

ASHRAE Region IV
2025 Chapters Regional Conference



Grandover Resort & Conference Center
Greensboro, NC

August 14-16, 2025

ASHRAE North Piedmont Chapter

Welcome to Greensboro, North Carolina

Dear ASHRAE Region IV,

Welcome to our 2025 CRC! Our CRC Committee has worked very hard to put together what I am sure will be our best one ever. The facility, rooms, meeting rooms, pool, spa, golf course, food, events, music, and entertainment are going to be top-notch great. Please go ahead and register for the conference and your room! Bring the family – they'll have a great time as well! I look forward to seeing all of you!

Warmest regards,

Heather P. Gulledge, Region IV DRC



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ASHRAE 365

We are excited to announce that the Region IV 2025 CRC will use the ASHRAE 365 platform to manage your upcoming CRC experience. ASHRAE 365 is a free app providing year-round updates on all things ASHRAE.

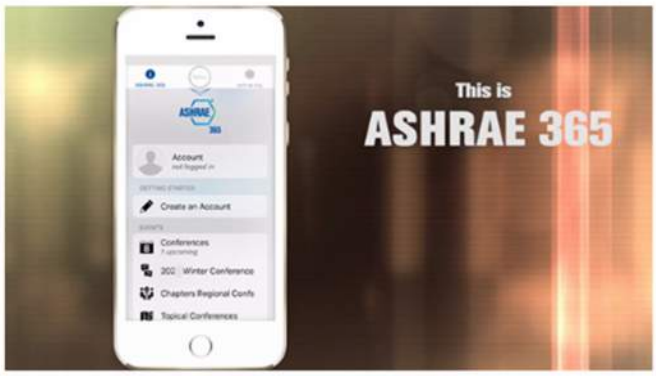
A 2-minute video on the ASHRAE web page provides a quick overview of what ASHRAE 365 has to offer including information about events and the ability to connect with other members, find resources, and support ASHRAE. Comprehensive information can be found at: https://www.ashrae.org/technical-resources/technical-apps/ashrae-365

Please review this information and download/install the ASHRAE 365 app prior to arrival. It will be a primary communication tool during the CRC.

