STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

NEWSLETTER

APRIL – JUNE 2024

IN THIS ISSUE

WHAT'S THE SCORE? BEHIND THE SCENES OF EVERY FAN EXPERIENCE IS A HIDDEN FORCE CONNECTING THE BUILDING'S PURPOSE, PERFORMANCE, AND SAFETY.

When **Structural Engineers** set out to design a stadium feature like the scoreboard, they account for everything: from the weight of electrical cables to the force of wind on the signage, determining the required strength and stiffness of each beam, column, brace, and connection.

Structural Engineers choose the right materials, shapes, and sizes to keep the game experience front and center for fans. **Structural Engineering Excellence (SEE)** makes the scoreboard possible. So bring on the sun, the rain, wind, and the thunderous cheers. Experiences stand up because we **SEE**.

Structural Engineers deliver **Structural Engineering Excellence (SEE)** as they partner with architects to support their vision and create an experience sports fans will love. The scoreboard keeps you in the game to see the close call at third. That's a structure that delivers.

We're excited to share NCSEA's "We SEE Above and Beyond" campaign which celebrates the vital and valuable contribution Structural Engineers make to society as well as the critical role they play in safety and design of structures. When included early in the design process, structural engineers can save time, money, and challenges when it comes to design and construction. For more information: Sports & Entertainment — SEE Above & Beyond (weseeaboveandbeyond.com)

STATE PRESIDENT'S MESSAGE

David Grapsas, PE, SE
SEAoA State President

Our 2024 State Convention & conference will be June 20th - 22nd, 2024, at WekoPA resort in Fort McDowell, Arizona. Please visit the SEAoA website to sign up for this amazing convention. I am very excited that Ashraf Habibullah with CSI will be joining us to celebrate the great profession of Structural Engineering.

The Structural Engineers Association of Arizona provides its members with benefits, including the ability to post job announcements for free. Members may also post their contact information under the "Need a Structural Engineer?" tab of the SEAoA home page. Plan review staff working for jurisdictions can't make personal recommendations for structural engineers to homeowners or small businesses who need to provide calculations and sketches for their small projects. This is also free to SEAoA members.

Please look out for event invitations, including the monthly Tucson and Phoenix Chapter meetings. The SEAoA website also has a calendar of events to keep you updated.

The SEAoA is a professional organization that relies on its membership volunteering their time to make SEAoA better. There are several committees; you can find more information at www.seaoa.org. The chapters encourage members to volunteer, so reach out to any of the committees to see how you can sign up to help.

Please email info@SEAoA.org if you have any suggestions or would like to join one of our great Chapters or Committees.

TUCSON CHAPTER MEETING

April 17, 2023
Designing Steel Connections with RISA 3D & RISA Connection

CONTACT US

PO Box 645
Tempe, AZ 85280
602-492-6732
www.seaoa.org
info@seaoa.org

CENTRAL CHAPTER MEETING

April 23, 2023
Central Station

TUCSON CHAPTER PRESIDENT'S MESSAGE

Janelle Perry, PE, S.E.
Tucson Chapter President

As most of you know, the Arizona Senate is seemingly blocking the continuation of the Arizona Board of Technical Registration (BTR). If they do not address the Sunset Review of the board by July 1st of this year, it will not exist.

As a practicing engineer, I'm not sure how to proceed if this happens. Do we not need to stamp our plans anymore? How does the public know if they are hiring a competent individual or firm? Who do we contact when we are not paid for our services by other registered professionals or if we see incompetent work? How do new engineers get qualified to do work in our state or reciprocity in others? Will we need to get an NCEES endorsement or something? I assume we would be the only state in the nation that does not have a BTR.

Not really understanding why the Board is a problem for the state legislators, I think it has more to do with politics and less to do with what is good for companies providing engineering services and the public that utilizes those services. I know we have some more powerful organizations in the engineering community working on lobbying for us. Still, I think it would be helpful if we wrote letters to the House and Senate leadership: AZ Senate President, Sen. Warren Petersen, wpetersen@azleg.gov and House Speaker, Rep. Ben Toma, btoma@azleg.gov asking to include the continuation of the AZBTR in the forthcoming budget negotiation process.

For our bowling tournament, we were not able to find a date that worked for us and a bowling alley this year. However, we are able to coordinate a date this December 2024, so plan on a Holiday Bowling Extravaganza!

