EQUILIBRIUM

Newsletter of the Seattle Chapter
Structural Engineers Association of Washington

APRIL 2008

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Coming in May

2nd Annual
Wine Tasting
and
Year End Awards

Tuesday, May 27
at the
Shilshole Bay
Beach Club

Annual SEAW Southwest – Seattle Chapter Joint Meeting Featuring a Nucor Steel Tour

Please join us on **Tuesday, April 22nd** for the Annual SEAW Southwest – Seattle Chapter meeting featuring a tour of the **Seattle Nucor Rebar Plant** in West Seattle followed by a presentation on field review of rebar by CRSI. The plant tour and lunch are being sponsored by CRSI (Concrete Steel Reinforcing Institute), and will feature a complete tour of the plant, the "melt shop" where recycled steel is melted down and formed into billets, as well as the processing plant where the billets are processed into the individual reinforcing bars.

Nucor Steel Seattle is a proud member of the Nucor Bar Mill Group. Since 1094 their facility, once proclaimed as "Seattle's Little Pittsburgh", has continually strived to be the safest, community oriented, environmentally responsible, and profitable business they can be. Their customer base is spread throughout the Pacific Northwest, northern California and Canada. They have the flexibility to deliver on hundreds of grades, shapes and lengths to fit specific applications.

Please Note:

This tour is limited to 60 attendees from both the Southwest and Seattle Chapters.

You must have a reservation to attend.

Meeting Information

Date:	Tuesday, April 22, 2008
Place:	Nucor Steel Rebar Plant 2424 SW Andover Seattle, WA 98106
Tour :	12:00 pm
Lunch:	Boxed lunch provided by CRSI
Cost:	$10 payable to SEAW
Equipment:	Hard hats and safety glasses are required
Parking:	Available on site
Reservations:	Required (see below for details)

Attendance Is By Reservation Only

Space is Limited!

Register online @ seaw.org or by e-mail at seaw@seaw.org or call 206/682-6026.

FROM THE BOARD: Continuity & Transition

Recent articles by local engineers in Equilibrium, Structural Engineer, and Daily Journal of Commerce have voiced similar desires and frustrations, the common theme of which is continuity and transition. Viability in any organization, whether a corporation or family business, whether political, social or professional, depends on, among other things, successful acquisition, training, management, and retention of resources and thinking ahead. Part of thinking ahead is transition planning, as well as adaptation to current and future needs, which is vital to the continuity of any organization.

Several local and national firms have had to merge or sell in order to be viable and continue operating. Those are probably the lucky ones. Others, perhaps not as lucky, have gone out of business because they may have hit the transition sign too quickly and could not react.

There are also many articles about the need to bring on and properly train young professionals. This has been the focus of the Board for a number of years. SEAW's YMF (Younger Member Forum) was formed for this very purpose. It is one of our short and long term goals. Through this forum, we seek younger engineers and encourage them to take part in meetings, provide to them opportunities for continued education through full-seminars, mini-seminars and dinner meetings, open up opportunities for them to serve on committees and/or to have a voice on the Board.

Another need for continuity and transition is input from the membership. Your input is valued and always welcomed. When the Board and the committees are planning and tailoring programs, your input assists in the value or quality of our programs and seminars, as well as topics for future seminars.

We welcome more membership participation on committees, especially younger members, because it provides the opportunity to serve, to have input on the workings of the association and assure continuity. Did you know that on some committees you could be a corresponding member? Check out the website for more information on various committees – members, scope and meeting times.

It is very encouraging that we have made progress, but we still have more work to do to ensure our continuity of succession. We must plan for the future to be sure our engineering legacy is continued on through our successors, the young and upcoming engineers. We must reach out and mentor those who are eager to learn, to get into the industry, to become successful, for they are our future leaders. In turn, they will learn to reach out and pass on their knowledge to others as well, creating a solid ongoing continuity for the future.

- Ade Bright

Ade Bright is the founder and president of Bright Engineering, Inc. He has been a member of SEAW since 1985. Ade is the immediate past president of the Seattle Chapter, and is nearing the end of his term as president of the Statewide SEAW.

The SEAW Seattle Chapter *Equilibrium* is printed monthly from September through May and is available online at www.seaw.org. Circulation by mail: approximately 450 copies. Articles, letters, and announcements are accepted by e-mail to seaw@seaw.org.

Advertising rates (prepaid, please): Help Wanted/Job wanted, $65 ; Display ads: Quarter page, $115; Half Page, $150; Full Page $190; inserts, pre-printed 8 1/2 X 11 inch flat, $190. 10% discount for ads running two or more months. Deadline is the fourth Friday of the month. Contact SEAW for an Advertising Order Form.

