



Professional Engineers of North Carolina Presents:

2011 CHARLOTTE ENGINEERING CONFERENCE
UNC-CHARLOTTE CENTER CITY

WEDNESDAY, NOVEMBER 9th

8 SESSIONS, 3 WORK SESSIONS AND A JOB FAIR

allows the 2011 Charlotte Engineering Conference to provide education and networking for various engineering disciplines, industries, businesses, educational entities, and regional leaders while promoting the Charlotte Region's strong engineering community and enhancing the Region as the Nation's Energy Capital.

This year's Conference will focus on promoting awareness of the Engineering community's role in moving the Charlotte Region and State forward to a better future. Courses offered include keynote addresses and sessions addressing Regional and State engineering issues, as well as several "hands-on" work sessions. Exhibits from Sponsors, as well as Regional companies and businesses showcasing the latest products and services will be available. In addition, this year's Job Fair seeks to support attendees interested in exploring career opportunities!

The Conference is sponsored by the **Professional Engineers of North Carolina (PENC)** and its local South Piedmont Chapter, and PENC is partnering with the Charlotte Engineering Network. The Charlotte Engineering Network is a collaboration of the Region's engineering and other engineering-related professional societies.

What are you waiting for? Share in the adventure! Register today and help leverage the engineering profession. Let's move the Region and State forward to a better future!

REGISTRATION

Members

Full Day with Lunch: \$140.00

Non-Members

Full Day with Lunch: \$250.00

Lunch only: \$35.00

Charlotte Engineering Network: \$190.00

NOT A MEMBER?

If you're a PE or an Engineering intern, your registration will include a **FREE** State membership with PENC!



Engineers moving North Carolina-Forward!

PROGRAM AT-A-GLANCE

7:30-8:30	Registration and Continental Breakfast			PDH
8:30-9:30	Morning Keynote Speaker: "Engineering and Protecting Public Safety"			1
9:30-9:45	Networking and Job Fair			
9:45-11:45	Work Session 1A: Engineering Applications Using Excel	Work Session 1B: Value Engineering: Creating a Cost- Effective Design	Work Session 1C: Introducing Building Information Modeling (BIM)	2
11:45-12:15	Networking and Job Fair			
12:15-1:15	Luncheon Keynote Speaker: "Innovating North Carolina"			1
1:15-1:45	Networking and Job Fair			
1:45-3:15	Session 1A: City Leadership in Today's Community	Session 1B: Securing Cyberspace: Out of Sight, Out of Mind?	Session 1C: From Engineering Design to Boardroom	1.5
3:15-3:45	Networking and Job Fair			
3:45-5:15	Session 2A: Nuclear Waste Policy: A New Start?	Session 2B: Clean Water: Is it Taken for Granted?	Session 2C: Building Design: Transforming the Office Building	1.5
5:15-7:00	Conference Social and Door Prizes			

GENERAL SESSION SUMMARY

Morning Keynote Address: "Engineering and Protecting Public Safety"

Deborah Grubbe, P.E. -Owner and Principal, Operations and Safety Solutions, LLC

In 2010, the world watched as oil gushed from a deep water well into the Gulf of Mexico. This event not only created one of the worst environmental disasters, but gave rise to serious questions about proper levels of industrial oversight and the role of engineers in protecting the environment and public. Deborah Grubbe has been responsible throughout her career for ensuring adherence to high engineering and safety standards as an executive with DuPont and with British Petroleum (BP). Now owner of "Operations and Safety Solutions, LLC" and serving as a member of the NASA Safety Advisory Panel, Grubbe provides an unique and compelling perspective on safety, business, and the role of engineering in assuring protection of the environment and the public.

WORK SESSION SUMMARIES

Work Session 1A – Engineering Applications Using Excel

Dr. Bill Saunders, PhD- Lecturer, William States Lee College of Engineering, UNC-Charlotte

Microsoft Excel is one of the more powerful and underutilized tools used by engineers. Excel spreadsheets are routinely used to perform complicated calculations and configured to follow a set methodology while allowing for input changes that instantaneously provide an updated solution. In this Workshop, participants will further their understanding of the engineering application capabilities of Excel. **Workshop participants must bring a laptop with Excel.**

Work Session 1B –Value Engineering: Creating a Cost-Effective Design

David Grey, P.E.- District Manager, Lane Construction Company

Value Engineering (VE) is an analytical process used to challenge a proposed design for systems, structures and components. VE seeks a more innovative design, more efficient components, and provides a less-costly alternative. In this Workshop, participants will learn the fundamentals of a VE program and consequent applications.

