

## *A Message from the President*

On the morning of September 11, 2001, a despicable act of terrorism occurred in New York City at the World Trade Center, in Virginia at the Pentagon, and in a rural field in Pennsylvania. It is not well known how many other hijackings were in the works and were thwarted by the brilliant decision by the FAA to ground planes. This event occurred one day after my last newsletter article was submitted. Much of this article will be old news by the time it is published in the November 2001 SEAONC Newsletter. However, the subject requires reporting to SEAONC members for a number of important reasons.

The tragedy was the worst act of terrorism in American history, producing more than 6000 deaths in one day--worse than Pearl Harbor, the Titanic, or D-Day at Normandy in World War II. I watched the events unfold on television that Tuesday morning. Not wanting to race toward San Francisco where additional terrorist acts were possible, I delayed my commute and watched both World Trade Center buildings collapse on TV. My reaction was one of great sadness; in my mind I had just watched an estimated 30,000 people perish in the WTC building collapses. The thought of the plane crashes and instant death for the passengers was terrifying. The thought of trapped or killed occupants above the plane crashes was equally terrifying. The report of fire fighters' and police officers' deaths brought an overwhelming addition of sadness as well. My heart was heavy that day, and continues to be heavy to this date. My innocence, along with America's, was lost on 9/11/01.

I send my condolences to those who had relatives and friends who lost their lives that day. I would also like to congratulate our SEAONC and SEAOC members who are members of urban search and rescue teams (USAR) that contributed to the efforts in New York and Washington DC.

Our September SEAONC dinner meeting was scheduled for that Tuesday night. The meeting was canceled by noon on 9/11/01, but one of our speakers from Ove Arup was in flight from Tokyo to San Francisco that morning. His flight was the last to land at SFO at mid-morning and was escorted into SFO by military

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## *November Program*

### **GREENING OF THE CONCRETE INDUSTRY**

#### ***Meeting at the Faculty Club, University of California at Berkeley***

*by Jamison Curry, Program Chair*

As we did last year, SEAONC will hold its November meeting at the Faculty Club on the Berkeley campus of the University of California. It's appropriate, because our guests will be the students studying to become structural engineers at UC Berkeley.

UC Berkeley's own Professor Emeritus P.K. Mehta will speak to us about sustainable design and construction as it relates to concrete. Sustainable or "green" design has long been of interest to architects and is by now a part of mainstream design--to bring an architect friend of yours. The setting and subject matter should certainly be appealing to architects, because as you may recall, Bernard Maybeck, the well-known Bay Area architect, designed the Faculty Club.

Man-made climate change resulting from global warming is the greatest environmental threat confronting us in the 21st century. Modern concrete construction is based on highly wasteful consumption of energy and materials that are implicated in global

## *Special Feature Article*

### **Structural Investigation of the World Trade Center Disaster**

*by Ronald O. Hamburger, SE*

When constructed in the late 1960s and early 1970s, the twin 110-story towers of the World Trade Center were an engineering marvel, extending structural engineering technology to its limits. The shocking complete collapse of these structures, some thirty years later, as a result of a deliberate terrorist attack, is perhaps as significant to structural engineering as the original construction project. These buildings were marvels of engineering and construction technology, and the fact that they could withstand the impact of large aircraft, resulting

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warming. Furthermore, cost savings and profits derived from faster construction schedules often lead to cracks, microcracks, and other defects that adversely affect the durability of structures. A short service life of a structure would also imply a wasteful consumption of resources.

As public opinion shifts from a culture of "acceleration" to a culture of "sustainable growth," the future business developments in the concrete construction industry must be based on a radical increase in resource productivity through conservation of materials and enhancement of durability of structures. Professor Mehta will discuss the paradigm shifts needed for the "greening" of the concrete industry.

Professor Mehta held the Roy W. Carlson Distinguished Professorship before he retired. He is the author or co-author of over 200 technical papers and three books in concrete technology, and has received many awards. In 1999, the American Concrete Institute selected his paper, Concrete Durability: Critical Issues for the Future, for the best paper in concrete construction practice.

Directions to the Faculty Club may be obtained at [www.berkeleyfacultyclub.com](http://www.berkeleyfacultyclub.com), or on the flyer included in this newsletter.

## *Meeting Notice*

### **November 13th, 2001 The Faculty Club**

*#1 Faculty Club  
The University of California at Berkeley  
Berkeley, CA*

### **Assembly 5:45 Dinner 6:30 Program 7:30**

Fax registration form on the back of this newsletter to the SEAONC office by  
**12 noon Friday, November 9th, 2001**  
*For directions and map, see insert*

## A Message from the President

### Continued from page 1

fighter planes. September's dinner meeting has been re-scheduled for December.

