



EQUILIBRIUM

Newsletter of the Seattle Chapter
Structural Engineers Association of Washington

MARCH 2008

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Coming in April

Southwest
Chapter Hosts
our
April Meeting
on the 16th with
a Nucor Steel Mill
tour!

SEAW/ASCE March Joint Dinner Meeting

Be sure to make your reservation early to assure yourself a seat for this month's joint SEAW/ASCE dinner meeting hosted by SEAW's Seattle Chapter. The meeting will be held at McCormick and Schmick's Harborside Restaurant on South Lake Union, featuring an informative, enlightening, and inspirational talk on Green Building Design by Jason McLennan, one of the noted leaders of this rapidly developing movement. In his presentation Jason will discuss the critical need for the building industry to move beyond a paradigm of incrementalism to one of bold steps and action. With discussions about personal change theory and the barriers to true sustainability, Jason's talk is guaranteed to inspire and motivate us to consider what is truly a world of living buildings inside living communities all in a respectful harmonious relationship with nature.

Presenter: Jason F. McLennan, CEO Cascadia Green Building Council

Jason McLennan serves as the CEO of the Cascadia Green Building Council, a chapter of the US Green Building Council and the Pacific Northwest's leading organization in the field of green building and sustainable development. Jason is known internationally as a leader in the green architecture movement and has lectured on sustainability throughout the US and Canada. His work in the sustainable design field has been

published in several magazines, journals, and conference proceedings. Jason is the author of three books: [The Philosophy of Sustainable Design](#), [The Dumb Architect's Guide to Glazing Selection](#), and the [Ecological Engineer](#). The [Philosophy of Sustainable Design](#) has been distributed widely throughout Europe and North America, and is currently being used as a textbook in over 30 universities.

Jason is a former Principal

(Continued on page 8)

The Living Building Challenge



CASCADIA
REGION GREEN BUILDING COUNCIL

Meeting Information

DATE:	Tuesday, March 25, 2008	
PLACE:	McCormick & Schmick's Harborside Restaurant AGC Building – South Lake Union 1200 Westlake Avenue N., Seattle	
TIME:	5:30 - 6:15 Social Hour 6:15 - 7:15 Dinner & Announcements 7:30 - 8:45 Program	
COST:	SEAW Members	\$30.00
	SEAW Non-Members	\$35.00
	Students (with ID)	Free
	Late Registration, add	\$ 5.00

Students Free: Thanks to a generous grant by Degenkolb Engineers and DCI Engineers, students with current ID are invited to attend at no charge.

MENU: Please select from the following:
Lemon Rosemary Chicken with Tuscan Relish
or Vegetable Stir Fry with Sticky Rice
(Vegetarian)

Reservation Deadline: Thursday, March 20

REGISTER ONLINE @ seaw.org or by e-mail at seaw@seaw.org or call 206/682-6026.

Prepayment is appreciated!

FROM THE BOARD: The GREEN Phenomenon

There are some specific reasons for why we should be abetting the Green Building trend sweeping across the country. The wave of the future has been moving on the horizon for 30 years, and now we at SEAW have persuasive reasons to greet that wave arriving on our shores. It used to be, when a new building was to be installed on an existing site, the demo crew would move in, sweep the entire structure into a dump somewhere out of site and out of mind, and begin construction. These days you will see them sorting out the steel for recycling, recovering the metals as they can, and removing the concrete rubble to be reused as part of another project. The available dump space is running out, and the cost of removing the old building economically demands as much recovery as possible.

I have really just started reading up on the US Green Building Council and the LEED (Leadership in Energy and Environmental design). This is a nonprofit organization committed to expanding sustainable building practices. The LEED Green Building Rating System provides a suite of standards for environmentally sustainable construction. Projects may be ranked Certified, Silver, Gold, or

Platinum, depending on a number of factors, including recycling, reuse, and conservation of materials.

The logic seems to be that if an owner achieves one of the above ranks in construction of a project, they will be providing a more marketable structure or service. There is some evidence that marketing a "Green" building will increase the per square foot leasing price, or purchase price on a property, paying back at least some of the extra expenditure associated with the effort. The long term benefit to the entire community will be realized in preservation of resources.

So what does that mean for us huddled in our cubicles insulated from the world at large and designing our little hearts out?

We can specify greater amounts of fly-ash in our concrete mixes where reasonable, to reduce the refuse from coal burning plants. We can encourage the use of underlayments of concrete rubble for

building slabs. We can work with contractors to reuse columns and beams where possible. We can encourage architects to use such products as "High Albedo Concrete" to reduce the heat island effect in large paving areas. We can look at specifying FSC-(Forest Stewardship Council, www.fsc.org) certified products and encouraging sustainable forestry. As a business we can make choices of printing services that offer SFI-(Sustainable Forestry Initiative) certified products, (www.aboutsfi.org) or recycled paper rated by the FSC (seven grades of recycled product depending on end use). We can purchase 30% PCW- (Post Consumer Waste) containing paper, where possible, as it is composed of recycled office waste paper.

Andrew S. McBride, AIA, LEED, AP (University of Richmond, VA) stated "generally if a LEED related point has a pay-back of seven to ten years, it makes sense for an institution to invest in that point."



One of the intriguing trends is the confluence of the price and efficiency of solar panels with the cost of fuel and electricity. We are coming into a time when building owners are recognizing the potential of putting big box warehouse roofs to productive use as solar panel arrays. With research into solar energy finally starting to take off with government programs and advancements making solar technology more attractive, there are more owners willing to invest in the technology. So now when we consider dead loads on roofs, perhaps we need to start including

(Continued on page 8)

2008 Professional Engineer of the Year John D. Hooper, P.E., S.E. of Magnusson Klemencic Associates (MKA)

John D. Hooper, P.E., S.E., is Director of Earthquake Engineering and a Principal at Magnusson Klemencic Associates (MKA), an award-winning 171-person structural and civil engineering firm in Seattle, Washington. John grew up in Everett and has lived in Washington throughout his 27-year career. He is an extremely valuable member of the engineering community, who gives extensively of his time and talents to lead the development of the next generation of seismic safety design requirements.

