



STRUCTURAL ENGINEERS OF COLORADO

NEWSLETTER

SEPTEMBER GENERAL MEETING

2015 SCHEDULE

Meetings

Loc: Renaissance Hotel

Time: Breakfast 7:30 a.m.

January 22

March 19

May 28 (4th Thursday, Sheraton Denver West)

July 16

September 17

Fall Seminar

Loc: Sheraton Denver West

Time: 7:30 a.m. – 12 p.m.

October 9

Annual Meeting

Loc: The Wynkoop Brewery

Time: 5 pm—8 pm

November 14, 2015

Board of Directors

J.R. Harris and Company

Time: 7:30 a.m.

January 8

February 5

April 2

June 4

August 6

October 1

Business Management

Committee

Loc: Renaissance Hotel

Time: Breakfast 7:30 a.m.

February 12

April 9

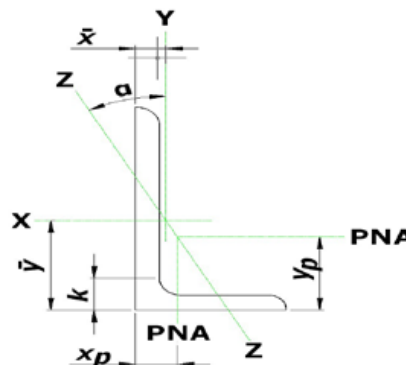
June 11

August 13

October 8

STEEL PRODUCTION PROCESSES

Jim Schoen and Ryan Pennington from Nucor-Yamato Steel and Nucor Steel Utah, respectively, will present an overview of the production processes utilized at both mills to convert steel from scrap into a finished hot-rolled product. Finished shapes, ASTM grades, and capabilities will also be discussed along with the testing to qualify them.



Ryan Pennington is a metallurgist with Nucor Steel Utah and **Jim Schoen** is a metallurgist with Nucor Steel Yumato, respectively.

SEPTEMBER 2015 MEETING

Thursday, September 17, 2015

Renaissance Hotel

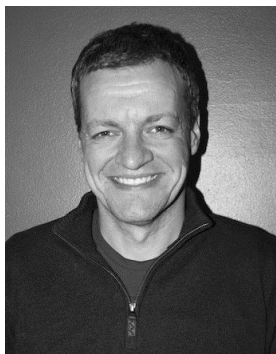
Breakfast at 7:30 a.m.

3801 Quebec Street, Denver, Colorado 80207
(south of the I-70/Quebec intersection)

RSVP by *Monday, September 14*, on the [SEAC website](#).

BOARD OF DIRECTORS

Structural Engineers Association of Colorado



Don Carroll

President

J.R. Harris & Company

303-860-9021

don.carroll@jrharrisandco.com



Ben Cook

VP/Treasurer

Wiss, Janney, Elstner

Associates, Inc.

303-914-4300

bcook@wje.com



Paul Doak

Secretary

Martin/Martin, Inc.

303-431-6100

pdoak@martinmartin.com



Paul Hause

Past President

Structural Consultants,

Inc.

303-399-5154

paul@sci-denver.com



Rob Jackson

Director

AECOM

303-843-2755

rob.jackson@aecom.com



Bob Pattillo

Director

Pattillo Associates

Engineers, Inc.

970-945-9695

bob@paengineers.com



Susan Jorgensen

Director

303-919-9321

susiejorg315@comcast.net

We Want to Hear from YOU! The SEAC Board of Directors is interested in hearing your suggestions, comments, and ideas. Please feel free to contact a member of the BOD at any time.

Thank you to all of our members who continue to support SEAC!

PRESIDENT'S MESSAGE

Structural Engineers Association of Colorado

It is cliché, but where has the year gone? Summer is already drawing to an end. Oktoberfest beers arrived at my local liquor store last week, I prefer the summer brews myself. I wouldn't be surprised if Christmas decorations appeared any day now passing over Halloween and Thanksgiving entirely. In keeping with the spirit of the approaching fall, I wanted to discuss something on all of our minds. What are the expected variations of inflation pressures in footballs subjected to decreased temperatures and wet playing conditions? But, I eventually came to my senses, and will go in a different direction. I think as a whole, our profession is not one that embraces change, well, not quickly anyway.