A number of things will occur for SEAONC due to this tragedy. First is a planned SEAONC-sponsored training workshop with the San Francisco Fire Department, tentatively scheduled for the end of October, about damaged building safety in the wake of a terrorist attack by plane crash, explosive, or other cause. The SFFD does not want to send fire fighters into dangerous situations, such as what occurred for the NYFD and NYPD at the World Trade Center buildings.

This workshop is an opportunity for SEAONC to provide the fire and police departments with our special structural expertise. It will concentrate on a number of important key issues: 1) a recap of what happened at the World Trade Center in New York; 2) structural safety for severely damaged buildings, with a report on Bay Area high rise construction; 3) fire protection of Bay Area buildings; 4) expected time for evacuation; 5) current means of egress; 6) and urban search and rescue (USAR) following experiences at Oklahoma City, New York City WTC, and the Pentagon. The presenters will include SEAONC

members, fire protection engineers, and members involved in USAR activities.

The workshop will hopefully include representatives from many Bay Area fire and police departments, including San Francisco, Oakland and San Jose, the SFDBI, and representatives from the City & County of San Francisco and the State of California Department of Consumer Affairs. I will report on the results of the workshop after its occurrence. There remains a good possibility that the workshop could be presented in additional locations or to other groups if successful.

Secondly, SEAONC and SEAOC have recognized that our ability to respond to the media is not adequate following major events such as this tragedy. Whether the event is a major terrorist attack, a severe earthquake, or any other disrupting disastrous event where structural engineers could provide insight, our public relations capability is not in place. SEAOC appointed a task committee at the 2001 Convention in San Diego to develop a response plan for media access following major newsworthy events. The task committee will address issues addressing the image and visibility of the profession and long term media contacts. When viable plans are in place, I will report them to membership.

Thirdly, current aspects of building design will be scrutinized for years to come following this tragedy. Aspects of structural integrity, redundant design, adequate strength, blast resistant design, fire protection and sustainability, construction materials, design for impact from vehicles or aircraft, among other issues, will be factored into building code provisions and code change proposals in future building codes.

Additionally, this terrorist event will become a historic event in American History. Our children will report to their children the events of 9/11/01 and their experiences and thoughts of what occurred that day. In time, we will see how these events have affected American society: from security, to air-travel, to large and populated events and venues, to national and civic landmarks. Citizens of America and other developed nations are weary of heavily traveled transportation systems, air-travel, train systems, freeways, roadways, as well as heavily populated buildings, sports stadiums and other attractions of terrorism. I sincerely hope that world society can root out the causes of terrorism. Until then, we will all live with this new fear and foe.

## Special Feature Article

### Continued from page 1

in massive damage to the exterior and possibly interior structure, is a tribute to the toughness and redundancy inherent in their design. However, the complete collapse of both towers, designed to withstand fire for a period of three hours, just one hour after fire initiation, raises many questions as to the safety of modern tall structures.

The engineering profession has formed a joint investigation committee to collect data on the design, construction and eventual collapse of the buildings. Lead by the Structural Engineering Institute of ASCE, the team has been formed in cooperation with the National Council of Structural Engineers Associations, the American Institute of Steel Construction, the Society of Fire Protection Engineers and several other industry associations. The initial team primarily includes 12 structural and fire protection engineers, with expertise in steel structure design, blast and fire engineering, structural performance and collapse evaluation including Dr. Abolhassan Astaneh-Asl of the University of California at Berkeley and this author. The initial tasks for this team will be to collect and document important perishable data on the building construction, the damage sustained by the aircraft impact, and the final condition of the structures, following collapse. Some members of the team mobilized to the

site immediately following the September 11 disaster; however, the team will formally convene on site on October 7. All of the team members are acting in a pro bono capacity.

It is anticipated that this initial data collection effort will provide the basis for extended study of the probable failure mechanisms of the structures, using various analytical techniques, as well as scenario studies of design modifications that could have resulted in better performance. These studies will have wide participation by the research community and practicing professionals and may eventually lead to changes in the way very tall structures are designed and constructed. The study will encompass not only the twin towers, but also the adjacent WTC 7 structure, a 47-story building that collapsed late in the afternoon of September 11, after burning for more than 8 hours, as well as other surrounding buildings that were damaged. Although these studies may eventually lead to modifications in design practice, it is important to keep in mind that this was an extraordinary event and despite the massive damage inflicted by the aircraft impact, these buildings remained erect long enough for most occupants to safely escape. The engineering profession can be proud of that performance.