And as always, I hope to see you all at the convention June 20th-22nd. Remember to register and get the early bird discount along with securing rooms before the room block (and great rate) is gone.

2024 SEAOA EXCELLENCE AWARDS CALL FOR ENTRIES

The SEAoA is once again looking for the best and the brightest projects from our members so that we may showcase them at our Annual Convention. There is no fee to enter and projects are not limited to those in Arizona, so be proud and show us what you got! Truly outstanding projects may also get forwarded on to compete for the National Excellence awards with entries from other SEA organizations across the country. Please reference the SEAoA website for more information: SEAoA Excellence in Engineering Awards

YMG PRESIDENT'S MESSAGE

Cesar Castro, P.E.
Younger Member Group President

We've had a great start to the year through active participation in meetings and events. Here's a recap of our recent activities. In January, we met to discuss the requirements for obtaining professional licensure in Arizona, including the latest updates to the testing format. In February, we hosted a mixer at Four Peaks Brewery with Arizona State University structural students to provide exposure to the field of structural engineering and our organization. In March, The Felten Group presented "Guidelines to Forensic Engineering" and shared their experience through engaging case studies, the significance of the code of ethics, and the application of building and design codes. We owe the success of each of these events and meetings to the Arizona Structural Engineers community. We would like to further extend our gratitude to the Central Chapter, Meyer Borgman Johnson, and The Felten Group for their contributions to the development of our organization.

As we move forward, there are a few upcoming opportunities for firms to support us through hosting*, sponsoring, or spreading the word.

Upcoming Meetings and Events:
Simpson Strong-Tie Technical Tour (04/25/24)
Speech Practice – Project Presentation (05/23/24)*
Top Golf (06/25/24)
The listed meetings and events above will conclude the term for the Young Members and will result in a few board positions available to apply for the upcoming term (August 2024 – June 2025).

Board Positions:
Treasurer
Marketing Coordinator
Student Liaison
If you're interested in learning more about these positions and applying, please contact us at seaoazymg@gmail.com.

To stay updated on our meetings and events, please sign up for our email list by contacting us at seaoazymg@gmail.com. We will be sending out flyers and updates regularly.

Let's finish the term strong together!

THE RIGHT BRAIN
© Brent Wright rightbrain.wrightengineers.com

Finally, something affordable!

Rising prices combined with higher interest rates and a shortage of available homes have made it incredibly challenging for prospective buyers—particularly first-time buyers—to afford a home. This poor house hunter looks a lot like the economy: his hair is in recession and his stomach is a victim of inflation.

This Right Brain cartoon is a contribution from Brent Wright of Wright Engineers, an SEAoA supporting firm. If you would like to contribute an original cartoon, please email it to info@seaoa.org

E-WEEK DAY AT THE MALL 2024

Allan Ortega Gutierrez, PE

Sometimes, we get absorbed in the day-to-day routine and miss the excitement that creating new structures brings. Sometimes, challenges in our profession make us miss the brilliance that comes with using science and good communication to bring dreams into reality.

If that has happened to you, I invite you to come next year and recharge your sense of wonder while volunteering at the Mall for E-Week. I always enjoy participating and sharing a few moments with kids, parents, and other engineers who volunteer their time and care deeply about our community.

SEAoA participated again this year, sharing two fun activities with all participants who started coming very early. Young attendees and young at heart came to our booth to compete in creating new structures using spaghetti and marshmallows or straws and paper clips. This year, the event took place on Saturday, March 9th, from 10:30 a.m. to 3:00 p.m. at the Park Place Mall in Tucson.

The event took place a bit later than usual; however, we had excellent attendance and even some requests to repeat more often. Words fall short to express the joy of the child who built the tallest structure and held the record for the rest of the day or the wonder in the eyes of those young-at-heart who approached our booth and talked for a few minutes, encouraging the community outreach taking place that day.

I would like to take the opportunity to thank Janelle Perry, Imraan Bokhari, Eli Rangel, Travis Ivanecky, and Kevin Frugoli for the energy and time they volunteered during this event.

I hope to see you participate with us next year and share the joy of being an engineer with the rest of our community!