ASHRAE 365

Download on the App Store

GET IT ON Google Play



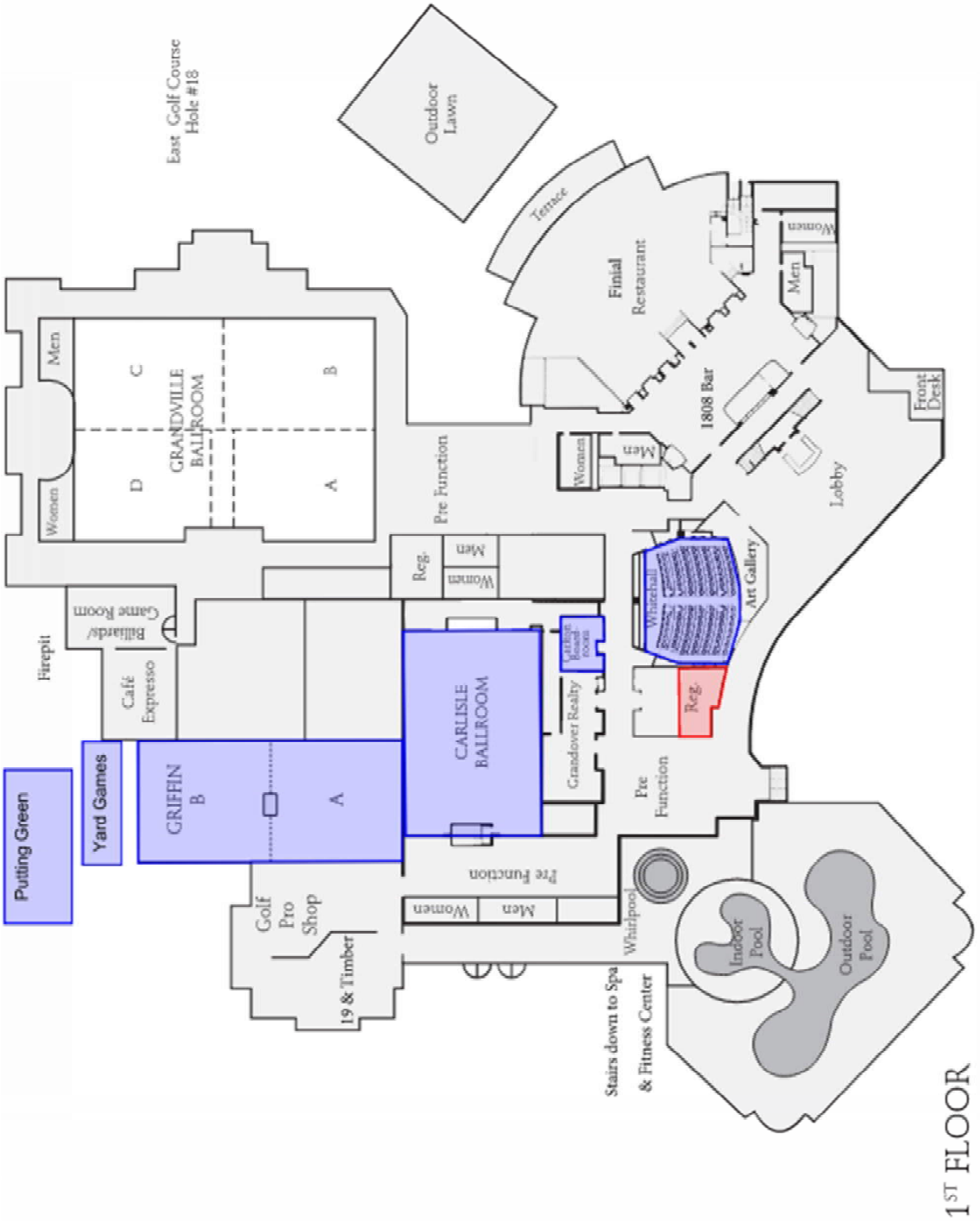
IOS DEVICES



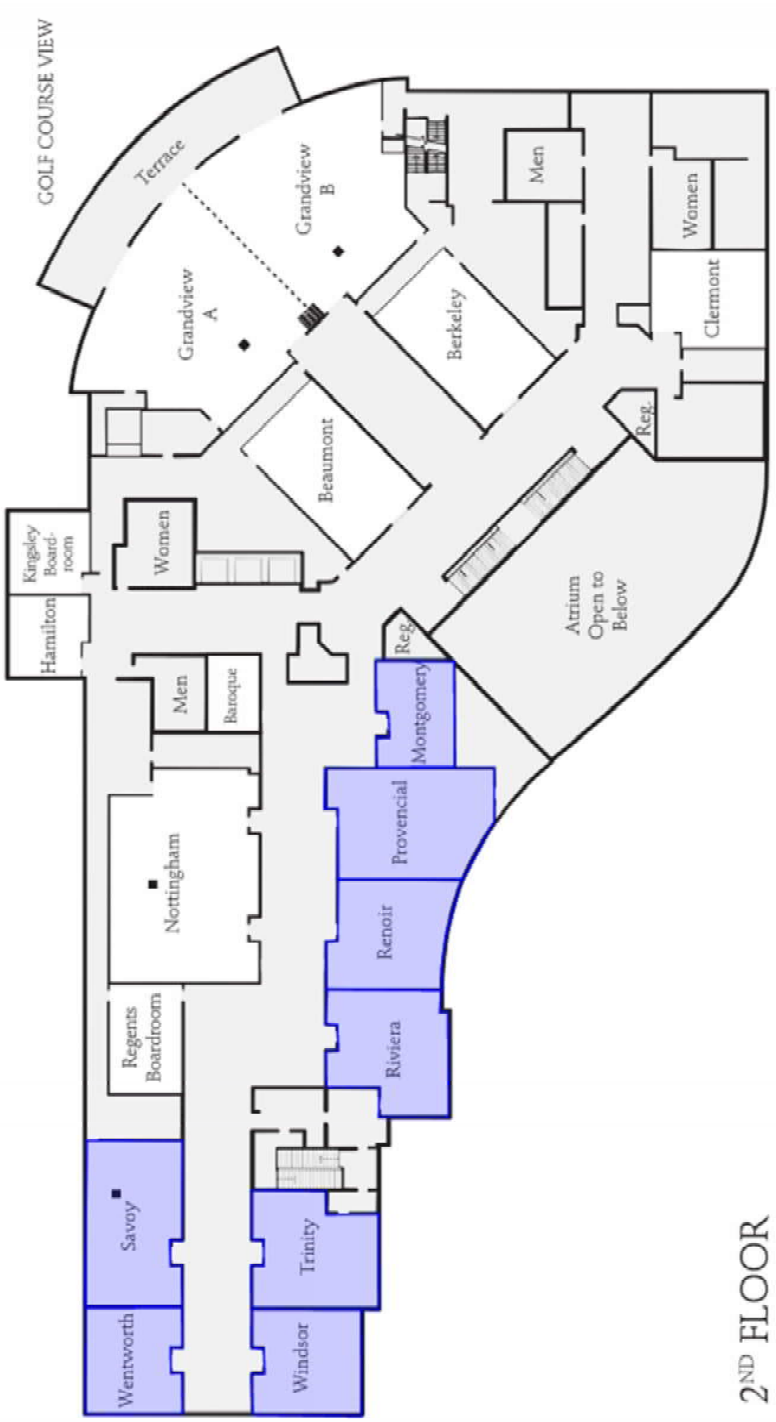
ANDROID DEVICES

Download ASHRAE 365 from the ASHRAE web page or search on the App Store or Google Play.

GRANDOVER MAPS – FIRST FLOOR



GRANDOVER MAPS – SECOND FLOOR



SCHEDULE OF EVENTS – THURSDAY, AUGUST 14TH

DIAMOND SPONSORS BREAKFAST: **8:00 AM – 9:30 AM**
Location: Windsor (2nd Floor)

REGISTRATION: **10:00 AM – 6:00 PM**
Location: Carlisle Registration Desk (1st Floor)

GOLF OUTING: **1:00 PM – 6:00 PM**
Location: Grandover West Course

Proper golf attire is required. Registration opens at 11:00 AM. Box lunches are provided near the driving range beginning at 11:30 AM. Shotgun-start begins at 1:00 pm. Prizes will be awarded.

COMPANION EVENT: **1:45 PM – 5:00 PM**
Location: Brewery Tour

Shuttle Bus will leave from the Grandover Lobby at 1:40 PM, returning to Grandover at approximately 5:15 PM.

WELCOME PARTY: **6:00 PM – 10:00 PM**
Location: Griffin A/B (1st Floor), Lawn, & Putting Green

70's Disco Night Event includes Carolina Buffet Dinner, Grandover Specialty Brands Hosted (OPEN) Bar, lawn games, golf putting contest, disco music, dancing, and a show from the DJ duo of Evan & Jessica!

HOSPITALITY SUITE: **10:00 PM – 11:59 PM**
Location: Cone Denim Suite 1114



SCHEDULE OF EVENTS – FRIDAY, AUGUST 15TH

REGION IV CAUCUS: **6:30 AM – 8:00 AM**
Location: Renoir Room (2nd Floor)

Event includes Guilford Continental Breakfast.

BREAKFAST: **6:30 AM – 8:00 AM**
Location: Griffin A/B (1st Floor)

Event includes Grandhover Signature Breakfast Buffet.