## Memorial Announcement

### A CELEBRATION OF THE LIFE OF EGOR PAUL POPOV

November 18, 2001  
2:00 PM

The Faculty Club  
University of California,  
Berkeley

Among those speaking will be:

Karl Pister  
Mihran Agbabian  
Helmut Krawinkler  
Steve Medwadowski  
Vitelmo Bertero  
Filip Filippou  
Jim Malley  
Chi Liu  
Jack Moehle

RECEPTION FOLLOWING

## World Trade Center Tragedy

### Progressive Collapse

by Reinhard Ludke

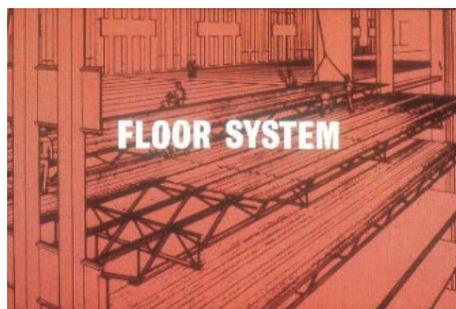
The Twin World Trade Center Towers were designed in 1970 as 1,400 feet tall, cantilevered steel "tube" buildings.



*Skilling, Helle, Christianson, Robertson Structural Engineers - Seattle Washington*

The two towers had a height-to-plan aspect ratio of 11:1--tall slender structures. They were

the first high-rise buildings in the world to use visco-elastic dampers to control wind movement and acceleration. Over 10,000 3M dampers were used in each building.



Floor plates were constructed using prefabricated panelized floors of 60-foot open-web steel joists and metal deck units. Column-Spandrel exterior tube structure elements, "prefabricated trees," sped erection of these towers in 1971.

Burning jet fuel from full tanks created temperatures over 2000 degrees Fahrenheit. Steel strength and elastic modules are degraded 50 - 70% at these temperatures. World Trade Center One lasted 104 minutes and World Trade Center Two took only 57 minutes before the combination of impact damage and high temperatures caused structural failure of the tube or floor framing. Dead and live loads of upper floors immediately overloaded the failure level and the progressive failure commenced and finished in seconds.

The collapse of One World Trade Center was a classic example of progressive collapse. Some people wonder if a "structural engineer"



planned the damage, loading and fire to destroy life and this property?

Jim Rossberg, director of the Structural Engineering Initiative of ASCE, is organizing a forensic team to investigate the structural behavior of the buildings. There will be lessons learned from this tragedy and structural failure. This event on September 11, 2001 will likely affect Architects and Structural Engineers who will see code changes for life safety, and structural engineering and design, of skyscrapers and the world's tallest buildings.

### Structural Engineers at the World Trade Center

by Raymond Lui

In the aftermath of the September 11 disaster in New York City, Washington D.C., and Pennsylvania, the State of California Governor's Office of Emergency Services activated and deployed six Urban Search and Rescue Task Forces to New York City as part of FEMA's rescue response. Teams from Los Angeles, Riverside, Sacramento, San Diego, Menlo Park, and Oakland have completed 10 to 12 day missions (24 hours per day) at the World Trade Center disaster scene.

Rescuers working at the World Trade Center included Northern California engineers Blake Rothfuss and Neil Moore (California Task Force 7, Sacramento), Joe Zsutty and Raymond Lui, (California Task Force 3, Menlo Park), and Tom Clark and Karin Kuffel (California Task Force 4, Oakland). In support of their

respective teams, these engineers stepped away from their regular lives to work on the debris pile, discover new void spaces, evaluate partially collapsed structures, and help rebuild the Rapid Response Team capabilities of the Fire Department of New York.

In addition, SEAONC Members David Hammond and John Osteraas served as Lead Structure Specialists on FEMA's Incident Support Team, which provides overall management and technical coordination for FEMA's effort.

It should be noted that volunteers from the Structural Engineers Association of New York (SEAoNY) have been instrumental in performing structural evaluations—utilizing the ATC-20 methodology—of approximately 400 buildings in the vicinity of the World Trade

Center. SEAoNY engineers continue to provide contractors with structural engineering advice as they work 24/7 to try to clear debris from the World Trade Center site.

#### Updated Information Needed For SEAOC Roster

Attention Members:

If you have changed home or work addresses, phone numbers, fax or e-mail, please send your updated contact information to the SEAONC office for inclusion in the new SEAOC roster. Do it right away so that your current information makes it in. Updates can be made on the SEAONC web site, [www.SEAONC.org](http://www.SEAONC.org), or e-mailed to: [seaonc@ix.netcom.com](mailto:seaonc@ix.netcom.com).

*Ram International*  
*Repeat Full Page Ad*

**Engineer Alert Regarding Unusual Requests for Plans**

by Patrick J. Natale, P.E., F.NSPE  
Executive Director  
National Society of Professional Engineers

A number of firms from the design and engineering community have reported recent or past requests for building plans that, in light of the attacks of September 11, 2001, appear unusual due to the structures identified in the requests or the type of information solicited. The American Institute of Architects and the National Society of Professional Engineers, in conjunction with the U.S. General Services Administration, are coordinating with the Federal Bureau of Investigation (FBI) to provide design firms with information on this situation.