Except where noted, opinions expressed in this newsletter reflect those of the author and do not reflect or represent the position of SEAW. Portions of this newsletter may be reproduced provided credit is given.

Seattle Fault Scenario Wins 2008 National Award in Excellence

The Seattle Fault Scenario won a Western States Seismic Policy Council, WSSPC, 2008 National Award in Excellence for Outreach. The award will be presented during the National Earthquake Council awards luncheon in Seattle on April 24th.

A 12-member multi-agency, multidisciplinary team spent three years developing the 2005 report. The project team's goal was to prepare a credible description of earthquake damages and impacts that would help elected officials, building owners, engineers, architects, emergency managers, land-use planners, and others prepare a response to such an event, as well as serve as a basis for reducing earthquake risks to life and property. The Seattle Fault Scenario examined the consequences of a scenario M6.7 earthquake on the northernmost strand of the fault zone, which has the potential for generating the most damaging earthquake seen to date in the United States. It also provides recommendations to local and state policy makers for improving the region's – and the state's – earthquake safety. An electronic copy of the report can be found at seattlescenario.eeri.org

The Seattle Fault Scenario received active support from SEAW and a number of SEAW members, including Stacy Bartoletti, P.E., S.E.; Susan Chang, Ph.D, P.E., Sers.; Mark Pierepiekarz, P.E., S.E.,; and David Swanson, P.E., S.E. It is another example of SEAW support and involvement in an important project to mitigate earthquake risks in the region and raise awareness of the real earthquake risks that face the state.

- Karen Damianick

Karen Damianick, P.E., is a member of the SEAW Newsletter Committee and has been a member of SEAW since 2003. Karen can be reached at kdamianick@gmail.com.

Announcements

2nd Annual Seattle Area Structural & Civil Engineering Softball Tournament

July/August 2008

The SEAW Young Members Forum is helping to organize "free agent" teams for smaller companies and individuals.

Sign up available for full teams, partial teams and individuals.

Contact Andy (achronister@swensonsayfaget.com) for questions and registration.

YMF Corner: YMF Elections

The YMF membership has grown in both size and momentum over the past couple of years. Two years ago, we were a loosely organized group. Since that time we have greatly increased our activities, formalized the leadership structure, and even gained a presence on the board of directors. In particular, I would like to thank Mark Pierepiekarz, Andrew McGlenn, and Shelley Clark for their support and guidance the past two years in organizing and energizing our group.

The next step in continuing the vibrancy of the YMF is to establish a regular leadership transition to allow others the opportunity to organize and lead our activities. The leadership core recently met to discuss this topic and we agreed to a May-May annual term for our positions. Although this mimics the board election schedule, we will conduct our own elections from within our group.

We are currently in the process of finalizing the election process but the first step is to advertise the open positions.

All positions will be open for election this May. We will be sending an e-mail to the membership. Following, is a list of the positions along with the current representative. Feel free to contact any of us with questions about the elections or to express your interest as a candidate.

Chair – Cale Ash
cash@degenkolb.com
Vice-Chair – Melissa White mwhite@swensonsayfaget.com
Outreach Representative – Ben Piermattei
benjamin.piermattei@soundtransit.org

Social Representative – Chad Taylor
ctaylor@degenkolb.com

Are Your Dues

Here's How to Find Out!

- Go to the SEAW website at www.seaw.org
- Sign in to the members-only portion of the site The default log-in name is your e-mail address, the password is your first name
- Click on the "My Membership" tab
- Click "Membership Renewal" in the gray menu bar
- If your dues are paid you will see a "You currently have no outstanding invoices" message.

Items of Interest

Ch.18 Ad Hoc Committee: Update on Code Development Activities

Beginning in March, 2007, the SEAW Earthquake Engineering Committee (EEC) undertook to update Chapter 18 of the 2006 International Building Code through the development of a series of code change proposals for consideration by the International Code Council (ICC) during their 2007/2008 code development cycle. Led by co-chairs Mike Valley and Susan Chang, several groups were formed for the effort: (1) an executive group of EEC members; (2) structural and geotechnical working groups consisting of practicing design professionals across the country who had expressed an interest in participating; and (3) a review group of stakeholders, including representatives of BSSC TS3, ACI 318, AISI, NCMA and AF&PA. The end result was the submittal of 23 code change proposals to the ICC in August, 2007 by NCSEA on behalf of the Committee. The ICC Structural Code Committee heard the proposals at the ICC Code Development Hearings in February and I am pleased to report that all of them were approved. The proposals are still subject to public comments, which will be heard at the ICC Final Action Hearings in September.