REGISTRATION: **7:00 AM – 5:00 PM**
Location: Carlisle Registration Desk (1st Floor)

BUSINESS SESSION I: **8:00 AM – 11:45 AM**
Location: Carlisle Ballroom (1st Floor)

COMPANION EVENT: **9:00 AM – 5:00 PM**
Location: Greensboro Science Center & SKYWILD

Shuttle Bus will leave from the Grandover Lobby at 8:40 AM, returning to Grandover at approximately 5:20 PM
Event includes on-site catered lunch.

PRESIDENTIAL LUNCHEON: **12:00 PM – 1:30 pm**
Location: Griffin A/B (1st Floor)

Event includes Italy by Day Lunch Buffet.

PROFESSIONAL DEVELOPMENT: **1:45 – 5:15 PM**
Location: Whitehall (1st Floor)

SESSION 1: **1:45 PM – 2:45 PM**
Eva King – IAQ Tales from the Crypt
SESSION 2: **3:00 PM – 4:00 PM**
Doug Cochrane – Decarbonization for Retrofits
SESSION 3: **4:15 PM – 5:15 PM**
Devon Abellon – The (un)Ethical Engineer: A Study in Principle and Practice

AWARDS BANQUET: **6:00 PM – 10:00 PM**
Location: Griffin A/B (1st Floor)

Event includes The Steakhouse Buffet Dinner and Grandover Specialty Brands Hosted (OPEN) Bar.

HOSPITALITY SUITE: **10:00 PM – 11:59 PM**
Location: Cone Denim Suite 1114

SCHEDULE OF EVENTS – SATURDAY, AUGUST 16TH

REGION IV CAUCUS: **6:30 AM – 7:30 AM (if needed)**
Location: Renoir Room (2nd Floor)

Event does not include Breakfast.

BREAKFAST: **6:30 AM – 8:00 AM**
Location: Griffin A/B (1st Floor)

Event includes Grandhover Signature Breakfast Buffet.

REGISTRATION: **7:00 AM – 10:00 AM**
Location: Carlisle Registration Desk (1st Floor)

WORKSHOPS: **8:00 AM – 10:00 AM**

COMMUNICATIONS	Location: Windsor (2nd Floor)

WORKSHOPS: **8:00 AM – 11:30 AM**

HISTORY	Location: Montgomery (2nd Floor)
YEA	Location: Wentworth (2nd Floor)
RESEARCH PROMOTION	Location: Renoir (2nd Floor)
STUDENT ACTIVITIES	Location: Riviera (2nd Floor)
CTTC	Location: Savoy (2nd Floor)
MEMBERSHIP PROMOTION	Location: Trinity (2nd Floor)
GAC	Location: Provencial (2nd Floor)

WORKSHOPS: **10:00 AM – 11:30 AM**

CHAPTER OPERATIONS	Location: Windsor (2nd Floor)

RUDY FERGUSON AWARD LUNCHEON: **12:00 PM – 1:30 PM**
Location: Griffin A/B (1st Floor)

Event includes North Carolina Local Fare Lunch Buffet.

BUSINESS SESSION II: **2:00 PM – 5:00 PM**
Location: Carlisle Ballroom (1st Floor)

CRC DEBRIEF: **5:00 PM – 6:00 PM**
Location: Carlisle Boardroom (1st Floor)

COMPANION EVENTS

In the Triad, you'll find plenty of the famed southern hospitality along with a fascinating mix of history, furniture, and modern fun. Join our companion tours to explore more of this interesting region and mingle with a few fun folks and residents along the way.

Thursday, August 10th from 1:45 PM – 5:00 PM

Brewery Tour: Join us as we sample some of Greensboro's finest craft brew houses.