Work Session 1C –Introducing Building Information Modeling (BIM)

Adrianna Schneider, LEED AP- Applications Engineer, Advanced Solutions, Inc.

Reducing costs and shortening schedules...sound familiar? The answer is not just working harder and smarter, but in the rapidly growing development and application of a design technology: Building Information Modeling (BIM). In simple terms, BIM provides an open 3-D modeling and information sharing design environment that can result in projects with lower cost and shorter schedule. By more efficiently utilizing building space and identifying/resolving construction interferences in the office, this workshop will provide participants with the fundamentals and explore the capabilities of BIM. **Workshop participants must bring a laptop.**

JOB FAIR SUMMARY

Network with conference attendees and connect with Conference Sponsors and Exhibitors. Learn what career opportunities exist throughout the Region and what skill sets Regional companies are looking for. Make those new personal and business contacts that could lead to that next job or business opportunity!

GENERAL SESSION SUMMARY

Luncheon Keynote Address: “Innovating North Carolina and Charlotte’s Envision”

Michael Smith, President and CEO, Charlotte Center City Partners

Innovation can be defined as “the creation and adoption of new products, services and business models” and is a fundamental driver of economic, governmental and societal change in the 21st century. More than ever, the engineering profession needs to drive change in business and government to harness the opportunities and overcome the challenges presented in the 21st century. Complex, technology-driven issues are making the economy and society more complex. Placing a premium on innovation in driving adaptation to changing circumstances, the Region and State are counting on the engineering profession and its imagination to meet the needs of the 21st century. Engineers-let’s innovate, and move North Carolina forward! This session will discuss the Charlotte’s Envision program as an example of an innovative engineering solution for managing energy consumption in an urban environment.

SESSION SUMMARIES

Session 1A – City Leadership in Today’s Community: The Changing Role of Government

Gina Shell- Deputy Director, Engineering and Property Management Dept., City of Charlotte

Phil Reiger- Assistant Director, Department of Transportation, City of Charlotte

Cities around the nation have been forced to re-think how best to serve their communities with less staff and uncertain funding. Gina Shell and Phil Reiger from the City of Charlotte share with you the changing role of city government and how the City of Charlotte is tackling this challenge.

Session 1B – Securing Cyberspace: Out of Sight, Out of Mind?

Mark Trump - Program Manager, Fox Guard Security Solutions, Inc.

Anna Wang - Cyber Security Consultant, Burns and McDonnell

Chris Squier - Security Technology Advisor, Ingram Micro

Personal privacy and national security depend on protecting a set of systems that didn't even exist until the late 20th century-the electronic web of information sharing known as cyberspace. One frequently reads about information systems being compromised and information frequently stolen while operations are occasionally disrupted. This session discusses the technical and business implications of cyber security in the development, operations, and maintenance of any computer network.

Session 1C – From Engineering Design to Boardroom

Clarence Ray, P.E. - CEO, Shaw Power Group

Tom Franch- Senior Vice-President, AREVA, Inc.

Dave Renner - Vice-President, Generation Engineering-Duke Energy

Sharon Y. Barreras, P.E. - Senior Vice President, PARCOMM Operations Manager

Moderator: Dr. Terri Ratcliff, P.E. - Executive Director, Industrial Extension Service, NC State University

Technology pervades every aspect of today's society, including agriculture, energy, government, health, infrastructure, and manufacturing. "Bottom line" decisions are becoming passé, and the complexities involved require both technical and process-awareness components. The engineering profession is needed to drive society forward within our complex and technology-based future. Successful career growth for engineers is crucial whether the ultimate objective for individuals includes the Boardroom and/or technical excellence. This session is designed to discuss engineers as leaders and why the engineering profession warrants a seat at the Boardroom table.

Session 2A – Nuclear Waste Policy: A New Start?

Dr. Eric Loewen- President, American Nuclear Society and Chief Consulting Engineer, GE Hitachi Nuclear Energy

Fossil fuels continue to be the Nation's dominate source of electricity, and nuclear energy is generally viewed as the only viable greenhouse gas (GHG) emission-free technology currently capable of effectively replacing fossil fuels. However, a significant impediment to its expanded use is the current policy impasse surrounding nuclear waste management. This session addresses the current state of nuclear waste management in the country and globally, exploring U.S. policy options under consideration and the impacts of these options for the Nation.

Session 2B – Clean Water: Is It Taken For Granted?

