



ANNUAL DINNER MEETING

Schedule

Mark Your Calendar
(2005)

General Membership Meetings

(Breakfast 7:30 a.m.)
January 20
March 17
May 19
July 21
September 15

Business Practice Committee Meetings

(Breakfast 7:30 a.m.)
February 10
April 14
June 9
August 11
October 13

SEAC Board of Directors Meetings

(7:30 a.m.)
January 6
February 3
April 7
June 2
August 4
October 6

Annual Dinner Meeting

November 3
6 - 9 p.m.

Phil Powers

Executive Director, American Alpine Club

Phil Powers, newly appointed Executive Director of the American Alpine Club, will be the speaker for this year's Annual Dinner Meeting. He will present a slide show and tell stories about some of his climbs of big mountains around the world, including his ascent of K2.

Powers' extensive experience as an educator and mountain guide includes his most recent position as Vice President for institutional advancement at Naropa University, where he oversaw all university fundraising, trustee cultivation and relations, and new program development. Powers also served as Chief Mountaineering Instructor and Development/Partnerships Director for the National Outdoor Leadership School. He is an Owner and guide for The Mountain Guides and its Jackson Hole Mountain Guides & Climbing School. Powers is an accomplished speaker and author of Wilderness Mountaineering and Climbing: Expedition Planning.

Powers has led dozens of expeditions to South America, Alaska and Pakistan's Karakoram Range, including ascents of K2 and Gasherbrum II without

supplemental oxygen. He made the first ascent of the Washburn Face on Denali, and named it in recognition of the impact longtime AAC member Bradford Washburn's photos had in the planning and route research of Powers' many Alaska climbs. Powers also made the first ascent of Lukpilla Brakk's Western Edge in Pakistan, and the first winter traverse of the Tetons' Cathedral Peaks.

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ANNUAL DINNER
SEAC Members - No Charge
Guests - \$30.00

Don't Miss Out - November Annual Dinner

Date: Thurs. November 3, @ 6 p.m.
Speaker(s): Phil Powers
Location: Renaissance Denver Hotel
3801 Quebec Street (south of the I-70
and Quebec intersection)

Please e-mail your reservations to Caryn Bauer at: cbauer@martinmartin.com.
Reservations MUST be made By 12:00 noon on Monday, October 31, 2005.

About The American Alpine Club

Founded in 1902, the not-for-profit American Alpine Club is the premier national organization in the United States devoted to mountaineering, rock climbing and the multitude of issues facing climbers. For more than 100 years, the AAC has led mountaineering adventure, scientific research and education in the U.S. The Club's active membership ranges from beginning climbers to a "who's who" of the world's most experienced mountaineers, working together to cultivate mountaineering and fellowship among climbers. The organization's dedication to education drives dissemination of knowledge, continued study and scientific exploration of the high mountains of the world, from the Arctic to Antarctic circles.

The AAC's world-renowned American Alpine Club Library, founded in 1916, is one of the oldest and most complete alpine research facilities in the United States. Located alongside an indoor climbing wall at the AAC Headquarters in Golden, Colorado (with branches in California and Wyoming), the library educates students and other visitors, hosting conferences and symposia. The American Alpine Club produces a variety of publications for the climbing community, including the American Alpine Journal, the premiere record of significant mountaineering and long rock climbing ascents worldwide. For more information on the AAC, and to learn how to become active in the organization and the sport of climbing, visit the AAC Web site at www.AmericanAlpineClub.org.



Colorado Regional and State Fair Committees are looking for more judges for competitions held annually in March and April. This experience is a wonderful opportunity for practicing engineers to interact with students on a number of levels. Once you are a judge, you can also explore the possibility of being a mentor to these promising young scientists and engineers. Information on becoming a Colorado Regional, or State, science fair judge can be obtained from the four web links listed below or from Mr. L. J. Mott, PE, 719-347-0142 (gestech@gestech.net or gestech@calhan.net).