Friday, August 11th from 9:00 AM – 5:00 PM

Greensboro Science Center and SKYWILD: Join us for a day at the world-renowned Greensboro Science Center. Explore the aquarium, museum, and zoo for a fun-filled educational experience. For the brave at heart (and qualifying restrictions compliant), take your love for adventure to new heights as you navigate ropes, bridges, and zip lines through the lush forest canopy on the exhilarating SKYWILD treetop adventure course.



SKYWILD
at the GREENSBORO SCIENCE CENTER

BIOGRAPHICAL SKETCH: SARAH MASTON, PRESIDENT ELECT



Sarah E. Maston, P.E., BCxP, LEED AP is ASHRAE's President-Elect for the 2025-26 term.

Maston previously served on the ASHRAE Board of Directors as president-elect, treasurer, vice president and director-at-large.

She served as the chair of the Technology Council, coordinating officer of the Development Committee and a member of the Board Subcommittee: Composition and Leadership Structure, Board Subcommittee: Operational Streamlining, Appointments Roadmap Committee, Treasurer-Elect Advisory Committee, Society Transformation Ad Hoc Committee, Standing Standard Project Committee 300, Commissioning and Guideline 1.3, Building Operations and Maintenance Training for the HVAC&R Cx Process. Maston is a past Director-at-Large on the Board of Directors, former chair of the Planning Committee, former chair of the Conference and Expositions Committee, former member of the Finance Committee, former member of the Technical Activities Committee (TAC), former corresponding member of Technical Committees 7.9 Building Commissioning and 9.7, Educational Facilities, and a former member of the Society Transformation Ad Hoc Committee.

Maston has more than 25 years of experience in mechanical/HVAC systems evaluation, troubleshooting, design, startup, and commissioning for a variety of project types. She currently serves as Director of Commissioning & Energy Services for Colliers Project Leaders in Boston, Massachusetts. Maston is a Registered Mechanical Engineer (PE), Building Commissioning Professional (BCxP), and LEEP Certified Professional, with facility experience in hospitals, laboratories, universities, schools and office space.

Maston is a lecturer at the University of Wisconsin for its Commissioning Process for Delivering Quality Constructed Projects course and has contributed articles to leading industry publications, including a piece titled "Design and Construction Administration for the 21st Century" for Engineering Systems magazine.

Maston graduated from Rensselaer Polytechnic Institute (RPI) with a Bachelor of Science degree in Mechanical Engineering and a concentration in Energy Systems.

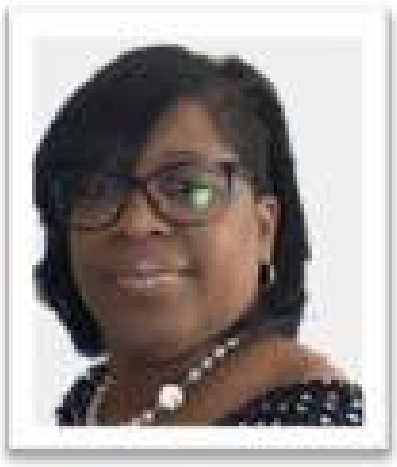
BIOGRAPHICAL SKETCH: DEVON ABELLON, VICE PRESIDENT



Devin Abellon, P.E. is the Director of Engineered Solutions at Pac West Sales. He has over 30 years of experience in the HVAC and plumbing industries with a focus on high performance and sustainable building design and construction. He holds a Bachelor of Science degree in Mechanical Engineering from the University of California at Santa Barbara and is a registered professional engineer in California and Arizona.

He has been an active member of ASHRAE at the chapter, regional and society levels and currently serves as an ASHRAE Society Vice President, Chair of Technology Council, and Vice Chair of the Board of Directors DEI Advisory Subcommittee. He is also a facilitator for ASHRAE's Chapter Leadership Academy.

BIOGRAPHICAL SKETCH: TAMERA CATCHINGS, ASHRAE STAFF



Tammy Catchings has served as ASHRAE's region activities manager since 2022. Prior to that, she served as assistant manager and coordinator in the member services department.