This is interesting because while assumptions like plane sections remain plane, and $\frac{Mc}{I}$ don't change, the conditions and restraints on how we utilize those conditions are constantly changing. Long ago, AISC tried to largely do away with allowable strength design in steel. Thanks to folks who liked things the way they were (some might call these folks saviors, others might call them curmudgeons), AISC eventually fell into line and created the dual manuals good for either ASD or LRFD. Personally, I prefer rectangles to triangles for my stress distribution, but to each his own. This is, of course, the exception to the rule. Time marches on and with it, change. Innumerable changes that we, as a profession, must accept regardless of their actual benefit or necessity. BIM, ever increasingly complicated Code provisions, the re-organization of ACI 318, and even wind provisions that multiply in size while somehow managing to contain little new information, are all open to valid criticism from within our profession. I have had the privilege of knowing some of the finest curmudgeons of our time, and I am confident that I could do them proud with a rant about the faults in some or all of the above.

Ultimately, railing against the inevitable is foolish. Have a good rant over the beverage of your choice and move on. Lean into change, be it upcoming Code requirements, new industry trends, or whatever life throws your way. Change is much more tolerable when you ride out to meet it, guns blazing, instead of sitting back and letting it break over you. The NCSEA magazine (included in the SEAC membership) is full of great information on changes affecting our everyday work. Most of the Code organizations have information available highlighting the changes and if we are lucky, some of the rationale behind them. Or, perhaps attend a seminar such as this year's Fall Seminar on October 9. The topics are Changes to the 2015 IBC from a Structural Engineers Perspective, and Overviews and Updates in Seismic Design. Like it or not, change (and winter) are coming.

Cheers,



Don Carroll, SEAC President

EMPLOYMENT OPPORTUNITIES

Structural Engineers Association of Colorado



Structural Project Engineer

Broomfield, Colorado

Froelich Engineers has an opening for a structural engineer with 2-4 years' experience in structural design of commercial and residential construction. Candidate must exhibit a working knowledge in a variety of materials.

Personal qualifications:

- Excellent verbal & written communication skills.
- Positive and professional attitude.
- Self-motivated problem solver who can work alone and as part of a team.
- CAD experience helpful, but not required.

FE offers excellent employee benefits including company paid medical, dental and vision insurance and a company-matched 401k plan.

Send us a resume today at pdx@froelich-engineers.com

Visit our website at www.froelich-engineers.com

EMPLOYMENT OPPORTUNITIES

Structural Engineers Association of Colorado



Bonsai Design, a world-class aerial adventure course provider, is looking for a Structural Engineer.

JOB DESCRIPTION: Structural Engineer

Job Summary:

The structural engineer serves a vital function at Bonsai Design. This professional is responsible for accurately designing, specifying, and stamping the plan sets of aerial adventure courses. The structural engineer's conclusions will help the company assess the feasibility of moving forward with the proposed project.

Job Responsibilities:

- Responsible for design, specification and services related to structures and foundations made of concrete, steel, wood, or engineered products for structures, platforms, bridges.
- Collaborates with a group of drafters, engineers, and designers, provides technical direction over this group
- Plans, budgets, organizes and controls an important segment of a very extensive and highly diversified engineering program or an entire engineering program of moderate scope.
- Responsible for stamping all Bonsai plans in multiple states.
- Requires execution of civil/structural activities for multiple small projects simultaneously.

Job Requirements:

- Bachelor's degree in Civil or Structural Engineering; 10+ years of related experience; PE license and stamp
- Demonstrated experience in technical execution
- Complete understanding of civil/structural design
- Experience with development of project scope, work hour estimates, project budgets, schedules and all civil/structural construction deliverables
- Excellent with Microsoft Office programs
- High level of complex IT knowledge; can manage accounts and files in cloud based services
- Detail-oriented, highly organized, and excellent analytical thinking skills
- Excellent customer service skills; ability to build and maintain positive professional relationships
- Strong and positive team player who is a self-starter and can work independently

Position is located at Bonsai's HQ office in Grand Junction, CO, but travel is expected to the sites during planning and execution.

This is a direct position with Bonsai Design and will include a competitive base salary and benefits.

EMPLOYMENT OPPORTUNITIES

Structural Engineers Association of Colorado



Farnsworth Group, Inc. is a full-service engineering and architectural firm with offices and employment opportunities located throughout a nationwide network of offices. Farnsworth Group is an employee-owned company with a rich 100-year history that offers an impressive benefits and compensation program, in addition to excellent career development opportunities. We are always looking for exceptional and talented employees who are passionate about their craft and the solutions we provide to our clients. We have the following position available:

Structural Engineer – Project Manager, Denver, CO

This is a unique and exciting opportunity for an experienced Structural Engineer to join our team in our Denver, CO office. This key leadership position will work to build a client focused, technically excellent building structural engineering team to serve local and nationwide clients in the support of multiple design and construction projects.

