



CONNECTIONS

September 2016 Volume 16 Issue 9

Newsletter of the
Structural Engineers
Association of Oregon

SEAO
9220 SW Barbur Blvd.
No. 119
PMB #336
Portland, OR 97219
Phone: (503) 753-3075
E-Mail: jane@seao.org
Web site: www.seao.org

IN THIS ISSUE: PAGE

- President's Message 2
- September Awards Dinner Meeting Announcement 3
- Life Member, New Members, YMF Activities 4
- IBC Code Info, Judges Needed 5
- Member of the Month 6
- Employment Opportunities, Seismic Events, Ask a Question 7
- SEAO Fall Seminar 8 & 9
- DeWalt Advertisement 10

Upcoming SEAO Meetings and Events:

Friday, September 23, 2016: YMF Lunch Meeting

Location: KPFF, 25th Floor, Broadway Room

Time: 12:00pm to 1:00pm

See Page 4 for additional YMF information.

Wednesday, September 28, 2016: SEAO Excellence in Structural Engineering Awards Presentation and Dinner Meeting

Topic: Cities of the Future

Speaker: Paddy Tillett, ZGF Architects, LLP

Location: The Sentinel, 614 SW 11th Ave., Portland, OR, The Billiard Room

Time: 5:30pm Check-In and Social, 6:15pm Dinner, 6:30 pm Program

PDH Credit: 1 hour

See Page 3 for additional information.

Tuesday October 18, 2016: SEAO Fall Seminar

Topic: Design of Reinforced Concrete Slabs on Columns & Concrete Anchors for Seismic Forces

Speaker: S.K. Ghosh, Ph.D., President, S.K. Gosh Associates Inc.

Location: Sheraton Portland Airport Hotel and Conference Center

See Page 8 for additional information.

SEAO has a twitter
account and can be
followed at
[@SEAOregon](https://twitter.com/SEAOregon).



CONNECTIONS is a monthly publication of the Structural Engineers Association of Oregon, published to disseminate current news to our membership and others involved in the profession of structural engineering. The opinions expressed reflect those of the author and, except where noted, do not represent a position of SEAO.

Send membership inquiries to:
9220 SW Barbur Blvd.
No. 119
PMB #336
Portland, OR 97219

BOARD OF DIRECTORS

President
Gary Lewis
Lewis & Van Vleet
Ph: 503.885.8605
gilewis@lvvi.com

Vice President
Kevin McCormick
Miller Consulting Engineers
Ph: 503.246.1250
kevin@miller-se.com

Secretary
Dmitri Wright
Cascade Engineering
Ph: 503.846.1131
Dmitri@cascade-structural.com

Treasurer
Mark Butler
Butler Consulting, Inc.
Ph: 503.658.0200
mark@bciengineering.com

Director
Pat Merriman
Masons Supply
Ph: 503.234.4321
pmerriman@masco.net

Director
Michelle Juarez
Miller Consulting Engineers
Ph: 503.246.1250
michelle@miller-se.com

Past President
Jennifer Eggers
KPFF Consulting Engineers
Ph: 503.227.3251
jennifer.eggers@kpff.com

Executive Secretary
Jane Ellsworth
SEAO Staff
Ph: 503.753.3075
jane@seao.org

PRESIDENT'S MESSAGE: *PASSING THE TORCH*

BY: GARY J. LEWIS, S.E.



This has been a very interesting year. I was "sworn in" as SEAO President in September a year ago, when I had no clue what awaited me.

The duties of the position were maybe the least demanding thing that has happened to me since then, while other experiences put things in perspective. At first, I was afraid that the time demands of being president of this organization might be too much for me, but it turns out that the time demands of the rest of life were much more demanding. I was president for less than a month when I was temporarily knocked out of commission by a minor heart attack caused by an internal short-circuit, which caused me to miss my first board meeting as chair in October. Jennifer Eggers and Kevin McCormick graciously and ably filled in for me, and I was back in the saddle again after some quick repair work.