Tammy supports volunteer leaders in the management of the activities of Society's 201 chapters and 16 regions, including the Presidential Award of Excellence program. She also serves as staff liaison to the ASHRAE Associate Society Alliance (AASA).

She began work at ASHRAE in 2009, as a temporary staff member for CTTC's annual topical webcast and was hired permanently in 2010 as an administrative assistant for chapter programs. In chapter programs, she maintained the Distinguished Lecturer database and coordinated the nominations and notifications of Honors & Awards recipients.

Prior to joining ASHRAE, Tammy was an administrative assistant for the architectural division of KB Home Atlanta, a premier homebuilder operating divisions in 13 states and 35 major markets. There, she provided administrative support to the Vice President of Architecture, two directors and seven designers.

Before joining KB Home Atlanta, Tammy spent 11 years as an assistant to two dispatchers of a trucking company that has become the industry standard in logistical services; operating five U.S. locations and three Central American offices, dispatching over 200 trucks per day.

A resident of Atlanta, Tammy has a Bachelor of Science degree in Organizational Leadership from Point University, and an Associate's degree in Paralegal Studies from Atlanta Technical College.

Representing ASHRAE Society and Staff

BIOGRAPHICAL SKETCH: EVA KING, PROFESSIONAL DEVELOPMENT SPEAKER



Dr. Eva King, MSC, PhD, CIEC is the Principal Scientist and Founder of AURA EnviroScience, in Keswick, Virginia.

Dr. King has been involved in investigations and research into indoor environments and health, allergens, asthma and immunology for over 20 years. Her work has been published in many peer-reviewed scientific publications, and she regularly presents at conferences and workshops.

For the past 8 years, she has focused her efforts on helping clients with underlying medical conditions identify building-related problems that contribute to their health issues, often by direct physician referral.

Dr. King received her Master in Biochemistry in her native Germany, and her Doctorate in Immunology/Epidemiology from the University of Oxford, UK. She is a member of ASHRAE, the American Industrial Hygiene Association (AIHA), American Conference of Governmental Industrial Hygienists (ACGIH), and the International Society of Indoor Air Quality and Climate (ISIAQ). Eva served on the Board of Directors and as Technical Conference Chair of the Indoor Air Quality Association (2013-2017).

Professional Development

Topic: IAQ Tales from The Crypt

Abstract: Not all horror stories happen in haunted houses; some unfold in perfectly ordinary homes with perfectly preventable indoor air quality (IAQ) disasters. We will dive into the eerie world where bad design, sloppy maintenance, overconfident DIYers, corner-cutting contractors, or misinformed homeowners create problems for occupants that are anything but healthy. “What were they thinking?!”.

This presentation uses real-world case studies to show how poor IAQ can lead to very real health consequences. The most common issues we encounter in our work are related to moisture and mold, HVAC system components, construction defects, ventilation and building pressurization, off-gassing from building materials and contents, ozone, and carbon monoxide.

We’ll explore the science behind the air we breathe, how buildings can go from safe to sick, and why health should be a central consideration in every step of the building process.

Whether you're designing systems, installing them, or trying to fix what someone else broke; this session will arm you with the knowledge (and cautionary tales) you need to keep your next project from becoming the next IAQ horror story.

BIOGRAPHICAL SKETCH: DOUG COCHRANE, PROFESSIONAL DEVELOPMENT SPEAKER



Doug is currently an independent consultant, after having spent nearly 30 years in equipment sales for Carrier, a major manufacturer of HVAC equipment.

Doug is a graduate of Ryerson University with a degree in Mechanical Engineering and is a licensed professional engineer in Ontario. He is also a LEED AP and holds the ASHRAE Certified Decarbonization (CDP) certification. He has also completed the Carrier basic system design course and has taken advanced training in rooftops and splits, ahu's, chillers, controls, and system selling. He qualified as a train the trainer with Carrier. Doug started in inside sales and has held additional roles as software coordinator, chiller and applied systems specialist, territory manager, branch sales manager, regional commercial sales manager, and engineering sales manager.