FUTURE CITIES COMPETITION 2024

Richard Dahlmann, PE, SE

The Future City Competition Arizona regional finals were held at the end of February. This competition is for 6th through 8th grade students and is a great introduction to engineering. Fifty-nine teams from all across Arizona competed in this year's regional finals. This is a great opportunity for us to talk with students and explain what structural engineers do.
The teams have been working diligently on their cities since September. Their deliverables included:

- An essay describing their city
- A physical scale model
- A 7-minute presentation about their city

Many engineering societies give out awards to teams that put an emphasis on their discipline. The SEAoA has been participating in this for the last 15 years. This is an excellent opportunity to educate people as to the importance of structural engineering.

The SEAoA award recipient this year was **Tokyo Legends from Arizona College Prep Middle School.**
The future city that our winning team developed was located in Tokyo, Japan. They had a particular focus on seismic design for their city, particularly related to foundation systems.

This year's competition theme was Electrifying Your Future. We were pleased to see how many teams had a structural emphasis, even though the theme was electrical.

Congratulations, Tokyo Legends!

A special Thank You to Mark Sipes, Todorova Stanimira, Diana Gonzalez, Matt Schmitt, Ryan Kobbe, David Flax, Jeannie Pfeiffer, and Kelly Robertson for being SEAoA judges for this year's competition. Everyone's help is very much appreciated!

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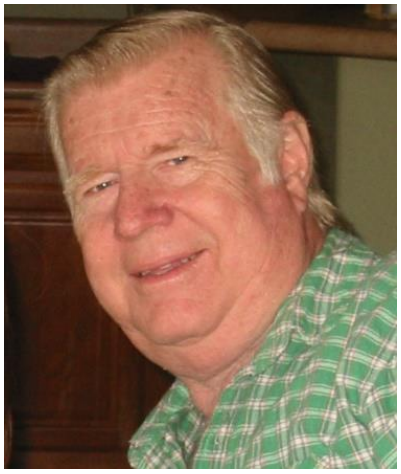
IN MEMORIAM: JOHN GLANCY

Mo Glancy, PE, SE



We are sad to announce the death of John Glancy, who passed away on January 11, 2024, at the age of 82. Born and raised in Kingman, Arizona, he attended the University of Arizona, where he obtained his bachelor's and master's degrees in civil engineering, and Arizona State University, where he earned a Ph.D. in structural engineering.

John taught engineering classes at ASU and was a structural engineer at Marathon Steel for many years before starting Glancy Engineering, which he ran for over 35 years until his retirement. He was well known for his expertise in structural steel design. He was very involved in the local engineering community, serving as State President of the Structural Engineers Association of Arizona and writing and helping grade the Structural PE exam for several years prior to Arizona's conversion to the national exam.

John was known for always wearing green and for his incredible memory – he remembered everyone he ever met. He was a huge sports fan and loved to attend any game, from Suns and D'Backs to anything his friends or family played in. While he secretly cheered for both of his former schools, he loved to tease his Sun Devil nieces and nephews whenever the Wildcats would win. John will be greatly missed, especially by the more than 50 nieces, nephews, and great-nieces and nephews who all adored him and knew him simply as "Uncle."

REQUEST FOR NEWSLETTER ARTICLES

The SEAoA Newsletter Committee always appreciates input from the membership about articles and information that you'd like to see in upcoming newsletters. The newsletter is an excellent place for the SEAoA membership to share opinions, ideas and information with the rest of the association.

Here are some ways you can contribute to the SEAoA Newsletter:

- Submit a nomination of a fellow SEAoA member to be featured in our upcoming **Member Highlights** section
- Provide a short article on a **recent interesting design project** that you participated in
- Provide a short article on **engineering community outreach activities** that your company has participated in

Also, anyone who could volunteer a little time every quarter to help publish the newsletter is most welcome. One easy way to help would be to "proof" the newsletter before it's published. Please contact Sal Caccavale (seccbc@cox.net) or Mark Sipes (Mark.Sipes@maricopa.gov) if you have any articles that you'd like to submit, if there are any topics you'd like to see in future SEAoA Newsletters or if you'd like to help with publishing the newsletter.

2023 SEAOA MERIT AWARD IN STRUCTURAL ENGINEERING WINNER: Gannett Fleming

Other Structures: Northwest Wastewater Master Plan – Lift Station 77, Phoenix, AZ

Stephanie Templeton, PE
Robert Stanley, PE, SE

Lift Station 77 is an underground pump station that embodies engineering challenges faced in designing such structures. The pump station has a footprint of 31'x 41' and extends 40' below the surrounding grade. The function of the lift station is to provide required infrastructure support to the new development of the microchip manufacturing facility by Taiwan Semiconductor Manufacturing Company (TSMC) in northwest Phoenix. The project was on a highly compressed construction schedule to meet the start date for TSMC. This manufacturing plant is the first of the six planned for the production campus and successful project completion was of paramount importance given the huge impact this development will have on the economy and employment in the Valley.

