

**A Message from the President****What's on your mind?**

At the risk of opening the floodgates, the SEAONC Newsletter will feature a monthly member's column to highlight interesting and thoughtful perspectives and opinions. The new **Open Forum** column should freshen up the newsletter and possibly stir the pot of ideas. If anyone out there has something to contribute, submit a draft, suitable for minor editing, to the Board of Directors for review and approval (send to seaonc@ix.netcom.com). The inaugural feature is an essay by David Mar looking at the auto industry's excellent marketing of safety and performance as a possible model to generate demand for high-performance buildings.

We look forward to hearing from you.

by *Steven B. Tipping, SEAONC President*

**February 4th Dinner Meeting Program, The City Club, San Francisco****Seismic Strengthening of Historic Structures Using Fiber Reinforced Polymers**

**Richard Dreyer and John Hare, Holmes Culley**

by *Jamison Curry, Program Committee Chair*

As large earthquakes continue to be a threat to older and more culturally important buildings and structures in our built environment, new methods to strengthen them continue to be developed. Richard Dreyer and John Hare, both of Holmes Culley Consulting Structural Engineers in San Francisco, California will give a presentation on how performance-based designs for the strengthening of structures can be developed using Fiber Reinforced Polymers (FRP). They will discuss the general application of FRP as a strengthening material used on both concrete and masonry structures. They will then discuss two building projects that have recently been completed and one pier project

that is currently in progress that have used FRP as a strengthening material.

The Gateway project in Salt Lake City, Utah converted the existing Union Pacific train depot into a retail and restaurant facility. The building was originally constructed in the early 1900's.

Initial structural evaluation showed that the existing building structure was not adequate to resist current expectations of public safety under modern earthquake loading criteria. An initial schematic design of a structural strengthening system was prepared using

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**February 25th South Bay Dinner Meeting, Michael's at Shoreline****CUREE Woodframe Research - Damage to Drywall in Residential Construction**

**Kurt McMullin, Associate Professor, San Jose State University**

by *Jamison Curry, Program Committee Chair*

On February 25th, a South Bay dinner meeting will be held at Michael's at Shoreline in Mountain View. Professor Kurt McMullin of San Jose State University will speak on recently completed research on drywall construction.

In 1999-2000 a series of 17 experiments was completed on testing the damage to drywall construction of typical woodframe residential construction in the event of lateral move-



ment due to an earthquake. This project was one task of the CUREE-Caltech Woodframe Project, which was funded by FEMA as a result of the high level of damage incurred by woodframe residential construction in the 1994 Northridge Earthquake.

Seventeen experimental tests were conducted to meet the required research objectives of

*Continued on page 8*

**Meeting Notice**

There are **TWO** February dinner meetings:

**February 4th, 2003**

**The City Club**

155 Sansome Street, 10th Floor  
San Francisco

**February 25, 2003**

**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 Mtg.: 12 noon Fri., Jan. 31st  
South Bay Mtg.: 12 noon Fri., Feb. 21st

# Are High-Performance Structures Cool?

by David Mar, Tipping Mar + Associates

This weekend while shopping for a car, I noticed how much of the marketing buzz of cars focuses on high-performance features. Many people think the technology of high-performance cars is valuable. This is not based on a rarified engineering understanding of how the technology works, but rather a general understanding of what the technology can do for the driver. Cars are marketed based on style, aesthetics, luxury, the driving feel of acceleration, speed, cornering and ... safety.

When I think of cars, I look at style and performance. With buildings, the style part is obviously there. A luxuriously finished store on Union Square compares to a Jaguar. The funky cool utilitarian live/work loft is like a Range Rover SUV (very little messy work is done in lofts and most SUVs don't leave the highway.) A formal, reserved and elegant office building may be likened to a big Mercedes sedan. And cute, jewel box buildings remind me of a Mini Cooper.

But along with admiring the style and forms of cars is my appreciation of the performance, both driving performance and safety performance. Safety technology sells; it's cool. Think of TV commercials of car crash tests. Now imagine a commercial with a structure on a shake table test. Ominous music emotionally builds up a sense of the full force of nature's power, then the earthquake strikes with an explosion of released energy...and the isolated building shifts, and glides above the foundation, as supplemental hydraulic dampers suck up potentially harmful energy...and quietly, the building comes to rest followed by the family walking out, safe and unscathed, the building undamaged. This is not so far-fetched when you think of the condominium ads targeted at the general public in Kobe Japan after the earthquake. Those ads featured base isolation. Seismic safety can be understood and it can sell.

