

nchea

nc healthcare engineers association

# 2021 Spring VIRTUAL Seminar

KEYNOTE

**JOE THEISMANN**

Analyst for NFL Network  
and Former Washington  
Redskins Star Quarterback



**MARCH 17-19, 2021**

**PINEHURST RESORT | Pinehurst, North Carolina**



# LOCATION



## NCHEA RESERVATION LINE 877-694-5862

When you make your room reservations, identify yourself as a NCHEA Spring Seminar and/or NCHEA Golf participant.



### The Pinehurst Promise

With the concerns surrounding Covid-19, we have taken additional steps to provide our guests a safe and enjoyable stay at Pinehurst. Please know that we continue to diligently follow all of the guidelines put forth by the U.S. Centers for Disease Control and Prevention (CDC), World Health Organization (WHO) and the state of North Carolina to help prevent the spread of Covid-19.

If we receive notice of a positive COVID-19 test among a Pinehurst guest, member or employee, we will follow all CDC guidelines and cooperate with the NCDHHS. We follow the 3 W's as designated by the NCDHHS, which are Wash, Wear and Wait. In addition, Pinehurst has added our own 4th W of Wellness, where our employees confirm they are healthy prior to working. We ensure these 4 W's are being followed by our employees.

See more: [www.pinehurst.com/covid-19-response](http://www.pinehurst.com/covid-19-response)

### Pinehurst Resort

80 Carolina Vista Drive | Pinehurst, NC 28374

[www.pinehurst.com](http://www.pinehurst.com)

### NCHEA Seminar Room Rates:

**\$153.00 per night +tax double occupancy**  
**ROOM BLOCK RATE ENDS FEB. 15, 2021**

20% PINEHURST SPA DISCOUNTS

For NCHEA Attendees and their Guest! Book Early!

### JOIN US VIRTUALLY ANYWHERE!

On the front porch, in your hotel room, by the pool, in your office, anywhere as long as you download the NCHEA APP first.

Download the "NCHEA EVENTS" APP



Once you have registered at [www.nchea.com](http://www.nchea.com), when all the presentations have been loaded into the APP, you will be sent an email with your password to log into the APP education sessions. Links for all live streaming, live and pre-recorded sessions will be in the APP. You will be able to log into the APP from your computer or your phone.



REGISTER TODAY!

[www.nchea.com](http://www.nchea.com)

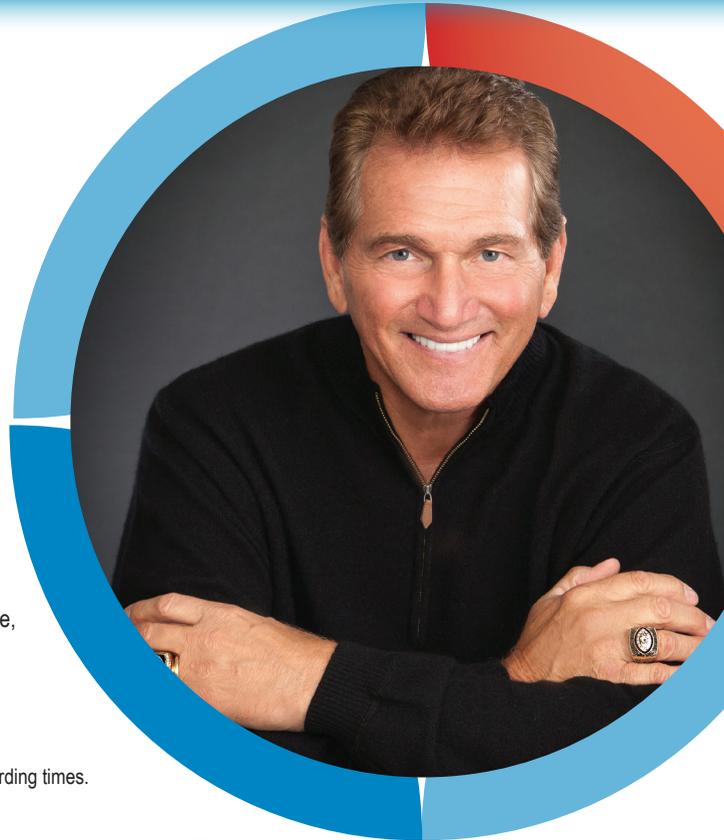
# KEYNOTE

## Joe Theismann

Analyst for NFL Network and Former Washington Redskins Star Quarterback

## Game Plan for Success

This dynamic presentation outlines the game plan that brought Joe Theismann success both on and off the football field. Former NFL MVP quarterback and Super Bowl Champion, he reveals his Game Plan for Success by drawing parallels between winning in football and in business. Joe focuses on how to succeed under pressure - when it's "4th and 1", and how to adapt quickly to unexpected situations when you're faced with a "blitz" instead of a zone. He urges individuals and organizations to set goals and correct errors each step of the way, an approach that builds momentum ... which once on your side, would be hard for the best "defense" to stop.