Please follow this link (<http://www.nspe.org/buildingletter.asp>) for details and for guidance on contacting the FBI if you or anyone in your firm has received unusual or suspicious requests for information.

**Repeat Presentation of Structural Vibrations in Advanced Technology Facilities**

by Jamison Curry, Program Chair

The South Bay had its inaugural dinner program meeting on October 9th at Michael's at Shoreline in Mountain View. An enthusiastic group of 78 structural engineers from the South Bay (including a few from the North and East Bay) met to hear Hal Amick of Colin Gordon & Associates. Our thanks to Mr. Amick for repeating to the gathered members his August 7th presentation concerning floor vibrations. Mr. Amick's presentation was primarily qualitative, and was divided into two portions. The first focused on some fundamental issues: effects of vibrations, sources of vibrations, types of vibrations, and vibration criteria. The second portion focused on design to mitigate vibrations. The process recommended was to identify sensitive equipment, select vibration

criteria, identify vibration sources, identify controlling structural components, predict the performance of the components by modeling them, modify the design, and iterate as necessary.

Mr. Amick emphasized that the distance from vibration sources to sensitive equipment is important to remember in design – the further the better!

Mr. Amick noted that the characteristics of vertical floor vibration are such that mechanical vibrations dominate in "stiff" floors (e.g. concrete slab-and-joist or waffle-slab floors, often used in micro-chip fabrication facilities). Vibrations induced by walkers, however, dominate in "soft" floors (e.g. concrete flat-slab or slab-and-deck on steel-framed floors, often used in laboratory or office facilities). Mr. Amick also noted that "stiff" floors do not benefit as dramatically as "soft" floors from closer spacing of columns.

Many of Mr. Amick's papers and some interesting resources containing vibration criteria are available on the web at [www.colingordon.com](http://www.colingordon.com).

**For Sale: Computers and CAD Software**

There are 10 computers available with the following specifications and software:

- Dell Dimension 4100
- Intel Pentium III, 1.1 Ghz
- 256 MB RAM
- 20 GB Hard Drive
- NVIDIA GeForce2 Graphics Card  
with 32 MB Video RAM
- V.905/56k winmodem
- 3.5" Floppy Drive
- 8x/4x/32x Rewritable CD Drive
- Soundblaster 64V Integrated sound
- Harmon/Kardon Speakers
- Microsoft Windows 2000
- Microsoft Office XP, Small Business Edition
- 1 Year Parts and Onsite service

**Minimum Bid: \$1,050.00**

In addition, 10 copies of AutoCAD LT 2002 software will be sold separately.

**Minimum Bid: \$500.00**

**Bids Close 5 pm, Friday November 9, 2001**

Bids must appear in writing. Fax or email bids to SEAONC office: 415/ 764-4915; [SEAONC@ix.netcom.com](mailto:SEAONC@ix.netcom.com).

Winning bids will be notified by the SEAONC office.

**SEAONC RECOGNIZES AND THANKS SCHOLARSHIP FUND CONTRIBUTORS**

A special thanks to the following companies and individuals who have contributed to the SEAONC Scholarship Fund since our last publication! Nearly \$2,000 has been collected since July. If you have not already done so, please consider making a contribution so that we can add you to this auspicious list.

**Contribution Level: \$100 to \$499**

Steven Harris

**Contribution Level: \$50 to \$99**

F. Preece

**Contribution Level: Under \$50**

Lawrence Chan  
Matthew Engle  
Harold Engle, Jr.  
Gordon Hart  
John Miller

# Committees on Assignment

## Website

by *Darrick Hom*  
*Website Committee Chair*

The Website Committee is pleased to announce the launching of the new SEAONC website! Please check it out at [www.seaonc.org](http://www.seaonc.org).

The site contains both a public and member side. The public side is intended to provide information to the general public and media. The member side contains a calendar of SEAONC-sponsored events and a great deal of information about the structural engineering industry. In addition, each committee has its own page to post news of committee events and meetings. The new format provides you with the option to update your membership

## Younger Members Forum

by *Jason Towle*  
*YMF Committee Chair*

I would like to report briefly on a couple of very successful recent YMF events.

On September 19th, approximately twenty SEAONC young members attended the San Francisco Giants / Houston Astros baseball game at Pacific Bell Park. The fact that there was more interest from young members in the game than we had tickets available, indicated the popularity of this event. Prior to the game we all congregated at MoMo's Bar and Restaurant to meet each other and distribute the tickets. The weather and company were both fantastic and those who stayed for the entire game witnessed the Giants' late-inning rally, even though they lost the game. The success of this YMF event may lead to planning similar annually reoccurring events, possibly making this the 1st annual YMF Baseball Game Social.