- Pikes Peak Regional Science Fair: <http://www.pprsf.org/>
- Colorado Science and Engineering Fair: [http:// www.csef.colostate.edu/](http://www.csef.colostate.edu/)
- INTEL International Science and Engineering Fair: <http://www.intel.com/education/isef/>
- INTEL Affiliated Regional Fairs: http://www.sciserv.org/isef/aff_fairs/aff_fairsearch.asp

SEAC Membership Dues

Due to increasing costs, *SEAC Board of Directors* is proposing the following new rates:

Old Rates

Professional/Affiliate Members (Metro Area)	\$100.00
Professional/Affiliate (Outside Metro Area)	\$50.00
Students	\$20.00
Business Practice Members	\$30.00

New Proposed Rates

Professional/Affiliate Members (Metro Area)	\$110.00
Professional/Affiliate (Outside Metro Area)	\$55.00
Students (no increase)	\$20.00
Business Practice Members	\$33.00

Both Professional/Life members will vote on this increase at the Annual Dinner.

Officers & Board Members



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Submit comments/articles to:

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WWW.SEACOLORADO.ORG

Information for inclusion in the newsletter must be received one month prior to the next general meeting.

Caryn L. Bauer

SEAC Administrative Director

President's Message

Once again **SEAC's** year is rapidly coming to a close with the **Fall Seminar** and the **Annual Dinner Meeting** both just around the corner. Please see the announcements in this newsletter for additional information about these two upcoming events. Also included in this newsletter is a report of **SEAC's** activities for 2005 that was submitted to the NCSEA and a summary of the organization's finances for 2005. (*See attached email documents*)

Much was accomplished again this year, especially considering that we are a volunteer organization and this has been a busy year for most in our profession. We are now approaching 270 members and attendance at general meetings has reflected this by being consistently much higher than it has ever been. We have begun providing continuing education credit for our technical meetings. In addition to providing highly informative meeting programs, considerable progress was also made by a number of our committees. As a result, we should be seeing a new **Building Department Survey**, a **Front Range Wind Map** and an update to the **Snow Load Report** in the near future. Additionally, the **Architectural Liaison** and **Precast Liaison Committees** have reactivated and the **Steel Liaison, Education, Wind Load** and **SEERP Committees** continue to be active and highly productive.

A negative aspect of our growth, high meeting attendance and high level of activity has resulted in our operating expenses increasing substantially. It has been a number of years since **SEAC** has increased dues and high meeting attendance has resulted in a larger percentage of our revenue being spent on general meeting expenses. Because of increased meeting attendance, we also would like to improve our programs by

bringing in more outside speakers which will require that we pay speaker fees and travel expenses. Additionally, we are expecting to publish two or three documents in 2006 and in order to keep these publications affordable to all, we would like to partially subsidize their printing costs. This has led the Board to recommend a nominal dues increase for 2006. According to our bylaws, voting members who are present (professional and life members) must vote on this proposed increase at the next general meeting. Therefore, a vote on the proposed dues increase will be held at the Annual Dinner meeting in November. Please see the announcement in this newsletter for additional information.

Finally, I would like say that I am honored to have had the privilege of working with the members of **SEAC's Board** and its **Committee Chairs**. I especially want to thank our two outgoing Board members, **Past President Natalie Mozer-Renn** and **Director Ron Stevens**. Natalie has been a very active Past President, having served as **SEAC's** representative to the **Colorado Engineering Council**, monitored the activities of the State Board's **Forensic Engineering Task Force**, helped to spearhead the work of the **Building Department Survey Committee** and served on several other **SEAC** committees. In her spare time she has started her own engineering firm. Ron has also been an active Board member and his experience, wise counsel and hard work will be difficult to replace.

I hope to see you soon at **SEAC's** final two events of 2005.

Questions & Answers

Q: “When designing structural steel, are there conditions where shear and moment stresses should be combined and does AISC have specific provisions indicating if or how it should be done?”

A: Previous editions of the AISC specification have not directly called out for a design of the interaction of moment and shear stresses. However, AISC indicates that too many Engineers accept the AISC specification as the “end all” of steel design. AISC indicates that they continue to work on improving the specification to be as comprehensive as possible but that limitations do exist. Engineers are always responsible to apply engineering judgment and general engineering principals in the design of all structures even for items that may not be directly addressed by the code. When maximum

bending and shear stresses occur at the same location (such as at a cantilever beam), the combined effect should probably be addressed by the engineer. It appears the new combined specification will address this in some fashion. One method of doing this would be to reduce the web area by the amount required to carry the shear stresses, recalculate the adjusted moment of inertia and use this adjusted value to check bending stresses. This response is not intended to provide “the” definitive method to address this condition but is just one approach; hopefully however it reminds us to always be thinking as engineers and not technicians when it comes to applying provisions of any design code.