Qualified candidates will provide technical leadership related to building structural engineering as well as have an entrepreneurial drive to develop business opportunities. Specific responsibilities include the ability to cultivate strong client relationships, lead marketing activities, build a team, develop and mentor staff, collaborate with other disciplines, establish and maintain budgets, and work in partnership with leadership throughout the Company.

Specific Requirements include:

- Bachelors in Civil or Architectural Engineering, required
- Masters in Structural Engineering or Business Administration, preferred
- Licensed Professional Engineer, currently registered or eligible to apply to be registered in the state of Colorado
- 10 years of diverse project experience in the design and construction administration of buildings
- Ability to effectively manage clients and participate in and lead business development activities
- Proven leadership skills with engineering staff and organizations
- Excellent interpersonal, written and verbal communication skills

Strong team player in a multi-disciplinary environment that can manage and contribute to several projects simultaneously.

We offer a competitive salary and benefits program that includes:

- Medical/Dental Plans
- Prescription Drug Program
- Vision Plan
- 401(k) with Company Match
- Tuition Reimbursement
- Flexible Spending Account
- Time-off Benefits

For immediate consideration:

Please Apply Online by emailing sswallow@f-w.com or visit the Farnsworth Group website at www.f-w.com and click on the careers link.

Farnsworth Group, Inc. is proud to be a M/F Disabled and Veteran EEO/AA employer.

EMPLOYMENT OPPORTUNITIES

Structural Engineers Association of Colorado



SDG Incorporated
Consulting Structural Engineers

Immediate Opening for Structural Engineer

SDG, Inc. Consulting Structural Engineers, Englewood, Colorado, is currently seeking a Structural Engineer for immediate hire.

The firm was established in 1983. Project types include municipal facilities; commercial, industrial, federal and institutional buildings; and "civil" structures such as water storage tanks, water and wastewater treatment plants, pump stations, retaining walls, channel and diversion systems, box culverts, highway and pedestrian bridges.

SDG also provides specialized services in the investigation of distressed structures; including on-site observations, monitoring of structural movements, preparation of structural condition reports, design of repairs, engineering coordination, expert witness testimony and services during construction of rehabilitation measures. Our projects have utilized the complete spectrum of structural materials and systems; including cast-in-place, precast/prestressed and post-tensioned concrete, steel, timber, masonry, aluminum, and fiberglass.

Preferred Qualifications:

- Bachelor of Science or Master of Science Degree in Civil/Structural Engineering.
- Minimum 5 years of experience with design, detailing and specification of reinforced concrete, steel, masonry and timber structures.
- Demonstrated and current proficiency with the use of structural engineering analysis and design software, such as STAAD, RAM Concept, Enercalc, etc.
- Experience with post-tensioned concrete analysis and design.
- Ability to manage the structural engineering analysis and design for projects of various sizes.
- Familiarity and experience with the use of AutoCAD software for the preparation of electronic structural contract documents.
- Experience with the use of Revit software for BIM modeling would be advantageous.

Competitive salary and benefits package.

Please send a cover letter and your resume to: office@sdgdenver.com

EMPLOYMENT OPPORTUNITIES

Structural Engineers Association of Colorado



KL&A, Inc.

Structural Engineers and Builders

All of KL&A's offices have immediate openings for engineers with 5-10 years of experience.

Full-time position applicants for this position **must** have:

- A **Masters Degree** from an accredited civil/structural or architectural/structural engineering program

Preferred applicants will have:

- A PE or SE license
- Experience with **Revit Structure** modeling
- Experience in structural design of residential, commercial, industrial, or institutional buildings
- Experience working with architects

Personal attributes of many kinds may be acceptable, but an understanding of and dedication to client-centered service is a requirement.

Applicants for full-time positions should send a cover letter and resume to Greg Kingsley (gkingsley@klaa.com) and Camie Beagan (cbeagan@klaa.com).

Please visit www.klaa.com for more information about our firm.

IS YOUR COMPANY HIRING?