Subsequently on October 11th, over fifty young members gathered at Jillian's at the Metreon in San Francisco for our annual Fall Social. The turnout was fantastic, providing everyone the opportunity to socialize and network with new and old friends and colleagues. The level of excitement was high with YMF providing great food, drinks and six billiard tables. Since everyone was having so much fun eating, drinking, conversing and playing billiards, we extended the event for an additional hour, until 9:00 p.m. It was great to see everyone in attendance, proving that our younger membership is alive and active.

Thanks to all who attended these YMF events making them huge successes and to all who are committed to strengthening our younger SEAONC membership.

information online. The SEAONC website also provides a list of engineering positions that are available as well as a downloadable copy of our monthly newsletter.

We will be making refinements to the website over the next couple of months, including streamlining the process for getting the latest SEAONC news and information onto the site.

Many thanks to all of those who participated in this huge undertaking, especially Ray Lui, Mark Okamura, Suzanne Brown, Constantine Shuhaibar, Andrew Scott and Carrie Bischoff.

Make sure you keep checking back with our website to get the latest information on SEAONC's activities.

## Legislative

### Seismic Strengthening Incentive

#### Governor Davis Signs New Law AB 184

by *Reinhard Ludke*  
*Legislative Committee Chair*

The 2001 Legislature passed a bill that provides additional incentives for owners to improve the seismic performance of their buildings. In most cases, construction permits and making improvements to buildings triggers a property value assessment increase which translates to increased property taxes. This law exempts seismic strengthening construction improvements from property assessment and tax increases.

Governor Davis has signed AB 184 by Liu (D-La Canada Flintridge) that updates the definition of earthquake hazard mitigation technologies to refer to improvements to existing buildings identified by local government as being hazardous in the event of an earthquake; the improvements shall use technologies such as those referenced in particular sections of the Uniform Building Code. In 1990, the State Constitution was amended to provide that no new-construction reappraisal would result from installation of seismic technology. The implementing statute defined these technologies by reference to regulations to be adopted by the State Architect pursuant to a Health & Safety Code section. However, the State Architect never adopted regulations, but instead developed guidelines and seismic performance standards to ensure the seismic performance of buildings utilizing earthquake hazard mitigation technology.

Structural Engineers and Architects may provide this information to owners so they can take advantage of this law. It may help owners decide to make seismic performance improvements. The full text and history of this bill can be found at:  
[http://www.leginfo.ca.gov/cgi-bin/postquery?bill\\_number=ab\\_184&sess](http://www.leginfo.ca.gov/cgi-bin/postquery?bill_number=ab_184&sess)

## Business Forum

### November Luncheon Meeting

Date: Thursday, November 15, 2001  
Time: Board Meeting  
11:00am-12:00pm  
Lunch/Program  
12:00pm - 1:30pm  
Place: Game Room, City Club,  
155 Sansome Street, San Francisco  
Cost: \$20.00 Business Forum Member  
\$35.00 Non-Business Forum Member  
Speaker: George Schrohe  
President  
Management Design

Topic: What a Strategic Plan Is, What It Is Not

A Strategic plan is your carefully considered written description of how you will gain competitive advantage by capitalizing on the unique capabilities of your firm.

A well-managed planning process helps you run your business in several valuable ways:

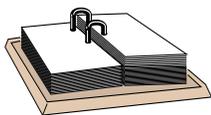
- Defines where you want to go in the marketplace.
- Determines how you will devise and sell products and services to reach your goal.
- Helps you plan for the resources you'll need in the future.
- Helps create an adaptive organization that can take advantage of unexpected changes, inside or outside the company, without being thrown off balance.

George Schrohe is the President of Management Design, Business consultants to design industry professionals. With almost 30 years of experience working with architecture, planning, engineering and environmental consulting firms, Mr. Schrohe is nationally recognized for his understanding of the management and business issues facing design professionals.

Mr Schrohe assists his clients to establish and implement long term goals, strategies, and action plans, and facilitates professional development programs. Mr. Schrohe also conducts client perception surveys from which promotional and business development plans are designed. To improve financial results, he refines and integrates financial and project cost management processes. Mr. Schrohe's experience in implementing ownership expansion and transition programs, as well as successful mergers and acquisitions, has resulted in the continuation of many firms beyond the founding entrepreneurs.

# Bulletin Board

## CALENDAR OF EVENTS



Nov. 13th East Bay Dinner Meeting - The Faculty Club, U.C. Berkeley RSVP: 415/974-5147 (see insert for map and directions)

YMF SEAONC Student Night for U.C. Berkeley will coincide with the dinner meeting at U.C. Berkeley on Nov. 13th.