Stretching the car/building metaphor theme, a code-designed building is like a car with only seatbelts. Improvements in codes are like going from two point suspension belts to three point suspension belts with automatic tightening. Current code design is a better seatbelt, but it's still a seatbelt. Capacity design of buildings is like car design for severe crashes. This form of plastic design features lots of air bags, a passenger

safety cage, crumple zones, collapsing steering wheels and an engine which drops down rather than being forced up into passengers during a front impact. Buildings with isolation technology are like cars with great tires and anti-lock breaks. These technologies are designed to avoid damage. It is always better to avoid a car crash rather than survive a crash.

I'm not a typical driving enthusiast. I was looking for a new car because my otherwise adequate car doesn't have air bags. This safety feature is something I have never needed and hope to never need. But, as with many consumers, I'm willing to spend a lot of money to get it. Now think about our houses and where we work in the Bay Area. We spend much more time in buildings than we do in cars. Our buildings cost much more and last much longer than our cars. And the likelihood of a major earthquake, the mother of all car crashes, is very high in the next thirty years.

If the general public understood seismic risk and the technologies available to mitigate the effects of earthquakes, then the types of structures we designed would improve. High-performance design should be normal, and demanded in the market place. How can anyone think of *their* house as anything other than an "essential facility?"

In Japan, developers can sell seismic high-performance for buildings just as auto makers world wide can sell high-performance safety for cars. The Japanese general public is not smarter than Californians with regard to understanding seismic technology, they are just better informed. Sometimes the resistance one gets when speaking to developers about seismic technology is like the big three American auto makers' resistance long ago to seat belts. New code buildings are safe, unlike cars without seat belts were. And I don't mean to imply that developers are guilty of a safety-verses-business ethics problem. But developers are missing a good business opportunity, and the public is not well served. We as structural engineers, who understand the technology, should help educate the public, or more accurately, market to them the benefits of high-performance building technology. The message should not be about how the technology works, but about how it benefits the user. And by the way, high-performance seismic technology is cool.

# Concrete Placement Inspection

by Art Dell, CQA Chair

*This is the third in a series of articles about real life jobsite Quality Assurance challenges, triumphs and disasters. As testimonials or cautionary tales, these experiences can help you achieve similar success or avoid similar pitfalls. Please – contact me if you have a good story to tell. No names or specific project identification of any sort will be used.*

A concrete slab-on-grade pour was taking place as part of the construction of a large tilt-up warehouse building. The project was under a fast track construction schedule, as the developer already had prospective tenants lined up for the building. To expedite the construction, the general contractor and the concrete sub-contractor agreed to pour the entire foundation slab in a single day by having two lines of trucks pouring at the same time. A single special inspector was sent to the site to inspect the pour. He knew that he was going to be very busy, but had worked with this particular contractor many times before and did not anticipate that there would be any major problems.

About two-thirds of the way into the pour, a truck arrives with a very watery mixture. The inspector took a slump test and came up with a 9" slump, more than double the specified slump of 4". The inspector points this out to the concrete superintendent, who proposes to let the truck sit and spin its load for 90 minutes hoping that the concrete in the truck will dry out. The inspector agrees.

90 minutes later the inspector performed another slump test on the same truck and came up with a 7" slump, still well over the specified maximum. The inspector asked that the truck be sent away. The concrete superintendent asked for more time to allow the concrete to harden some more, but the inspector refuses since the truck had been sitting for over 90 minutes, the maximum time allowed by ACI. Again the inspector asks that the truck be sent away. The concrete superintendent refuses to do so, claiming that if he does he cannot finish the pour that day as he agreed to do. Sensing an impasse, the inspector leaves to find the general contractor and report the situation. The concrete superintendent agreed not to pour the high slump concrete until the inspector returned with the superintendent.