I was blessed to learn a lot about engineering and the workings of the Structural Engineers Association over the next months of service, and got relatively comfortable in my new role. I moved to a new home in early 2016, then almost immediately had another minor heart attack and ended up in the hospital for a bypass and was confined to home convalescing for about six weeks, missing another Board meeting. Thanks again to Jennifer and Kevin for covering by chairing the March Board meeting. Work has been very busy this year, but by devoting occasional blocks of time to SEAO, I managed to fulfill most (if not all) of the president's duties. Now things are heating up in the organization at just about the time that I will pass the mantle to Kevin McCormick. He has already shown that he is exceptionally well-qualified to wield the gavel, and I look forward to sitting on the Board as past president and seeing the good things that transpire under his leadership.

We had some difficulty this past spring finding someone who was willing to run for the vice president (and president-elect) position, until Seth Thomas stepped up to the plate. I think a lot of potential candidates other than Seth may have been put off by the thought that being president would be too demanding. But if I can do it, anyone can. Being SEAO president has some great benefits: it puts you in the position of getting to know a lot of other engineers and seeing what talent and energy we have available, you become better informed about the latest that is going on in our organization and in the world at large of engineering, and you are part of a volunteer team that get things accomplished. After my year in office, I feel much more well-rounded now (even though I have been losing weight since March). I want to encourage more of you to test the waters of involvement by joining a committee, offering to chair a committee, or running for a board seat this year. It doesn't take a lot to be involved, and you will benefit as much or more than SEAO will.

I would be remiss if I didn't mention the other Board members besides Jennifer and Kevin who made my term so enjoyable. Mark Butler, Dmitri Wright, and Michelle Juarez made great contributions and will be greatly missed, while Pat Merriman will still grace us with his insights and willingness to help. Jane Ellsworth is invaluable to the Board, and we couldn't do it without her. In addition, the committee chairs and members, and the newsletter editor make us all look good. And we would also like to welcome the incoming Vice President, Seth Thomas; the incoming Treasurer, Phillip Davis; the incoming Secretary, Lindsey Weisgerber; and incoming Director, JoMarie Farrell. I will enjoy backseat driving over the next year.

— Gary Lewis

SEAO COMMITTEES

CODE ADVISORY COMMITTEE

Seismic
Reid Zimmerman—
reid.zimmerman@kpff.com

Wind
Jim Riemenschneider—
jimr@vlmk.com

Snow Load
Andy Stember—andy@jasenginc.com

Code
Eric Watson—eric@miller-se.com

Vintage Building
Wade Younie—
wyounie@dcie-engineers.com

Special Inspections
Ray Miller—ray@miller-se.com

Mass Timber
Eric McDonnell—
Eric.McDonnell@kpff.com

STRUCTURAL ENGINEERS EMERGENCY RESPONSE (SEER)

Shawn Stevenson—
sstevenson@morrisonhershfield.com

PROGRAM COMMITTEE

Monthly Meetings
David Gilroy—dgilroy@strongtie.com

Awards
Brynn Adkins—brynn@wdyi.com

Golf Tournament
Stephen Stenberg—steetz07@yahoo.com

Conferences
Kevin McCormick—
kevin@miller-se.com

ADVOCACY COMMITTEE

Website
Seth Thomas—seth.thomas@kpff.com

Legislative
Paul Kluvers—pkluvers@gmail.com

Engineers Week
Michelle Juarez—
michelle@miller-se.com

Young Member Forum
Phillip Davis—
pdavis@seftconsulting.com

CONTINUING EDUCATION COMMITTEE

Seminars
Andy Stember—andy@jasenginc.com

MEMBERSHIP COMMITTEE

Newsletter
Sarah McClelland—
smcclelland@moldedfiberglass.com

Roster
Jane Ellsworth—jane@seao.org

DELEGATES

NCSEA & WCSEA/NWC
Ed Quesenberry—
edq@equilibriumllc.com

Seth Thomas (Alternate)—
seth.thomas@kpff.com

SEPTEMBER AWARDS DINNER MEETING ANNOUNCEMENT WEDNESDAY, SEPTEMBER 28, 2016

Please join SEAO for the 2nd Annual Excellence in Structural Engineering Awards presentation. The meeting will feature keynote speaker Paddy Tillett, of ZGF Architects, LLP presenting, "*Cities of the Future*".

Awards will be presented to the winning projects, as selected by an esteemed panel of independent judges, in the following categories:

- Jurors' Favorite
- New Buildings Over \$10M
- New Buildings Under \$10M
- Renovation/Retrofit
- Special Use Structures

In addition to the Awards and Speaker, we will be installing the new SEAO Board, announcing the SEAOSF Scholarship winners, and presenting the Life Member Award.

