



Professional Engineers of North Carolina Presents:

2011 CHARLOTTE ENGINEERING CONFERENCE
UNC-CHARLOTTE CENTER CITY

WEDNESDAY, NOVEMBER 9th

2011 SPEAKER BIOGRAPHIES



Engineers moving North Carolina-Forward!

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 a unique and compelling perspective on safety, business, and the role of engineering in assuring protection of the environment and the public.

Deborah Grubbe is Owner and President of Operations and Safety Solutions, LLC, a consultancy that specializes in enhancing returns from both hard and soft assets. She is the former Vice President of Group Safety for BP plc, which had its two safest years ever under her watch. Deborah was trained in the characteristics of safe operations during her 27-year career at DuPont, where she held corporate director positions in safety, operations and engineering. Her many assignments have included capital project implementation, strategic safety assessments, manufacturing management and human resources.

Ms. Grubbe is a member of the NASA Aerospace Safety Advisory Panel, and served as a consultant on safety culture to the Columbia Shuttle Accident Investigation Board. She is a Trustee of the National Safety Council, and is a former Chair of the National Institute of Standards and Technology Visiting Committee for Advanced Technology. Ms Grubbe currently serves on the Purdue University College of Engineering Dean’s Advisory Council, and is a member of the FIRST Robotics Board of Directors. She is working with the National Academy of Sciences as a member of the Closure Committee to support the Demilitarization of the US Chemical Weapons Stockpile. She is also a former member of the Board of Directors of American Institute of Chemical Engineers (AIChE) and the Center for Chemical Process Safety, and is the current chair of the AIChE Institute for Sustainability. In 2002, she received the Purdue Distinguished Engineering Alumni Award, and was named Engineer of the Year in the State of Delaware. In May, 2010, Ms. Grubbe was awarded an Honorary Doctorate in Engineering from Purdue University.

She has been active in the Delaware community; as former president and board member of the Chesapeake Bay Girl Scout Council, and currently sits on their Northern President’s Advisory Council. Deborah is currently a board member of the Delaware Zoological Society. She was the first woman and youngest elected member on the State of Delaware Registration Board for Professional Engineers (1985-1989). During her tenure on the State Board, she was the Chair of the Law Enforcement and Ethics Committee.

Ms. Grubbe graduated with a Bachelor of Science in Chemical Engineering with Highest Distinction from Purdue University. She received a Winston Churchill Fellowship to attend Cambridge University in England, where she received a Certificate of Post-Graduate Study in Chemical Engineering. Ms. Grubbe is a registered professional engineer in Delaware, and is a Chartered Engineer in the United Kingdom. She is also a Fellow of both the AIChE and the Institution of Chemical Engineers.

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.***

Dr. Saunders received his Ph.D. in Civil Engineering from North Carolina State University/University of North Carolina at Charlotte, Inter-institutional Program, in 2007. His dissertation title was “Detention Basin design to Mitigate Regional Peak flow Impacts.” Saunders holds an M.S.C.E. Civil and Environmental Engineering Degree from the University of North Carolina at Charlotte and his thesis was entitled: “A Comparison of Exhaust Emissions Associated with Gasoline and Electric Power Tools.”

Dr. Saunders is currently lecturing in the Department of Civil and Environmental Engineering at the University of North Carolina at Charlotte and has held past lecturing positions with the Department of Civil Engineering at North Carolina State University and UNC-Charlotte with the Inter-institutional Ph.D. Program as a Lead Lecturer and as a Research and Teaching Assistant. Dr. Saunders spent 14 years serving the Theatrical Electronics Corporation, including holding the positions of Design Engineer, Vice-President, and President. In addition to his dissertation, Dr. Saunders has published several works, including “Pollutant Loading Estimation for Urban and Rural Highway Runoff” found in the Journal of Environmental Engineering, Vol. 124, No. 7, pp. 584 – 592. Dr. Saunders has been actively involved in research, and has managed a research project entitled “Monitoring and Statistical Modeling of North Carolina Highway Runoff.” Dr. Saunders is a member of both the American Society of Civil Engineers and American Society for Engineering Educators.

Lastly, Dr. Saunders has extensive experience in Visual Basic. He has used VBA macro programming for about ten years and has taught the use of VBA programming for four years. Dr. Saunders’ dissertation entitled “Detention Basin Design to Mitigate Regional Peak Flow Impacts” analyzed hypothetical watersheds by performing a hydrologic numerical analysis using Excel and VBA macro programming. Dr. Saunders teaches freshman Civil Engineering students at UNC-Charlotte how Excel and VBA work in tandem to solve quantitative problems.