Consider placing an ad in the bi-monthly SEAC newsletter to reach over 300 members, including professional engineers, architects, contractors, suppliers, and vendors.

To learn more, contact Michelle Mishkar
(SEACNEWS@MartinMartin.com)

ANNOUNCEMENTS

Structural Engineers Association of Colorado

THE SEAC EDUCATION COMMITTEE

is seeking sponsors for the "SEAC Fall Seminar prizes," which will be awarded at the end of the seminar.

We offer to advertise your company logo on the seminar screen and in the seminar handouts."

If you are interested to participate, e-mail us at:
EducationSEAC@gmail.com

WELCOME OUR NEWEST MEMBERS

David Sparks (Professional Member)
Felten Group, Inc.

Holly Bonstrom (Affiliate Member)
Martin/Martin, Inc.

2015 SEAC FALL SEMINAR

Please find attached to this September Newsletter!

Coming Soon!

2015 SEAC Annual Event

Saturday, November 14, 2015

5 pm – 8 pm

The Wynkoop Brewing Company

Stay tuned for more information!

WANTED: Members for Colorado Building Department Liaison Committee

SEAC is considering a transformation of the Building Department Survey Committee. In the past, this committee took responsibility for periodically polling city and county jurisdictions in the state to identify structural design criteria such as adopted building codes, snow loads, wind speeds, seismic requirements, frost depth, geological hazards, etc. The information was compiled in a "Survey of Colorado Building Departments" booklet, last published by SEAC in 2007. Most of us would probably agree that at the present time, it is easier to obtain this information directly from jurisdiction web sites, which are generally kept up-to-date with the latest adopted regulations.

Nonetheless, there is arguably a need to keep SEAC in touch with local building departments, primarily because the ICC codes have become more complicated and more obscure to building officials, especially with regard to structure design. For example, many building departments do not have copies of ASCE-7 and thus have no reference for understanding basic concepts of roof snow load design based on ground snow loads.

Potential goals of a new (or renewed) Colorado Building Department Liaison Committee would be 1) to establish direct contact with each jurisdiction to offer support for general structural design issues, 2) regularly represent SEAC at quarterly ICC meetings, and 3) to promote consistent structural design standards throughout the state, such as adoption of the upcoming 2015 Recommended Colorado Ground Snow Loads.

If you are interested in joining this committee, please contact Bob Pattillo, bob@paengineers.com.

ANNOUNCEMENTS

Structural Engineers Association of Colorado



Great Colorado ShakeOut Statewide Earthquake Drill

Science and Engineering

At 10:15 a.m. on October 15, 2015, hundreds of thousands of people will “Drop, Cover, and Hold On” in The Great Colorado ShakeOut, the state's largest earthquake drill ever! All science, engineering and technical organizations are encouraged to participate in the drill (or plan a more extensive exercise) and to inform the public about the drill.

Major earthquakes may happen anywhere you live, work, or travel. The ShakeOut is our chance to practice how to protect ourselves, and for everyone to become prepared. The goal is to prevent a major earthquake from becoming a catastrophe for you, your organization, and your community.

Why is a “Drop, Cover, and Hold On” drill important? To respond quickly you must practice often. You may only have seconds to protect yourself in an earthquake before strong shaking knocks you down, or something falls on you.



Millions of people worldwide have participated in Great ShakeOut Earthquake Drills since 2008. The Great ShakeOut is held on the third Thursday of October each year.

Everyone can participate! Individuals, families, businesses, schools, colleges, government agencies and organizations are all invited to register.

Register today at ShakeOut.org/colorado

HOW TO PARTICIPATE

Here are a few suggestions for what science and engineering organizations can do to participate in the ShakeOut. More instructions and resources can be found at ShakeOut.org/colorado/howtoparticipate.

Plan Your Drill:

- Register at ShakeOut.org/colorado/register to be counted as participating, get email updates, and more.
- Download a Drill Broadcast recording from ShakeOut.org/colorado/drill/broadcast.
- Have a “Drop, Cover, and Hold On” drill at 10:15 a.m. on October 15. You can also practice other aspects of your emergency plan.
- Discuss what you learned and make improvements.

Get Prepared for Earthquakes:

- Check your emergency supplies and equipment; make sure they are accessible and functional.
- Ask departments to inspect facilities for items that might fall and cause injury and secure them.
- Encourage employees to prepare at home.
- Provide first aid and response training for staff.