Professionally, John has contributed to more than 300 projects in his 11 years at MKA, serving in a capacity of

either Principal-in-Charge or Seismic Specialist. His expertise spans all building types, from multi-million-dollar football stadiums to "Essential Facility" medical centers to historic building rehabilitations.

In addition to project work, John is involved with innumerable committees charged with code development, research, standards review, and more. He is involved with the Applied Technology Council, Building Seismic Safety Council, Earthquake Engineering Research Institute, and the International Code Committee, to name a few. He is also active in the Structural Engineers Association of



Washington and was named SEAW's Engineer of the Year in 1995.

John earned his Bachelor of Science of Civil Engineering from Seattle University in 1981 and a Master of Science in Civil Engineering from the University of California at Berkeley in 1984.

- John D. Hooper was Nominated by the American Society of Civil Engineers and the Structural Engineers Association of Washington

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Advertising rates (prepaid, please): Help Wanted/Job wanted, \$50 ; Display ads: Quarter page, \$90; Half Page, \$120; Full Page \$150; inserts, pre-printed 8 1/2 X 11 inch flat, \$150. 10% discount for ads running two or more months. Deadline is the fourth Friday of the month. Contact SEAW for an Advertising Order Form.

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PSEC Awards Banquet

Puget Sound Engineering Council 2008 Awards Banquet



From left, those holding plaques: Eric Herzstein, John Hooper, Arlene McKeeman Brown, Linda De Boldt, Stan Baber, Robert Holtz

The annual Puget Sound Engineering Council Awards Banquet was held at the Palisade Restaurant on February 23, 2008, from 6:00 pm to 11:00 pm. The banquet celebrated the engineering profession and recognized the achievements of members of the profession who have excelled. The general atmosphere was festive, the food was good, and service was prompt and well executed.

Master of Ceremonies Kalan Guiley set the tone for the evening with a reading of President Herbert Hoover's eloquent description of the profession of engineering:

"Engineering: it is a great profession. There is the fascination of watching a figment of the imagination emerge through the aid of science to a plan on paper. Then it moves to realization in stone or metal or energy. Then it brings jobs and homes to men. Then it elevates the standard of living and adds to the comforts of life. That is the engineer's high privilege.

"The great liability of the engineer compared to those of other professions is that his works are out in the open where all can see them. His acts, step by step, are in hard substance. He cannot bury

his mistakes in the grave. He cannot argue them into thin air. He cannot cover his failures with trees and vines. He cannot, like the politicians, screen his shortcomings by blaming his opponents and hope the people will forget. The engineer simply cannot deny that he did it. If his works do not work, he is damned....

"...Unlike the doctor his is not a life among the weak. Unlike the soldier, destruction is not his purpose. Unlike the lawyer, quarrels are not his daily bread. To the engineer falls the job of clothing the bare bones of science with life, comfort, and hope.

"No doubt as years go by the people forget which engineer did it, even if they ever knew. Or some politician puts his name on it. Or they credit it to some promoter who used other people's money..

"But, the engineer himself looks back at the unending stream of goodness which flows from his successes with satisfactions that few professions may know. And the verdict of his fellow professionals is all the accolade he wants."

Keynote Speaker Timothy

Moore P.E., S.E. followed this introduction with a fascinating presentation describing the design and construction of the third Tacoma Narrows Suspension Bridge, a major and complex engineering endeavor.

An advisory measure to create a second Narrows span was approved in 1998 by voters in several Washington counties, and construction of the new span began on October 4, 2002. The bridge was dedicated on July 15, 2007.

The project faced very challenging site conditions, including very deep water, swift tidal flows, proximity of the existing bridge, potential for ship impact, high seismic potential and associated landslides. State of the art non-linear time-history computer analysis including soil-structure interaction and unique wind model testing efforts were conducted to establish design criteria to overcome the challenges.

Mr. Moore, with the aid of excellent photographs and visual aids, gave the audience a broad understanding of how this complex project was accomplished using current engineering meth-

ods. He discussed techniques employed in sinking of tower caissons, construction of towers and anchorages, suspension cable spinning, orthotropic deck truss superstructure erection and bridge deck finishes. He also mentioned the elaborate coordination necessary to maintain the schedule with delivery of large, heavy steel deck sections from Korea, the lifting of the sections to the cable and trapezing into place, while the vessel returned to Korea for another load; the impact of wire corrosion from poor packaging on cable construction; and the unexpected delay in delivery of 100 ton expansion joints because a special truck was required for Washington highways.

The Tacoma Narrows Suspension Bridge program provided a vivid example of the challenges to be met and the satisfaction to be derived from participation in the engineering profession.

Concluding the evening, PSEC President Kelly Griswold and Banquet Chair Kalan Guiley presented the awards to an outstanding group of engineers possessing remarkable achievements. (List of awards is presented below).

And the Award Goes to...

2008 Academic Engineer of the Year

—Robert D. Holtz, Ph.D., P.E.

2008 Government Engineer of the Year

—Linda E. De Boldt, P.E.

2008 Young Engineer of the Year

—Eric S. Herzstein, P.E.

2008 Engineering Educator of the Year

—Stan Baber

2008 Industry Engineer of the Year

—Arlene McKeeman Brown

2008 Professional Engineer of the Year

—John D. Hooper, P.E., S.E.

Meeting Recap

The annual ACI/SEAW Joint meeting was hosted by ACI at McCormick and Schmick's Harborside Restaurant at the AGC Building on South Lake Union. Well over 100 attendees filled the room to capacity to hear Cary Kopczynski, the CEO of Cary Kopczynski and Company Structural Engineers, present Escala, a 31 story condominium project currently under construction in downtown Seattle.