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.

David Grey is a graduate of UNC-Charlotte and a registered professional engineer in North Carolina, South Carolina and Virginia. He has over 35 years experience in highway, heavy and marine construction and has participated in construction projects at every level from project engineer to project executive. His project experience includes major highways, bridges, urban interstate reconstruction, hydroelectric, and port facilities. He has provided constructability reviews, construction phasing, cost estimating, scheduling and value engineering services for numerous state DOT’s including Alaska, Colorado, Oregon, Washington, Florida, Utah, and several other entities. Over the last eleven years David has been involved in major Design Build projects throughout the country.

David serves as the District Manager for The Lane Construction Corporation, Mid-South Region with responsibility for Design Build pursuits, the bridge construction division and major project estimating. He is currently involved in the following Design Build Projects: I-85 Yadkin River Bridge Project (\$136 million), I-85 Widening Project (\$125 million) in Cabarrus County, I-85/I-485 Interchange Project (\$92 million) in Mecklenburg County, and the Foothills Parkway “Missing Link” Project (\$48 million) in Townsend, TN.

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.***

Adrianna Schneider is a dedicated technical expert with more than 10 years of experience in Autodesk software, and 5 years experience with the Revit platform. Adrianna has spent the past 5 years improving business practices in the AEC community with company- specific implementation strategies. After Autodesk acquired Green Building Studio and Ecotect, Adrianna has spent time exploring their individual capabilities and how they operate with the Revit workflow.

Adrianna has a Degree in Architectural Engineering, with specialties in Structural and Environmental Design from Milwaukee School of Engineering. She is LEED AP Certified, an Autodesk Approved Instructor, Autodesk Revit Structure Certified Implementation Expert and Autodesk MEP Certified Implementation Expert.

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.

Michael Smith is the President and CEO of Charlotte Center City Partners, which facilitates and promotes the economic, cultural and residential development of the Charlotte region’s urban core. Smith’s background blends corporate and non-profit experience.

Smith holds his MBA from Kellogg Graduate School of Management at Northwestern University and his undergraduate degree from UNC Chapel Hill. He has held corporate roles at AT&T Communications, First Union’s Capital Markets Group and By-Products Interactive. Prior to his role as President of CCCP, Smith was the Chief Financial Officer at the Charlotte Chamber of Commerce.

Smith has been the driving force behind a number of key initiatives at Charlotte Center City Partners. Under Smith’s leadership, Charlotte Center City Partners is facilitating the 2020 Center City Vision Plan which serves as the blueprint for development of the urban core. He launched the very successful Find Your Center marketing campaign and has created a new partnership with economic development partners to recruit more jobs to the Center City.

Smith serves on the Board of Directors for the International Downtown Association as well as a number of regional Boards including the Board of Visitors of the University of North Carolina at Chapel Hill, Sisters of Mercy Foundation, Belk College of Business at UNC Charlotte, the United Way, the Hospitality and Tourism Alliance, the Charlotte Chamber and the Arts and Science Council. He is very active with the St. Ann’s Catholic Parish.

Originally from Greensboro, North Carolina, he has resided in Charlotte since 1998 with his wife, Kathleen, and their 3 children.

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

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.

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

Gina Shell provides leadership for strategic, operational, and policy initiatives within the Department and the City as Deputy Director for the City of Charlotte’s Engineering & Property Management Key Business Unit (KBU).

Shell began her career with the City of Charlotte as a budget and financial analyst for the Charlotte Department of Transportation. In 2000, she became the business manager for Storm Water Services and the business services division manager in 2004. In this role, she collaborated with City Human Resources to charter the City’s HR Liaison Team to anticipate and address corporate human capital issues—a group she chaired for three years. Shell also managed all aspects of the 40-person division, including budget and finance, human resources, and safety for the 390-person Engineering & Property Management KBU. She received her bachelor’s degree in Political Science from Davidson College and her master’s degree in Public Policy from Duke University. Shell also completed the Municipal Administration course from the University of North Carolina at Chapel Hill School of Government.