Nov CAD courses:

Nov. 1st through 10th  
Russ Building, 235 Montgomery St., San Francisco (to register, call 415/974-5147)

Nov. 15th - Business Forum Luncheon City Club, San Francisco RSVP: 415/974-5147

Nov 7th and Nov 14th  
New Technologies Seminar  
PG&E Building, San Francisco  
(see insert)

## MEMBERS IN THE NEWS

### ***EQE's DR. NIAZ NAZIR, S.E., RECEIVES PROMOTION***

Oakland, CA. EQE Structural Engineers, a Division of ABS Consulting, has named Principal Structural Engineer, Dr. Niaz Nazir, S.E., as Group Manager in its Oakland office. As such, Dr. Nazir is one of three Group Managers responsible for managing a staff of 40 persons within the Northern California regional offices located in Oakland and San Francisco. Dr. Nazir joined the firm in 1999. He has over fourteen years of professional experience in structural design of new buildings and seismic rehabilitation of existing buildings. He received his Ph.D. in Structural and Earthquake Engineering and his M.S. in Civil Engineering from the University of California, Los Angeles. He lectures at the University of California Berkeley-Extension on structural analysis and design on a regular basis. Among Dr. Nazir's notable projects are the Hilton Garden Inn, comprising a new and an historic building rehabilitation in downtown Oakland, and the new East Oakland Swim Complex, comprising an indoor Olympic sized pool, running track, and bowling alley.

## ***FORELL/ELSESSER ANNOUNCES FIVE PROMOTIONS***

Forell/Elsesser Engineers, Inc., a San Francisco-based structural and civil engineering firm, recently announced the promotion of five employees to Associates. These include three Engineers—Stan Tuholski, Derek Westphal and Rene Vignos, as well as two key Administrators—Jenny Huang, Accounting Manager, and Irene Lauren, Director of Business Development. According to company President David Friedman, "Each of these new Associates has become an active and integral part of Forell/Elsesser Engineers, Inc. This promotion acknowledges their increasing leadership within the firm, and their outstanding contributions towards providing quality project engineering and management services."

### **SEAONC Multimedia Projector for Rent**

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

# Committee Chairs

#### ***Professional Practices***

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#### ***Public Relations***

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#### ***Program Chair***

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#### ***Disaster Emergency Services***

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Derek Westphal  
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derek@forell.com

Outstanding engineers with excellent communication skills sought by award-winning **DeSimone Consulting Engineers** in San Francisco. We are seeking ambitious individuals, from entry-level to Senior Project Managers and MSSE's, for the design of multi-story buildings. Our office is directly adjacent to BART and MUNI. A successful and growing firm, DCE also has offices in New York & Miami. For more information on DCE and a general overview of our project mix, visit our website at [www.de-simone.com](http://www.de-simone.com). Join our exceptional team of professionals! Send your introduction letter and résumé to Mr. Ted Canon, DCE, 10 United Nations Plaza, Suite 410, San Francisco, CA 94102.

**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).

**Interactive Resources Architects & Engineers** ([www.intres.com](http://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.

Structural designer position available with a Modesto based structural consulting office. Minimum 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 resume to **Lawder Engineering**, PO Box 3206, Modesto, CA or fax to 209/521-1166.

**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](mailto: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](mailto:sharonberman@rpse.com). For more details please visit [www.rpse.com](http://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](mailto:prevelli@ruthchek.com). Also visit our web site at [www.ruthchek.com](http://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](http://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](mailto:jobs@sgh.com).

**Structural Design Engineers** seeks staff/project structural engineers with experience in wood, masonry, concrete and steel design. Min. 4 years experience. MS and C.E. license preferred. Computer analysis skills important. Send résumé to: Structural Design Engineers, 120 Montgomery St., Suite 1410, San Francisco, CA 94104.

**Structural Design Group of Santa Rosa** is looking for a motivated engineer looking to get in on the ground floor of a young, fast growing company. Associate position available for a bright, creative individual with experience in educational facilities, low rise commercial, or residential structures. We offer unlimited opportunities for career advancement with ownership potential 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)

**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

**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

Continued from page 8

regarding Watry Design, Inc., please visit our web site at [www.watrydesign.com](http://www.watrydesign.com). Submit all résumés to: Watry Design Inc., 815 Hamilton Street, Redwood City, CA 94063 attn: Therese Cook or you can send electronically to [cook@watrydesign.com](mailto:cook@watrydesign.com).

**Nagamine Okawa Engineers**, a Honolulu Structural Engineering firm, seeks a structural engineer with MS & 2 yrs exp min. Must be skilled, motivated and want to live in paradise. Send résumé to Nagamine Okawa Engineers, 1001 Bishop St, Suite 725, Honolulu, HI 96813. Fax: 808/536-3926.