## Agenda at a glance

Scheduled at time of printing. Times and Order may change due to recording times. Keep up to date with the NCHEA APP - DOWNLOAD TODAY!

### WEDNESDAY, MARCH 17, 2021

8:30 am to 12 noon.....Board Meeting  
11:30 am.....THE CRADLE FUNdraiser - 1st Session  
1:00 pm .....THE CRADLE FUNdraiser - 2nd Session  
5:00 pm .....Invitation only VIP Meet & Greet  
..... JOE THEISMANN (Live Stream)  
5:30 pm - 6:30 pm ..... VIRTUAL NETWORKING RECEPTION

### THURSDAY, MARCH 18, 2021

8:00 am to 8:30 am ..... Welcome and Program Introduction,  
.....Deon Lewis NCHEA President  
8:30 am to 9:00 am .....KEYNOTE: JOE THEISMANN  
9:00 am .....Healthcare Out of the Hospital  
10:00 am .....Field Hospital - Samaritan's Purse  
11:00 am..... ASHE Region Update | Michael Roberts  
11:30 am - 1:00 PM ..... Break for LUNCH on your own  
1:00 pm ..... LIVE STREAM Q&A with Joe Theismann  
1:30 pm ..... The Capacity Dilemma Planning for the Surge  
2:30 pm ..... Mitigating Disease Transmission with Germicidal UV  
3:30 pm ..... Embracing Flexibility & Resiliency at the Center of Design  
4:30 pm ..... New Innovations in Medical Gas Piping: 2018 NFPA 99

### FRIDAY, MARCH 19, 2021

8:00 am to 8:30 am .....DISTRICT MEETINGS  
8:30 am..... Design of a Critical Emergency Generator Plant  
9:30 am ..... Diesel Fuel, Biodiesel & Fuel Storage  
10:30 am..... DHSR UPDATE  
12:00 pm .....Wrap Up



**Deon Lewis CHFM**  
2021 NCHEA President  
CaroMont Health

*"I hope everyone is as excited as the Planning Committee and the Board is about the virtual NCHEA VIRTUAL Spring Seminar that is right around the corner! Clarence Jones has put together a phenomenal education program and has been able to engage a keynote speaker that will not be forgotten! Everyone is invited to join us and be part of the 2021 NCHEA Spring Seminar!"*

**Clarence Jones CHFM**  
2021 NCHEA Program Chair  
Carolinas HealthCare System  
nchea.program@gmail.com



# EDUCATION

Current Education Sessions at time of printing.

## Healthcare Outside the Hospital



Alex Harwell, PE, CHFM, CHC, Dewberry



Julie Risk  
Vice President at IHR Architecture

Business healthcare, the ubiquitous medical office building in its many forms as imaging center, specialty care facility, and so many others. Whether stand-alone or attached to a hospital, business based healthcare can be a challenge to navigate from the construction and design perspective, a difficult prospect to manage from the facility engineers perspective, and a very popular platform for leadership and patients. We hope to help shed some light on why business based care is so important, the types of classifications and their application, and the relationships between clinical and finance aspects to the buildings themselves.

Alex Harwell: Born in Durham and raised in Raleigh, I started my career by enlisting into the US Navy at age 18, I spent a decade in the Navy as a Nuclear Machinist's Mate learning the ropes of engineering systems operation, maintenance and trouble-shooting. While serving I earned my Bachelor's degree from Old Dominion University in Norfolk, VA in Engineering Technology as a means to build my professional career following the Navy. I started my engineering career with the State of NC, working for DHSR as an engineering plan reviewer and inspector for five years. It was there that I learned about the healthcare industry, healthcare engineering regulatory requirements, and the landscape of North Carolina hospitals, architects, engineers, and contractors. In 2012 I joined Dewberry as a Construction Administrator and have spent the past eight years focused on the consulting side of healthcare engineering. I have recently earned my Fire Protection PE, am an ASHE Certified Healthcare Facility Manager, and Certified Healthcare Constructor and serve Dewberry as the healthcare market segment leader for the Southeast.

