SEAC GENERAL NOTES
Structural Engineers Association of Colorado Newsletter

JANUARY GENERAL MEETING

The Geology of Seismic Site Class and the Effect of Site Class on Structural Design

JOINT CAGE/SEAC Meeting

At least seven methods are used to measure Vs30. The gold standard of these measurements is crosshole seismic testing followed by in order of decreasing quality (and cost) downhole seismic, P-S suspension logging, cone penetrometer, s-wave refraction, multichannel analysis of surface waves (MASW) and refraction microtremor testing (Remi). Suspension logging, seismic cone, and s-wave refraction are seldom used due to difficult equipment, depth limitations, and interpretational barriers. Crosshole seismic has an ASTM standard (6429) but is costly. The other two methods depend on the correlation of surface wave velocities and s-wave velocities in layered rocks. The dispersion of surface waves makes them effective in noisy, i.e. most urban, situations.

Building codes and regulations attempt to sort natural materials into categories, specifically site classifications by Vs30 values. Mother Nature frowns on this engineering technique and has placed most building sites in the Denver at the boundary of site class C (Vs30>1200 ft/s) and D (Vs30<1200ft/s). A statistical compilation of more than 30 sites near Denver will be presented.

Depth to bedrock variations and precision of the measurements are the two main contributors to a potential error of up to 8-12%. The sounding model used for calculation in the surface techniques is one-dimensional; the measurement is two (or three) dimensional using a line up to 300 feet long. Engineering judgment is required when the Vs30 comes out as 1199 ft/s or when severe bedrock topography is measured or suspected. The exposure of the site to potential seismic events is an additional factor usually underestimated in the Denver area.

Speaker Bio's on Page 3

Schedule

Mark Your Calendar (2012)

General Membership Meetings
January 18 (Wed.)
Lakewood Country Club

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

Business Management Committee Meetings
(Breakfast 7:30 a.m.)
February 9
April 12
June 14
August 9
October 11

SEAC Board of Directors Meetings
(7:30 a.m.)
January 5
February 2
April 5
June 7
August 2
October 4

Fall Seminar
October 18

Annual Banquet
November 15
11:30 am - 1:00pm

January Meeting ONLY
Different Location and Time

Don't Miss Out - January General Meeting

Date: Wednesday, January 18, 2012 - 11:30a.m.
Speaker(s): David Butler, Zonge International
Kevin Haas, Martin/Martin, Inc.
Location: Lakewood Country Club
6800 W. 10th Ave. Lakewood, CO 80215)

Please RSVP on the SEAC website at www.seacolorado.org:
or email Caryn Farrell at
seac@martinmartin.com
Reservations MUST be made by:
Friday, Jan. 13, 2012.

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12499 West Colfax Avenue
Lakewood, CO 80215
(303) 431-6100 x403
(303) 431-6866 fax
seac@martinmartin.com
WWW.SEAColorado.org
Information for inclusion in the newsletter must be received one month prior to the next general meeting.

Caryn L. Farrell
SEAC Executive Assistant
seac@martinmartin.com

President's Message

I am honored and humbled to serve as President of SEAC for 2012. I would like to start off my first Presidents Message by thanking last year's outgoing board members: Ron Hedrick (Past President) and Alex Abel (Director), for their years of service to the organization. I would also like to welcome the incoming board members: Paul Hause and Tom Skinner, who will serve as Secretary and Director, respectively.

SEAC "Closed the Books" on another successful year. Some of the highlights included: improvements to our website, a very successful fall seminar, and many interesting General Meeting topics. This year was also the first combined meeting of SEAC and CAGE (Colorado Association of Geotechnical Engineers). There was positive feedback from the membership that we should continue the joint SEAC/CAGE meetings, so this will be occurring on Wednesday, January 18th at lunchtime, as this year it will be hosted by CAGE. In October I had the pleasure of attending the NCSEA national convention in Oklahoma City. I enjoyed the presentations and meeting my peers from all across the country. During the business part of the convention, a unanimous vote of the member organizations took place to support separate licensure for Structural Engineers. Budget-wise, SEAC wound up for the year with an unexpected budget surplus of $15,500! Much of this came primarily from a combination of revenue from the fall seminar and from less than expected expenses for the year's general membership meetings. The SEAC Board of Directors will be polling the membership with some ideas of what to do with the excess revenue. SEAC also honored Bob Hunnes and Dave Houdeshell as Life Members for their many years of service to the organization

Our profession (and even SEAC specifically on one occasion) has been mentioned in newspapers a lot over the past two months. As stated in our bylaws; the overall objective of SEAC is the advancement of the practice of structural engineering for the benefit of public safety and the structural engineering profession. SEAC stands as a positive voice for our profession to the public at large.