Doug joined ASHRAE in university and has participated in chapter, region, and society activities ever since. He is currently a Director at Large on the ASHRAE Board of Directors. He is a past president of the Toronto chapter, CRC chair (twice), inaugural RVC for GGAC in Region II, served on the nominating committee for 6 years, and the conferences and expositions committee (CEC) for 3 years and was the technical chair for the Chicago 2015 conference.

Doug is a past DRC for Region II and is a member of TC 9.1 Large Building AC, TC 9.2 Industrial Air Conditioning (CM), Cold Climate Design Guide TRG9, and is past Chair of Building EQ, and past ARC and Regional Representative for Region II as well as a member of the standards appeal board.

Doug has also served on the finance and planning committees. He chaired the topical conference on Industrial Ventilation in Toronto in June 2022 and was General Chair of the Annual ASHRAE society meeting in June 2022. Doug is part of the Decarbonization Task Force Training and Education subcommittee. He holds the ASHRAE distinguished service award, the regional award of merit, and the chapter service award.

He also served on part 6 HVAC of the Ontario building code as technical advisory committee chair and was part of the stakeholder group for Ontario's energy and water reporting and benchmarking.

He is married to Cathy and they have one son Sean. An avid sports fan, Doug is a diehard Toronto Maple Leafs hockey supporter, and hopes to see them win another Stanley cup during his lifetime.

Professional Development Topic: Decarbonization for Retrofits

Abstract: With the majority of buildings already built, it is imperative that we carefully consider how to retrofit existing buildings to lower their greenhouse gas emissions. The program will discuss what should be considered in retrofits to make this a more sustainable world.

BIOGRAPHICAL SKETCH: DEVON ABELLON, PROFESSIONAL DEVELOPMENT SPEAKER



Devin Abellon, P.E. is the Director of Engineered Solutions at Pac West Sales. He has over 30 years of experience in the HVAC and plumbing industries with a focus on high performance and sustainable building design and construction. He holds a Bachelor of Science degree in Mechanical Engineering from the University of California at Santa Barbara and is a registered professional engineer in California and Arizona.

He has been an active member of ASHRAE at the chapter, regional and society levels and currently serves as an ASHRAE Society Vice President, Chair of Technology Council, and Vice Chair of the Board of Directors DEI Advisory Subcommittee. He is also a facilitator for ASHRAE's Chapter Leadership Academy.

Professional Development Topic: The (un)Ethical Engineer: A Study in Principle and Practice

Abstract: The integrity of the HVAC industry is dependent on sound technical design, reliable products, skilled construction practice and consistent maintenance and operation. But another critical element that is sometimes overlooked is professional ethics. As members within the HVAC industry engineers, contractors, architects, manufacturers, vendors and building owners are expected to exhibit the highest standard of honesty and integrity to safeguard the confidence that the public has in us.

In this very competitive climate, however, it is sometimes tempting to "bend the rules" to some degree in order to gain an advantage over competition or to simply get the job done on time. But how much is too much? Is there a clearly defined line between ethical practice and "just the way things are done?

"The (un)Ethical Engineer" is an interactive, multimedia, dramatic presentation that explores these issues through the eyes of a well-intentioned engineer.

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Kevin McDonald

GOLF – DIVOT TOOLS

Loman Garrett

ASHRAE Wi-Fi NETWORK

Tom & Becky Phoenix
Chuck & Heather Gulledge

THINGS TO DO AT GRANDOVER

The Spa at Grandover:

Unwind and allow your stress to melt away with a visit to the Spa at Grandover. Experience tranquility! Spa experiences are not included in CRC registration and must be booked individually in advance. For details on menu items, pricing, and bookings; please visit the Grandover Spa webpage at: https://grandoverresort.com/spa/

Pools:

Sometimes all you need is a relaxing swim, and with two sparkling pools, you have the freedom to float! Steps from the fitness center and Spa, the indoor pool is open year-round. The large outdoor pool features cabanas with comfortable lounge chairs, and weekly water aerobics classes in the summertime.