This is a meeting you don't want to miss!

Topic: Cities of the Future

Talk of cities of the future usually brings to mind images from science fiction: streamlined towers and misty skylines. The reality will be less glamorous, but we need to decide how to shape our cities. If we do nothing, the mistakes of today will be magnified. This presentation will draw on what we already know to suggest some radical initiatives that will make tomorrow's cities more livable than many that we know today.



Speaker: Paddy Tillett, ZGF Architects, LLP

Paddy Tillett grew up in rural Scotland, completing his formal education in Oxford and Liverpool. He practiced architecture and planning in London and many other parts of the world before settling in Portland, Oregon in 1982. He is a principal with ZGF Architects LLP focusing on planning and urban design, and an adjunct professor at Portland State University. Paddy is a Fellow of the Royal Town Planning Institute, a member of the Royal Institute of British Architects, a Fellow of the American Institute of Certified Planners, a Fellow of the American Institute of Architects, and an Accredited LEED Professional.

Details:

Location: The Sentinel, 614 SW 11th Ave., Portland, OR, The Billiard Room

Time: 5:30 pm — Check in and Social
6:15 pm — Dinner
6:30 pm — Program

Cost: \$32 — Prepaid Members
\$20 — Prepaid YMF Members
\$42 — Prepaid Non-Members
Free — Students

Reservations: Pre-registration is required for all. You can register and pay online at www.seao.org before noon, Friday, September 23. You can also register with Jane Ellsworth via phone at (503)753-3075 or via Email: jane@seao.org. Note: No-shows will be billed.

NEW SEAO LIFE MEMBER
WADE YOUNIE, PE, SE
PRINCIPAL STRUCTURAL ENGINEER
DCI ENGINEERS



Wade has been a consulting engineer for more than 32 years. He earned his Bachelor of Science in civil engineering at Portland State University. He has active licenses in California, Montana, Oregon, and Washington. He started his career with Talbott Engineers, where he learned the art and science of forensic engineering. Looking for more structural design work, he moved on to local design firms, where he gained extensive experience in retail, commercial, residential and industrial projects. He continued to develop niches in special projects such as structural investigation, demolition, and renovation of existing and historic buildings. He joined DCI Engineers' Portland office in 2004. He quickly became the firm's go-to expert and spokesman for seismic evaluation and upgrades, particularly for regional unreinforced masonry

(URM) buildings and historic preservation projects. Wade was promoted to managing principal at the firm in 2008. His completed projects range from wineries, community centers, college recreation centers, shopping centers, townhouses, and much more.

Wade's engineering skill with Ponzi Vineyards in Sherwood, Oregon won him recognition in the 2015 SEAO Excellence in Structural Engineering awards.

He has been an SEAO member since 1981. He served as SEAO president from 1996-1997. He currently serves on the organization's Seismic Committee and is chairman of the Vintage Building Committee. In 2014, he was on the panel of judges for the NCSEA Annual Awards Program to select projects for recognition in structural engineering excellence.

Outside the office, Wade enjoys cycling and rides with Portland Velo, Portland Lawyer Ride, and the Multnomah Athletic Club Cycling Group.

NEW MEMBERS

The newest members to join SEAO are:

Edward Unruh – Kramer Gehlen
Ying Wu – City of Portland
Stephan Medina – Black & Veatch
Kevin Nadolny – KPFF
Daniel Howard – PACE Engineers
Jakob Eibel – WDY
Mikhail Snigur – WDY
Carl Kloos – Kurt Fischer Structural Engineering
Emily Byers – Lewis & Van Vleet

Welcome New Members!!

YOUNG MEMBER FORUM ACTIVITIES

BY: PHILLIP DAVIS

Upcoming YMF Events:

Friday September 23rd – Lunch Meeting
Location: KPFF, 25th Floor, Broadway Room
Time: 12:00pm to 1:00pm
Lunch will be provided.

YMF Website Info:

<http://www.seao.org/committees/advocacy/ymf/>
Please visit our website for more information on YMF events and information.

IBC CODE INFO

1603.1.3 Roof Snow Load Data

CHANGE TYPE: Modification

CHANGE SUMMARY: Two additional items related to snow load drifting are now required to be identified on the construction documents.