As we enter this New Year, I will endeavor to fulfill the high standards of leadership set by the past Presidents who have served this organization. I look forward to an exciting year: interesting general meeting topics are scheduled, website enhancements have been implemented to allow for online payment of dues, and the continued work of our various committees are among the many things to look forward to.

As always, the Board of Directors desires your feedback on how we can improve our organization.

Here's to 2012!

David A. Poe, P.E., S.E.
President

Continued From Page 1: Speaker Bio's - January Meeting

David Butler holds degrees in Geophysics from the Colorado School of Mines and in Earth Science from MIT. He is presently operations manager for Zonge International's Lakewood office. He is qualified with geophysical methods including seismic refraction and reflection, gravity, seismology, magnetics, ground penetrating radar, time and frequency domain electromagnetics, electrical resistivity and tomography. He has published papers in each of these fields and appeared as an expert witness on these topics. The Zonge Lakewood office augments the mining and water exploration expertise of the other offices by focusing on engineering applications of geophysics including dam and levee evaluation, foundation material measurements and detection of underground storage tanks and other environmental hazards. David Butler has participated in more than 25 cross-hole projects, 100 Remi measurements, 15 downhole projects, 10 seismic S-wave refraction projects and furnished the material properties for foundation design for more than 2000 wind turbines.

Mr. Haas joined Martin/Martin in 2006 and has been responsible for the structural design of office, residential, industrial, government, and education facilities. He is knowledgeable in the design and construction industries including building codes and standards for wind, seismic and blast design. He has experience with numerous different building materials and methods. His background experience includes evaluation of all types of structures, materials and methods including structural steel, cold-formed light-gauge steel, cast-in-place concrete, prestressed and post-tensioned concrete, masonry and pre-engineered and proprietary products. Mr. Haas' experience includes the design of new buildings in Colorado and regions with high seismic risk, as well as the renovation of existing facilities and the evaluation of tall, dynamically sensitive structures. He has performed design work utilizing Building Information Modeling (BIM) and Finite Element Analysis, including programs such as Revit and SAP2000.

SEAC Members Contribute to NCSEA in Big Ways

SEAC members should be proud of several within our organization who are regular contributors on a national basis to improving the structural engineering profession in various roles with NCSEA. Pictured are 5 SEAC members who attended NCSEA's Annual Conference and Awards Banquet in Oklahoma City in late October, 2011. Pictured (left to right) are **Jim Harris**, **Susan Jorgensen, Ben Nelson, Brent Norris and David Poe**. **Jim Harris** received the **James Delahay Award**, recognizing his outstanding individual contributions towards the development of building codes and standards. It is given in the spirit of its namesake, a person who made a long and lasting contribution to the code development process. **Susan Jorgensen** chairs the Structural Licensing Committee which seeks to promote structural engineering practice acts in each state.

Ben Nelson is Vice President of NCSEA and will become President later this year in St. Louis. **Brent Norris** is the SEAC delegate to NCSEA and **David Poe**, as SEAC incoming President, is the NCSEA alternate-delegate. Not pictured is **John Malcolm** who is part of the very active Continuing Education Committee which creates and manages NCSEA's national webinars and **Jerry Maly**, who serves on the NCSEA's Code Advisory Committee on Existing Buildings. Thanks to all who volunteer their time to improve our profession!

JANUARY SPONSOR: D&B

THANK YOU

Welcome

Please welcome our newest members to SEAC:

Travis McIntosh (Professional Member)
AECOM

In The Spotlight

2012 Membership Dues

Dues notices have been emailed out to all members. Membership payments are due by **January 31, 2012**. Please submit payment **online or by check. See attachement for instructions on how to pay your 2012 Membership Dues.**

Thank you for your continued support of SEAC!

If you have a change of address, phone, email, or Professional Membership type, please email Caryn Farrell at: ***seac@martinmartin.com***

LICENSURE POLICY APPROVED BY NCSEA

During the NCSEA 19th Annual Conference held in Oklahoma City, October 20-22, the Member Organization Representatives in attendance discussed and unanimously approved the NCSEA Policy on Separate Structural Engineering Licensure. The Policy encourages all jurisdictions to adopt legislation that defines the practice of structural engineering and restricts it to those who have demonstrated competence by licensure as a Structural Engineer. The Policy supports the use of the NCEES 16-hour examination and the NCEES Model Law Structural Engineer as the basis for licensure of Structural Engineers. Within the Policy, NCSEA also encourages equitable transitioning of engineers currently practicing structural engineering.