The project has several unique design features. The foundation excavation is one of the deepest in Seattle, being over 100 feet deep. The foundation mat was 7 feet thick, with the concrete for the entire mat being placed in a single pour.

Large deflections due to long cantilevers at decks and balconies were addressed with deep-

ened slab outriggers at columns and tube steel deflection columns. A concrete strength of 8000 psi was specified for the PT slab and 14000 psi for the columns.

Due to the nature of the project (condominiums) the elevators were required to go from a reserved parking space directly to an owner's unit. This required doors opening to the outside as well as the inside of the core, limiting the amount of shear wall available. Thus a dual shear wall and moment-resisting frame seismic system was developed, with story-deep transfer beams at levels where columns changed location.

Column tie and shear wall boundary steel reinforcement presented a formidable challenge. An initial design with

60 ksi tie and hairpin reinforcement resulted in #6 ties at 4 inches on-center. An investigation with 100 ksi steel resulted in #5 hoop and cross ties at 4.5 to 6 inches on-center, resulting in a substantial savings of reinforcing and rebar congestion. The present Code limits column ties to 60 ksi, whereas the new ACI 318 Code will permit 100 ksi tie steel. During the permit process special submittals and other data were required by the City of Seattle to assure that the approval of this new ACI 318 code change proposal would in fact take place.

Escala is the first project in North America, and possibly the world, to use 100 ksi rebar for seismic confinement in North America, and was featured recently in Engineering News-Record. ENR reported

that the 100 ksi rebar was easy to bend but a little more difficult to cut, and is about 30 percent more expensive.

Lastly, a column-hung forming system will be utilized for the floor. This will eliminate shoring and reshoring, making the floors immediately available for other trades. The contractor is planning to place concrete in a single pour at each floor, with a pour schedule of one floor per week.

-by Scott Douglas

Scott Douglas is a Senior Project Manager with DCI Engineers. A member of SEAW for over 25 years, he is currently Vice President and Program Chair of the Seattle Chapter. Scott can be reached at sdouglas@dc-engineers.com

A Governor's Proclamation

The State of Washington Engineers Week Proclamation

A delegation from the Puget Sound Engineering Council (PSEC), including the following engineers, attended a proclamation signing ceremony with Governor Gregoire in her office on February 6, 2008:

- Donald Northey, PE, SE - Past-President Puget Sound Engineering Council (PSEC), and Past-President of the Structural Engineers Association of Washington (SEAW).
- Deborah Limb, Director of Payloads and Structures Engineering for Boeing Commercial Airplane Programs as a representative of Boeing, a Corporate Sponsor of EWEEK.
- William Henry, PE, Past-President of the American Society of Engineers (ASCE National).
- Ed Huston, PE, SE, President of the National Council of Structural Engineer Associations (NCSEA), Past-President SEAW.

- Paul Grant, PE, President-Elect PSEC, Past-President ASCE Seattle Section.
- Linda Thomas, Region Governor (Alaska, Washington, Oregon, Idaho, Montana) for the Society of Women Engineers (SWE).

The purpose of this ceremony was to highlight Engineers Week to our community. The engineering profession is responsible for much of the quality of life that our community enjoys. Engineers are proud of their profession and look forward to this important celebration.

Governor Gregoire noted that more people are needed in the engineering profession and K-12 students need to be encouraged to study science and mathematics in order to prepare for participation in

the interesting, rewarding and fulfilling profession of engineering.

She mentioned she has talked with Bonnie Dunbar at the Museum of Flight, about stu-

dents in engineering. Out of that conversation the Aerospace Scholars program was formed. Two groups of students went through that program last year.



Engineers Observe as Governor Gregoire signs Proclamation
From left, Don Northey, PE SE (SEAW/ASCE), Bill Henry, PE (ASCE), Ed Huston, PE, SE (SEAW/ASCE), Paul Grant, PE (ASCE/SEAW)

PSEC Engineers Fair

SEAW Members Volunteer at Engineers Fair



Ryan Morgan discusses construction materials with a visitor



Computer technology display and engineered wood samples

As part of national Engineers Week, the Puget Sound Engineering Council hosts an annual Engineers Fair. This year's fair was held on Saturday, February 16th at the Museum of Flight and was attended by about twenty local engineering societies and colleges. The Engineers Fair is also the site of the Popsicle Stick Bridge competition hosted by the American Society of Civil Engineers, a hands-on activity where West-

ern Washington high school teams build bridges out of Popsicle sticks and white glue and load test them to failure.

SEAW was present at the Engineers Fair with a booth organized by the Younger Member Forum (YMF). Staffing the booth were Barry Wenger and Janet Miller from Magnusson Klemencic Associates, Ben Piermattei from Jacobs Associates, Cale Ash from De-

genkolb Engineers, Dennis Pradere from MLA Engineering, Karen Kramer from Puget Sound Energy, Richard Hawksworth from BTL Engineering and Ryan Morgan from Coffman Engineers.

The SEAW booth had both display boards and hands-on material samples. One display board had photos of earthquake damage from both the Nisqually and Northridge

events, expressing to visitors the important role structural engineers play in public safety. Another display board had graphics showing how structural engineers use computer models to analyze and design buildings and tunnels.

The hands-on material samples included concrete cylinders and rolled steel sections as well as bolts, rebar couplers, expansion anchors and several engineered wood products. These samples were the most popular part of the display as visitors would stop by and ask about application examples. In particular, the engineered wood products generated several questions about their strength and economy relative to sawn lumber.

The Engineers Fair was a great opportunity for the volunteers to represent SEAW and the structural engineering profession and their participation is appreciated.

YMF Corner: From the Chair—YMF Leadership Opportunities

The Younger Member Forum held a planning lunch on February 5 to collect member input on YMF programs and activities. We were fortunate to have Seattle Chapter president Shelley Clark and former president Mark Pierpiekarz in attendance to help guide the discussions and provide input from a Chapter leadership point of view.