Julie Risk: Originally from Chapel Hill, I started the pursuit of my architecture degree at Pratt Institute in Brooklyn NY and then finished up at NC State University. I worked at an architecture firm throughout my college years gathering lots of experience before I started full time at Isley Hawkins where I gathered extensive experience in the healthcare architecture field. My ability to logic served me well as I delved into the many overlapping codes which apply to healthcare architecture, and I became the resident code expert in my office as well as a trusted code advisor for our clients. I worked hard to complete my AREs quickly and became a licensed architect in 2011. I finished just in time to welcome my son Otto into the world. There is nothing like the imminent arrival of a child to motivate you, so in 2013 I completed my LEED AP BD+C just prior to having my second child Gwen. To round out my credentials I completed my NCIDQ certification in 2014 for interior design. I enjoy staying at the forefront of technology and lead my firm in the implementation of BIM as our primary design tool. Our firm name changed to IHR Architecture in 2020 to recognize me as a vital part of the company's services and reputation.



## The Capacity Dilemma Planning for the Surge

Bill Ledger, AIA, ACHA, NCARB, EDAC, LEED AP  
Director of Healthcare Design | Senior Associate  
Design Collaborative

Today's healthcare environments need the ability to flex their patient care spaces to meet fluctuating demand. Limitations with available capital resources, physical space, and even regulatory controls can hinder efforts to be prepared for a higher than normal patient census; however, surge capacity can be achieved within some current floorplans with limited interior reconstruction. Based on an article bylined by Bill Ledger on this same subject, which was published in Healthcare Design magazine in November 2020, this presentation will feature two design solutions where adaptable patient care spaces were implemented.

Bill is a Board-certified healthcare architect with over 35 years of experience, and he is the director of healthcare design for Design Collaborative -- an award-winning, 2020 Top 100 A/E/ID firm based in Fort Wayne, Indiana, with an office in North Carolina. He has been involved in hundreds of healthcare projects for multiple hospitals and health systems, including Mercy Health St. Rita's Medical Center, Van Wert Health, and Parkview Health. He is the longest active certified healthcare architect in Indiana. Considered a thought leader in his field, he regularly participates in national healthcare design forums and conferences and is a sought-after subject matter expert.



## Embracing Flexibility & Resiliency at the Center of Design

Dave Sheedy, P.E. CDT, Principal, Kahler Slater

Bryan Health Merrick Medical Center is constructing a new replacement Critical Access Hospital (CAH) amid many rural health hospital closures throughout the country. Designed in the middle of a pandemic, the team explored the question, "as an essential business, what is essential to operate the business?"

This session will discuss the project team alignment around a future vision, a new perspective on CAH care delivery, and how a flexible facility design can support an organization's goals around improving population health in its community.

Measurable learning outcomes:

1. Explore how the design team focused on ensuring long-term success of the organization by embedding resiliency into the design.
2. Investigate the question "what is essential to operate the business?" and how it ultimately drove a hyperflexible design.
3. Explain a new perspective on critical access hospital care delivery.
4. Discuss future flexibility and how it aims to improve population health in Merrick Medical Center's community.

Dave's distinct background from the contracting, engineering, and rural healthcare sectors make him a multi-faceted leader who expertly knows how to collaborate with all key parties to bring success to his clients. Certified in Lean from the University of Michigan and one of the founders of a Lean Construction Institute (LCI) CoP community, clients seeking to implement Lean operational change, be presented with innovative design solutions, and achieve powerful results from their investments continuously strike gold with Dave is at the helm of their endeavors.



## FIELD HOSPITAL - Samaritan's Purse

Cecil Watson  
Facility Operations Manager  
Caldwell UNC Health Care

How can you build a 30 bed field hospital in less than 7 days and meet all required regulatory requirements? Not only in less than 7 days but over a major holiday weekend as well. Was it easy? No but I'll gladly show you how it can be done because it was.

While working 30 years with facility services in a health care setting Cecil has seen many changes in his rise to management in the UNC Health Care system. He began his career as a Plumber at UNC Rex Healthcare in 1991 and then he became a facilities coordinator in 2011. Last year he moved within the UNC system and accepted his current role as the Facility Operations Manager at Caldwell UNC Health Care. Cecil has seen many changes, upgrades and projects happen when he was at UNC Rex. Cecil holds his North Carolina state plumbing license and a sprinkler maintenance certification also issued by the state of North Carolina. Cecil is a member of NFPA, ASHE and also serves as this year's current Secretary for NCHCA. Cecil is married to his wife Donna and has 3 daughters and 3 grandchildren.