GENERAL NOTES - ANNOUNCEMENTS

John A. Martin

December 12, 1919 – December 3, 2011

"There are those who imagine and those who create. When they come together it's magic."

- John A. Martin

John Alfred "Jack" Martin, 91, passed away on Saturday, December 3, 2011 in Redondo Beach, California. Born in Spokane, WA in 1919, Jack used his analytical skills and intellect to shape the course of his life. He was one of the preeminent structural engineers in the Western U.S. and founder of the Martin Associates Group of engineering companies, including the Los Angeles headquarters, John A. Martin & Associates, Inc. Jack was preceded in death by his wife, Effie "Nona" Martin in 1987.

Jack is survived by his eldest son and CEO of John A. Martin & Associates, John A. "Trailer" Martin, Jr. of Redondo Beach, CA, daughter-in-law Patricia and grandchildren John A. "Trip" Martin, III, Michael Bauer and Margaret "Peggy" Martin; his son Randall Martin and granddaughter Julia Tiffany of Newport Beach, CA; and his daughter Jamie Martin and grandsons Jack Otto, Brett West, and Reed West of Denver, CO.

Even as a young man, Jack put his analytical prowess to work "engineering" his future. In 1938, at the age of 19, he joined his father Stuart, a salesman in Oakland for a meeting with the baseball coach of U.C. Berkeley. His father had convinced the coach that Jack's baseball talents would greatly benefit the school. Although college had not been in Jack's plans, he was invited to play for the University and pursued a degree in engineering, the result of an aptitude for mathematics. He joined the U.S. Navy in 1941 and received his Bachelor of Science Degree in Civil Engineering from U.C. Berkeley in 1943. From 1943 to 1946 he completed Reserve Officer Training at Annapolis and served in the U.S. Navy on the destroyer USS Russell in the Pacific Ocean. He later served as an engineering officer on the carrier USS Antietam. After the war Jack returned to one of his favorite station layovers, Los Angeles, and went to work for Brandow & Johnson Structural Engineers. In 1953, he founded John A. Martin & Associates, a business enterprise that would ultimately become one of the world's largest privately owned structural/civil engineering companies. Growth came quickly to John A. Martin & Associates and its affiliate offices, in part because of work initiated with casinos and hotels in Las Vegas, including the Fremont Hotel and Casino, the firm's first commission. These steel, long span truss and concrete tower structures became a hallmark of the firm's extensive capabilities.

Jack Martin proved himself repeatedly in the eyes of his clients and colleagues as an innovator, explorer and mentor. His natural interest in construction and tectonics, collabo "There are those who imagine and those who create. When they come together it's magic."
– John A. Martin rative style, and fierce loyalty helped nurture relationships with private and public clients. From the downtown high-rise structures to the condominiums in the Wilshire-Westwood corridor, to the Los Angeles, Anaheim and Long Beach Convention Centers, L.A. Live!, Staples Center Arena, Walt Disney Concert Hall, and LAX business district, it is difficult to find a Los Angeles –area neighborhood without some building engineered by John A. Martin & Associates. JAMA's structural portfolio also included notable projects in overseas – in countries like China, Korea, Indonesia, Taiwan, Jordon, Kuwait, Egypt, and Saudi Arabia.

Over an active career of more than 50 years, Jack Martin touched the lives of countless people. His unique combination of intellect, tenacity and pragmatism brought invaluable lessons to the engineers, architects and contractors he worked with. He emphasized the importance of creative problem solving and not just using computers for the answers. In a 1998 interview Jack remarked, "I encourage young engineers to visualize and learn the details of what they are designing, and have a feeling for the size of what they are creating and connecting, before getting into the computer and performing calculations." This philosophy remains, even today, at the core of the Martin organization's work process.

The breadth of the Martin Group of firms' work extends well beyond Southern California. Engineering offices affiliated with John A. Martin have taken root in 14 states and many continue in second and third generation leadership to this day. Additionally, employees from the various companies carry licenses for all fifty states and Guam, Puerto Rico, and Canada.