Because the job trailer was a couple hundred feet away from the building, it took some time for the inspector to find the superintendent. When he finally tracked down the superintendent and returned to the pour he found the concrete with the high slump was being placed. The concrete superintendent claimed that he couldn't wait for the inspector and the contractor to return, so he decided to pour the concrete and take his chances. The contractor claimed that there was nothing that he could do. The inspector was beside himself, but had the presence of mind to take extra cylinders of the concrete being poured by this truck.

The inspector filed a non-compliance report and notified the engineer the next day. The engineer upon hearing the news was very angry with the inspector. He asked the inspector why he didn't send the truck away. "Don't you have the authority to do that?" he asked. The inspector replied that he can only ask that the truck be sent away, but that he had no recourse to force the concrete sub to send away the truck if he refused to do so. "It's not as if I can stand in front of the chute and stop them from pouring," he replied.

Once the engineer calmed down he thanked the inspector for notifying him and for having the presence of mind to take the extra cylinders. The engineer then called the general contractor to demand an explanation. The superintendent was not very happy either, since he now had a non-compliance report sitting on his desk that could potentially hold up his project. After some complaining and occasional venting on both sides of the phone, the engineer and the contractor agreed that there was nothing that could be done now and that they would wait until the cylinder test breaks were in before discussing a course of action.

The cylinder test results showed that the concrete with the high slump easily surpassed the specified concrete strength, much to the surprise of the engineer. In fact the strengths were higher than some of the other cylinders that had lower slumps. The engineer then issued a letter saying that because the strengths had met spec and no major cracking was visible at the place where the bad concrete was poured that they were willing to accept the high slump concrete as is and that no remedial action was required.

So, what's the moral of this story? Besides the possibility that slump tests do not always provide an accurate estimate of the concrete strength, the main lesson learned was that the special inspector did not have as much authority on the job site as the engineer had thought. The most that the inspector can do is report discrepancies. He or she cannot stop them. Indeed, despite all of the yelling and screaming, the inspector performed his duties as specified in the codes, and may have saved both the contractor and the engineer from an even larger problem by taking cylinders from the truck with the high slump concrete. Otherwise the contractor would have had to chip out and replace the concrete or the engineer would have had to accept concrete that had an unknown and potentially deficient strength.

## **Structural Engineers' Contracts for Professional Services**

**Speaker:** Mr. Terry McGill  
Dealey Renton & Associates  
Insurance Brokers  
**Date:** Wednesday, February 19, 2003  
**Time:** 12:00 – 1:30 p.m., Lunch/Program  
**Place:** City Club  
155 Sansome Street  
San Francisco, California  
**Meal Choice:** Chicken, Beef, or Pasta

Professional service agreements can be a critical factor in determining whether a project will be a success or a financial and liability disaster. Our speaker will review some problematic contractual provisions and discuss how they could impact our firms. He will emphasize the need to limit our legal obligations to those that can be supported by insurance. In addition, he will go over issues involving subcontract agreements between subconsultant engineers and their prime design professional clients.

### **SEAONC Fall Seminar**

#### **"Practical Wood Design and Construction" Wrap-Up**

*by Julia Hunting, Continuing Education Committee Chair*

The SEAONC Fall 2002 Seminar was held at the PG&E auditorium on November 14<sup>th</sup> and 21<sup>st</sup>, 2002. Over 350 people attended the seminar, which was entitled "Practical Wood Design and Construction." The topics ranged from a brief history and comparison of various prefabricated shear wall elements to a rigorous analysis of the force transfer around a shear wall opening and discussion of the behavior of shear walls framed with light gauge steel to more descriptive, "nuts and bolts" discussions on a variety of lumber products and current guidelines in use for woodframe diaphragm design.

Kelly Cobeen from GFDS Engineers started off the seminar with her discussion of Proprietary Alternatives to Shear Walls. She was followed by Gary Mochizuki of Structural Solutions, Inc. who spoke about Horizontal Diaphragms: Rigid vs. Flexible Design. Doug Thompson from STB Structural Engineers concluded the first night with his presentation on Punched Shear Walls.