2015 CODE: 1603.1.3 Roof Snow Load Data. The ground snow load, P_g , shall be indicated. In areas where the ground snow load, P_g , exceeds 10 pounds per square foot (psf) (0.479 kN/m²), the following additional information shall also be provided, regardless of whether snow loads govern the design of the roof:

1. Flat-roof snow load, P_f
2. Snow exposure factor, C_e
3. Snow load importance factor, I
4. Thermal factor, C_t
5. Drift surcharge loads, p_d , where the sum of p_d and P_f exceeds 20 psf (0.96 kN/m²).
6. Width of snow drift(s), w .

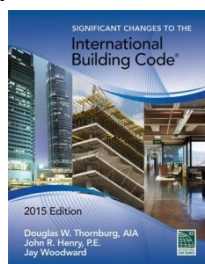
CHANGE SIGNIFICANCE:

Section 1603 requires specific structural-related information to be shown on the construction documents. Section 107 contains administrative provisions for submittal of documents that include construction documents as defined in Section 202. Including design assumptions and loading information on construction drawings is valuable to the owners and engineers who are tasked with evaluating or reevaluating existing structures. The two additional items pertaining to snow drifts supplement the snow load information already required and clarify how the registered design professional interpreted the design requirements related to snow drifting. In addition to other criteria, Section 1603 now requires snow drift surcharge and drift width to be indicated on the construction documents where applicable.



Photo Courtesy of Peter Kulczyk

This excerpt is from the Significant Changes to the International Building Code, authored by John Henry, PE, Jay Woodward and Doug Thornburg, AIA. The book is available at shop.iccsafe.org. Use ID # 4000S12.



JUDGES NEEDED!!

Judges Needed for AISC/ASCE National Steel Bridge Contest at OSU

Oregon State University has the honor of hosting the 2017 National Student Steel Bridge Competition (NSSBC). Help us to make the 2017 NSSBC "a resounding success!" No prior experience necessary! Complete the information in the form at the link below to sign up to be a judge.

<http://goo.gl/forms/trXa37mWridEr0Bc2>

This form will be available until October 31, 2016, but please complete it as soon as possible if you'd like to be on our roster of judges. Priority will be given to the earliest responses. Partial travel support is expected to be available for judges who reside outside of Oregon.

For more information about the NSSBC, including the video announcing Oregon State as the host school for the 2017 NSSBC, go to <http://www.aisc.org/steelbridge>.

Feel free to contact us with any questions!

(thomas.miller@oregonstate.edu or judy.liu@oregonstate.edu)

MEMBER OF THE MONTH
ED QUESENBERY OF EQUILIBRIUM ENGINEERS LLC
BY: JOMARIE FARRELL, EQUILIBRIUM ENGINEERS, SEAO BOARD MEMBER



The Board of Directors of the Structural Engineers Association of Oregon take great pleasure in honoring and recognizing Ed Quesenberry, S.E., Principal of Equilibrium Engineers LLC, for his extraordinary contributions to SEAO.

Ed is a licensed Structural Engineer in Oregon, California, and Washington. He has over 27 years of structural engineering consulting experience on a broad range of building types. He founded Equilibrium Engineers LLC in 2003. Prior to forming Equilibrium, he served as Associate/Structural Project Manager at KPFF Consulting Engineers for 8 years (1995 to 2003). And prior to that he worked at CYS & Associates in Sacramento as a project engineer on school and hospital projects.

He graduated from California Polytechnic State University in San Luis Obispo with a Bachelor of Science degree in Architectural Engineering. He is Past President of SEAO, the current SEAO Delegate to NCSEA, and will be re-joining the NCSEA Board of Directors in a Director position this Fall. Additionally, he has served as Allied Member Director of AIA Portland, has been an Adjunct Faculty Member at Portland State University, and co-chaired the Critical Buildings Task Group as part of the development of the Oregon Seismic Resiliency Plan. He is quite proud of the work Equilibrium Engineers has been involved in, including Elephant Lands at the Oregon Zoo, Providence Office Park, and the Richard Woodcock Center for Education at Western Oregon University.

What can I say on a personal note about Ed?