Fitness & Yoga:

Keep up with your exercise regimen or burn some extra calories at the Fitness Center and Yoga/Barre Studio located in the Spa. We have everything you need for a re-energizing workout.

Tennis & Recreation:

Tennis enthusiasts will appreciate the resort's four Har-Tru tennis courts. The Resident Pro, Pat Williams, is available for lessons, tournament coordination or round robin play for groups and families. The sand volleyball court sits adjacent to the tennis courts and equipment rentals are available for your convenience. Visit Café Expresso to enjoy a game of billiards, tabletop shuffleboard and classic video games!

Bike & Walking Trails:

Grandover offers miles of walking/biking trails. Plot your route, rent a bicycle, and pedal your way through miles of spectacular scenery.

Art Gallery:

The Gallery at Grandover showcases the work of North Carolina's fine artists. From the mountains to the sea, our state is rich in the arts, and we share this deep history through our art collection. Our walls are filled with original artwork encompassing oils, acrylics, pastels, mixed media, watercolor, metalworks, and photography. Throughout our gallery, you will find original artwork, handcrafted jewelry, woodworking, and sculpture. Our gallery would not be complete without offering a wide selection of clay works. For centuries, pottery has been an art form in North Carolina. We are proud to share works that are both functional and breathtaking. For details on purchasing art; please visit the Grandover Art Gallery webpage at: https://grandoverresort.com/art-gallery/

NOTES

NOTES

THANK YOU FOR ATTENDING

Welcome to Greensboro, North Carolina! The North Piedmont Chapter CRC Host Committee is excited that you are able to join us here at Grandover Resort and Spa. We have been working very hard over the last 2 years to make this CRC another success for Region IV. We hope your stay is both an enjoyable and memorable one.

We have a full schedule during the next 3 days, so please take a few minutes to read through the information in this packet. It includes our itinerary, maps and other important information.

We invite you to the use the 11th floor hospitality suite. It is a pleasant and comfortable place to lounge, check e-mails and enjoy refreshments.

Please always wear your CRC ID badges as this will allow you to access the hospitality room and attend the scheduled events.

We look forward to spending this time with you while you are here enjoying the beautiful Piedmont Triad Area. Thank you for attending the Region IV 2025 CRC in Greensboro.

Warmest regards,

Tom Phoenix, CRC Co-Chair & Presidential Member 2014-2015
Chuck Gulledge, CRC Co-Chair & Presidential Member 2020-2021

NORTH PIEDMONT ASHRAE CHAPTER

The North Piedmont Chapter represents ASHRAE members in the central area of North Carolina affectionately known as the Piedmont Triad, or just The Triad. The Triad encompasses the cities of Greensboro, Winston-Salem, High Point and the surrounding areas. Some of the most prominent people and companies in the HVAC industry reside in our area and are very active in the regional and international levels of ASHRAE, as well as being pillars of our local chapter.

Thank you for visiting the Triad and the North Piedmont Chapter!

2025 CRC COMMITTEE

Co-Chair: Tom Phoenix
Co-Chair: Chuck Gulledge
Entertainment: Josh Wagner
Hospitality: Kevin McDonald & Alex Stephenson
Professional Development: Aaron Hughes
Golf Outing: Drayton Stott & Jim Swofford
Companion Tours: Mark & Tammara Bingham
Secretary: Zach Craver
Marketing-Webmaster: Mathew Morganti
Awards Banquet RP Auction: Heather Gulledge
Registration Concierge: Tanner Easterday
Gifts: Matt Ritter
Treasurer: Miguel Marquez
Sponsorships: Jim Fields

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