The second evening of the seminar, Sharon Gallant of Degenkolb Engineers began with her presentation on Use of Lumber in Sustainable Design. Ms. Gallant was followed by Dr. Reynaud Serette, Associate Professor in Civil Engineering at Santa Clara University, who spoke about Light Gauge Steel with Wood. Jon Kiland of DASSE Design, Inc. concluded the seminar with his discussion of Prefabricated Wood and Hardware Products in Engineered Wood Construction.

Many thanks to all of the speakers for their informative presentations and thanks to the SEAONC office and to Continuing Education Committee members Troy Morgan, Taryn Williams, Reina Farah, Jackie Bassett, Scot Listavich, C.S. Hwang, Nancy Aiello, Marci Uihlein, Howard Zee and Berta Rodriguez for all their help. Look for the announcement in this newsletter regarding the upcoming Spring 2003 seminar on New Trends in Performance Based Design.

Firms are encouraged to bring examples of "Terms & Conditions" in their company's agreements and join in a roundtable discussion with others present.

We invite you to join us in this very important forum.

Make reservations by contacting the SEAONC office (seaonc@ix.netcom.com, or 415-974-5147) by noon, Monday, February 17, 2003.

**Cost:** \$20.00 Business Forum Member  
\$30.00 Non-Business Forum Member

*Join the Business Forum and save \$10.00 a month on the luncheon! Yearly dues is \$150 for firms of six or more employees and only \$75 for firms of five or fewer employees. Call the SEAONC office directly at 415/974-5147 to join. This is an opportunity to join a committee whose only requirement is that you eat a great lunch each month with us and receive some good information about running your business.*

### **February 4th Dinner Program, The City Club**

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estimates to complete that design were found to be cost prohibitive and an alternate scheme was developed.

That alternate was to rehabilitate using local modification of components rather than global structural strengthening. This procedure was based on the FEMA-273 *NEHRP Guidelines for the Seismic Rehabilitation of Buildings*. This design was accepted by the local building jurisdiction and constructed at a significantly lower cost.

The Woolen Mill at Ghirardelli Square, like all unreinforced brick masonry bearing wall buildings, was subject to the San Francisco Seismic Safety Ordinance in Chapter 16 of the SFBC. Because of its historic nature, it was also subject to the California State Historic Building Code. Although some strengthening work had been performed in the 1970's when Ghirardelli Square was developed, the building still required strengthening under Chapter 16 of the Code.

The building could have been strengthened using a minimal UCBC "Special Procedures" approach. Rather, the building ownership chose the more stringent criteria outlined in section 3403.6 of the SFBC that would allow future increase in occupancy for possible restaurant use. FRP overlays and tie-down strips were used to strengthen the existing exterior brick walls against excessive shear stress and rocking.

The project at Piers 1 1/2, 3 and 5 of the Port of San Francisco, involves the repair, remodeling and the seismic strengthening of both the historic pier shed buildings as well as the pier structures themselves. Since their original construction circa 1917, the reinforced concrete piers have suffered serious deterioration from tidal action and exposure to the marine environment. Heavy spalling of the concrete and corrosion of the steel reinforcement is

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# Bulletin Board

## SEAONC Excellence in Structural Engineering Awards Call for Entries

The deadline is 1 p.m., Friday, March 28, 2003. For rules and an entry form, please go to the member section of the SEAONC website, [www.seaonc.org](http://www.seaonc.org).

## Small Business Group Meeting

The next Small Business Group (SBG) meeting will be on Monday February 3, 2003. It will be a lunch time brown bag gathering from 12:00 to 1:00 pm at the Mechanics Institute, 57 Post Street, Room 405, in San Francisco. The subject will be group health insurance. Kym J. Hopwood of Dealey, Renton & Associates will lead the discussion.

## Promotions at Ben C. Gerwick, Inc.

Ben C. Gerwick, Inc., a San Francisco based civil/structural consulting firm, is pleased to announce that Robert B. Bittner, formerly Vice President & Chief Engineer, was appointed President as of January 1, 2003. Dale E. Berner, Vice President, was appointed Chief Financial Officer and Chief Engineer.

Ben C. Gerwick, Inc. is an internationally known civil/structural consulting firm specialized in the construction of major marine structures. Their work with locks and dams, deep foundations, tunnels, construction engineering, concrete technology, offshore platforms, pipelines, and wharves and piers is marked by innovation and a conviction that a cost effective solution can always be devised.

