by so many of the members. The Association thrives on the efforts of members. Please continue to donate time and expertise to make SEAONC a great Association to be part of and to make Structural Engineering a rewarding career choice. Please also urge colleagues who are not yet members to give SEAONC membership and committee membership strong consideration. It has been my experience that the increased knowledge and contacts one gains from SEAONC membership are well worth the amount of effort one donates.

--Jon Kiland, SEAONC President 01-02

*New Ad for
Computers and Structures*

upcoming events

- FEB 5 Young Member Design Forum:
Computer Modeling
- 5 SEAONC Dinner Meeting
The City Club
- 12 SEAONC Dinner Meeting
South Bay--Michael's
- 21 Business Forum Luncheon
- MAR 13, 20 Spring Seminar: Practical Concrete
Design and Construction

Registration

Note: There are TWO dinner meetings this month. Please indicate your choice of ONE or BOTH.

February 5th SEAONC Dinner Program, City Club, San Francisco

James R. Harris, Report on the Pentagon

Location:

The City Club, 155 Sansome Street, 10th Floor, San Francisco
BART: Montgomery Street Exit, San Francisco

Deadline for pre-registration:

12 noon, Friday, February 1, 2002

Dinner and program reservations are limited. Register early! No cancellations after 12 noon, Friday, February 1, 2002.

COST:	PRE-REGISTERED	LATE REG.
SEAONC Member	<input type="checkbox"/> \$32	<input type="checkbox"/> \$37
Junior Mbr (34 and under)	<input type="checkbox"/> \$28	<input type="checkbox"/> \$33
Non-Member	<input type="checkbox"/> \$35	<input type="checkbox"/> \$40
Student	<input type="checkbox"/> \$15	<input type="checkbox"/> \$15

February 12th South Bay SEAONC Dinner Program, Michael's at Shoreline, Mountain View

James Guthrie on the San Jose Joint Library

Location:

Michael's at Shoreline
2960 N. Shoreline Boulevard, Mountain View

Deadline for pre-registration:

12 noon, Friday, February 8, 2002

Dinner and program reservations are limited. Register early! No cancellations after 12 noon, Friday, February 8, 2002.

COST:	PRE-REGISTERED	LATE REG.
SEAONC Member	<input type="checkbox"/> \$24	<input type="checkbox"/> \$29
Junior Mbr (34 and under)	<input type="checkbox"/> \$20	<input type="checkbox"/> \$25
Non-Member	<input type="checkbox"/> \$28	<input type="checkbox"/> \$32
Student	<input type="checkbox"/> \$15	<input type="checkbox"/> \$15

If no label is shown above, or for guests, please fill in the form below.

NAME _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

PHONE _____ FAX _____

RSVP by fax to: 415/764-4915 or phone: 415/974-5147
Make check payable to **SEAONC** and bring with you to the door.

Please check meeting(s) you wish to attend:

- February 5th, City Club
- February 12th, Michael's, South Bay

5:45 PM General Assembly
6:30 PM Dinner
7:30 PM Program

No-shows will be invoiced. Tickets not claimed by 6:45 p.m. on the night of the event are subject to being sold. Note: Individuals with outstanding monthly meeting balances are required to pay in advance for a meeting reservation and pay all outstanding monthly meeting invoices.