Unique challenges in the design of this structure were the unusual depth of the lift station and constraints placed on design by the sequence of construction planned by the contractor to meet completion dates. Walls of such structures are normally designed for at-rest lateral earth pressure provided by the geotechnical engineer on a "complete" structure, meaning all walls and roof slab are in place resisting the earth pressure. Construction sequencing needed to meet the schedule did not allow such luxury to the design. Certain interior walls essential to the overall stability of the structure had to be left out for a period. Consequently, the strength and stability of the structure had to be attained by making design modifications that were commensurate with the planned construction sequence and schedule. Adding to this was leak testing of the pump station prior to completion, again necessitated by the construction schedule. All these factors required the design team to be flexible and able to modify/revise the design on the fly.

Due to the phase sequencing and the construction completion dates, it created some unique problems and additional criteria for the design team to design around. The use of high-strength concrete with 28-day compressive strength (f'c) of 6000 psi was required because of the depth of the structure and the at-rest lateral pressure from the backfill. The design model also required a clear load path for the transfer of earth pressure from one side of the lift station to the other using interior walls to transfer the force. The walls needed for this purpose to act as "struts" when the structure has full earth pressure acting against it but no water inside, and "ties"

for the condition when there is no backfill, but the structure is full of water. However, as stated above, these interior walls had to be built in steps to accommodate the complex scheduling and phasing. The design had to be checked and modified on the fly for such conditions.

A special and unique issue surrounded the backfilling operation. Due to the lift station structure being 40' deep and the availability of open space around the lift station footprint, the excavation extended quite a distance from the lift station walls. At the grade level outside of the pump station, pipes from the lift station had to be supported on a concrete slab resting directly on top of the backfill. However, these pipes would not tolerate any settlement of the concrete slab supporting them. This is a challenge because backfill, no matter how well compacted, settles 1/2% to 1% of its depth over time. To mitigate this situation, it was decided to use controlled low-strength material (CLSM) to fill the void left from excavation due to the soil-cement mixture not settling over time because of the presence of cement. It is in a viscous state at the time of placement and attains strength in a short time. The design problem with this solution is that CLSM, at the time of placement, has almost the same density as concrete, and that would impose lateral pressure on the lift station walls of roughly two-and-a-half times what the walls were designed for. The solution the design team came up with was to place the CLSM in lifts with sufficient time between successive lifts for the lift placed to set satisfactorily before the next lift is placed on top of it. This sequence of placement approximates uniform pressure on the wall rather than the usual triangular distribution of force. The design challenge was to find the depth of each lift that would keep the stresses in the wall within design limits.

This lift station would have been a fairly straightforward structure to design and construct without any significant constructability issues if the construction had not been driven by a tight completion date and specific sequence of construction by the contractor to meet the critical schedule. It required resilience, flexibility, and ability on the part of the design team to perform quick re-design and quick reverse-engineering to make this possible. The design team is proud to say that it rose to the occasion.

NEED A STRUCTURAL ENGINEER?

The SEAoA created a web page for members to add their name to a list of structural engineers who are available to consult on small residential and commercial projects. This list is very helpful for building safety staff in all jurisdictions. When an applicant receives a plan review comment requiring engineering for something like a new lintel in an existing wall, the first question the applicant asks is, "Can you tell me who to use?". Plan review staff are not allowed to make these referrals for several reasons. They can however refer to the website.

Please contact Sarah Betts (info@seaoa.org) if you are interested in adding your name to this list.

2023 SEAOA MERIT AWARD IN STRUCTURAL ENGINEERING WINNER: Martin, White & Griffis Structural Engineers

New Buildings, Over $10M: P855 Expeditionary Combat Skill Student Berthing, Gulfport, MS.