## Structural Engineering Winter Institute

The Structural Engineering Winter Institute is coming!! It will be held February 2 -5, 2003 at the Sheraton SandKey Resort in Clearwater Beach (Tampa), Florida. To see the hotel and make your reservation, visit <http://www.SheratonSandKey.com>. For the registration form, visit <http://dwp.bigplanet.com/engineers/nss-folder/download/WI4BROCH.pdf>

## YMF Committee Meeting

The next YMF Committee Meeting will be held Tuesday February 18, 2003 7pm at Thallasa (Pool Hall, 2367 Shattuck Ave, Berkeley). Please contact Laura Yamaguchi at [lauray@tippingmar.com](mailto:lauray@tippingmar.com) with any questions or if you need directions.

The February 4th dinner meeting will be Stanford Student Night.

## SEAONC Spring Seminar

The SEAONC Spring 2003 Seminar: New Trends in Performance-Based Design, will be held Wednesday, March 12, 2003 and Wednesday, March 19, 2003. For more information and registration forms, see flyer included with this newsletter or visit the member section of the SEAONC website, [www.seaonc.org](http://www.seaonc.org).

## Updating Contact Information for STRUCTURE Magazine

STRUCTURE addresses can be updated at the STRUCTURE website: [www.structuremag.org](http://www.structuremag.org). Note that this will update a person's address for the purpose of receiving STRUCTURE and for the NCSEA database. It will not, however, update it in the local SEA database.

# EVENT CALENDAR

**Feb. 3 Small Business Group (SBG) meeting**

**Feb. 4 Dinner Meeting, The City Club, San Francisco-- Stanford Student Night**

**Feb. 18 YMF Committee Meeting, 7pm, at Thallasa (Pool Hall, 2367 Shattuck Ave., Berkeley)**

**Feb 19 Business Forum Luncheon, The City Club, San Francisco**

**Feb. 25 South Bay Dinner Meeting, Michael's at Shoreline, Mountain View**

**Mar. 12 and 19 SEAONC Spring Seminar: New Trends in Performance Based Design.**



## New Members

### Member SE

Kung-Kay Chiu, Structural Engineer

### Member

Sonny Au, Staff Engineer

*Biggs Cardoso Associates, Inc.*

Robert Miller, Project Engineer

*KPFF Consulting Engineers*

Prasad Nallamothu, Plans Examiner

*City of Santa Clara*

Robert Riley, Engineer III

*Mesiti-Miller Engineering Company*

Leroy Tolles, Principal

*ELT & Associates*

Eric Walter, Plan Check Engineer

*City of Napa*

### Associate

Tatsuya Kiguchi, Designer

*Tipping Mar & Associates*

Jacqueline Miller

*Trus Joist*

Carlos Ramirez, Project Engineer

*KPFF Consulting Engineers*

Dean Sedlacheck, Staff Engineer

*Murphy Burr Curry*

### Student

Jason Atwood, Graduate Student

*Univ. of Nevada, Reno*

Jennifer Lovejoy, Graduate Student

*Univ. of California, Berkeley*



Saiful/Bouquet Inc., an award-winning, dynamic structural engineering firm, is seeking motivated structural engineers with excellent technical, teamwork, and communications skills at all levels. Engineers who are technically skilled, open-minded and service oriented will find tremendous career growth potential in our fast-growing office.

Multiple positions are available for engineers with 0 to 20 years of experience in the following areas:

- Local concrete, steel and wood design of new buildings and seismic strengthening
- Conventional to cutting edge computer analysis (SAP, ETABS, RAM, nonlinear analyses)
- DSA and OSHPD experience
- Building Investigation/Assessment

Please visit our website at [www.sbise.com](http://www.sbise.com) for an overview of our projects and practice. Fax or email your resume to:

Mehran Pourzanjani  
[mehran@sbise.com](mailto:mehran@sbise.com)

(626) 304-2676

## February 4th Program, The City Club

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to be repaired under the piers as a part of the project. Several structural elements of the piers are being repaired and restored to their original strength by the use of FRP overlays.

Richard Dreyer is a graduate of California Polytechnic State University, San Luis Obispo and is principal and Sr. Vice President of Holmes Culley in San Francisco. He has 28 years experience in structural engineering and has been with the firm (previously Culley Associates Inc.) since 1984.