Shell is a member of the International City/County Management Association (ICMA), the North Carolina Local Government Budget Association, the American Society for Public Administration, the American Public Works Association, and the Association of Public Policy and Management. Gina lives in Mount Holly with her husband, Greg, and son Gabriel.

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

Phil Reiger, Assistant Director of the Charlotte Department of Transportation (CDOT), shares the responsibility for the department’s 400+ employees dedicated to “Connecting Charlotte” by enhancing the driving, bicycling and walking experience. CDOT delivers a broad range of services such as: managing over 2,400 miles of city streets and over 700 signalized intersections, 1600 miles of sidewalk, 150 miles of bikeways and a \$200 million capital improvement program.

Phil joined the City of Charlotte in 2000. Since then, he has served in various administrative roles and headed many special projects. In 2007, he led the development and implementation of the City’s Right-of-way Management Ordinance. The ordinance is recognized as a model for public/private partnership with the utility industry to optimize the use of the City’s 25,000 acres of right of way. Phil is committed to developing public policy that positions Charlotte as a community of choice for residents, employers and visitors.

Phil received a Bachelor of Science in Environmental Science and Management and a Masters of Public Affairs with a concentration in Urban Management from the School of Public and Environmental Affairs at Indiana University. He is also a graduate of the University of North Carolina at Chapel Hill School of Government Municipal Administration Course. Phil is a member of the International City/County Managers Association and serving as the Board Vice President of North Carolina 811 Inc.

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

Mark Trump- Program Manager, FoxGuard Security Solutions, Inc.

Cyber Security Best Practices: Presentation Topics include:

- *Introduction*
 - *Assessment*
 - *Validation*
 - *Patching*
 - *Access Control*
 - *Log Management*
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Mark Trump is a member of the NERC/CIP rev 5, and ISA-99 Drafting Committees and on two working groups with ICSJWG providing input and guidance into the federal standards and processes governing security of critical infrastructure. He has spent much of his career recommending and implementing complex technology systems and solutions for a variety of industries and applications. He has a rich background in advanced electronics, including over ten years in the U.S. Navy where he served as a supervisor, instructor, and nuclear reactor operator with top secret security clearance. During his four-year tenure with FoxGuard Solutions (and parent company, CCS-Inc.), he has focused on the power sector – learning the ins and outs of its specialized computing and security needs. Mark works with OEM vendors and plant operators to advise best practices for critical asset protection and regulatory compliance.

Anna Wang- Cyber Security Consultant, Burns and McDonnell

Security Vulnerabilities and Lessons Learned when Implementing Security in the Field: Presentation Topics Include:

- *Workflow management*
- *System Integration*
- *Automated tools for security monitoring, alerting, and logging*
- *Understanding of Regulatory Landscape*
- *Compliant upon Commissioning of new critical assets*

Anna Wang is a member of IEEE Power & Energy Society, Women in Engineering, and Reliability Society. She is recognized by the National Association of Professional Women as the 2011/2012 Woman of the Year for demonstrating excellence and dedication within her profession. Ms. Wang is a Cyber Security and NERC Compliance Consultant at Burns & McDonnell. She has nine years of electrical utility experience, including regulatory compliance, critical infrastructure protection, transmission reliability and operations, business continuity and security architecture evaluation with Tri-State Generation and Transmission Association and American Electric Power. Her area of expertise includes NERC Reliability and Standards Compliance and NEI Cyber Security Controls, NIST Risk Management Framework and Smart Grid Cyber Security and Consumer Privacy Protection. Ms. Wang received her Master's degree of Information Science from the University of Illinois at Urbana-Champaign. She is a Certified Competitive Intelligence Professional.

Chris Squier, Security Technology Advisor, Ingram Micro

Corporate Cyber Criminal Methodologies: Presentation Topics Include:

- *Attack vectors*
- *Motivations*
- *Rise of Hacktivism and what it means to corporate environments*
- *Brief methodology walk-through*

Chris Squier is the Channel Security Technology Advisor for the Fortune 500 listed Ingram Micro, the world's largest IT Logistics and Distribution Company. He has spoken to audiences of all sizes and industries in over 100 cities across North America on the subjects of information and holistic security. His goal is to take the often complex and confusing world of security and present it in a practical way so that everyone can benefit, regardless of their experience level. In addition to helping tens of thousands of audience members learn how to better protect themselves, Chris has appeared in several top industry publications, including CRN and the Channel Advisor. Chris has also consulted for such publications as eWeek's Channel Insider Magazine. In the Government sector, Chris is frequently invited as a guest speaker at the Federal, State and Local level. He has been invited to speak at the USDA in Washington DC, and has shared the stage on several occasions with agencies such as the FBI. Chris is also a member of InfraGard, and was the former Director of Communications for the Buffalo/Niagara Chapter of ISSA and holds the following Industry - Recognized Security Certifications/Accreditations:

- ISSA Certified Information Systems Security Professional (CISSP)
 - ISACA Certified Information Security manager (CISM)
 - EC-Council Certified Ethical Hacker (CEH)
 - CompTIA Security+ Certified
 - CompTIA Project+ Certified
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Session 1C – From Engineering Design to Boardroom

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.

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

Clarence Ray serves as a chief executive officer of Shaw's Power Group, which offers safe, efficient and clean energy solutions that benefit our clients and communities around the world. Previously Mr. Ray was executive vice president of Shaw's Power Group and provided oversight of business development initiatives and project risk management.

Mr. Ray has been involved in every aspect of power generation over his 40 year career, including engineering for nuclear and fossil plants, plant operations, maintenance, capital improvements, construction, contract management, procurement, and contract negotiations as both an owner and contractor. His career includes eight years as president and CEO of Duke/Fluor Daniel, a highly successful, multi-billion dollar international engineering and construction partnership company. He has been involved in putting into service more than 40,000 megawatts of new generation over his career.

Mr. Ray joined Duke Power in 1970 as a civil engineer. He was named vice president, Engineering, for Duke Engineering & Services Inc. in 1987. In 1989, Mr. Ray was named vice president, Engineering for Duke/Fluor Daniel; senior vice president, Projects, in 1992; and president and CEO in 1993. Mr. Ray was appointed president and CEO of Duke Energy Generation Services in 2001. He was named Duke Power's senior vice president of fossil-hydro generation in January 2003; executive vice president of Procurement, Construction and EH&S in March 2004; and Duke Energy's group vice president, Construction and Project Management following the merger with Cinergy. He retired from Duke Energy in January 2007 and joined Shaw in February 2007.

A native of Norfolk, Va., Mr. Ray graduated from Old Dominion University with a bachelor's degree in engineering. He received the Distinguished Alumni award in October 2000. Mr. Ray is a member of the American Society of Civil Engineers and the American Society of Mechanical Engineers. He is a registered professional engineer in North Carolina, South Carolina and Virginia.

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

Tom Franch is currently Senior Vice President of AREVA Inc.'s Engineering & Projects organization. In this role, he is responsible for providing quality engineering services for the operating U.S. nuclear fleet and the design and deployment of the next generation Nuclear Plant.

Franch has more than 29 years of power industry experience in various technical, engineering, and management positions. He is experienced in the design, analysis and construction of nuclear generation stations, including engineering consulting, project management, and business management and development.

With the acquisition of Duke Engineering & Services in May 2002, Franch joined AREVA, where he led the company's Fort Worth office. He has held management responsibility for the company's Electrical and I&C, Mechanical Systems and Design, Civil/Structural and Engineering Mechanics work. In addition, he was responsible for recruiting/hiring, training, resource allocation, technical guidance and oversight, marketing and sales, project management, business unit financial performance and strategic growth initiatives.

Franch most recently served as Senior Vice President of AREVA's U.S. Plants Sector. In this role, he was responsible for aligning the U.S. Plants Sector initiatives with the Global Plants Sector strategic goals and directives. His duties included delivery of the detailed design for the U.S. EPR along with associated licensing activities. His responsibilities also included the continued delivery of innovative products and services for the operating fleet. Franch received Bachelor of Science degrees in Civil Engineering and Architecture from the University of Illinois in 1981. He also serves as a member of the American Nuclear Society and the American Concrete Institute.

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

Dave Renner is a 1980 graduate of Purdue University with a Bachelor of Science degree in Civil Engineering. He has spent his entire career in the power industry, beginning as a field engineer on construction of a 650 MW super-critical coal-fired generating station in Indiana. Over the next 15 years Dave worked at various generating station sites in Indiana in an engineering capacity, including construction and project management lead roles on major environmental retrofit projects. He led the engineering organization of Cinergy following the merger of PSI Energy and Cincinnati Gas & Electric in 1995 until being named as Station manager at a 4-unit, 600 MW coal-fired station in southern Indiana in 2000. In 2008 Dave relocated to the Charlotte area and was named as station manager at Marshall Steam Station on Lake Norman. In 2010, Dave was named Vice President of Generating Engineering for the Duke Fossil-Hydro Generating Fleet and began working in uptown Charlotte. Dave has been named to head the new combined Duke and Progress central engineering organization following completion of their pending merger.