Projects include work throughout the United States and abroad in a variety of project typologies including airports and port facilities; hotels and hospitality-related structures; education and justice facilities; sports and recreation centers; theaters; research and healthcare facilities; museums; and commercial and residential complexes among others.

Jack also believed strongly in a culture of helping others. His generous contributions, both professionally and personally, have been recognized by numerous organizations including the Los Angeles Council of Christians and Jews, from whom he received the 1990 Humanitarian Award and the American Legion for his founding of several youth baseball leagues.

STRUCTURAL ENGINEERS ASSOCIATION OF COLORADO
SEAC MEMBERSHIP DUES NOTICE - 2012

MEMBERSHIP CATEGORIES

Professional Members

Professional engineers registered by the State of Colorado who are actively practicing, teaching or conducting research in the field of structural engineering.

- Local $140.00
- Outside toll-free calling area $60.00

Affiliate Members

Persons with an interest in the objectives of SEAC.

- Local $140.00
- Outside toll-free calling area.....$60.00

Student Members.....$60.00

Full-time students who are pursuing engineering degrees at colleges and universities and who are interested in the practice of structural engineering.

Business Management Committee Members .....(additional) $50.00

SEAC encourages members to pay online.
Please see attached instructions for online payments.

You may also pay by check.
Please Attach Payment Along With The Following Page By:
Tuesday, January 31, 2012
Make check Payable to: SEAC
c/o Caryn Farrell
Martin/Martin, Inc.
12499 West Colfax Avenue
Lakewood, Colorado 80215
303.431.6100x403
Please provide member information, including your email address on the following page if paying by check.

Paying by check? Use this Form. Paying online? See Next next page for instructions.

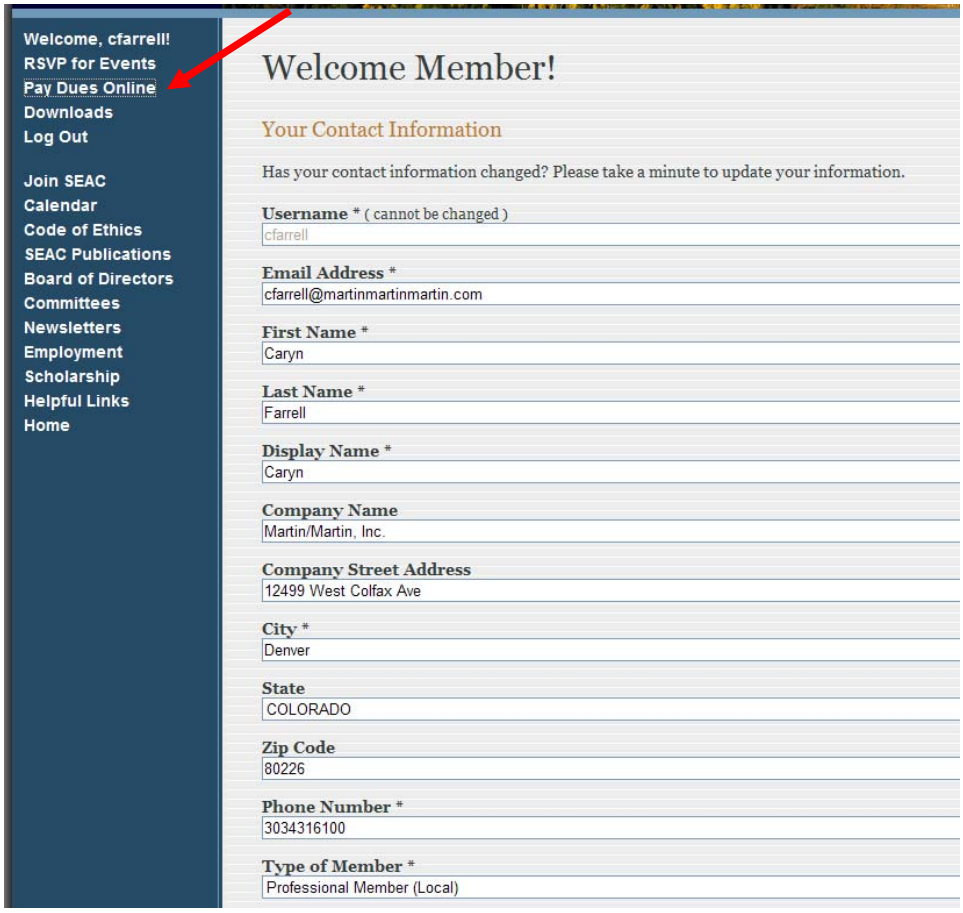
Please provide the following information for each respondent submitting payment using this notice:
SEAC will be sending all newsletters and updates via email. **Please provide your email address.**