John Hare is a graduate of the University of Canterbury in Christchurch New Zealand. He has been President of Holmes Culley since its creation in 2000 and has been with the Holmes Group of Auckland New Zealand since 1984.

## CSI GIVES A BREAK TO SMALL FIRMS

Computers and Structures, Inc. has agreed to give a substantial discount to small structural engineering firms who are members of the SEAONC Business Forum for purchase or upgrade of all of their software. Small firms are defined as firms with fewer than 10 full-time permanent employees. This is a limited offer and will expire on April 30, 2003. If you are interested please contact the SEAONC office for further information, at [seaonc@ix.netcom.com](mailto:seaonc@ix.netcom.com), or 415/974-5147.

# SEAONC SCHOLARSHIP FUND

We acknowledged many generous contributions to the fund in the November 2002 and the January 2003 newsletters. We would now like to acknowledge the generous contributions received since the January publication, from the following members and firms:

### \$1000 and above

*Forell/Elsesser Engineers Inc.*

### \$100 - \$500

*ZFA Structural Engineers*

*Liftech Consultants Inc.*

*Rinne & Peterson, Structural Engineers*

*KPFF Consulting Engineers*

*Ruth Gordon*

*Alan Robinson*

*David Bonneville*

*Brian McDonald*

*Edward Rivera*

*Rafael Sabelli*

*Mark Sarkisian*

*Cotton, Shires & Associates, Inc.*

*Simmons Structural Engineering, Inc.*

### \$50 - \$99

*Jon Kiland*

## January Program Wrap-Up

## SCI Patented Construction Process for High-Rise Concrete Buildings *Bo Lundmark of Lundmark Associates*

*by Jamison Curry, Program Committee Chair*

On January 7<sup>th</sup> a joint ACI-SEAONC dinner meeting was held at the City Club in San Francisco. Thank you to our friends at the American Concrete Institute and to the speaker they invited, Mr. Bo Lundmark of Lundmark Associates.

Mr. Lundmark made a presentation on his patented "Scientific Construction International" (SCI) method for construction of monolithic cast-in-place concrete high-rise buildings.

**Ahearn, Knox & Hyde, Inc.** is a medium size structural firm in San Jose providing design services to the bay area for the past 32 yrs. We are looking for a self-motivated engineer with a minimum of 5 yrs. of experience in analysis & design of various types of buildings. We offer a very good benefits package along with SEP IRA plan, all fully funded by the firm. Salary is competitive & commensurate with experience & skills. Superb working conditions with congenial atmosphere. Fax résumés to 408/267-7919 or e-mail [hyde@akhse.com](mailto:hyde@akhse.com).

**Biggs Cardosa Associates** is the largest structural engineering firm in the South Bay and the ONLY California Structural Engineering Design Firm to be ranked in the Zweig White Hot Firm 2002 list, which ranks the 100 fastest growing U.S. Architectural, Engineering and Environmental Consulting Firms. Would you like to join us and become part of our dynamic, growth-oriented team? We have an immediate opening for a Senior Structural Engineer or Structural Project Manager for our San Jose office. Do you have a minimum of 8 years experience in building design and a California SE? Please contact us by visiting our website at [www.biggs-cardosa.com](http://www.biggs-cardosa.com) and submitting your resume online, or by calling Michael Thomas at 408/296-5515. The exact position and compensation will be based on the candidate's experience.

**DeSimone Consulting Engineers (DCE)** has immediate openings in our San Francisco office for outstanding PEs or SEs with excellent communication skills and experience in new design and seismic rehabilitation of existing buildings. We offer a competitive benefits package and a great work environment. Please fax resume to Ron Polivka at 10 United Nations Plaza, Suite 410, San Francisco, CA 94102 (415/398-9834) or e-mail to: [rpolivka@de-simone.com](mailto:rpolivka@de-simone.com)

**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](http://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](mailto:jim@forell.com)

Structural designer position available with a Modesto based structural consulting office. 3 years experience in designing concrete, CMU, steel, and wood structures. Must have good communication skills and be conversant in AutoCad, SAP 2000, ETABS. Send résumé to **Lawder Engineering**, PO Box 3206, Modesto, CA, or fax to 209/521-1166.