Barry Shearin, P.E.- Chief Engineer, Charlotte Mecklenburg Utilities Department

Jeff Wise- Executive Director, National Whitewater Center

J.D. Solomon, P.E.-Vice-President and Carolinas Area Manager, CH2MHill

Historically, with the exception of certain locations such as the desert southwest, water has been readily available in sufficient quantities. In the past, providing the supporting infrastructure has been relatively straight forward. However, rapid population growth, drought conditions, and debates over Catawba River water rights continue. Combined with recent water line failures, these issues have brought increased attention to the Region's water supply and management. Charlotte–Mecklenburg Utility Department (CMUD) describes both present and ongoing project plans to assure a reliable water supply for the Charlotte Region.

Session 2C – Building Design: Transforming the Office Building

Jim Schumacher, P.E.- Assistant City Manager, City of Charlotte

Eric Reichard- Chief Operations Officer, Rogers Builders, Inc.

Jason Nusbaum- Senior Service Sales Representative, Siemens Industry

Captain James T. Kirk failed a leadership training exercise twice as a cadet. Knowing the test was rigged, Kirk displayed both determination and “out of the box” thinking by secretly reprogramming the simulator, thus becoming the first cadet ever to pass the exercise. Similarly, designing today’s buildings requires determination and “out of the box” thinking. Whether it is increased energy efficiency, improved security in a post-9/11 world or improved safety features for building occupants, today’s demands pose new and unique design challenges. This session explores building design developments in areas such as technology, materials and construction. This session seeks to take today’s building designs to a place where no one has gone before!

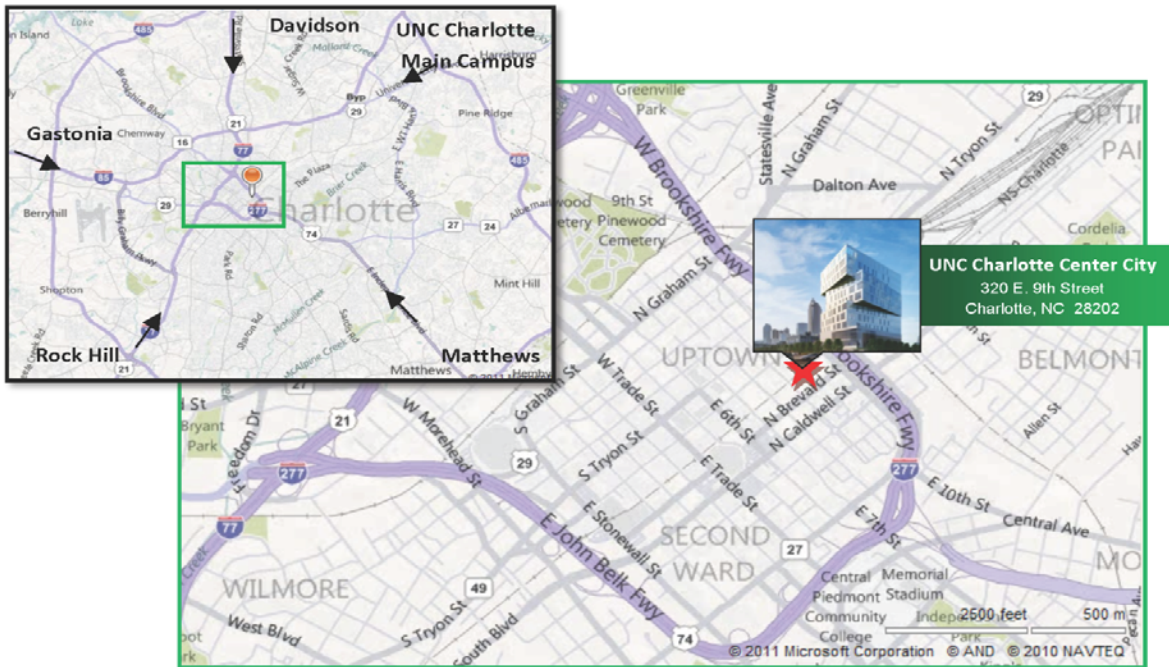
THE CHARLOTTE ENGINEERING NETWORK

The Charlotte Engineering Network is a collaborative effort initiated in 2010 by twenty-six (26) engineering and engineering-related societies in the Charlotte Region dedicated to strengthening the Region’s engineering profession and its contributions to the Region’s economic vitality and quality of life. Join us and help shape the Region’s future!