Company Name: _____

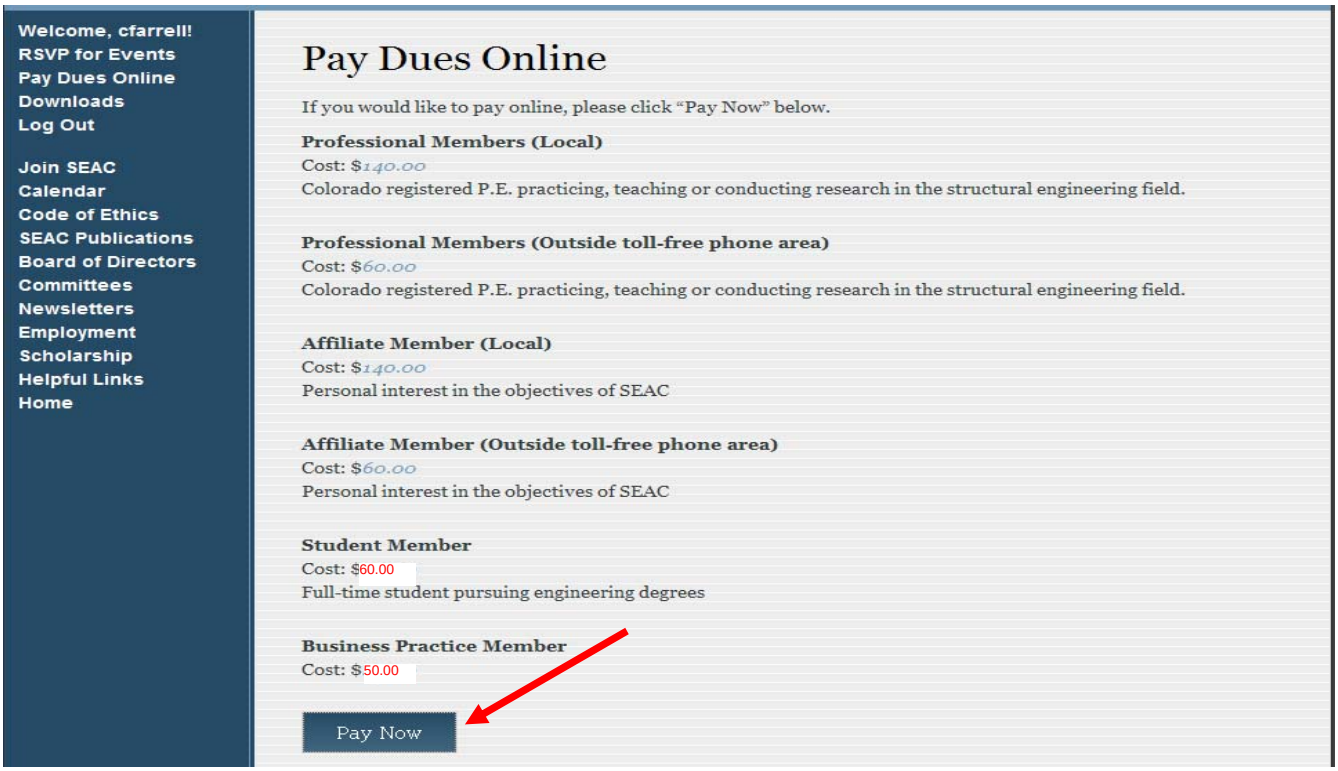
Member Name & Email	Professional **Local**	Professional **Outside**	Affiliate **Local**	Affiliate **Outside**	Student	Member of Business Management	Total Dues
1.	☐	☐	☐	☐	☐	☐	$0.00
Email Address:							
2.	☐	☐	☐	☐	☐	☐	$0.00
Email Address:							
3.	☐	☐	☐	☐	☐	☐	$0.00
Email Address:							
4.	☐	☐	☐	☐	☐	☐	$0.00
Email Address:							
5.	☐	☐	☐	☐	☐	☐	$0.00
Email Address:							
6.	☐	☐	☐	☐	☐	☐	$0.00
Email Address:							
7.	☐	☐	☐	☐	☐	☐	$0.00
Email Address::							
8.	☐	☐	☐	☐	☐	☐	$0.00
Email Address:							
9.	☐	☐	☐	☐	☐	☐	$0.00
Email Address:							
10.	☐	☐	☐	☐	☐	☐	$0.00
Email Address:							
11.	☐	☐	☐	☐	☐	☐	$0.00
Email Address:							
12.	☐	☐	☐	☐	☐	☐	$0.00
Email Address:							
TOTAL:							$0.00