**RPSE**, [www.rpse.com](http://www.rpse.com), in business since 1960, has a long AND successful track record of innovative and creative structural solutions. Projects range from relocating historic buildings to retrofitting health care facilities. Our name is well known for quality – something we earned via our quality team members. If your strengths include communication and critical thinking, e-mail: [sharonberman@rpse.com](mailto:sharonberman@rpse.com) or fax cover letter and resume to HR-Sharon, 650/428-2861.

**Structural Design Group of Santa Rosa**, is looking for a highly motivated, technically skilled engineer looking for a leadership position in an exciting young firm. Associate position available for a bright, creative individual with 2 years minimum design experience in educational facilities, low rise commercial, or residential structures. We offer unlimited opportunities for career advancement and an excellent salary/bonus/benefit package. Please fax résumé to 707/284-3646 or e-mail: [RichB@s-d-g.net](mailto:RichB@s-d-g.net)

**Buehler & Buehler**, Sacramento's largest structural engineering firm, has openings in its Sacramento and Roseville offices for engineers with three or more years of building design experience and strong communication skills. Since 1946, B&B has provided SE services for private and public sector clients in California and the Western U.S. We maintain a staff of 45, with 12 SE's and 13 CE's experienced in designing buildings of various project types. We offer a competitive compensation package and a positive work environment. The area provides excellent affordable housing. Send resume in confidence to Buehler & Buehler, 7300 Folsom Blvd., #103, Sacramento, CA 95826. Fax 916/381-8673. E-mail [Buehler@bbse.com](mailto:Buehler@bbse.com). Website [www.bbse.com](http://www.bbse.com).

**DASSE Design Inc.** has opportunities for project engineers in its Oakland, San Francisco, and San Diego offices for people who are passionate about structural engineering. Minimum qualifications are BSCE (MSCE preferred), PE or SE license and 3-8 years experience on a variety of structures of increasing size and complexity. DSA and OSHPD experience a plus. Position requires strong computer skills, excellent verbal/written abilities and a desire to grow in a collaborative, professional environment. DASSE works with award-winning architects on health care, civic, K-12 schools, college/university and corporate facilities, using steel, concrete, timber, and masonry, in both new construction and renovation. Our projects are challenging and diverse. Send resumes with cover letters to William Andrews by fax (415/243-9165) or e-mail ([andrews@dasse.com](mailto:andrews@dasse.com)). Learn more about our firm at [www.dasse.com](http://www.dasse.com).

**Lionakis Beaumont Design Group Inc.**, largest A/E firm in the Sacramento region, presents an exceptional career opportunity for a qualified Structural Engineer and Drafter. We are a progressive, award-winning, multi-discipline A/E firm offering opportunities in diverse market types, flexible work environments and great studio teams. We offer excellent benefits & competitive salaries. Structural Engineer - Minimum 2-years experience in structural design and detailing of buildings required. California CE, SE preferred. Strong communications/teamwork skills essential. Structural Engineering Drafter - Minimum 6-years experience drafting single and multi-story buildings that utilize a variety of construction materials. If qualified, please forward a cover letter referencing this ad along with your resume to [jobs@lbdg.com](mailto:jobs@lbdg.com) or Fax to 916/558-1919. Visit our website at [www.lbdg.com](http://www.lbdg.com) to see the exciting project types we design and the unique employment environment we have created. EOE.

**Peoples Associates Structural Engineers**, a growing Structural Engineering consulting company in the Bay Area, is looking for talented and energetic people to join our firm. We offer a competitive salary, excellent benefits and a team-oriented atmosphere that encourages professional growth. BS required (MS preferred). Experience is a plus. Mail resume & cover letter to 529 S. Main St., Milpitas, CA 95035. Fax: 408/957-9221. E-mail: [mail@pase.com](mailto:mail@pase.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 SEAONC web site.