American Institute of Chemical Engineers (AIChE); American Nuclear Society (ANS); American Public Works Association (APWA); American Society of Civil Engineers (SCE); American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE); American Society of Highway Engineers (ASHE); American Society of Mechanical Engineers (ASME); American Society for Quality (ASQ); American Society of Safety Engineers (ASSE); American Welding Society (AWS); Institute of Electrical and Electronics Engineers (IEEE); Illuminating Engineering Society (IES); Institute of Industrial Engineers (IIE); International Society of Automation (ISA); Institute of Transportation Engineers (ITE); NC American Water Works Assoc. - Water Environment Association (NC-AWWA/WEF); National Society of Black Engineers (NSBE); Professional Engineers of North Carolina (PENC); Project Management Institute (PMI); Society of Automotive Engineers (SAE); Structural Engineers Assoc. of NC (SEA); Society of Fire Protection Engineers (SFPE); Society of Manufacturing Engineers (SME); Society of Plastics Engineers (SPE); Society of Women Engineers (SWE); Women’s Transportation Seminar (WTS).

No profession unleashes the spirit of innovation like engineering! An engineer can turn ideas into realities to make a direct and positive effect on people’s everyday lives and to assure the safety of their environment. The Charlotte Region and North Carolina are counting on its engineers to help meet the challenges of the 21st century.

[CLICK HERE FOR DIRECTIONS TO UNC-CHARLOTTE CENTER CITY!](#)



From UNC Charlotte Main Campus

1. Take right out of main campus onto University City Blvd. SR-49. 1.6 mi.
2. Take ramp right and follow signs for SR-24 West/E.W.T. Harris Blvd. 5.8 mi.
3. Take ramp left for I-85 South. 2.3 mi.
4. At exit 38, take ramp right for I-77 South/US-21 south toward Columbia 1.6 mi.
5. At exit 11, take ramp right and follow signs for I-277 South/SR-16 South/W. Brookshire Fwy. 0.1 mi.
6. At exit 3A, take ramp right toward Brevard St./Davidson St./McDowell St. 0.2 mi.
7. Continue straight onto E. 11th St. 0.2 mi.
8. Merge across 3 lanes, turn right onto Brevard St. 0.2 mi.

From North of Charlotte via I-77 South (Davidson)

1. Head south on I-77 toward Charlotte. 18.2 mi.
2. At exit 11, take ramp right and follow signs for I-277 South/SR-16 South/W. Brookshire Fwy. 1.6 mi.
3. At exit 3A, take ramp right toward Brevard St./Davidson St./McDowell St. 0.1 mi.
4. Continue straight onto E. 11th St. 0.2 mi.
5. Merge across 3 lanes, turn right onto Brevard St. 0.2 mi.

From South of Charlotte via I-77 North (Rock Hill)

1. Head north on I-77 toward Charlotte. 23.2 mi.
2. Take exit 11 A. take ramp right to I-277 South/W. Brookshire Fwy. toward Downtown 1.1 mi.
3. At exit 3A, take ramp right toward Brevard St./Davidson St./McDowell St. 0.1 mi.
4. Continue straight onto E. 11th St. Merge across 3 lanes, turn right onto Brevard St. 0.2 mi.
5. Merge across 3 lanes, turn right onto Brevard St. 0.2 mi.

From Southwest of Charlotte via I-85 North (Gastonia)

1. Head north on I-85 toward Charlotte. 17.0 mi.
2. At exit 36, take ramp right for SR-16/Brookshire Blvd toward downtown. 0.2 mi.
3. Turn right onto SR-16 South/Brookshire Blvd. 0.3 mi.
4. Keep left to stay on SR-16 South/Brookshire Blvd/W. Brookshire Fwy. 1.9 mi.
5. Keep straight onto I-277 South/SR-16 South/W. Brookshire Fwy 1.0 mi.
6. At exit 3A, take ramp right toward Brevard St./Davidson St./McDowell St. 0.1 mi.
7. Continue straight onto E. 11th St. Merge across 3 lanes, turn right onto Brevard St. 0.2 mi.
8. Merge across 3 lanes, turn right onto Brevard St. 0.2 mi.

From Southeast of Charlotte via US-74 (Matthews)

1. Head west on US-74/Independence Blvd toward Charlotte. 8.9 mi.
2. Take ramp right and follow signs for I-277 North/SR-16 North/E. Brookshire Fwy. 0.5 mi.
3. At exit 3A, take ramp right to E 12th St. toward Brevard St./Tryon St. 0.4 mi.
4. Turn left onto N. Brevard St. 0.3 mi.