The agenda included an introduction to the current leadership structure of the YMF with Chad Taylor and Ben Piermattei reviewing their duties as Social and Outreach representatives, respectively, while Shelley discussed her role as Advisory Chair and I explained the responsibilities of the Chair. The Vice-Chair position had been vacant and Melissa White (Swenson Say Faget) expressed her inter-

Welcome to the YMF Corner. This new section of the newsletter is designed to keep the Seattle Chapter updated on Younger Member Forum activities. It will recap recent meetings, feature YMF members and advertise upcoming events. Make sure to check back monthly for updates.

- Cale Ash - cash@degenkolb.com

est in the role and we welcome her to the leadership core. A new development is the creation of the Past-Chair position at Mark's suggestion to help maintain continuity in the YMF leadership.

The next step from a leadership standpoint is to formalize the annual transition of representatives to provide opportunities for everyone to get involved. The best time for new leaders to be elected is at the April monthly meeting; this parallels the election of Seattle Chapter officers and directors. The leadership transition would then occur at a meeting in May. I will discuss the logistics with the Board at the next meeting and send a for-

mal announcement to all YMF members.

We also reviewed the 2007 activities and then discussed new activities to incorporate for 2008. Some of the ideas include:

- Organize a YMF softball team as part of an engineer league. Andy Chronister (Swenson Say Faget) and Ryan Thody (Coughlin Porter Lundeen) are currently working out the details and more information will be coming.

- Expand our university outreach efforts by working with UW and Seattle U student ASCE chapters.

- Plan service activities where we can get out into the com-

munity and share knowledge about the role of structural engineers. Jared Plank (Magnusson Klemencic Associates) has expressed his interest in helping to initiate this program.

As you can see, we have a great group of members and 2008 is shaping up to be an exciting year for the YMF. There are also many leadership opportunities and I personally encourage you take advantage of these as they are a great way to get more involved in SEAW in general.

- Cale Ash

Have You Paid Your SEAW Dues for 2008?

Dues invoices for 2008 were e-mailed on February 5th, and mailed to members without e-mail addresses the following week. Response has been brisk, with over 50% of the membership now paid up. Reminders will be e-mailed in mid-March.

Want to know if your dues are paid? Follow the login instructions below. If no invoice shows under "Membership Renewal" your membership is current.

Paying Dues Online

Members can pay their dues online using VISA or MasterCard.

- Go to the SEAW website at www.seaw.org

- Sign in to the Members-only area.

The default log-in name is your e-mail address, password is your first name. If you changed this information and have forgotten it, click on "forgot password" and your information will be e-mailed to you.

- Click on the "My Membership" tab

- Click "Membership Renewal" in the gray menu bar

- Select an invoice to pay (if you paid your 2007 dues, there will be just one listed)

- Follow the prompts to pay your dues. Note that you will be required to select your name from among the SEAW members at your company.

- On successful completion of your transaction a confirmation page will display. You will also receive an e-mail confirmation.



Meetings/Seminars

Two-part Seminar on Serviceability Considerations For Floor Systems: Design and Construction

Friday, March 14 — Part I
Friday, May 16 — Part II

Doubletree Inn, Seatac
18740 Pacific Highway S.
Seattle

Register now for the upcoming two-part seminar being sponsored by the **Structural Engineering Association of Washington**. Speakers will share topics not specifically addressed by Design Standards relating to serviceability considerations in the design and construction of steel- and concrete-framed structures. **Serviceability topics to be presented include, but are not limited to, vibration, short and long term deflection, camber, creep, shrinkage, construction tolerances, shoring and reshoring.** Presentations will also include practical case studies. A question and answer panel discussion will follow the presentations at each seminar.

Thomas M. Murray, P.E., Ph.D. is the Montague-Betts Professor of Structural Steel Design at Virginia Tech and is the first author of the AISI/CISC Design Guide 11, "Floor Vibrations due to Human Activity". He has published

many papers on the subject of floor vibrations and has presented seminars on the subject in numerous countries. Murray is a member of the American Institute of Steel Construction and the American Iron and Steel Institute specification committees, as well as the AISI Committee on Manuals and Textbooks. He has received excellence in teaching awards from both the University of Oklahoma and Virginia Tech. In February 2002, he was elected to the National Academy of Engineering.

Greg Schindler, S.E. is an Associate at KPFF Consulting Engineers. He has practiced structural engineering for 34 years and has been involved in the design of many major projects in the Northwest. A past President of both SEAW and NCSEA, Greg currently serves on the NCSEA Code Advisory subcommittee for Special Inspections and Quality Assurance, and is one of the editors of *Structure Magazine*.

Bijan Aalami, S.E., Ph.D. is a Professor Emeritus of Civil Engineering at San Francisco State University. For over three decades, Bijan has been a driving force in the structural design industry and has made significant contributions to the

advancement of bridge and building design with software tools, design literature including numerous PTI technical notes publications, consulting, and training services. Dr. Aalami has been actively engaged in the design and construction of numerous notable post-tensioned buildings, and special structures. Additionally, he has advanced the industry through worldwide educational seminars and

extensive publications on concrete design. In 2003, the Post-Tensioning Institute conferred upon Dr. Bijan O. Aalami lifetime membership in recognition of his outstanding technical leadership and remarkable contributions to the post-tensioning industry.

A certificate will be available upon completion. For more information visit the SEAW website at www.seaw.org

Mark Your Calendar

March 2008

Friday 14th SEAW seminar series Part I: "Floor Vibrations - A Critical Serviceability Issue"

Tuesday 25th Joint meeting with ASCE: Green Design

April 2008

Wednesday 16th SW Chapter Hosts: Nucor Steel Mill

May 2008

Friday 18th SEAW seminar series Part II: "Serviceability of Concrete Floors"

Tuesday 27th Seattle Chapter Spring Social and Wine Tasting Evening Awards and Recognition event

June 2008 21-22 SEA NW Conference: SEA of Idaho hosts.