A composite document of the approved proposals, in color, combining the approved changes together as they will appear in the 2009 IBC (assuming no other changes are approved), has been prepared. A PDF is available on the SEAW website at www.seaw.org/resources.

- **Phil Brazil**

Secretary, Chapter 18
Ad Hoc Committee
pbrazil@reidmidd.com

Meetings/Seminars

SEAW SPRING SEMINAR PART II

Friday, May 16 2008

Register now for the second of a two part seminar being sponsored by the Structural Engineers 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, cracking, curing, durability, 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.

Vendors will share important product information for practicing engineers.

Featured Presenters include:

Bijan Aalami, S.E., Ph.D.,
Professor Emeritus of Civil Engineering at San Francisco State University.

Joe Ferzli, P.E.,
Senior Associate, Cary Kopczynski & Company Structural Engineers.

Mark Whiteley, S.E.,
Principal at Cary Kopczynski & Company Structural Engineers

Professional Development:
Each seminar is valued at 6 PDHs. Certificates will be available on completion.

Registration Fees:

SEAW Members	$125
UW Faculty	$125
Non-Member	$175
Student	$ 40

Late fee:
For registration after 5/9/08: add $25

Register Online at
www.seaw.org.

Be sure to log in if you're a member.

NCSEA WEBINAR

Wednesday, April 16, 2008

Designing Buildings for Wind Load

By ASCE 7-05

On the surface, designing buildings for wind load according to ASCE 7-05 is a complex process. A complete evaluation of the basic wind pressure equation in ASCE 7-05 for flexible buildings (buildings with the fundamental frequency $n_1 <$ 1 hertz) requires consideration of up to 48 different parameters. If a building is rigid ($n_1 \geq 1$ hertz) the Gust Effect Factor may be taken equal to 0.85 and the number of parameters to consider reduces by more than half, which is still a significant number.

In practice, the process can be greatly simplified. This seminar will explain how to design buildings for wind loads – the easy way. The seminar will address the following topics:

-Understanding the wind pressure equation

-Wind design flow charts The role of building frequency and damping

-Simplifying the Gust Effect Factor

-Parameters that most influence wind pressure

-Dealing with non-typical building shapes

-Direct determination of design wind pressures from tables

-Controlling building torsion from wind and seismic loading

If you are interested in attending, please register on the NCSEA website: www.NCSEA.com

ORDER OF THE ENGINEER

Tuesday, May 13, 2008

The Puget Sound Engineering Council (PSEC) is proud to sponsor "The Order of the Engineer" to qualifying students and working engineers in the Puget Sound area.

The Order of the Engineer was initiated in the United States in 1970 to foster a spirit of pride and responsibility in the engineering profession, to bridge the gap between training and experience, and to present to the public a visible symbol identifying the engineer. The Obligation of the Order of the Engineer is similar to the Canadian "Ritual of the Calling of an Engineer" initiated there in 1926.

Simply stated, The Order of the Engineer is a ring ceremony in which engineers meeting the solemn obligation take an oath called the "Obligation of an Engineer" to promise to uphold the high standards of the engineering profession. They are also given a stainless steel ring to be worn on the fifth finger of the work-

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Meetings/Seminars

(Continued from page 4)

ing hand identifying their profession and obligation to other engineers and the public.

Any engineer is eligible for induction if he or she has graduated from an ABET-accredited engineering program or holds a license as a Professional Engineer. Students enrolled in ABET-accredited engineering degree programs are eligible if they are within two academic terms of graduation.

PSEC will hold its first ring ceremony for The Order of the Engineer on **Tuesday, May 13th** at the University of Washington Waterfront Activity Center at 6pm. Anyone who is interested in participating should sign up online at http://www.acteva.com/booking.cfm?bevaID=156117

The cost of the event (including the cost of the ring) is $12 for students and $17 for working engineers. There will be an opportunity to network with other engineers immediately following the ceremony. Refreshments will be served.

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.

2008 SEA NW CONFERENCE Engineers Gone Wild!

June 19-21, 2008

The SEA NW Conference in Sun Valley, Idaho is only 2 months away! Mark your calendars and make plans now to attend the 2008 SEA NW Conference hosted by

SEAI! Conference schedule and registration package is available at www.seaidaho.org . New information is being posted regularly. We'll see you there!