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

Sharon Y. Barreras, Senior Vice President of Operations for Parson Commercial and Technology Global Business Unit of Parsons Corporation reports to the Group President and is responsible for the effective operation of the company's business including: ensuring that adequate competent management is managing the unit's projects and these projects are being effectively managed; that adequate estimates are made for the unit's work, that standards and procedures are developed and maintained for the proper execution of the unit's business and that adequate reporting and controls are maintained. The Operations Director manages and is responsible for the Engineering, Project Controls, Contracts, Procurement, Safety, Quality Assurance, Information Systems and Facilities aspects of the unit's business. The Operations Director works closely with the Division Managers, Department Managers, other Parsons GBU Operations Directors and Corporate Operations Staff to ensure the smooth execution of the company's business.

The Operations Director has the authority to review and assess the performance of any of the business unit's operations or projects and ensure the implementation of corrective actions as required and may represent the President or EVP Global BD with his or her full authority and responsibility. Ms. Barreras GBU manages all commercial projects for Parsons in the environmental and infrastructure markets, handling design services for vertical and horizontal buildings, design and construction of nuclear commercial and renewable energy projects, and managing communications and industrial services. She attributes her success to her hard work and ability to stimulate new business for her company. She became involved in her profession through the influence of her sister, Mrs. Iris Y. Fisher, a high school counselor, who encouraged her to go to a technical school because she loved mathematics, physics and chemistry. Ms. Barreras received a Bachelor of Engineering Technology degree in mechanical engineering from The University of North Carolina at Charlotte, NC and has been a Registered Professional Engineer since 1982.

Parsons sponsored Ms. Barreras to attend the Executive Program at the Darden School of Business of the University of Virginia in preparation for a Parsons executive position. She is a member of Professional Engineers of North Carolina. Ms. Barreras received the Parsons President Award for outstanding project management for a communication project for infrastructure design and construction services. The highlight of her career was managing the environmental restoration program at the Idaho National Laboratory. During this time, Parsons was a member of the Lockheed Martin team, and it was her greatest pleasure to work and have as a mentor the president of Lockheed Martin Idaho Technologies Company, Mr. John Denson.

The next step in Ms. Barreras' career and what she is working toward is a corporate position in Operations.

Ms. Barreras was named a Cambridge Who's Who Professional of the Year in Business Operations Management for 2012 with only a small selection of members in each discipline that are chosen for this distinction. These special honorees are distinguished based on their professional accomplishments, academic achievements, leadership abilities, years of service, and their credentials. The Parsons Corporation is an engineering and construction firm that provides architectural, engineering, construction management and project management services. Parsons has been a leader in the engineering and construction industry for 65 years. It focuses its work on infrastructure, the environment, and defense and security, and delivers solutions to private industrial customers worldwide, as well as to federal, regional, and local government agencies. For more information about the Parsons Corporation, visit <http://www.parsons.com>.

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

Terri Helmlinger Ratcliff is the Executive Director of the Industrial Extension Service (IES). She has been at IES since 1999.

Terri organizes and focuses IES efforts to achieve the highest standards of performance. She restructured IES to its current results-oriented organization. She is proud of the many accomplishments of this renewed organization, but is most proud of the culmination of the 1B4NC campaign, the Manufacturing Makes It Real tour and subsequent Network.

In addition to her responsibilities at IES, Terri has a gubernatorial appointment to the NC Board of Examiners for Engineers and Surveyors, where she has served as both the board chair and the engineering chair, and to the Southern Growth Policies Board's Southern Technology Council. She is also on the Steering Committee of the NC Chamber's Manufacturer's Council and NAM's Manufacturing Institute Education Council. This year she is the President of the PENC Educational Foundation and has just been elected to the Board of Directors of Mulkey Engineers and Consultants.

Terri has experience in both the public and private sectors. Most of her experience was at Carolina Power and Light Company (CP&L), where she worked in various capacities for 20 years.