**Ansari Structural Engineers, Inc.**, a growing consulting firm in SF, seeks a PM with min. 8 yrs of experience in bldg design & S.E. license. We are also seeking a motivated, project engr w/ 1 to 3 yrs of experience. Excellent analytical and communication skills required for both positions. Knowledge of CADD is a +. We offer excellent growth opportunities, flexible schedule, and competitive benefits in a friendly atmosphere. Our projects are challenging & exciting. Our project types include retrofit of historic structures & design of medical and institutional facilities. If interested fax your résumé to Mehri Ansari @ 415/348-8947 or e-mail to [mehri@ansariinc.com](mailto:mehri@ansariinc.com).

Experienced Structural Project Engineer: **HGA** is a 600+ person award-winning architectural, engineering and planning firm headquartered in the upper Midwest. Currently we have a growth opportunity for a Structural Project Engineer in our Roseville, California regional office. (Roseville is located 20 miles east of Sacramento near Folsom Lake.) Candidates must have at least 4 years' design experience on large-scale project types. Since we are very team oriented, candidates must enjoy being part of a project team and demonstrate very good "people" skills. If you consider yourself to be detail-oriented, thorough in your work processes and someone who understands the importance of successfully managing project deadlines, let us hear from you. This position also offers professional growth, including an opportunity to keep abreast of current and future technology trends, personal recognition and great projects. Be sure to check our web site [www.hga.com](http://www.hga.com)! Human Resources Director, **Hammel Green and**

**Abrahamson, Inc.**, 1613 Santa Clara Drive, Roseville, CA 95661, 916/784-7717, 916/784-7738 (fax), EOE/M/F.

**HBE Corporation** is currently searching for Structural Engineers with a minimum of 10 years of Structural Engineering experience for commercial buildings. A Master's Degree with an emphasis in Structural Engineering is preferred. Will perform complete Structural Engineering tasks for building structures. One opening needs to have a working knowledge with seismic design for essential facilities and experience with seismic upgrade will be a plus. Must be able to execute computer analysis using ETABS7, SAFE2000, and/or RAMSTEEL. The other opening is for a Structural Group Leader with 15-20 years of experience. This person will manage the timely production of structural documents which is coordinated with all disciplines. Please send your résumé with salary considerations and references to Director of Personnel HBE Corporation 11330 Olive Blvd., St. Louis, MO 63141 Fax: 314/567-0573 E-Mail: [prsnldir@hbecorp.com](mailto:prsnldir@hbecorp.com) Website: [www.hbecorp.com](http://www.hbecorp.com) EOE, M/F/H/V.

Sacramento's largest Architecture/Engineering firm seeks qualified engineers. Minimum 2 years experience structural design and detailing of buildings. California CE, SE preferred. Multiple positions available. Strong communication/teamwork skills essential. Project management skills a plus.

**Lionakis Beaumont Design Group, Inc.** Forward résumé to [jobs@lbdg.com](mailto:jobs@lbdg.com) or Fax to: 916/558-1919 Reference number E2.

**Structural Engineers, Inc.** currently has openings in their Los Altos and San Francisco offices for engineers with a minimum of 5 years experience, and professional registration. Company emphasis is design of commercial buildings including office, manufacturing, industrial, retail and institutional. Competitive compensation and excellent company sponsored benefit package. Résumé to: Structural Engineers, Inc., 4970 El Camino Real, Suite 100, Los Altos, CA 94022 Fax 650/938-5538 or via e-mail to [aott@structuralengineersinc.com](mailto:aott@structuralengineersinc.com).

## ICBO Releases New Steel Design Duo

ICBO Publications has just released a two-volume set of manuals on Structural Steel Design written by best-selling author Alan Williams, Ph.D., C.E., S.E. Volume 1 focuses on the Allowable Stress Design (ASD) method, and Volume 2 covers Load Resistance Factor Design (LRFD). The new set is co-sponsored by the National Council of Structural Engineers Associations (NCSEA).

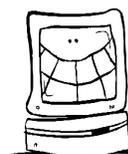
Structural Steel Design, Volume 1: ASD contains 120 design examples, while Structural Steel Design, Volume 2: LRFD contains 100 design examples, based on AISC's steel construction manuals adopted by reference in the building code. The step-by-step solutions and applications provide an understanding and appreciation for each method of steel design. Both volumes reflect current design procedures and provide concise solution techniques for design problems.

The books were developed for practicing engineers, professional examination candidates and students to use for self-study of AISC's manuals or as everyday desk references. Each volume

*Job Forum insertion fee:  
\$150 up to 450 characters/spaces  
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**December News  
deadline:  
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**Submit your articles by  
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## AutoCAD TRAINING COURSES

### SEAONC Special Seminar Series

There is still space in the November classes--sign up now!

#### SA-3.4 The Plot Thickens: Getting your Drawings onto Paper

Topics to be covered: Plotting in AutoCAD 2000, 2000i, and 2002; and Plotting drawings from architects and other consultants.