# EDUCATION

## New Innovations in Medical Gas Piping: changes found in the 2018 NFPA 99

### Mathis Carlson

Technical Sales Engineer, MediTrac

With the introduction of the 2018 edition of the NFPA 99 Healthcare Facilities Code, there are new items found in medical gas systems that have never before been included. Mathis Carlson will present an overview of the code changes and new items found in the 2018 edition of the NFPA 99.

Mathis Carlson is a Technical Sales Engineer for MediTrac, the leading manufacturer of corrugated medical gas tubing. MediTrac is a revolutionary, first of its kind product, approved by NFPA 99 for medical gas piping systems. As a Technical Sales Engineer, Mathis can assist in medical gas system design and sizing, technical support, training and general medical gas information. Prior to joining MediTrac Mathis spent 12 years working as a medical gas verifier and instructor after working as a plumber specializing in medical gasses for 10 years.

Mathis holds multiple ASSE medical gas certifications including the 6005 specialist, 6010 installer, 6020 inspector, 6030 verifier, 6035 bulk verifier, 6040 maintenance and 6050 instructor. He also maintains his ASME IX brazing certification and master plumbers license. In addition, he holds the MGPFO CMGV certified medical gas verifiers credential.

## Design of a Critical Emergency Generator Plant

### Scott Martin

Director, Engineering & Operations, Duke Health

### Chase Davis PE CEM

Project Manager,  
RMF Engineering, Inc.

Design of a Critical Emergency Generator Plant - The presentation will discuss the evolution of emergency power in healthcare and the planning required to successfully design, construct, and operate an emergency generator plant on a modern healthcare campus.

Learning Outcomes: Examine a case study to better understand the considerations that need to be made when planning and designing an emergency generator plant on a healthcare campus:

1. Key questions to ask during planning.
2. Identifying code-required vs good practice redundancy.
3. Understanding airflow demands and challenges.
4. Methods and impacts of noise attenuation.

Take-away materials will be provided to highlight the key points made in the presentation.

Scott Martin, Director of Engineering & Operations, Duke Health

Throughout his career, Scott Martin has a demonstrated a talent for management of complex organizations, communicating regularly with both hospital leadership and maintenance staff, all while juggling daily operational needs, building construction and renovations, and TJC compliance. Scott is constantly working to expand his knowledge and skills. He is a strong advocate for mentorship and professional development for his team.

Chase Davis joined RMF Engineering in 2014 and is based in the Raleigh, North Carolina office. As a mechanical engineer working in RMF's utility infrastructure group, Chase's experience includes the analysis, design and construction administration of steam, heating water, chilled water and emergency power generation systems in various campus environments. He has provided services for university, healthcare, industrial and municipal clients. Specific knowledge areas for Chase include fuel systems, steam, hot water, chilled water systems in direct buried, trenched or tunnel installations.

## DIESEL FUEL, BIODIESEL & FUEL STORAGE

### RJ Johansen

Gaines Oil

RJ JOHANSEN , Gaines Oil

This presentation will review the importance of fuel quality control. Fuel in storage is very dynamic and the environment of the tank and equipment can be compromised if not managed properly. The importance of quality fuel is necessary to have emergency power when called upon. We will review the proper steps every facility needs to take to guarantee fuel is ready when needed most.

RJ Johansen is from Clayton, NC. He works with Gaines Oil Company and has been supporting the On-Site Power Industry with fuel quality expertise. He has been working in the oil and gas industry for 11 years. He has worked in areas such as Saudi Arabia, Bahrain, Qatar, and across the US. He has managed projects for industrial pipelines in power plants, oil and gas refineries, and corrosion prevention. By seeing the affects first hand with fuel changes, RJ has continued a career in fuel analysis services, diesel fuel additives, fuel maintenance programs, emergency fueling, and quality fuel delivery.

RJ has assisted many emergency power service departments and bulk fuel facilities with managing ultra-low sulfur diesel and biodiesel. He is well versed in fuel contamination, fuel additive chemistry, corrosion control for fuel in storage as well as fuel distribution systems. RJ has also provided fuel quality solutions for utilities, diesel transportation, military, and the heating oil industry.

## Mitigating Disease Transmission with Germicidal UV

Lorrie Todd, UV Resources

Mitigating Disease Transmission with Germicidal UV-C: This presentation will briefly discuss the basics of Germicidal UV-C technology and its ability to inactivate infectious diseases, such as MRSA, TB (drug-resistant), Ebola, SARS, MERS and even the flu. As the SARS-CoV-2 virus evolved into a worldwide pandemic, UV-C has become a go-to technology in the battle against the spread of COVID-19.