The opinions expressed in the SEAC newsletter question/answer section are not “official” policy of SEAC. These are opinions of individual engineers shared for the contemplation of its membership. SEAC is soliciting additional questions for membership consideration. Please share your lessons learned! Please forward any interesting questions you have recently come across to Caryn Bauer (cbauer@martinmartin.com) for inclusion in upcoming newsletters.

New Question

It is common to use long slotted holes in steel connections for the interface of steel members to concrete. This can help account for the actual tolerances of concrete construction. Should the eccentricity of the connection be considered in the design of the connection and if so how?

Jim Harris Elected to National Academy of Engineering

SEAC member and past president **James (Jim) R. Harris, P.E., Ph.D.**, was recently elected to the National Academy of Engineering. Election to the National Academy of Engineering is among the highest professional distinctions accorded an engineer. Academy membership honors those who have made outstanding contributions to “engineering research, practice, or education, including, where appropriate, significant contributions to the engineering literature” and to the “pioneering of new and developing fields of technology, making major advancements in traditional fields of engineering, or developing/implementing innovative approaches to engineering education.”

Jim’s election was for contributions to the development, improvement, and implementation of modern standards for the design of buildings.

SEAC and the practice of structural engineering in Colorado have been significantly influenced, inspired, and enhanced by Jim’s dedication to his profession, his untiring efforts to improve the practice of structural engineering, and his

professional integrity. We thank Jim for his many contributions to SEAC and we extend to him our congratulations on receiving this very significant honor and distinction.



Congratulations Jim!!

GENERAL NOTES - *Keep them CLASSIFIED!*

Structural Engineers Association of Colorado Newsletter Classified Section
& Other General Announcements

The Denver office of **KPFF Consulting Engineers** seeks a motivated, communicative **structural engineer** with 0 to 5 years of experience. Entry level candidates shall possess a BSCE (MSCE preferred) with a focus on structures. For experienced candidates, Colorado experience is preferred; post-tensioned concrete and/or seismic experience a plus!

As one of the largest structural firms in the country, KPFF has a long history of technical innovations, quality customer service and high ethical standards. Each office operates independently to provide a small office atmosphere where employees can receive individual attention while taking advantage of the overall firm's manpower resources, technical expertise, and stability. We believe that our employees should be able to practice their profession with a minimum of organizational restrictions.

We are looking for enthusiastic and talented people to join our team. If you are interested in this exciting opportunity, please e-mail, fax, or mail your resume *in confidence* along with a cover letter to:

KPFF Consulting Engineers, Inc.

7900 East Union Avenue, Suite 1100

Denver, Colorado 80237

P: 303-217-4519, F: 303-217-4879

elizabeth.jones@kpff.com

www.kpff.com

The Durrant Group currently has a great opportunity in our Denver, Colorado office for a Structural Project Engineer with 4-10 years experience and a Senior Structural Engineer with 8-12 years experience, in the design and construction of a variety of structures ranging from high-rise towers to smaller municipal, commercial, multi-family residential and institutional buildings. Minimum qualifications include a Bachelor of Science Degree in Engineering from a US ABET accredited university, PE registration or ability to obtain licensure within 2 years, a strong technical background in structural engineering, a working knowledge of structural engineering software such as Enercalc and RAM, and excellent communication and technical writing skills. Familiarity with CAD software such as AutoCAD and/or ADT 2005 a plus. The successful candidate will be responsible for performing structural analysis and design, generating design estimates and proposals, report preparation, drawing production supervision, client interface, and some field observation work. Analysis and design experience should include lateral systems, seismic design, a solid understanding of load paths, foundations and framing systems, connections, and layout and detailing of different material systems such as steel, concrete and wood. The successful candidates will have a positive attitude, be self motivated and be interested in learning and professional advancement. Review www.durrant.com for additional information and all current position openings and descriptions. To apply please forward your resume to bpanning@durrant.com or fax to 303-377-2900. No calls, please. EOE.