Watch the SEAW website for Calendar updates!

Meetings/Seminars

Excellence in Concrete Construction Awards

**CALL FOR ENTRIES 2008
Awards for Excellence in Concrete Construction**

**Entry Deadline – March 28
2008 Awards Banquet – May 1**

The Washington Aggregates and Concrete Association is pleased to formally recognize your professional accomplishments in the outstanding use of Ready Mix Concrete throughout Washington State. Entries are juried by an independent panel of industry professionals comprised of 2007 award winners. Finalists and a category winner are selected from each of the eight categories. The Grand Award winner will be awarded to the category winner that best reflects the unique advantages of Ready Mix Concrete. In recognition of their contributions, our Concrete Awards will be presented to the Owner, Architect, Contractor, Structural Engineer, Concrete Contractor and Ready Mix Supplier.

For submittal guidelines and an entry form, visit www.washingtonconcrete.org and click on "Excellence in Concrete Construction awards" under "Quick Links"

Steel Joist Seminar

**Tuesday, April 22, 2008
Embassy Suites, Portland Airport**

MYRTLE BEACH, S.C. – The Steel Joist Institute and Steel Deck Institute are co-sponsoring "Exploring Building Design with Steel Joists, Joist Girders and Steel Deck", a full-day, in-depth, five-part program designed to help engineers, architects and other design professionals determine when steel joist and steel deck construction is the best solution.

Highlights of this comprehensive program include: proper specification of steel joists and joist girders; proper use of joist substitutes and extended ends; proper specification of roof deck, floor deck and form deck; determination of bridging re-

quirements for the erection and overall stability of steel joists, joist girders and steel deck; and better understanding of the capacity of diaphragms made with steel decks and composite steel decks. The seminar also covers the application of steel joist and deck products when subject to various gravity and environmental loading conditions such as rain (ponding), seismic, snow, wind, etc., concentrated or non-uniform loads, and lateral loads.

In addition to overall design recommendations and helpful hints, the seminar features detailed design examples that utilize steel joist and deck for both gravity and lateral load conditions.

The seminar benefits anyone involved in the design or qualification of building structures. Structural engineers and engineering managers or supervisors as well as those responsible for auditing, reviewing or approving such designs are encouraged to attend. The program is led by SJI and SDI staff and steel joist and steel deck engineering professionals employed by member companies of the institutes.

Each participant earns 0.75 CEUs or 7.5 PDHs. Cost per person is \$295, which includes an instructional binder containing the course presentations, the SJI 42nd Edition Catalog (2005) and the following SDI publications: Design Manual for Composite Decks, Form Decks and Roof Decks (2007), Roof Deck Construction Handbook (2000), Composite Deck Design Handbook (1997) and Designing with Steel Form Deck (2003). These publications have a combined total value of \$125. A continental breakfast and a lunch also are included in the fee.

Registration is available now. To register and pay online, visit www.steeljoist.org or call (843) 626-1995 to request a registration form via fax.

Besides setting standards for

the steel joist industry, the Steel Joist Institute works closely with major building code bodies throughout the country, helping to develop code regulations regarding steel joists and joist girders. The institute also invests thousands of dollars in ongoing research related to steel joists and joist girders and offers a complete library of publications and other training and research aids. The Steel Joist Institute is a not-for-profit organization. For more information, visit www.steeljoist.org.

Since 1939, the Steel Deck Institute has provided uniform industry standards for the engineering, design, manufacture, and field usage of steel decks. The SDI is concerned with cold-formed steel products, with various configurations distinctive to individual manufacturers, used to support finished roofing materials or to serve as a permanent form and/or positive reinforcement for concrete floor slabs.

Free NEES Webinar on Seismic Performance of Bridge Systems

Tuesday, March 25, 2008

Sign up now for "Seismic Performance of Bridge Systems with Conventional and Innovative Designs," a 90-minute online webinar highlighting new NEES research and its practical implications. University of Nevada, Reno Professor Mehdi "Saiid" Saiidi and Michael Keever of the California Department of Transportation, will explain:

- How bridge components were tested at various facilities, and results were aggregated through hybrid testing technologies
- Soil-structure effects at the footings and the abutments
- Abutment-superstructure interaction and effect on bridge piers
- The relative performance of components, bridge piers, and bridge systems

- The effectiveness of new fiber composite piers and column plastic hinges
- How the bridge model performed relative to current design assumptions and philosophies

You can participate in this training session via WebEx at noon EDT and again at noon PDT on **Tuesday, March 25**, or download the broadcast at any point after that date. To participate, you must preregister at www.nees.org.

This session is co-sponsored by the Network for Earthquake Engineering Simulation (NEES) and the Earthquake Engineering Research Institute (EERI).

Structural Masonry Design Seminar

The **Northwest Concrete Masonry Association** will be conducting a one-day seminar focusing on the design of reinforced concrete masonry construction. Both working stress and strength design methods of the 2006 IBC and 2005 MSJC codes will be covered.

The seminar will be held throughout the northwest as scheduled below:

April 16 Spokane

May 7 Seattle

May 29 Portland

June 4 Seattle

June 12 Tri-Cities

July 17 Boise

The seminar will cover design examples of masonry building elements by manual and automated methods. It is aimed at practicing engineers who want to learn how to design masonry in a practical and efficient manner.

Additional information can be obtained from the Northwest Concrete Masonry Association at 425.697.5298 or www.nwcma.org.

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Meetings/Seminars

(Continued from page 7)

18th Analysis and Computation Specialty Conference

April 24-26, 2008

Hyatt Regency Vancouver Vancouver, BC, Canada

The 18th Analysis & Computation Specialty Conference will be held April 24-26, 2008 in Vancouver, B.C. in conjunction with the ASCE/SEI Structures Congress. In addition to two A&C plenary sessions and 14 track sessions, registrants can take advantage of educational sessions and special events planned for the Structures Congress.