Share the ShakeOut:

- Encourage employees to ask their friends, families and neighbors to register.
- Ask colleagues at other businesses to participate.
- Ask departments to inspect promotional materials at ShakeOut.org/colorado/resources.
- Share photos and stories of your drill at ShakeOut.org/colorado/share.



As a registered ShakeOut Participant you will:

- Learn what you can do to get prepared
- Receive ShakeOut news and other earthquake information
- Be counted in the largest earthquake drill ever!
- Set an example that motivates others to participate

© 2015



COLORADO

Division of Homeland Security
& Emergency Management
Department of Public Safety



FEMA

ANNOUNCEMENTS

Structural Engineers Association of Colorado

New Committee!

SEAC Announces the Development of the Existing Structures Committee

The SEAC board of directors has approved a new committee to address the structural issues of existing structures, the SEAC Existing Structure Committee (ESC).

The SEAC/ESC committee goal is to provide guidance on the assessment and design of repairs and rehabilitations to improve the safety and performance of existing structures.

The committee is seeking experienced structural engineers to work on the development of written guidelines and recommendations, which will assist engineers and building officials, and to work with other groups to advance the structural engineering of existing structures.

Our kickoff meeting is on September 24, 2015 at 3:00 p.m. in J R Harris & Company's office at 1775 Sherman St., Suite 2000, Denver. Please email the committee chair, Gene Stevens at gene.stevens@jrharrisandco.com if you are interested in working on this committee.

We look forward to this new and exciting team!

SPONSORS—THANK YOU

Structural Engineers Association of Colorado

SPONSORS! Your Logo Could Go Here!

Do you know someone that would be interested in
sponsoring a SEAC Meeting?

Please contact Paul Hause, Past-President
303-399-5154 - paul@sci-denver.com

ATLAS TUBE

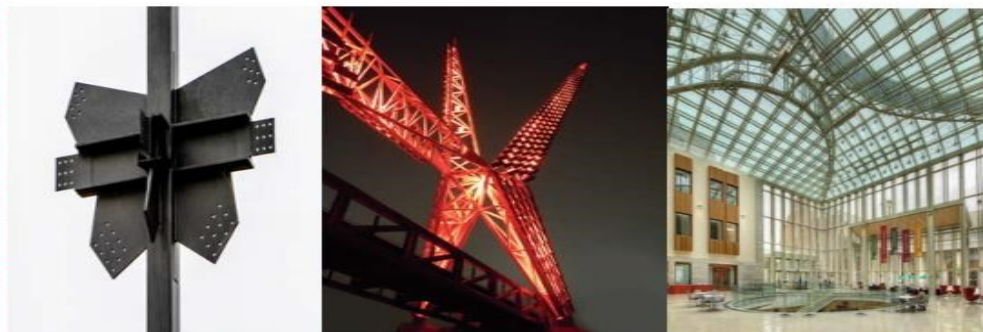
Thank you, July Sponsor!



At **Atlas Tube** our goal is to provide superior quality **HSS** products that will save you money, while simultaneously providing you with the resources you require to design and specify HSS.

With the largest HSS size range available and the shortest cycle times in the industry, we have the capability to deliver the products you need, when you need them. As the exclusive provider of **Jumbo HSS** and a producer of the new **ASTM A1085** spec, we supply products for engineering projects across North America.

Visit our website at **www.atlastube.com** for more information!





SEAC FALL SEMINAR

Friday, October 9, 2015

7:30 am - 12:00 pm

Seismic Design: Overview and Updates

Provisions for design of structures to resist earthquakes have undergone a staggering amount of growth and change in the past several decades. What would once fit in the pages of a small pamphlet has expanded to an entire shelf of books. Buildings that were satisfactory by past codes, more likely than not, will be found to not conform to today's codes. This session of the seminar will focus on the basics:

- Structural response to ground shaking and how the codes (ASCE 7 and ASCE 41) idealize that response.
- The performance expectation behind the code requirements and how that expectation enters the specification of the mapped ground motion parameters.
- A few of the complications that result from a design objective that permits significant damage: engineering problems such as coupling the design rules for loads and resistance and communication problems such as difficulty in explaining to clients what their structures might do in the future.
- Key decision points in the design validation process: risk category, site characterization, Seismic Design Category, method of response analysis, selection of the response modification factor and the design rules that go along with that selection, decisions about use of the amplified seismic load in design criteria.
- The fundamental difference between design for new structures and evaluation and upgrading existing structures.