BLAST SEMINAR

July 22-23, 2008

Explosion Effects and Structural Design for Blast

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Meetings/Seminars

(Continued from page 5)

A 2-day training course at the
Holiday Inn Washington Dulles Airport
Washington, DC, July 22 and 23, 2008

Engineers have an opportunity to improve their skills in understanding explosion effects and designing facilities that are safer to occupants by understanding and minimizing the effects of explosive detonations on structures. Architects, first responders, builders and others will also benefit by understanding explosion effects and protective design methods. Most new government buildings now require some level of blast resistant design and many facilities require retrofitting to meet anti terrorism bomb protection criteria; this training will address those requirements. Each participant will receive a certificate indicating 15 Professional Development Hours (PDHs) that can be used to meet continuing education requirements for professional engineers. The course will focus on the fundamentals of explosion effects, determining blast loads on structures, computing structural response to blast loads, and the design and retrofit of structures to resist blast effects. The emphasis will be on terrorist threats from vehicle bombs, but the fundamental concepts can be applied to other explosive scenarios. Currently available software and publications for blast effects and design guidance will be demonstrated and discussed. Much of the design guidance is restricted distribution to government agencies and their contractors, however specific information on how qualified users may obtain the software will be provided. Several computer programs for blast effects and blast design have recently been developed by the government for general release and those programs will be discussed along with instructions on how to obtain the software. All of the software and references discussed in this course is available free of charge to qualified users. Participants will gain an understanding of how to compute explosion effects like overpressure and impulse; blast loading on a structure; how a structure responds to blast loading; and practical methods for designing and retrofitting structures to resist blast effects. Participants will be provided a complete set of class notes. Participants may check in beginning at 7:30 am on July 22 and the course will run 8am to 5pm each day. Lunch and coffee at breaks will be provided for participants each day. For more information about the instructors, the course, and accommodations visit http://www.blastdesigntraining.com/ Secure on-line registration is available.

Questions should be directed to **Dr. Sam Kiger** at 573-882-3285 and by e-mail at *KigerS@missouri.edu* or **Dr. Stan Woodson** at 601-636-4429 and by e-mail at woodsoneng@netzero.net

For room reservations call 800 HOLIDAY (800-465-4329) and mention Explosion Effects Training for the $141 course room rate. The hotel web site is www.hidullesairport.com.

NEES ANNUAL MEETING

June 18-20, 2008

Portland Oregon
Red Lion Hotel on the River, Jantzen Beach.

NEESinc Staff and the Program Committee are currently reviewing over 80 abstracts to ensure an annual meeting that will be one you will not want to miss. This year's event will feature high profile plenary sessions, in-depth spotlights, research presentations, and poster breakout sessions, as well as social and networking opportunities. Program highlights include:

Plenary Sessions

-The New Vision for Earthquake and Hazards Research: The Revised NEHRP Strategic Plan

-Providing Value: Implementing Research in the Built Environment

-Research Implementations: Making a Difference

-NEES International Collaborations: Future Directions and Possibilities for Research

-Integrating NEESit Tools and Services with Research and Education

-Expanding the Frame: Industry Research Programs

-NEES – Charting FY09-FY14

Spotlight Breakout Sessions

-Hybrid Simulation

-Writing NEESR and Other Proposals to use NEES Facilities

-NEES User Requirements

-NEES Data Upload and Curation

Presentation and Poster Session Topics

-Implementing Research Innovations in Code, in Practice, and Beyond

-Innovations in Structural Research, Geotechnical Research, and Tsunami Research

-Next Generation Research and Experimental Techniques

-Information Technology and Cyber-infrastructure Applications

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Mark Your Calendar

April 2008

Tuesday, 22nd	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

Saturday, 14th	PSEC Inter-Society Officers' Workshop
21-22	SEA NW Conference: SEA of Idaho hosts.

Watch the SEAW website for calendar updates!

Meeting Recap

Cascadia Green Building Presentation at the Joint ASCE/SEAW Dinner Meeting

During the joint meeting of ASCE and SEAW on March 25, those in attendance had the pleasure to hear Jason McLennan speak about his work, experience, and perspective on sustainable and green building practices. Mr. McLennan, founder of the Cascadia Region Green Building Council, began his talk by telling us about his home town of Sudbury, Ontario. The natural ecology of Sudbury, a mining town, was decimated by the mining industry and was home to the world's largest urban reforestation project during McLennan's youth.

The Cascadia Region Green Building Council strives to go beyond building code requirements, and beyond the LEED rating system, to build systems that create a net benefit to our environment. It is with that goal in mind that they have introduced the Living Building Challenge. McLennan compared the goal of the Living Building Challenge to a plant. A plant gets everything it needs from its position, and at the end of its life contributes back to the environment. The Living Building Challenge requires buildings to be built on previously developed land, to generate all energy used on-site, operate with a net-zero water consumption, and to prove its compliance to these and other requirements after a year before receiving the label "Living Building." No buildings or systems have achieved this designation yet, but several Living Building Challenge projects are underway.