Shaw Stone & Webster is a leading global provider of full-service, value-added engineering, procurement and construction. We are currently seeking Structural Engineers with all levels of experience in process and /or power plant design. Experience in concrete and steel design using AISC, ACI, and IBC codes required. Proficiency in computer applications (i.e. STAADPRO) required. Will prepare calculations, specifications, and oversee drawing preparation. BSCE with structural emphasis is required. M.S. and PE license desirable. For consideration please send resumes to Nicola.williams@shawgrp.com or david.sweeten@shawgrp.com.



REMINDER

HALF DAY SEMINAR

ASCE-7 and ACI Appendix 'D'

Thursday, October, 27, 2005

7 am Registration begins

7:30 - 8:20 - Breakfast

Seminar ends at 12 pm

Renaissance Hotel-3801 Quebec St.

**WOULD YOU LIKE TO
PLACE AN AD?**

**CONTACT CARYN BAUER
AT**

cbauer@martinmartin.com

S. A. Miro, Inc. has immediate openings for **structural engineers**. Located in the Denver Tech Center, we are seeking individuals with **Master's degrees or equivalent experience, for entry level positions up to project engineers with 5-8 years' experience**.

S. A. Miro, Inc. is a highly recognized consulting engineering firm in the Rocky Mountain Region. The firm is headquartered in Denver, Colorado with branch offices at Ft. Collins and Summit County, Colorado. Over our 25-year history, we have designed 'showcase' projects requiring sophisticated and complex design problem solving. Examples of our structural engineering work are seen at the Denver International Airport; Denver Central Library; Ocean Journey Aquarium; Convention Center Hotel; and the University of Colorado College of Medicine at Fitzsimons. Currently the firm is engaged in structural engineering design for several hospitals and medical centers throughout the region, including the new Children's Hospital to be located at the Fitzsimons campus and various mixed-use developments across the State. Our 70-person firm has enjoyed long-lasting relationships with clients and has developed a reputation for excellence in both civil (commercial and large residential site development) and structural engineering. The firm's culture is founded on gathering together individuals who possess a passion for engineering and client service and are driven to excel.

We offer an excellent working environment where a positive atmosphere matters. Our compensation package includes a competitive salary/bonus structure and generous benefits through ACEC. As a consulting firm, our working hours are flexible and designed to meet our client needs. We are an equal opportunity employer. Resumes (with reference to FY2005-9.STR) may be submitted to:

Sue L. Zen, SDA/C, Director of HR & Business Services

S. A. Miro, Inc.

4582 S. Ulster St. Pkwy., Ste. 1501
Denver, CO 80237

E-mail: szen@samiro.com

Structural Engineers Wanted:

Send a cover letter to Thomas Hartmann, P.E. telling us why you are striving to become "the best in the field" as a structural engineer. Be sure to include your resume. Are you a great structural engineer looking for your career opportunity? Would you thrive in a creative and engaging atmosphere where free-body diagrams are more important than neckties?

TwHartmann Inc. is a growing Loveland Colorado engineering firm offering long-term prospects including potential ownership to smart, well-spoken, intelligent, and motivated structural engineers. We also offer long-term employment to CADD technicians, if you want to bring a friend along with you. Our goal is to be the "best in the field" by providing highly build-able designs to our clients: architects, civil engineers and contractors. Our service delivery includes "traditional" design-bid-build and design-build delivery. TwH Inc. provides creative opportunities to work on engaging projects. We strongly prefer an MS in structural engineering for engineers and a two-year CADD certificate for technicians. Of course, we prefer a minimum of two plus years of experience. You will need to have significant Autocad ability, even as an engineer in our firm.

Engineering Position: P.E. +

Education Requirements:

Registered Professional Engineer-Colorado. Five to Eight years experience.

Engineering Technical Expertise:

Highly skilled in some of the following, well-rounded in the rest: Steel, Timber and masonry, Concrete design including foundation, Post-Tension, Site Cast and Tilt Up and Precast. You dream about statics in your sleep. (Did we miss anything?)

Communication Expertise:

Clear and Effective communicator (written and verbal). A finely developed sense of humor is preferred.