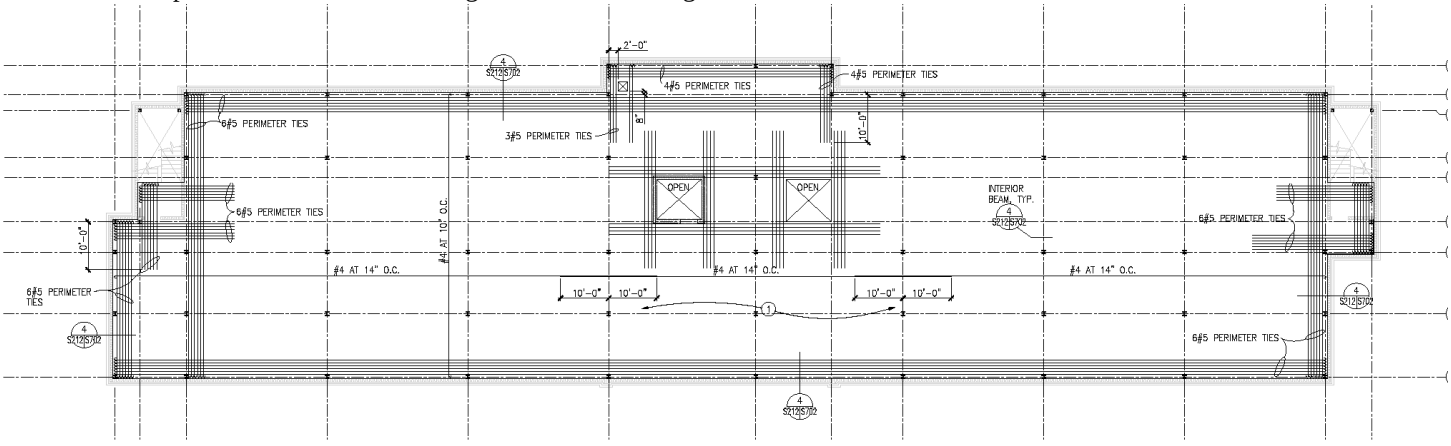
Thomas Griffis, PE, SE, Andy DiLeo, PE, SE, and Warren White, PE, SE

The new P855 Expeditionary Combat Skills facility, used for the Bachelor Enlisted Quarters for the Naval Construction Battalion Center, is a three-story, 43,000 SF steel-framed building with perimeter masonry walls and brick veneer. Due to the extreme environmental conditions in Gulfport, Mississippi, the design criteria required the design to resist hurricane loads of 160-psf, soil classification Type E soils, and a seismic design category C. The Anti-Terrorism/Force Protection standard also required the building to be designed for progressive collapse, which was accomplished through the tie-force method.

Creativity of Structural Design

Due to the architectural simplicity and modesty of the building, the structural systems seemed straightforward. However, the internal layout of the columns needed to be coordinated with the progressive collapse requirements. This requirement added significant complexity to the structural design; the Owner requested reinforced concrete masonry walls supporting brick veneer versus cold-formed metal studs with brick veneer. This design was implemented due to the site's climate, which regularly experiences extreme moisture and wind. The climate factor was one of MWG's many considerations in providing structural solutions, given our decades of experience and understanding in structural design that cold-formed metal studs have not performed well in frequent hurricane winds.

Interior steel braced framing was utilized to resist lateral loads, keeping the framing out of the modules. Using the first level reinforced concrete slab with perimeter concrete beams supported by auger piers helped distribute vertical loads evenly to minimize the number of auger piles. Lightweight concrete was used at each floor level, including the roof, and light gage cold-formed trusses attached to the concrete slab formed the sloping roof.



Floor plan indicating the concrete reinforcement ties designed to resist progressive collapse.

Complexity and Unique Problems

Hurricane wind loading, poor 'E' type soils, existing soft soils with settlement issues, and progressive collapse requirements all contributed to the complexity of designing an economical structure. The auger piles capacity with down drafting loading (a 50 percent capacity reduction) required the building to be distributed with reinforced concrete beams at the heavier loads of the reinforced concrete masonry walls. Exterior reinforced concrete masonry at the perimeter walls and interior steel braced frames provide lateral resistance. Progressive collapse was mitigated through the tie-force method and utilized a minimum four-bay pattern for the steel construction. The steel columns allowed the interior corridor to be framed with small W14 girders over and W16 beams along the sides. Because of this, the utilities and significant mechanical, piping, and electrical systems are in the corridor to reduce story heights.