A&C Plenary Session

The A&C Specialty Conference begins on Thursday, April 24 at 2:15 PM with a plenary session, "Distance Learning and Professional Education for Structural Engineers." Nelson Baker, Ph.D., associate professor of structural engineering and associate vice provost for distance learning and professional education at Georgia Institute of Technology, will speak on the challenges

and opportunities for structural engineers in distance learning and professional education.

Bruce Finlayson, Ph.D., professor emeritus of chemical engineering at the University of Washington, will offer a glimpse into a future where nonlinear finite element analysis is coupled with phenomena such as heat transfer, fluid flow, and acoustics.

<http://lyris.asce.org/t/5113417/30461504/2017/0/>

Volunteer Mentors Needed: Seeking Engineers & Scientists

Washington Aerospace Scholars (WAS) is an educational program for high school juniors. Our aim is to encourage students to consider majors and careers in science, technology, engineering and mathematics. Last fall 225 students from across Washington State were accepted into the program. These students spend six months studying a NASA-designed distance learning curriculum, and then the top-performing 160 stu-

dents will be invited to attend one of four six-day summer residencies at the Museum of Flight. During these residencies, students design a human mission to Mars, receive briefings from professionals, attend tours of science and engineering facilities, and compete in hands-on engineering challenges. During each six-day residency session, the students will have an opportunity to better understand the actual work of engineers and scientists.

We are in need of engineers and scientists interested in volunteering their time to mentor the next generation.

-Each mentor will work with a team of ten Scholars for one week (June 23-27, July 7-11, July 14-18, or July 21-25, 2008).

-The time commitment is generally four hours per day (8am-12pm, Monday-Friday), plus attendance at a closing luncheon banquet on Friday afternoon. Volunteers are

welcome to attend other summer residency activities as their schedules permit.

-Students are competitively chosen and spent six months preparing for the experience.

-Mentors support students as they design a human mission to Mars.

-Mentors provide leadership and guidance, but are not expected to be experts in space travel or Mars.

-Mentors are supported by professional educators and university students, as well as program staff.

-Additional information and applications are available by contacting Rosie Bailer, WAS Coordinator, at 206.764.5866 or rbailer@museumofflight.org, or at www.museumofflight.org/washingtonaerospacescholars.

Mentor Application Deadline: Friday, March 28, 2008

SEAW Spring Seminar, Part II

Part II of the SEAW Spring Seminar "Serviceability Considerations for Floor Systems: Design and Construction" will take place on Friday, May 16, 2008, from 8:00 AM-3:30 PM at the Doubletree Inn, SeaTac. The seminar is valued at 6 PDH's. Certificates will be available on completion.

This second session will cover *Serviceability of Concrete Floors*. The featured presenter will be Bijan Aalami, S.E., Ph.D., Professor Emeritus of Civil Engineering at San Francisco State University. For over three decades, Dr. Aalami has been a driving force in the structural design industry and has made significant contributions to the advancement of bridge and building design with software

tools, design literature including numerous PTI technical notes publications, consulting, and training services. Dr. Aalami has been actively engaged in the design and construction of numerous notable post-tensioned buildings, and special structures. Additionally, he has advanced the industry through worldwide educational seminars and extensive publications on concrete design.

The cost of the seminar, \$125 for SEAW members, and \$175 for non-members, includes presenter's notes, refreshments and lunch.

To register, visit the SEAW website at www.seaw.org

Cover Story/From Board

(Continued from page 1)

at BNIM Architects, one of the founders of the green design movement in the United States, where he worked on many of the leading high performance projects in the country, including LEED Platinum and Gold and zero energy projects. At BNIM he created the building science team known as Elements, which set new standards for energy and

resource efficiency for many various building types. Jason is also the founder and CEO of Ecotone Publishing, the only dedicated green building publisher in North America. Jason was recently named one of the Top 40 Under 40 most influential individuals in the design and construction field by Building Design and Construction magazine, and Green Designer of the year by Pitch Magazine.

(Continued from page 2)

allowances for future solar panels. We should design parapets for future wind/solar arrays.

Things are changing, and I suppose the key thing for us is to stay flexible and adaptable, and rise to the needs of our dynamic economy.

- Dan Lake

Dan Lake is a Senior Structural Engineer with Engineers Northwest Inc., PS, located near Green lake, where he has worked since graduating from the University of Washington in 1987. Dan is wrapping up his term on the Seattle Chapter Board of Directors this May.

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PPawlak@SeattleStructural.com

Staff Engineers

Established and growing Structural Engineering design firm seeks outstanding individuals to fill immediate openings for Staff Engineers in our Seattle and Tacoma offices. All experience levels considered and encouraged. We're a mid-size dynamic company recognized for our team work, creativity and innovation. Our informal studio setting facilitates collaboration and communication between all staff levels and departments. We combine a very progressive benefits package with a fun, flexible and casual office culture. Our diverse project teams and loyal clients provide opportunities to work with a variety of materials and building types.

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DCI Engineers is a leading-edge, team oriented structural and civil engineering firm with five offices along the West Coast. Being licensed in all 50 states, as well as Canada and Mexico, ensures you will be involved in exciting, high-profile and challenging projects.

DCI was recently honored with the Pinnacle Award by Structural Engineer Magazine for placing in both Best Firms to Work For and Hot Firms 2007.