Jason McLennan's presentation provided reminded us of our fears concerning the environmental issues, offered us his inspiration, and gave us a reason to hope that we, as building professionals, can contribute to a solution. For more information on The Cascadia Region Green Building Council or the Living Building Challenge, visit http://www.cascadiagbc.org/

-Melissa White
is a Project Engineer with Swenson Say Faget. She has been a SEAW member since 2007 and is currently Vice-Chair of the Younger Member Forum.

mwhite@swensonsayfaget.com

SEAW Members Participate in Mentor Program

The ACE Mentor program is a nationwide not-for-profit organization providing career direction for students interested in architecture, construction, and engineering. Founded in 1994 by structural engineer Charles H. Thornton in New York, the program has grown to include affiliates across the country. Another structural engineer, Jon Magnusson, started the ACE Program of Washington in 2001.

Currently, 125 professionals from 37 local firms are participating as mentors and are introducing approximately 170 students from 34 area high schools to the architecture/construction/engineering profession. These mentors and students are split into seven teams, with five meeting in Seattle and the other two meeting in Bellevue.

High school seniors planning to study in architecture, construction, or engineering fields are eligible to apply for scholarships and the ACE Mentor Program of Washington has awarded more that $75,000 in scholarships to 35 local students. Scholarships will be awarded at the annual Scholarship Breakfast on May 9, 2008. Firms interested in sponsoring a table at the breakfast are encouraged to contact Angela Gottula at acementor@mka.com. Every dollar from the breakfast will go directly to the ACE Scholarship Fund.

Following the lead of Charles and Jon, local structural engineers are playing an important role in mentoring the future generation of builders. Following is a sampling of how some SEAW members are assisting this effort:

Thursday Team egg drop competition

Tuesday Team meeting

Tuesday Team Summary

By Jared Plank
Magnusson Klemencic Associates

With more than twenty students at the start of the year ACE Tuesday Team #2 is still filling up the offices of local architecture, construction, and engineering offices. Paul Miskel is leading the team from Turner with additional mentors from BN Builders, Rushing, Callison, CT Engineering and MKA. The structural mentors are Jack Heavner, William Sandbo, and Jared Plank.

The students have chosen to design a 350-seat theatre that will be located on Denny and Westlake. The theatre will have a grand entrance with a large lobby and underground parking. To help encourage the students understanding of theatres we recently went on a tour of the Kirkland Performing Arts Center. The trip helped the students understand some of the design and maintenance issues related to theatres and they came away knowing what they liked and disliked helping to shape the current design.

They have been learning about all the disciplines involved in the building industry and are now applying that knowledge to their own project. I have been greatly impressed with the level of understanding that the students can attain in such a short time. If you are interested in seeing the final project the students will be presenting at the University of Washington in May.

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Mentor Program, cont'd

(Continued from page 7)

Wednesday Team Summary

By Cale Ash
Degenkolb Engineers

The Wednesday ACE team is lead by mentors Miriam Gee and Jessica Nelson from LMN Architects. Other mentor firms include Degenkolb Engineers (structural), KPFF Consulting Engineers (civil/structural), AEI Affiliated Engineers (electrical/mechanical) and Sellen Construction Company. Structural engineer mentors include Dan Alire, Julie Matsumoto, Sage Shingle and Bryan Tokarczyk from KPFF Consulting Engineers and Cale Ash from Degenkolb Engineers. The team has an even mix of mentors and students with about 20 of each.

The students have been busy designing a youth hostel for a waterfront site located just south of the Pier 52 ferry terminal. The hostel will have seven stories with a small floor plate in order to maximize guest room views of the city and Elliot Bay. It will also feature a ground level restaurant to promote interaction between visitors and local residents. The building design borrows from the site location with a wave profile framing views of the Olympics to the west.

An introduction to structural engineering was presented by KPFF mentors in their Seattle office where Dan Alire emphasized the collaborative nature of the design process. Students learned that teamwork and communication skills, in addition to technical competence, are an important part of a career in structural engineering. Recently, the team visited the University of Washington Civil and Environmental Engineering department hosted by professor Dr. Jeff Berman. A presentation on civil engineering curriculum was followed by a tour of the structures testing lab. The students observed both a concrete cylinder compression test and a steel coupon tensile test before learning about the other experimental work ongoing in the lab. This tour and demonstration stressed the hands-on nature of structural engineering coursework and gave a sample of the types of research activities available at the graduate level.