At the time of her departure from CP&L, Terri was the director of Commercial/Industrial Market Development in Raleigh. In this position, she was responsible for directing growth strategies, product management, and new product development. She also held the positions of district manager, division engineering manager, and division marketing manager while at CP&L.

Terri has a B.S. in engineering operations (1978) from NC State University, an M.B.A. (1985) from Duke University where she was a Fuqua Scholar, and a Ph.D. in Public Administration (2005) from NC State University. She is a registered Professional Engineer, and a past president of the National Society of Professional Engineers. Her honors include Fuqua Scholar - Duke Executive MBA, 1985; Distinguished New Engineer - National Society of Women Engineers, 1988; Young Engineer of the Year - Professional Engineers of North Carolina; 1995 graduate of Leadership South Carolina; and a 2001 graduate of Leadership North Carolina. She was named a Fellow of the National Society of Professional Engineers and awarded NC State University's Equity for Women Award in 2003. In 2004, she was featured in the book, "Changing Our World: The Stories of Women Engineers."

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.

Dr. Eric Loewen, the American Nuclear Society's 2005 Congressional Fellow, previously worked in the office of Senator Chuck Hagel (R-NE) where he coordinated the Senator's inclusion of America's first legislation addressing global climate change policy into the Energy Act of 2005. Joining the Idaho National Laboratory in 1999, Eric contributed to the development of a Generation IV lead-bismuth cooled reactor and proliferation-resistant thorium-uranium fuel. He also supported the President's Climate Change Technology Program. From 1992 – 1997, he was Director of Research, Molten Metal Technology, in Fall River, MA, where he developed and deployed nuclear applications for hazardous waste management. Eric served 10 years in the Navy from 1982 - 1993.

Eric graduated from Western State College in Gunnison, CO, with a BS in Mathematics and Chemistry (1983), and attained his MS in Nuclear Engineering (1992) and a PhD in Engineering Physics (1999) from the University of Wisconsin - Madison. Eric is currently President of the American Nuclear Society. A 1992 Kissimmee Ironman Triathlete, Eric still finds time for fun runs and surfing with the family.

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

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.

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

Barry Shearin has served as Chief Engineer for Charlotte-Mecklenburg Utilities managing engineering and construction of water and sewer system infrastructure throughout Mecklenburg County since 1999. Mr. Shearin previously worked for the City of Winston-Salem Utilities Division from 1984 until 1999 serving in positions from Staff Engineer to Utility Director managing water and wastewater system operations and sanitary landfill operations. Mr. Shearin served as Chair of the North Carolina American Water Works and Water Environment Association in 2003 and was the recipient of the state association's Outstanding Service Award in 1997. Mr. Shearin graduated from N.C. State with a B.S. degree in Civil Engineering in 1984 and is a Registered Professional Engineer in North Carolina.

Jeff Wise- Executive Director, National Whitewater Center

Jeff Wise was born and raised in Charlotte, NC and attended University of Richmond where he majored in political science and history. Wise graduated from Emory University School of Law and was in private practice from 1989-1995 with Sullivan, Hall, Booth and Smith in Atlanta, GA where he focused primarily in healthcare law.

Wise returned to Charlotte in 1995 and worked with First Commerce Bank during their formation period from 1995-1996. In 1997 Wise co-founded and became president of Consentsys, a healthcare information systems company that developed electronic clinical information management systems.

At the beginning of 2002, Jeff became the Executive Director of the non-profit US National Whitewater Center, Inc. The US National Whitewater Center is a unique outdoor recreational and learning venue for newcomers and seasoned experts to participate in outdoor recreational activities such as paddle sports (e.g. kayaking, rafting), biking, rock-climbing, trail-running etc. in order to promote healthy, active lifestyles; develop our environmental stewardship; and encourage family bonding and social-civic engagement. Outside of work, Jeff looks for any opportunity to get into the outdoors. He is an avid kayaker, biker, backpacker, runner, and competes in triathlons. Jeff and his wife Ashley live in the Cotswold neighborhood with their daughter Caroline, sons Jackson and Jacob and their Labrador Retriever, Caleb.

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

J.D. Solomon, PE, AICP, is a Vice-President, Carolinas Area Manager, and Eastern US Management Consulting Practice Leader for CH2M HILL. He received his BS in Civil Engineering from NC State University and his Masters in Business Administration from the University of South Carolina. He is a licensed professional engineer in 3 states, a certified land use planner, and formerly a licensed general contractor.