### Display Ad Rates

**Full Page \$900/mo.**  
**2/3 Page \$600/mo.**  
**1/2 Page \$480/mo.**  
**1/3 Page \$360/mo.**  
**1/4 Page \$270/mo.**  
**1/6 Page \$225/mo.**

Rates are for finished camera-ready black and white ads. Full payment is required at time of insertion order. For advertising contract, specifications, and special rates for running an ad multiple months, contact the SEAONC Office at [seaonc@ix.netcom.com](mailto:seaonc@ix.netcom.com) or 415/974-5147.

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### Committee Chairs

#### Business Forum

Reinhard Ludke  
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### Posting for Membership

#### Member

Wael Khory  
*Technion University*

#### Associate

Kofi Baryeh, Engineer  
*Kiewitt Pacific Company*  
Nicolai Hvass, Engineer  
*Ben C. Gerwick, Inc*  
Nina Moen, Structural Engineer  
*Skidmore, Owings & Merrill LLP*  
Dmitry Ozeryansky, Engineer  
*Rutherford & Chekene*

### FOR RENT: SEAONC Multimedia Projector & Digital Camera

SEAONC's multimedia projector is available for rental! Voting members can rent the projector for only \$100 a day (plus a \$1000 security deposit) SEAONC also has a SONY digital camera available for rental. Voting members can rent the camera for only \$25 a day (plus a \$1000 security deposit). Contact the SEAONC office at 415/974-5147 for details.

### Feb. 25th South Bay Program

#### Continued from page 1

determining the cost-damage relationship and engineering characteristics of residential gypsum wallboard partition walls. Specimens were 8-foot tall and 16-foot long, double-sided with 1/2" gypsum wallboard. Test variables included: fastener type and spacing, loading protocol, top-of-wall boundary condition, method of attaching the wallboard to the top sill, wall opening layout, innovative construction methods, influence of door and floor trim, and repair strategies. Instrumentation measured applied load, lateral deflection at the top of the wall, lateral deflection at the bottom of the wall, shear distortion of the piers, and uplift at the door.

Professor McMullin will discuss his findings and cost-damage relationships.

Kurt McMullin is currently an Associate Professor in the Department of Civil and Environmental Engineering at San Jose State University, and has worked as a consulting engineer, most recently for Middlebrook + Louie in San Francisco.

**Reminder: March Newsletter Deadline: Monday, February 10, 2003**  
submit to: [seaonc@ix.netcom.com](mailto:seaonc@ix.netcom.com)

*Repeat Ad for  
Computers and Structures*

**FEB**

- 3 Small Business Group Meeting
- 4 San Francisco Dinner Meeting (Stanford Student Night)
- 18 YMF Committee Meeting
- 19 Business Forum Luncheon
- 25 South Bay Dinner Meeting

**MAR**

- 12,19 SEAONC Spring Seminar

# Registration

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

**February 4th SEAONC Dinner Program, City Club, San Francisco**

*Seismic Strengthening of Historic Structures Using Fiber Reinforced Polymers*

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

**Deadline for pre-registration:**

**12 noon, Friday, January 31st, 2003**

Dinner and program reservations are limited. Register early! No cancellations after 12 noon, Friday, January 31st, 2003.

<b>COST:</b>	PRE-REGISTERED	LATE REG.
SEAONC Member	<input type="checkbox"/> \$34	<input type="checkbox"/> \$39
Junior Mbr (29 and under)	<input type="checkbox"/> \$28	<input type="checkbox"/> \$33
Non-Member	<input type="checkbox"/> \$39	<input type="checkbox"/> \$44
Student	<input type="checkbox"/> \$15	<input type="checkbox"/> \$15

**February 25th South Bay SEAONC Dinner Program, Michael's at Shoreline, Mountain View**

*CUREE Woodframe Research--Damage to Drywall in Residential Construction*

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

**Deadline for pre-registration:**

**12 noon, Friday, February 21, 2003**

Dinner and program reservations are limited. Register early! No cancellations after 12 noon, Friday, February 21, 2003.

<b>COST:</b>	PRE-REGISTERED	LATE REG.
SEAONC Member	<input type="checkbox"/> \$28	<input type="checkbox"/> \$33
Junior Mbr (29 and under)	<input type="checkbox"/> \$20	<input type="checkbox"/> \$25
Non-Member	<input type="checkbox"/> \$33	<input type="checkbox"/> \$38
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:

- Feb. 4th, City Club
- Feb. 25th, 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.*