- He brings laughter to the office. It's hard to stay frustrated with your job, when Ed leans over and says with a smile, "You know, they're going to change that next week", or my favorite, "People will not die." Keeps things in perspective.
- When things seem like they are just about to go off-the-rails, he pulls the staff together to put us back on course.
- Clients LOVE his sense of humor, ability to phrase problems and their solutions in simple-to-understand terms, his tact and diplomacy, and his ability to come up with solutions for difficult design issues on the fly in a meeting. He is the calm during the storm.
- He is a wonderful mentor to young engineers. His ability to put theory into practice and his patience in taking the time to explain how to solve/calculate a structural solution are truly inspirational.

Other Fun Facts about Ed:

- He loves to ride his road bicycle. In August he completed the 2-day, 190-mile Ride from Seattle to Vancouver BC (RSVP) and was still able to walk normally when he returned to the office on Tuesday.
- He is a Boston Red Sox fan, Portland Timbers fan, avid Winterhawks Junior Hockey fan, and, of course, Cal Poly Mustang fan. I know—I didn't know they had sports either.
- He loves to fly fish and has his own drift boat that needs more time in the water.
- He has been married to his lovely wife Carla for 24 years and they have two children, Paige (21) and Ryan (18), who will both be in college in this fall. One just starting and one graduating.

I have felt blessed to have had the opportunity to work for and get to know Ed and his family. His years of dedication to SEAO and the structural engineering profession are a model for all engineers. Ed, thank you for contributing so much to our profession and our community!

EMPLOYMENT OPPORTUNITIES

CATENA CONSULTING ENGINEERS

Structural Engineer
Portland, OR

catena consulting engineers provides the personal environment of a small firm while providing the opportunity to work on a variety of projects. Our projects vary in size from a single day's effort to large projects with construction values in excess of \$300 million. You will gain design experience in concrete, steel, timber, and masonry buildings and will work on a wide variety of project types including buildings created for healing, learning, living, and interacting. Due to the technical complexity and challenge of many of our projects, we seek engineers that hold a Master's degree, and that have a desire to learn, grow, and be challenged. U.S. citizenship is preferred. We are currently seeking engineers with 0-6 years of experience in structural engineering for buildings. For a detailed advertisement and to submit your resume, visit our website <http://www.catenaengineers.com/opportunities.php>.

HOLMES CULLEY

Structural Engineer
San Francisco and Los Angeles, CA

Holmes Culley is a California based structural engineering firm dedicated to providing quality service and creative design solutions. As part of the New Zealand based Holmes Group, we are an international practice with over 300 professionals in six offices, providing engineering expertise to clients along the West Coast and throughout the Pacific Region. We are seeking structural engineers with 5+ years design experience for both our San Francisco and Los Angeles offices; M.S. degree in Structural Engineering and PE license are preferred.

Check us out at www.holmesculley.com and send your resume with cover letter to hr@holmesculley.com.

SEISMIC EVENTS

NCSEA Webinar

Thursday, October 6, 2016, 12:00 PM – 1:30 PM PST
Tsunami Design in ASCE 7-16: An Overview of the New Provisions
http://www.ncsea.com/calendar/2016/10/6/20161006_thomastsunamiase716/

ASCE Webinar

Monday, October 10, 2016, 12:00 PM – 1:00 PM ET
Introduction to the Seismic Design of Nonbuilding Structures to ASCE 7-16

ASK A QUESTION, GET AN ANSWER

Do you have a code question you would like to ask the Wind Committee or Snow Committee? SEO is pleased to announce a simple way for Q&A's with technical committees. Email questions to jane@seao.org, and SEO will direct your question to the appropriate committee chair for a response. Questions and their answers will be made anonymous and available to the membership on the website www.seao.org.

Committees include: Seismic, Wind, Snow, Code, Vintage Building, and Special Inspections.

VENDOR ADVERTISING

SEAO is now accepting vendor advertising!

Cost of a full page ad running for one month:
\$250 - Members
\$350 - Non Members

For more information, contact Jane Ellsworth at jane@seao.org.