J.D. has served ASCE for many years, including roles as state president, District 6 Director, NC representative of national new governance transition, and as Region 4 Governor. He is also a former state President of Professional Engineers of North Carolina (PENC) and a former 2-time chairman of the North Carolina Engineers Political Action Committee (E-PAC), where he currently remains a PAC trustee.

In the community, J.D. has served in a variety of roles including chairman of the Johnston County Republican Party, chairman of the Johnston County Economic Development Board, and treasurer of the Research Triangle Regional Partnership. He has served on a variety of boards and commissions including the Town of Clayton Planning Board, the Johnston County YMCA and its "We Build People" campaigns, the Clayton Cultural Arts Foundation, the Johnston County chapter of the NCSU Alumni Association, and the West Clayton Elementary School Advisory Board. He is currently the past-President of Clayton Little League.

J.D. is originally from Charlotte and has lived in Clayton for nearly 20 years. He is married and has two children. Some of J.D.'s hobbies include sailing, coaching youth sports, US history, and scuba diving.

Session 2C – Building Design: Transforming the Office Building

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!

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

Jim Schumacher is Assistant City Manager in Charlotte, North Carolina. In this position, he coordinates the City Council's Transportation Focus Area, as well as planning, transportation and land use initiatives. He chairs a multi-department team charged with developing and implementing policies and initiatives that manage Charlotte's growth in a sustainable way – promoting a strategy that provides a higher quality of life for all citizens through more choices for living, working, leisure and mobility. Jim also represents the City on issues related to the Charlotte Bobcats NBA team, the Charlotte Regional Visitors Authority, and the Charlotte Arena. He recently led the City team designing and constructing the NASCAR Hall of Fame and expansion of the Charlotte Convention Center.

Prior to becoming Assistant City Manager, Jim spent nearly 29 years in the City's Engineering Department, and was appointed City Engineer in 1999. Accomplishments during that time with the Engineering Department include managing the design and construction of the New Charlotte Arena, a tunnel through the Convention Center for vintage trolleys and light rail trains, and infrastructure along the Lynx light rail line, all completed on time and on budget. In addition, Jim led development of Charlotte's storm water utility and acquisition of the City's initial storm water permit, North Carolina's first such utility and first storm water permit.

Jim is a graduate of West Virginia University and is a licensed Professional Engineer. He is a member of ASCE, the Urban Land Institute, serves on the Advisory Board of the ULI Charlotte Council, is a member of the Board of Directors for the Seventh Street Public Market, and is past President of the National Association of Flood and Stormwater Management Agencies and the Water Resources Division of the North Carolina Chapter, American Public Works Association.

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

Eric Reichard's career at Rodgers began in 1991 and his influence and leadership has evolved into serving as Rodgers' Chief Operation Officer. Eric provides executive oversight for Rodgers' commercial/mixed use and cultural/community market sectors. As a licensed professional engineer and LEED® accredited professional, Eric offers a well-rounded perspective in negotiated project delivery systems, both in the field and in project management. His direct relationship with clients is marked with enthusiasm and he is engaged in each partnership from project pursuit through completion. As an invested native to Charlotte and as an extension of his passion for people, Eric has been involved in several community outreach efforts, serving as treasurer and board chair for Florence Crittenton Services and past board chair of Classroom Central and Charlotte 49ers Athletic Foundation. For several years, Eric has had the opportunity to share his time and talent as a guest lecturer at UNC Charlotte for the College of Architecture and the Belk College of Business. He also currently serves as a deacon at The Refuge church in Concord, North Carolina. Eric earned an undergraduate degree in Civil Engineering at The University of North Carolina at Charlotte. Eric married his high school sweetheart, Shannon, and they have two daughters, Maggie and Georgia.

Jason Nusbaum- Senior Service Sales Representative, Siemens Industry

Jason Nusbaum is Senior Service Sales representative and has over 14 years of technical experience in the building automation industry. He has been employed with Siemens Industry for over 6.5 years, and for the past the past 3 years he has been working with building owners and operators providing energy saving solutions, and controller migrations and upgrades. Recently, Nusbaum was the Project Manager for a large scale water metering project for the Duke Energy Center, which included domestic water, rainwater and condensate metering. He graduated from Cape Fear Community College with an AAS in Electrical Engineering Technology, and is an active member of the local USGBC.