Wednesday Eastside Team Summary

By Jessica Jenness
DCI Engineers

The Wednesday Eastside ACE Team is working on a tenant improvement project this year. The site is approximately 10 acres, located at Magnusson Park on the old Sand Point Naval Station with an 88,000 SF WWII airplane hangar that housed fighter planes, transport craft, and a few bombers. The students have decided to transform it into a community sports facility, including basketball courts, indoor soccer, and miniature golf. The site development includes improved parking areas, tennis courts, batting cages, play areas, and a beach on the waterfront.

The focus of the structural engineering has been determining how to add a mezzanine for spectators to overlook the indoor sports fields, without attaching to the existing structure. The students have learned why building codes are important and how the original building design relates to today's building standards. The use of steel moment frames will maintain seismic isolation of the new structure, while maximizing open floor space for recreation and will fit in with the existing metal building's industrial appearance.

The team of mentor companies includes JPC Architects, Mulvanny G2 Architecture, DCI Engineers, Cary Kopczynski & Company, Wood Harbinger Engineers, Prime Electric, PCL Contractors, and Transpo Group.

Thursday Team Summary

By Kevin Solberg
Magnusson Klemencic Associates

The Thursday night ACE group is comprised of mentors from Mithün (architects), Hoshide Williams (architects), McKinstry (mechanical engineers), Sellen (general contractor), and Magnusson Klemencic Associates (MKA) (structural engineers). There are about 25 students on the team from different high schools around the Seattle area. Prior to beginning a design project, students were presented with an overview of the various professions represented by ACE. MKA mentors Ardel Jala, Annie Kountz, Serena Markey, and Kevin Solberg presented basic structural concepts and shared some of the current projects they are working on. Students had a chance to test their engineering skills by participating in two engineering activities. They split into groups and competed with each other to build the highest structure out of toothpicks and gumdrops, with a judging of not only height but also resistance to a surprise lateral load. Afterwards students were given the task of reinforcing a cardboard box so that an egg inside it would survive a ten foot drop. Students were given a variety of material ranging from packing material to peanut butter to encourage them to think "outside the box" coming up with a lot of creative solutions.

Over the past few months, students have begun full-time work on their design project. The students were able to locate an 18-acre site off of Martin Luther King Way that is currently for sale. The site slopes steeply down to the Green River below, adding unique challenges to the design. The group has decided to develop an urban mixed-use "youth-utopia", complete with low- and high-density housing, retail, and recreational facilities. They are emphasizing sustainable design through artful use of landscaping, green building materials, and mixed use buildings which complement each other to reduce the distance required to travel and the number of trips generated. In the coming weeks, interested students will have the opportunity to think about how their structures will resist gravity and lateral forces. They will schematically design the structural system, thinking about the best choice of materials to fit the site and building type.

In addition to traditional ACE activities, three groups of ACE students (with the help of their structural mentors from MKA and Casey Riske of Mithün) entered bridges in ASCE's annual Popsicle Stick Bridge Competition. These dedicated students met on both Thursdays and Saturdays for the month preceding the competition to construct their bridges. This was the first year ACE teams have competed, and besides being a very rewarding experience for both the students and the mentors, one ACE team took second place honors in the aesthetic division.

He Knew He Wanted to **Own a Business,**
He Didn't Know He'd Do It **as an Engineer**

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career@degenkolb.com

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Opportunities

Structural Engineers

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.

If you are an engineer or CAD designer with a desire to advance your career, please visit our website www.dci-engineers.com for a list of open positions or send your resume to resumes@dci-engineers.com.

Engineers

Seattle Structural

Seattle Structural PS Inc is a downtown Seattle firm looking for engineering candidates at all experience levels. Share in our vision of client-based service and hard working enthusiasm on diverse and challenging projects in the US and overseas. Join our collaborative staff of 10 in one of Seattle's most vibrant office towers, specializing in public, commercial, retail, industrial and specialty projects. We offer excellent benefits and stimulating work in a casual environment. Visit our website at www.seattlestructural.com

Send resumes to: Pete Pawlak, PE 1420 Fifth Avenue, Suite 425, Seattle, WA 98101

206-343-3000 phone; 206-343-3013 fax; PPawlak@SeattleStructural.com

Junior and Staff Level Engineers

With a reputation for engineering excellence in structural design, INCA, a Tetra Tech company, is looking for talented structural engineers for its expanding structural groups. We currently have openings in our Bellevue and New Orleans offices for Structural Engineers at the junior (with a PE or EIT) and staff-level (with a MS in Structural Engineering) with 1-10 years experience in analysis and design of concrete and steel structures. Experience with bridge and marine structures is desirable. You will work with one of the premier engineering firms and establish a strong career path, so join our innovative and exceptional team! INCA was founded in 1983 and is a medium-sized company that emphasizes innovation and design excellence. Structural projects have included bridges, retaining walls, transit centers, navigation locks, dams, fish bypass structures, and hydropower plants. Project locations have ranged from the local Puget Sound region to New Orleans, Mexico, Puerto Rico, the Panama Canal, and the Philippines.