Design of Reinforced Concrete Slabs on Columns & Concrete Anchors for Seismic Forces

Presented by the Structural Engineers Association of Oregon (SEAO)

Date: **Tuesday, October 18, 2016 – 8:30 AM to 4:30 PM**
Registration Opens at 7:30 AM (Lunch Included)

Cost: \$175 SEAO Member (Includes Class Notes) \$225 Non-member
\$25 Late Fee (if registration received after October 11, 2016)
Students \$55 (Includes Notes) – Must show current student ID
No refunds after 12:00 noon Wednesday, October 11, 2016

Register early; Maximum 100 people

**Program to be Taped
by Limelight Video**

Location: **Sheraton Portland Airport** 8235 NE Airport Way
Hotel and Conference Center Portland, Oregon
(503) 249-7606

Continuing Education: **SEAO has recommended this seminar for 6 PDHs**

Speaker: **S. K. Ghosh, Ph.D., President, S. K. Ghosh Associates Inc.**
S. K. Ghosh Ph.D., is a highly acclaimed speaker and author on seismic-related issues and concrete design, and has been involved with the development of national codes and standards.

Summary:

Design of Reinforced Concrete Slabs Supported Directly on Columns in Seismic Design Category D, E, or F Buildings

This seminar will discuss seismic design for two-way concrete flat plates and flat slabs in Seismic Design Category D or higher. This topic is more complicated than one might expect.

For SDC D-F, the flat plate-column frames cannot be part of the seismic force-resisting system, and deformation compatibility between such frames and the seismic force-resisting system becomes an important issue. Although slab is not designed as part of the seismic force resisting system, transfer moments can be developed at slab-column connections due to lateral drift of the building during an earthquake. If connection area is already subjected to high shear stresses due to gravity loads, displacement-induced transfer moments can cause a punching shear failure. This seminar will discuss in detail the procedure for designing this kind of slabs for lateral loads as well as for gravity loads. An example will also be presented.

Design of Concrete Anchors for Seismic Forces

ACI 318-11, adopted by the 2012 IBC has now been used in much of the country for almost two years, yet the requirements for the design of anchors in concrete (Appendix D) are still causing major confusion among designers. This seminar will focus on how the revised seismic design provisions of Section D.3.3 can be beneficial to the designer. The provisions will be illustrated through a complete design example. The newly induced design provisions for adhesive anchors will also be discussed. Discussion of the following items will be included:

- The 20% rule for invoking seismic design requirements
- Ductile anchor check for single anchors and groups of anchors
- The $8d_a$ stretch length requirement
- Design options for anchors subject to shear
- Design provisions for adhesive anchors

Questions: Andy Stember (503) 657-9800

Design of Reinforced Concrete Slabs on Columns & Concrete Anchors for Seismic Forces

Registration Form

Register Online at www.seao.org or

Send to: SEAO

PO Box 2958
Vancouver, WA 98668
(503) 753-3075

Make Checks Payable to:

SEAO

Firm Name: _____

Firm Address: _____

Phone _____

Name of Attendee(s) _____

of Attendee(s) _____ @ \$175.00 / each = \$ _____
(Nonmember \$225.00)

of Late Fees _____ @ \$25.00 / each = \$ _____

of Students _____ @ \$55.00 / each = \$ _____

of Videos _____ @ \$150.00 / each = \$ _____

_____ @ \$ / each = \$ _____

Total Enclosed = \$ _____

CREDIT CARD CHARGE

Name (as appears on card) _____

Credit Card # _____

exp _____ Billing Zip Code _____

Cardholder Signature _____

Worldwide Leaders of Innovative Anchors and Power Tools **NOW UNITED UNDER ONE BRAND:**



Taking Fastening Innovation To A New Level!



Pure 110+®

AC100+ Gold®

Pure 50+®

ADHESIVE ANCHORS



Power-Stud®+ SD2

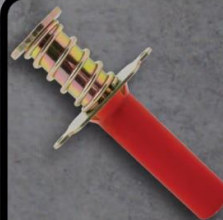


Screw-bolt+™

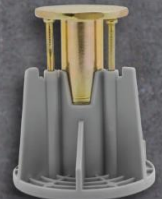


Power-Bolt+

MECHANICAL ANCHORS



Bang-It®+



Wood-knocker®II+



Hangermate®+

HANGER TYPE ANCHORS

**New
Anchors**

**Upgraded
Data**

**Updated
Approvals**

**Increased
Range**

For more information visit: DeWALT.com/Anchors

701 E. Joppa Road • Towson, MD 21286 • (800) 524-3244 • engineering@powers.com
Phil Leithner, DeWALT/Powers Field Engineer • (425) 248-9320 • Phil.Leithner@sbdinc.com