Updates to the 2015 IBC: Overview of Updates

To the 2015 IBC from the Perspective of Structural Engineers

An overview and highlight of changes in the 2015 IBC from the 2009/2012 IBC and how these changes affect structural engineering design. Highlighting changes to structural design per Chapter 16. Overseeing changes to Chapter 17 Special Inspections and Tests, Chapter 19 Concrete, Chapter 21 Masonry, and Chapter 22 Steel. Seminar will also discuss the 2015 IEBC and the removal of Chapter 34 Existing Structures from the IBC.

Early Registration and Payment Deadline: September 22, 2015

Members: \$115.00 Non-Members: \$135.00 (Pay by check)

Students: \$20.00 (Pay by check)

Registration and Payment After September 22, 2015

Members: \$135.00 Non-Members: \$155.00 (pay by check)
(Or Pay at the door)

Students: \$35.00 (Pay by check or pay at the door)

****Need to pay by check? See page 3. ****

LOCATION:

Sheraton Denver West
360 Union Blvd.
Lakewood, CO 80228

SEMINAR SCHEDULE:

7:30 am- 8:00 am

Registration and Breakfast

8:00 am- 8:15 am

Introduction Announcements

8:15 am- 10:00 am

Seismic Design: Overview and Updates

10:00 am- 10:15 am

Break

10:15 am- 12:00 pm

Overview and Updates to the 2015 IBC and IEBC from the Perspective of Structural Engineers

Four (4) Professional Development Hours

STRUCTURAL ENGINEERS ASSOCIATION
OF COLORADO

RSVP ONLINE AT

www.seacolorado.org



James Robert Harris, PE, PhD, NAE

Jim Harris founded J. R. Harris & Company, Structural Engineers, of Denver, Colorado in 1984. He has served as President of SEAC and has been awarded Life Membership by SEAC. He has designed or evaluated thousands of structures ranging from dwellings to high-rise building, industrial facilities, buildings in the highest seismic zones, excavation bracing, renovations of historic buildings, and many others. This background spans nearly all types of construction and structural materials and includes responsibility for management of all design disciplines. His experience includes six years of full-time research. He is an active member of several committees that produce national standards for structural engineering practice, and his expertise there was recognized by his election to the National Academy of Engineering.



David R. Ojala, SE, LEED AP, CWI

David Ojala is a Senior Engineer with Exponent - Failure Analysis Associates. Based in Menlo Park, California (in the San Francisco Bay area), Mr. Ojala is a building failure first-responder, whose broad knowledge of structural design, construction, and performance give him the ability to perform structural triage and failure investigations under difficult field conditions.

Mr. Ojala specializes in the design and analysis of steel and concrete building structures, as well as the assessment of structures damaged by earthquake, fire, and water. In addition to his work experience, Mr. Ojala serves as a past-chair of the Disaster Emergency Services committee of the Structural Engineers Association of Northern California (SEAONC), and currently serves as chair of SEAONC's Existing Buildings Committee.

Mr. Ojala received his graduate and undergraduate degrees in civil engineering at Case Western Reserve University, focusing in structural dynamics and geotechnical engineering.

PAYING BY CHECK – REGISTRATION FORM

Company Name			
Phone No. and Email:			
	Name of Attendees	SEAC Member (Y/N)	Fee Amount
Total:			

Make your check payable to: **SEAC**

Mail to the address listed below along with this Registration Form:

SEAC

c/o Martin/Martin, Inc.

12499 W. Colfax Ave.

Lakewood, CO 80215

Attn: Caryn Farrell

REGISTER EARLY TO RECEIVE THE DISCOUNT

Early Registration and Payment Deadline: September 22, 2015

Members: \$115.00 Non-Members: \$135.00 (Pay by check) Students: \$20.00 (Pay by check)

Registration and Payment After September 22, 2015

Members: \$135.00 Non-Members: \$155.00 (Pay by check) Students: \$35.00 (Pay by check)
(Or Pay at The Door) (Or Pay at The Door)

MEMBERS RSVP ONLINE AT www.seacolorado.org

****Please Note** - Only a SEAC Member can register and pay for a Non-member via the website. The Member must Log in to the SEAC website and “Add a Guest” at the registration page. The website should apply the correct cost for the Non-Member Attending the Fall Seminar.

Alternatively, Non-Members can submit this registration form with a check to the address listed above.