Please send resume to hr@incainc.com or INCA Human Resources 400 - 112th Avenue NE, Suite 400, Bellevue, WA, 98004. Go to www.incainc.com for more information on this and other opportunities. EOE.

Senior Bridge Engineer

Established in 1983, INCA Engineers, a Tetra Tech company, is a mid-sized professional consulting firm that provides civil, structural, transportation, traffic, mechanical, and electrical engineering, surveying, and mapping to public and private clients throughout the United States and abroad. Projects are varied and interesting; light rail over a floating bridge (first in the world) in Seattle; flood protection in New Orleans; and locks on the Mississippi River. Our people are professional, and the atmosphere is relaxed. INCA offers competitive salary and generous benefits, opportunities for long-term career growth, and diverse and interesting project work. We are looking for bright candidates to join our team! This is a senior -level position in our Structural Department. Qualified candidates will have a minimum of seven years of experience in the analysis, design and detailing of bridges. Experience is required in producing post-tensioned concrete and reinforcing details for cast-in-place and precast concrete bridges, as well as details for steel bridges. Applicants must be proficient in Microsoft Office, SAP2000+, and GTSTRUDL. A Washington PE license is required, and an SE is desired. Ideal candidates would enjoy analyzing and designing bridge structures, as well as working closely with senior design engineers to develop contract documents. Candidates must be familiar with AASHTO design codes and specifications.

- 7 to 15 years of experience in the analysis and design of concrete and steel bridges and various types of retaining walls
- Design experience for various types of bridges, such as pre-stressed girder, box girder, floating, etc.
- Concept, preliminary, final design, and construction support experience
- Rail-Structure Interaction design experience preferred
- PE is required
- SE is desirable
- MS in Structural Engineering is preferred

Please send resume to hr@incainc.com or INCA Human Resources 400 - 112th Avenue NE, Suite 400, Bellevue, WA, 98004. Go to www.incainc.com for more information on this and other opportunities. EOE.

Engineer III

King County Department of Transportation Road Services Division is seeking an Engineer III to support the Bridge & Structural Design Unit with design of bridges and other roadway structures, project management, investigating and trouble shooting of engineering related issues, plan reviews, bridge load ratings, bridge inspections, and review and approval of shop drawings. Qualified candidates must have knowledge of engineering principles equivalent to a bachelor's degree in civil engineering and minimum two (2) years of progressively responsible experience in structural design and project management. Application required. For additional details and to apply visit: http://www.metrokc.gov/jobs/assets/08March/7646.htm
King County is an EEO employer.

Structural Engineer

HNTB Architecture, an award winning, multidisciplinary firm seeks a Structural Engineer in our Downtown Bellevue, WA office to support our Architecture Services. Ideal candidate will coordinate design details, plans, drawings & other structural tasks incl. research and calculations. Must be able to communicate & coordinate w/ other disciplines. Bachelor's degree in Arch or Civil Eng, Master's preferred plus 2 yrs.

(Continued on page 11)

Opportunities

(Continued from page 10)

exp.

We offer a team oriented work environment w/ competitive salaries, great benefits & career growth.

Apply on-line at www.hntbcareers.com.

Structural Buildings Engineer

Arup is a leading international design firm with over 9,000 members worldwide in 86 offices. We are involved in the design of some of the most prestigious projects locally and worldwide. Our North America practice, established more than 20 years ago, now includes over 800 employees in 10 offices. We recruit only the best and brightest people and provide an opportunity for growth commensurate with your investment of skill, energy and desire to contribute and succeed.

Are you a Structural Buildings Engineer, interested in a challenging position and want to Shape a better world? Do you want to work on some of the most prestigious buildings projects in the Pacific Northwest? Arup was "Voted Best AEC Firms to Work For" by Building Design + Construction Magazine. Arup may be the place for you to demonstrate your talents in cutting edge design. At Arup, you will be working in a team of talented engineers developing designs and delivering projects in the US and around the world. We design a wide range of project types including Healthcare and Laboratories, Commercial buildings (high rise and medium rise), Museums and Galleries, Stadiums and Education buildings. We have excellent benefits and we work in a collegiate, multi-disciplinary environment where engineers mix and work in teams such that you will experience sustainability in its broadest sense as well as working with talented acousticians, fire engineers, facade specialist, energy modelers, lighting specialists and many others.