Class One:

6:00-9:00pm Tue., Oct. 30, 2001

Class Two:

6:00-9:00pm Thurs., Nov. 1, 2001

Class Three:

9:00am-12:00 noon, Sat., Nov. 3, 2001

Class Four:

1:00pm-4:00pm Sat., Nov. 3, 2001

#### SA-3.5 Share and Share Alike: Sharing drawings and parts of drawings - One 6 hour or two 3 hour sessions

Topics to be covered: Blocks, xrefs, and raster images; AutoCAD DesignCenter; Internet features; swapping drawings with other people and programs; and applications to structural drafting.

Class One:

6:00-9:00 p.m. Tues., Nov. 6, 2001  
and 6:00-9:00pm Thurs., Nov. 8, 2001

Class Two:

9:00-4:00pm Sat., Nov. 10, 2001

Russ Bldg., 235 Montgomery Street,  
San Francisco

Call the SEAONC office at 415/974-5147 for details, or to sign up.

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## New Members

### Member SE

Dale Jones

Structural Engineer, Spurgeon  
Engineering

Daniel Lee

Plan Check Engineer, City of San  
Jose, Bldg. Division

### Member

Gregory Benkovich

Senior Engineer, Ben C. Gerwick

Mohamed Genidy

Project Manager, G Plus M  
Engineering Group

Shari Day

Independent Consultant

### Associate

Michael Allen

Designer, Degenkolb Engineers

Mereoni Bola

Staff Designer, Watry Design Group

James Connolly

Engineer, Ben C. Gerwick

Thuy Nguyen

Design Engineer, Hohbach-Lewin  
Inc.

Robert Pekelnicky

Designer, Degenkolb Engineers

Wallant Poon

Staff Engineer, Camp Dresser &  
McKee

Brian Shen

Staff Engineer, Dasse Design

Tracy Fidell

Structural Designer, Liftech  
Consultants Inc.

Svetlana Khaykina

Engineer, Nabih Yosset

### Student

Ayse Hortacsu

Stanford University

## Posting for Membership

### Member SE

Stephen Burns

Senior Structural Engineer, Nabih  
Youssef & Associates

Afshar Jalalian

Structural Engineer, Rutherford &  
Chekene

Marco Scanu

Senior Associate, Forell/Elsesser  
Engineers

### Member

Pamalee Brady

Assistant Professor, California  
Polytechnic State University

Anita Chu

Engineer, Ove Arup and Partners  
California Ltd.

Ronald Cruz

Structural Designer, Structural  
Engineers, Inc.

Anindya Dutta

Lead Engineer, ABS Consulting,/EQE  
Structural Engineer's Division

Cynthia Egan

Principal Engineer, Geomatrix Consult-  
ants

John Jones

Project Manager, Winzler & Kelly  
Consulting Engineers

Vicki May

Assistant Professor, Cal Poly State  
University

Adrian Nacamuli

Designer, Degenkolb Engineers

### Associate

Matthew Arroyo

Junior Engineer, Biggs Cardosa  
Associates

John Castagnoli

Project Engineer, Devcon Construction

Jean-Pierre Chakar

Skidmore Owings & Merrill

Wai Yip Chan

Level C Engineer, Skidmore Owings &  
Merrill

Sarah Diegnan

Engineer, Skidmore, Owings & Merrill

Robert Graff

Designer, Degenkolb Engineers

Changmo Kwon

OLMM Consulting Engineers

Jacob Rodriguez

Staff Engineer, Paradigm Structural  
Engineers

### Affiliate

Christopher Craiker

President, Craiker Architects

### Student

Clair Chloe

Graduate Student, Ecole des Ponts Et  
Chaussees

Julie Langlais

Graduate Student, Ecole des Ponts Et  
Chaussees

*Computers and Structures Ad*  
**NEW FILM PROVIDED**

upcoming events

NOV

1-10 November CAD Training Courses

13 SEAONC Dinner Meeting UC Berkeley Faculty Club

7 & 14 New Technologies Seminar (see insert)

15 Business Forum Luncheon

Registration

**Structural Engineers Association of Northern California  
November 13th SEAONC DINNER PROGRAM, U.C. BERKELEY FACULTY CLUB**

5:45 PM  
General Assembly

6:30 PM  
Dinner

7:30 PM  
Program

*"Greening of the Concrete Industry"*

Location:

**The Berkeley Faculty Club**  
The Great Hall,  
#1 Faculty Club,  
The University of California at Berkeley,  
Berkeley, CA  
(see insert for map and directions)

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.

**Deadline for pre-registration: 12 noon, Friday, November 9, 2001**

Dinner and program reservations are limited. Register early! No cancellations after 12 noon, Friday, November 9, 2001. *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.*

| <b>COST:</b>              | <b>PRE-REGISTERED</b>         | <b>LATE REGISTRATION</b>      |
|---------------------------|-------------------------------|-------------------------------|
| 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 |