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Structural engineering firm is seeking a full-time structural engineer, 0-3 years experience. Building inspection or construction experience preferred. A Civil Engineering Degree with a structural emphasis is required. Candidate must possess excellent oral and written communication skills. Structural Design Associates (SDA) is a team of enthusiastic, energetic, and imaginative people with experiences ranging from single-family residences to light commercial buildings constructed with wood, concrete, steel and masonry materials. The candidate we select will be involved with all levels of this process. Starting wage and benefit package are negotiable. Contact Chris Covington at 425-339-0293 or fax resume to 425-252-0916. Structural Design Associates,

2210 Hewitt Ave., Suite 401, Everett, WA 98201. www.sda@strucdes.com

Senior Structural Lead

HDR is an employee-owned architectural, engineering, planning and consulting firm that excels at helping clients manage complex projects and make sound decisions. Approximately 6,000 professionals, including architects, engineers, consultants, scientists, planners and construction managers, in over 140 locations worldwide, pool their strengths to provide solutions beyond the scope of traditional A/E/C firms.

Description:

The Bellevue Office of HDR Engineering is looking for a Sr. Structural Lead. The primary duties of the Senior Structural Engineer include being viewed as a technical expert with recognized authority in structural engi-

HELP WANTED ADS are accepted through the fourth Friday preceding the publication month. The cost for text ads is \$50 per insertion **pre-paid**, with a 10% discount for ads running two or more consecutive months. Ad copy should be limited to 2000 words or less and must be submitted by e-mail. Advertising order forms and information about display advertising, can be found on our website at:

http://www.seaw.org/resources_newsletter.cfm

Or request by e-mailing seaw@seaw.org.

Help wanted ads must be purchased through the newsletter to be included in the SEAW online job board.

neering as it relates to projects and to resolve problems of greater scope and complexity.

(Continued on page 12)

SCAFCO Corporation

Seeking Structural/Civil Engineer

Growing Steel Framing Company in the beautiful Inland Northwest, is looking for a motivated candidate with strong communication skills and structural engineering background.

Key responsibilities and preferred experience:

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- Represent SCAFCO
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F: (509) 343-9056
E-mail: Employment@SCAFCO.com

Opportunities



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ARUP

Opportunities

(Continued from page 10)

Will manage a large variety of unique, complex and challenging structural projects. Projects may include tunnels, hydro power, water/wastewater facilities, terminal facilities, as well as other Water or Environmental related projects.

May plan and develop projects or design activities which have significant impact on major company programs. Will be managing a staff of structural engineers. Although this position may serve as project manager on larger projects, project management is not sole focus of position.

Experience Required:

- Bachelors Degree in Civil/Structural Engineering or Masters Degree in Architectural Engineering - Structural emphasis preferred.

- PE required.
- 10+ years structural engineering experience as it relates to building design.
- Computer knowledge Microsoft Office, AutoCAD, RAM, ETABS, SAFE or similar analytical software.
- Experience in design calculations and layouts. Ability to design and detail in steel, concrete, masonry and wood.
- Requires understanding of gravity analysis and lateral analysis.
- Previous experience with an architectural/engineering or engineering consulting firm.

Apply Online:

<http://www.gojobs.com/seeker/aoframeset.asp?JobNum=5236903&JBID=1404>

Employer JobCode: 080327
[GJ.5236903.1404]

Board Candidates

Nominating Committee Results Announced

The 2008 Nominating committee has submitted the names of the following MEMBERS as candidates for the 2008-2009 Seattle Chapter Board of Directors:

President

Scott Douglas

Vice President:

Michael Bramhall

Peter Opsahl

Directors

Howard Burton

Mark Moorleghen

Dennis Pradere

Matt Toton

Nomination results were emailed to MEMBERS by email, and no additional candidates were put forth by petition by the stated March 7th deadline.

Candidates' statements and ballots will be mailed to MEMBERS in late March, and election results will be announced at the April 16th SEAW Seattle/Southwest Chapter joint meeting.

Thank you to the members of this year's nominating committee: Peter Opsahl, chair; Mark D'Amato; Peter Hart; Dennis Pradere; Ted Smith; and Shelley Clark, advisor.

STRUCTURES CONGRESS '08

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The 2008 Structures Congress takes members of the structural engineering community across the Canadian border into the vibrant city of Vancouver. Whether you're a practicing engineer, researcher, or academician, you'll broaden your horizons by networking with global industry leaders.