This presentation will provide engineer-level guidance for the use of UV-C energy to continuously reduce and even prevent the spread of dangerous microbes in HVAC systems and the circulation of infectious pathogens in air-streams. It will also examine the operating conditions that increase or decrease the required minimum UV-C dose for pathogen inactivation, including UV-C fixture placement, air temperature, air velocity and AHU material reflectivity. The presentation will also review ASHRAE's position documents relative to the transmission of airborne pathogens, as well as maintaining HVAC maintenance and efficiency.

Lorrie Todd has served the HVAC community for more than 33 years, helping to educate and train facility managers, specifying engineers and industry professionals with an emphasis on UV-C air and surface treatment and cleaning technologies. As the Southern Regional Sales Manager for UV Resources, Ms. Todd serves ASHRAE's North Carolina Triangle Chapter as Research Promotions Co-Chair, and as a member of ASHE, and the North Carolina Hospital Engineers Association (NCHEA). She has worked in a variety of managerial and technical consultancy roles throughout the industry including Cambridge Filter Corporation, Farr Company, Flanders Filters and Steril-Aire, and American Ultraviolet Company.

## ASHE Updates

Michael D. Roberts, PE, SASHE, CHFM, CHE

ASHE Region 3 Board Member  
Director – Energy Services and Central Energy Plants  
Facilities Management Group, Corporate Atrium Health

DHSR PANEL



LIVE presentation and Q&A

# EDUCATION REGISTRATION

*“The NCHEA VIRTUAL Spring Seminar allows you to take advantage of exceptional education sessions designed for healthcare engineers and the companies that support healthcare facilities without leaving your desk.*

*We offer affordable and a unique online experience by mixing live presentations along with pre-recorded sessions and all can be accessed until June 30, 2021.*

*We haven't forgotten that we all need the chance to connect with fellow colleagues, join us Wednesday for our Networking Social! See familiar faces, play a few games, win some prizes!*

*Virtual Education, VIRTUALLY EVERYWHERE! The porch of the Pinehurst Resort is lovely! Should you feel safe traveling, The Pinehurst Resort has implemented “The Pinehurst Promise” to insure your safety while staying overnight.*

**Are you a NCHEA MEMBER? Join today!**  
Go to [www.nchea.com](http://www.nchea.com) and click on “JOIN NCHEA”



## What kind of member should you be?

**FULL NCHEA Members:** Full Membership in the Association is available to individuals who are actively EMPLOYED in or by HEALTHCARE RELATED FACILITIES (those that provide patient care) located in North Carolina, and who have responsibility in healthcare facility operations (i.e. facilities management, plant engineering, design/construction, security, safety/fire safety, clinical engineering, and telecommunications). Full Members may vote, hold office, and serve on committees.

**ASSOCIATE NCHEA Members:** Associate Membership in the Association is available to individuals or representatives that provide professional, technical, and consulting services or sell products or services to Full Members, but whose employers are not healthcare providers (those that do not provide patient care). Qualifying members include, but are not limited to, planners, consultants, architects, interior designers, consulting engineers, manufacturers, vendors, and sellers of contracted services.

## AFFORDABLE VIRTUAL EDUCATION, VIRTUALLY EVERYWHERE!

*We encourage you to join us for our live streaming sessions so you have access to question and answer sessions with the speakers in real time. If you miss any sessions or want to review later, all education sessions will be available till June 30, 2021.*

NCHEA STIMULUS assistance is available for all FULL HEALTHCARE ENGINEERS. It's easy to sign up! Just select that option on the online registration and we take care of the rest!

## NCHEA 2021 SPRING SEMINAR RATES:

### NCHEA FULL HEALTHCARE MEMBERS:

\$100.00 FULL HEALTHCARE ENGINEER MEMBERS

\$175.00 FULL HEALTHCARE ENGINEERS NON- MEMBERS: Includes NCHEA MEMBERSHIP

### NCHEA ASSOCIATE MEMBERS:

\$175.00 ASSOCIATE MEMBERS

\$275.00 ASSOCIATE NON-MEMBERS



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Our Sponsors have always been our **“Game Plan for Success”**

*We are thankful for you joining our team and continuing to support our pivot to the virtual world. Essential Education for Essential Facility Healthcare Engineers can only be achieved by your participation. You are ESSENTIAL to us.*

**Thank you!**

**Tye Frost CHFM**  
 2021 NCHEA Vendor Chair  
 CarolinaEast Health System  
[nchea.vendorchair@gmail.com](mailto:nchea.vendorchair@gmail.com)



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# REGISTER TODAY!