We are seeking a Structural Buildings Engineer with superior design/ (including west coast seismic design skills and analysis/including non-linear

(Continued on page 13)

HELP WANTED ADS are accepted through the fourth Friday preceding the publication month. The cost for text ads is $65 per insertion **pre-paid**, with a 10% discount for ads running two or more consecutive months. Ad copy should be limited to 200 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.

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Additionally, we are a rapidly-growing and friendly team, offering the following unique perks:

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- Professional Development
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- Office-wide bonuses & 401(k)
- Company sailing excursions
- Summer company picnic

For more information about us, visit: www.quantumce.com

Send resumes to:
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Opportunities

(Continued from page 11)

analysis skills to plan and design structural systems for buildings, including libraries, museums, high rises, universities and other commercial architecture; who are able to coordinate structural plans with other multi-disciplinary engineers, as well as calculate loads and perform structural analysis and design for steel, concrete, timber, and masonry building structures based on building codes and specifications; able to perform responsible professional structural engineering design and review of drawings and specifications for compliance with building code requirements, city ordinances, and State and Federal statutes; as well as apply your knowledge of current seismic design and evaluation methodology.

Requirements

- Bachelors/Masters Degree in Civil/Structural Engineering with a sound knowledge of structural engineering fundamentals

- 5 years design experience with buildings, including libraries, museums, high rises and other commercial architecture.

- Proficient using Robot, ETABS and/or SAP seismic analysis software.

- PE/SE license desired.

To apply, visit
www.arupamericascareers.com
Position # 08-0077

Structural Project Manager

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:
Our Spokane, WA office is looking for a Structural Project Manager to join our team of engineering professionals. The primary duties of the Structural Project Manager are to plan and manage all aspects of various structural engineering projects. You will be responsible for independently coordinating the work of engineers and the balance of the planning team throughout the entire projects development while establishing client relations and being involved with the marketing, contractual, design and production meetings.

Duties also include: Participating in reviews with various governing agencies for code compliance; conducting work sessions for design development and contract document in conjunction with other staff; coordinating workload through the entire project development to complete documents on schedule; tracking the financial aspects of the projects; coordinating and adjusting the work effort with the team to ensure that the work is completed within the parameters of the agreed to schedule; working with the Business/Accounting Manager or Project Controller and the Department Manager for project reviews and with company management on an as needed basis.

Experience Required:
* Bachelors degree in Engineering. Masters preferred.
* PE license required.
* 10+ years related or equivalent experience including project management experience.
* Demonstrated leadership skills.
* Knowledge of WSDOT specifications and guidelines preferred.

Apply Online:
http://www.gojobs.com/seeker/aoframeset.asp?Job-Num=1603245&JBID=1404
Employer Job Code: 070369

[GJ.1603245.1404]

Structural Engineer

Anderson-Peyton Engineers (25+ year firm) is seeking junior and senior level Structural Engineers for our Federal Way office expansion. All levels of experience are being sought. Design team needs are post-tension concrete, timber, red iron steel, and cold-formed steel. Opportunities to work on a wide variety of project types using multiple construction materials. Enjoy rapid growth potential, progressive benefit package, informal office culture and flexible work schedules. E-mail resume to: dpeyton@anderson-peyton.com.

Meetings/Seminars

(Continued from page 6)

Social and Networking Opportunities

-Poster Session Reception

-Lunches

-Dinner Banquet, Business Meeting, and Awards Presentation

The NEES Annual meeting offers a unique forum for researchers and practitioners to learn from one another about original research, laboratory innovations, discoveries from the NEES community, and issues related to practice and the implementation of earthquake engineering research.

For more information and to register now for the NEES 6th Annual Meeting: The Value of Earthquake Engineering Research, visit http://www.nees.org.

NEESinc has reserved a block of rooms at the discounted rate of $98.00 per night at the Red Lion Hotel on the River, Jantzen Beach (909 N. Hayden Island Drive, Portland, Oregon 97217, 1.503.283.4466). To reserve your room, please call the hotel directly at 1.800.RED.LION (1.800.733.5466). Please be sure to request the group rate for NEES Consortium, Inc. Rooms are available at the discounted rate on a first come first served basis until May 26, so be sure to make your reservations as soon as possible.

For questions, e-mail: annualmeeting@nees.org or phone 1.530.757.6337, ext. 112.

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