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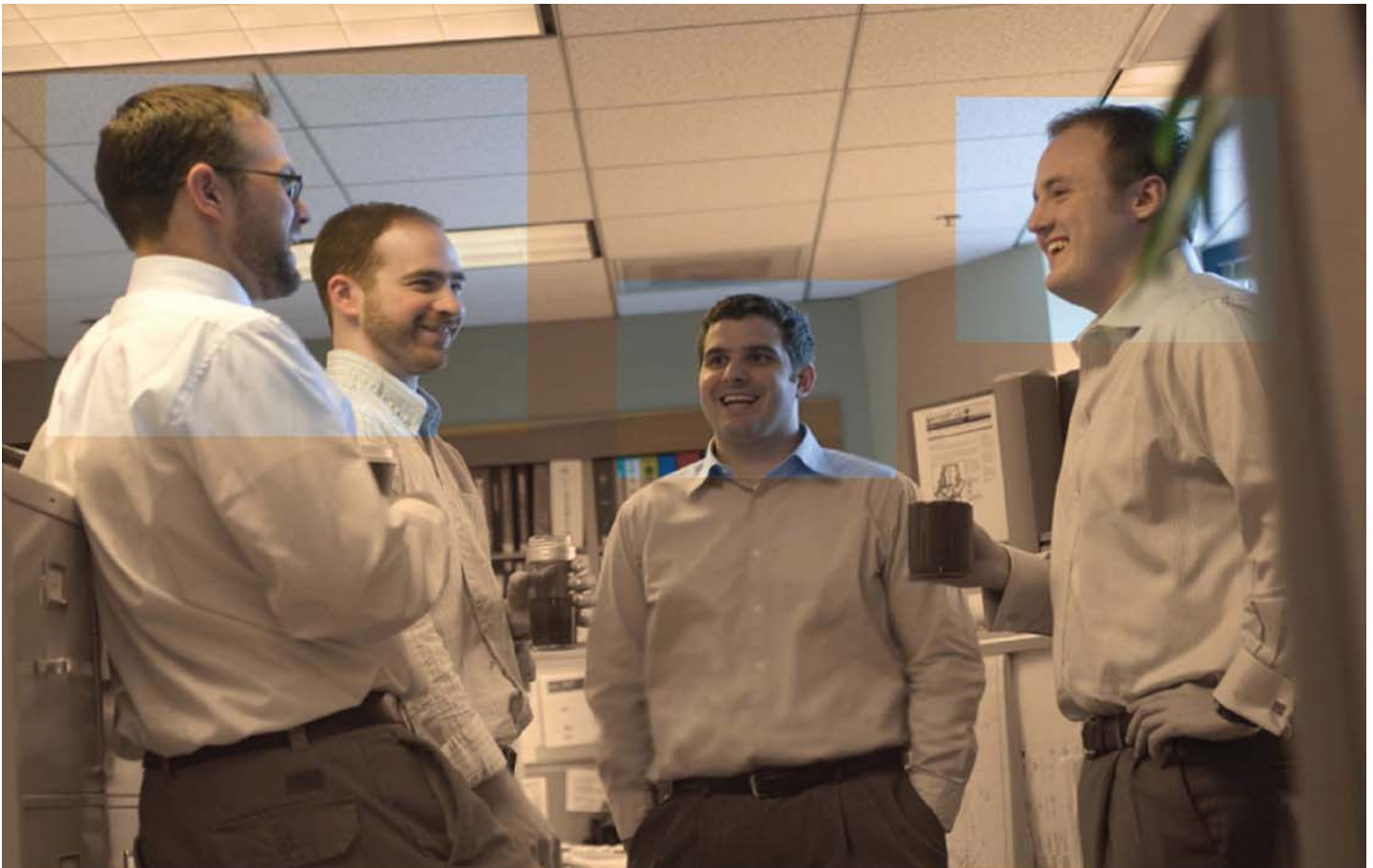
- Nobel Laureate Dr. Carl Wieman's keynote address at the Opening Luncheon.
- The gala Congress Banquet honoring IStructE's centenary with keynoter Dan Doyle of the Vancouver Organizing Committee (VANOC) for the 2010 Olympic and Paralympic Games.
- More than 100 concurrent technical sessions on buildings, bridge and transportation structures, business and professional practice, wind engineering, extreme loads, education, research advances, structural innovation/sustainability, forensic/seismic/large structures, and non-building/special structures.
- Pre-Congress seminars on Wood Engineering Challenges, ASCE 43-05 Seismic Design Criteria, AF&PA's Wood Design Standards, and Maintaining Our Nation's Bridge Inventory.
- Sessions sponsored by CSCE, IABSE, and IStructE on structural engineering projects around the world.
- 18th Analysis & Computation (A&C) Specialty Conference sessions on distance learning and research-based topics.
- CASE Risk Management Program Convocation sessions on Building Information Modeling (BIM), claims and contractual issues, and structural engineering software.

DATES TO REMEMBER

February 28, 2008: Early Bird Registration Deadline • March 31, 2008: Hotel Reservations Deadline • April 22, 2008: Advance Registration Deadline

For more information or to register, please visit www.SEInstitute.org.

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Committees & Chairs

House/Program	Scott Douglas	Wind Engineering	Don Scott	Finance & Auditing	Ted Smith
Code Advisory	John Hooper	Exam Liaison	Ed Huston	Newsletter	OPEN
Earthquake Eng	OPEN	Refresher Course	C. Chevy Chase	Presentations/Awards	Shelley Clark
Building Engineering	Philip Brazil	Scholarship	Bill Mooseker	Emergency Prep	Paul Brallier
Professional Practices	John Tawresey	Legislation	Robert Bourdages	Public Information	OPEN

Membership

Membership Applications

Michael Augustine
Quantum Consulting Engineers
BA/MA Civil Eng 2004
Technical University of Berlin
Class: Associate

Nathan Galer
Cary Kopczynski & Co
BSCE 2002 Michigan State U
Class: Associate

Alan C. Johnson
MLA Engineering PLLC
BSCE 3/82 University of WA
Licensed PE, SE; WA
Class: MEMBER

Waleed Khalid
Cary Kopczynski & Co
BS 7/96 U of Eng &
Technology, Pakistan
MS 12/99 Purdue University
Licensed PE, SE; Ohio & Illinois
Class: Affiliate

Alex Lege
PCS Structural Solutions
BS ARCE 6/07 Cal Poly San
Luis Obispo
Class: Associate

Tim Matthews
Magnusson Klemencic Assoc
MASc 11/07 U of British Co-
lumbia
BSc 2007 U of Alberta
Class: Associate

Joshua D Nelson
Davido Consulting Group Inc
BS 6/07 U of Washington
EIT, WA
Class: Associate

Jung-Koo Park
Cary Kopczynski & Co
BS 2/00 Sung Kyun Kwan U
MS 5/05 U of So. Cal.
EIT, WA
Class: Associate

Keith Ryan
Tri State Engineering
BS 1997, U of WA
Licensed PE, WA
Class: Professional Associate

Amanda Schweickert
Berger/ABAM
BS Ind.Eng. 1999 Penn State
MSCE Structures 2007 Univ of
Arizona
Class: Associate

Andy Tu
Cary Kopczynski & Co
BS 99 Nat'l Chung-Hsing U
MS 01 Nat'l Chiao-Tung U
EIT, WA
Class: Associate

Joshua Yunker
Magnusson Klemencic Assoc
BSCE 04 Seattle University
EIT, WA
Class: Associate

Applications Approved

Nathan Gollcher
Professional Associate

Matthew Hopper
Associate

Christopher G LeVan
Associate