Pay Dues On Line

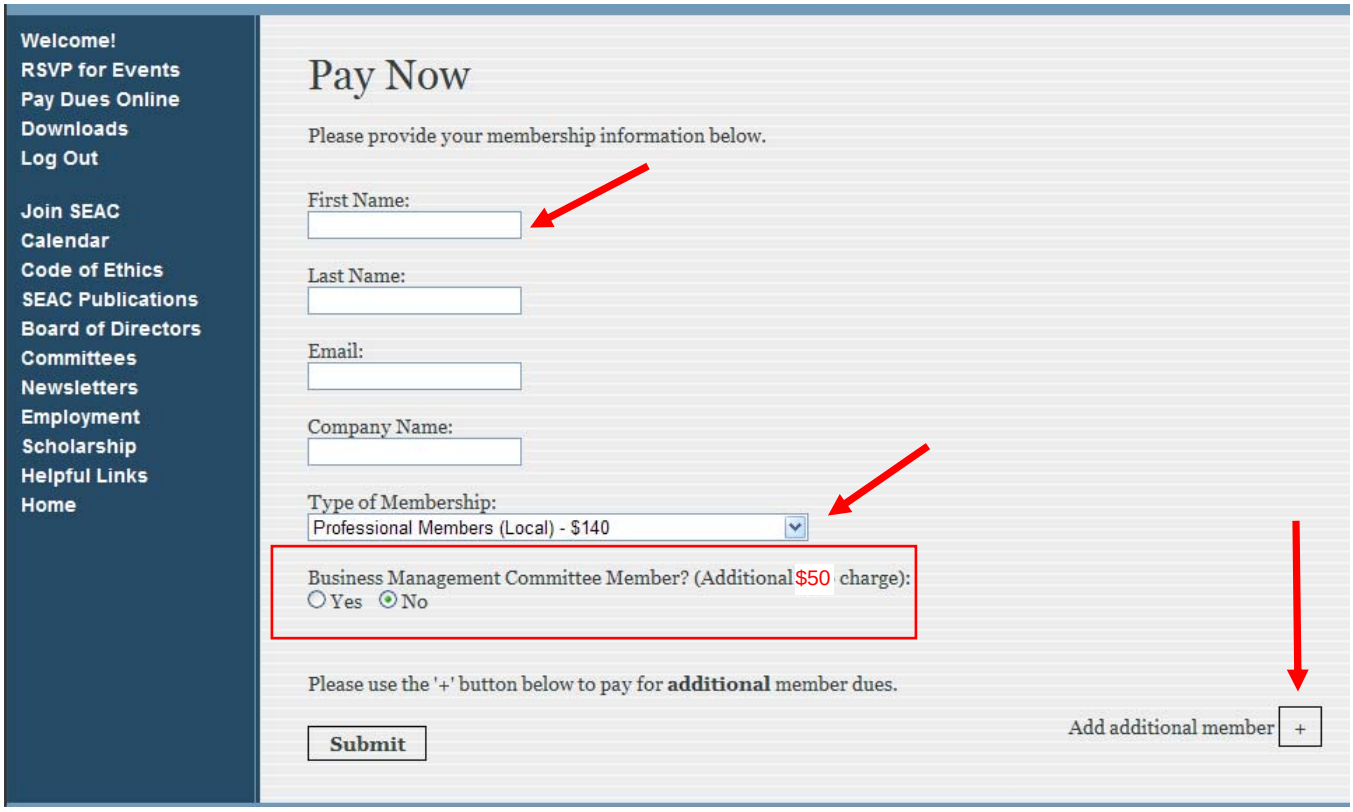
1. Log in to SEAC website at www.seacolorado.org
2. Click "Log In"



1. Click "Pay Dues Online"



1. Click "Pay Now"



1. Enter First Name, Last Name, Email, and Company Name
2. Select your "Type of Membership" Category
3. **** Click "Add Additional Member" if you are paying for several members from your firm. NOTE: You must click "Add Additional Member" each time you need to add a member to pay for. ALL information must be filled out for each member that is being paid for.