Innovation

The building was required to resist an unusually large number of environmental conditions. Foundations had to be constructed to account for loose existing soil conditions. Fill placed on the site to raise the building the required four feet would cause over two inches of settlement. Options to surcharge the site, use lightweight fill, or build a crawl space under the building were either too expensive or required an extended construction schedule. Preliminary information in the Owner's soils report indicated that auger piles had a reasonable capacity and allowed for the placement of a suspended reinforced concrete slab foundation. After the Design/Build contract was awarded, it was discovered that the capacity of the auger piles in the Owner's report did not include the down draft loading on the auger piers, which reduced the capacities by 50 percent. This required more auger piles and increased the contract cost. As a result, a suspended reinforced concrete slab had beams designed within the slab located under the reinforced concrete masonry walls and supported from strategically located to minimize added auger piles. The project contingency costs covered the added cost and allowed the building to continue.

Steel erection started at the west end of the building prior to the completion of the foundation slab for the total structure.

Constructability Challenges and Solutions

The project, being a Design/Build contract, allowed the Contractor to start construction before 100 percent of the plans were completed. An early steel package, foundation (auger piles), and reinforced concrete slabs were prepared. After portions of the foundation slab were placed, steel framing was erected along with each portion of the floor decking. The concrete topping was poured over portions of metal decking, allowing the masonry construction to start early. The exterior reinforced concrete masonry walls are non-bearing, allowing the structural steel to be erected prior to placing the masonry. Additionally, because manpower for the masonry was a concern, not having to wait for all the steel to be erected helped the construction schedule. The roof framed with concrete topping versus no concrete topping allowed the light-gage cold-formed steel to be placed on the roof span and connected at intermediate supports.

The P855 Expeditionary Combat Skills facility provides 83 Naval Education and Training Command modules. Each module includes a semi-private sleeping room shared by two people. The building has sound attenuation and includes a BQ admin lobby, laundry facilities, vending, multipurpose recreation rooms, housekeeping, storage, administrative spaces, and utility rooms. At first glance, the building appears to be a straightforward structural design and system. Yet, DoD Minimum Antiterrorism Standards, loose soils, and hurricane wind loading required innovation, solutions, and creativity from the MWG team to design this complex structure.

SEAoA 58th Anniversary Convention and Conference

June 20th - 22nd, 2024

Attendee Registration Information

REGISTER ONLINE at http://www.seaoa.org

WEKOPA CASINO RESORT 10438 WEKOPA WAY, FORT MCDOWELL AZ PHONE: (480) 789-4957

- Excellent Variety of Structural Engineering Seminars with 13 PDH Offered
- Exhibitor Trade Show and Welcome Reception
- SEAoA Excellence Awards
- Raffle Prizes for Attendees
- Commemorative Gift
- Relaxing Resort Atmosphere

SEMINAR TOPICS (13 PROFESSIONAL DEVELOPMENT HOURS)

Changes in the TMS 402/602 - 22 - Dr. Dick Bennett, Ph.D P.E., S.E. (Arizona Masonry Council)

Engineering Infrastructure to Support Societal Resiliency - James McDonald, S.E., P.E., Joseph Moody, S.E., P.E., Michael Perkins, S.E., P.E., Molly Pobiel S.E., P.E.(Simpson, Gumpertz & Heger)

Engineering a Better Work-Life Fit - Erin Conaway, P.E. (AISC) and Rachel Mosier, P.E., Ph.D. (Oklahoma State University)

ACI 318-19 Design Guide Overview and Code Changes - Kevin Bott, P.E. (CRSI)

Building Big - Edward DePaola, P.E. and Fortunato Orlando, P.E.(Severud Associates)

Water Treatment Structures and Gilbert North WTP - Shane Sweeten, P.E., S.E. (Gannett Fleming)

Keynote: Innovation is a State of Mind - Ron Klemencic, PE, SE

Why is Legal Advice About Contracts Like Cockroaches and Twinkies?- Karen Erger (Lockton) and Eric Singer (Ice Miller)

Significant Structural Changes in 2024 IBC- Buddy Showalter, P.E., S.E. (ICC)

The NEW AISC 16th Edition Steel Construction Manual The Gold Standard in Steel Design— Yasmin Chaudhry, P.E., Margaret Matthew, P.E. (AISC)

Mass Timber Structural Design: Engineering Modern Timber Structures - Mike Romanowski, P.E., S.E. (WoodWorks)

Structural Engineering Excellence - Ashraf Habibullah, P.E., S.E. (Computers and Structures)

STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA PO BOX 645 TEMPE, AZ 85280 info@seaoa.org

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2024 REGISTRATION RATES

	Registration Period	Member Rates	Non-Member Rates
Thursday and Friday Sessions (13 PDHs)	**Early Registration** March 4 - May 9	**$345**	**$465**
	Standard Registration May 10 - June 6	**$395**	**$530**
	LATE/Walk-In Registration After June 6	**$575**	
	Students VALID ID REQUIRED March 4 - June 20	**$25** Fee waived if sponsored by Chapter	
	Companion Registration Anytime	**$200**	
Saturday Session (4.0 PDHs)	**Standard Registration**	**$90**	**$110**
	LATE/Walk-In Registration *Separate Registration on Website - After June 6*	**$120**	**$140**

$139 Hotel Rate *(Single & Double Occupancy)*
(Special Discounted Rate)

Call (480) 789-5300 to make reservations and mention you're getting the "2024 SEAoA Annual Meeting" to receive our group rate. BOOK EARLY - Rates are only available through June 13

CONVENTION AND CONFERENCE SCHEDULE

Thursday June 20th

8:30 AM - 10:00 AM
Changes in the TMS 402/602-22
OR
Engineering Infrastructure to Support Societal Resiliency

10:30-12:00PM
Engineering a Better Work-Life Fit
OR
ACI 318-19 Design Guide and Changes

12:00-1:15 - Lunch

1:30 PM - 3:00 PM
Ashraf Habibullah

3:30 - 5:00 PM
Why is Legal Advice About Contracts Like Cockroaches and Twinkies?

5:00 PM - 6:30 PM
Exhibitor Trade Show and Cocktail Hour

Main Event - 6:30pm - 10pm
Sponsored by Ashraf Habibullah

Friday June 21st

7:30 AM - 8:30 AM
Breakfast and Keynote: Innovation is a State of Mind

8:30 AM - 10:00 AM
Significant Structural Changes in 2024 IBC

10:30 AM - 12:00 PM
Significant Structural Changes in 2024 IBC

12:00 PM - 1:30PM
Lunch Presentation
SEAoA Excellence Awards

1:30 PM - 3:00 PM
The NEW AISC 16th Edition
OR
Mass Timber Structural Design

3:00 - 3:30 PM
Attendee Raffle

3:30 - 5:00 PM
Water Treatment Structures and the Gilbert North WTP
OR
Building Big

Saturday Ethics Seminar
June 22nd, 2024
8 AM - 12 PM

Tara Hoke

Separate Registration Required (4.0 PDH)

Join SEAoA now for member rates and membership through July 2025
Email us directly for these offers at info@seaoa.org

SEAoA 58th Anniversary Convention and Conference

June 20th - 22nd, 2024

Ron Klemencic, PE, SE

INNOVATION IS A STATE OF MIND

Keynote Presentation

Innovation in structural engineering is considered by some an oxymoron. While other professions and industries seem to advance and evolve quickly, advancements in structural engineering are seemingly slow to come by. Why is this? Why aren't we as structural engineers conducting the innovation train as comparatively running to catch the caboose?

Ron Klemencic is a recognized innovator and leader being named a three-time Newsmaker by Engineering News Record Magazine, including ENR's Award of Excellence for his evangelism in research and development. In his presentation, Ron will explore how to identify opportunities for innovation and the ingredients which lead to success. While innovation is perhaps daunting to some, the formula is quite simple, and everyone has the opportunity each day to contribute to advancing the profession. This special presentation is included in your registration for the convention.

REGISTER ONLINE: HTTP://WWW.SEAOA.ORG

WEKOPA CASINO RESORT FT MCDOWELL, ARIZONA

SATURDAY ETHICS SEMINAR

4.0 PDF CREDITS

2024

58th Anniversary SEAoA Convention and Conference

DATE: JUNE 22ND

TIME: 8AM - 12PM

7:30 AM BREAKFAST

WEKOPA CASINO RESEORT

FT MCDOWELL, AZ

REGISTER NOW:

HTTP://WWW.SEAOA.ORG/EVENT-3221093

STRUCTURAL ENGINEERS ASSOCIATION ARIZONA

JOIN US FOR A HALF-DAY ETHICS SEMINAR

TARA HOKE

SEAOA MEMBERS: $90

NON-MEMBERS: $120

STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA PO BOX 645 TEMPE, AZ 85280 info@seaoa.org