Management Expertise and Skills:

Bring projects in "on time" and "on budget", develop happy clients for our firm, just like you have at every firm you have worked at. Work at developing a reliable delivery system that delights our customers.

Outcome:

Become an owner at TwHartmann Inc.

Our firm focuses include: Commercial/Multi-family Structural Design, Structural Evaluation, and Some Retail/Industrial, bridge and other civil structure projects.

Thomas Hartmann, P.E., TwHartmann Inc.

970.593.6223 fax 970.593.6227

6790 N FRANKLIN AVE

LOVELAND 80538



The SEAC Board would like to limit any project highlight articles to a brief synopsis of the project with the focus of the article being a technical challenge and its solution. All submissions will be subject to review and editing by **SEAC's Board of**

*Submit Articles to
Caryn Bauer*

COMMITTEE REPORTS

Architectural Liaison (Chair: Julian Lineham)

After a short period of inactivity the SEAC/AIA liaison committee is active and met recently to discuss upcoming activities. The committee previously set its goals as raising the level of understanding, and developing closer ties between Architects and Structural Engineers. This will hopefully foster better communication between the professions resulting in more profitable business relationships, more creative, collaborative designs brought to fruition, and more fun, less confrontational, working relationships. The committee is working on a paper it will seek to publish on past activities. The committee is planning on taking their ideas and discussions to architects' events, such as AIA's Tattered Cover Brown Bag lunches, AIA's Annual Design Conference etc. The committee discussed many topics they'd like to consider as possible discussions for upcoming meetings: Structural art, Practical use of the AESS specification on local projects, Latest innovations/applications for each of the 4 major structural materials (steel, concrete, masonry, timber); Fire protection systems; Integrated team approach to LEED or other sustainable design recommendations; Assisting Architects with structural specifications section overlaps with Architects sections (such as fire protection and paint finishes on structural steel); Top 10 buildings in Denver; BIM – the future?; How to support Architectural creativity.

Next meetings: Dec 7, 2005 at noon at AIA's offices (15th and Arapahoe St, Denver). In 2006 we will meet on the 1st Wed of alternate months starting on Feb 1, again same time, same place.

Building Department Survey (Chair: Henry Lopez)

Questionnaires were mailed to the building departments of over 260 Colorado municipalities at the end of September in preparation for a 2006 edition of SEAC's **Building Department Survey**. Thanks go to Western Engineering for printing the questionnaires, cover letters, and envelopes and for hosting an "envelope stuffing" gathering at their office. The next step will be receipt and processing the building department's responses.

Education (Chair: Ben Nelson)

The committee continues to prepare for the fall seminar, which is scheduled for Thursday, October 27, 2005. Registration forms have been emailed out the SEAC membership. Please return the registration form to Caryn Bauer at cbauer@martinmartin.com

Precast Liaison (Chair: Richard Mayta)

The committee provided the program for the September general meeting. It is discussing what topics to study next and continues to hold regularly scheduled meetings.

Steel Liaison (Chair: Bruce Wolfe)

The committee is wrapping up its study of the steel shop drawing process and is working on a report of its work in the near future.

SEERP (Chairs: Mike Piper and Brent Norris)

The committee continues to hold regular meetings. Mike and Brent were recently deployed in response to the Hurricanes Katrina and Rita, respectively. The committee has been asked to assist with a training program that is being prepared by the South Metro Fire District.

Wind Load (Chair: Dave Houdeshell)

The committee has recently reviewed and provided comments on the first draft of a Front Range wind map report prepared by Jon Peterka of CPP. It is assisting in collecting additional documentation on the anemometer stations that provided data used in the report.

If you would like to have news of your committee activities published in this column, please forward the information to Caryn Bauer.



GUIDE: RECOMMENDED STANDARD OF PRACTICE

Price: \$15 (members) and \$20 (non-members)

1999 Seminar Proceedings:

SUGGESTED LOCAL STANDARD OF PRACTICE IN THE PRECAST AND STEEL INDUSTRIES

Price: \$15

2001 Seminar Proceedings:

PRE-ENGINEERED TRUSSES: WHAT THE DESIGNER NEEDS TO KNOW AND SHOW

Price \$15

Contact Caryn Bauer at cbauer@martinmartin.com if you would like to purchase one of these publications.