

WEDNESDAY, NOVEMBER 12 2:00 PM - 3:30 PM • Concurrent Technical Sessions I

INFRASTRUCTURE

Engineers and Site Safety

What responsibilities are design professionals expected to assume regarding site safety? OSHA, ASCE, AIA, and AGC all have different answers to this question. Join in discussing the safety roles of the various parties involved in engineering and construction projects, and hear practical and important examples.

MODERATOR: Frank Muller, MetroMedia Services, New York, NY

SPEAKERS:

John Gambatese, Ph.D., P.E., Oregon State University, Corvallis, OR;

Jimmie Hinze, Ph.D., P.E., University of Florida, Gainesville, FL

Engineers' Role in Designing for Safety

Matt Burkhart, P.E., Aegis Corp., Southhampton, PA

Engineers' Role per the Revised OSHA Steel Erection Standards

Mike Toole, Ph.D., P.E., Bucknell University, Lewisburg, PA

Engineers' Role in Site Safety: What Does Everyone Else Say?

APPLICATION OF NEW TECHNOLOGY

Internet-Assisted Design

Explore the use of the Internet to assist design and coordinate communications.

MODERATOR: Jun Peng, Stanford University, Stanford, CA

SPEAKERS:

Amar Hanspal, Autodesk Building Collaboration Services, San Francisco, CA

Expediting Large-Scale Project Design with Online Collaboration

Jun Peng, Stanford University, Stanford, CA

A Software Framework for Internet-Enabled Nonlinear Dynamic Structural Analysis

Dayong Huang, Rice University, Houston, TX

Web-based Sharing of Computing Resources with .NET Technology

WEDNESDAY, NOVEMBER 12 4:00 PM - 5:30 PM • Concurrent Technical Sessions II

PROFESSIONAL QUALIFICATIONS

A Licensure Model for the 21st Century

Are you among those who maintain that our current licensure system has not adapted to the current engineering marketplace, and is neither relevant in certain sectors of the profession nor adequate for the new emerging fields of engineering? In response, the National Council of Examiners for Engineering and Surveying (NCEES) commissioned the Engineering Licensure Qualifications Task Force (ELQTF) in 2001 to assess the current licensure system and develop recommendations for enhancement or change. This session will present the conclusions reached by that task force.

MODERATOR: H. Edmond Bergeron, P.E., HEB Engineers, North Conway, NH

SPEAKERS:

Jon Nelson, P.E., FHC, Inc., Tulsa, OK

Proposed New NCEES Licensure Model

E. Walt LeFevre, Ph.D., P.E., University of Arkansas, Fayetteville, AR

The ASCE Perspective

APPLICATION OF NEW TECHNOLOGY

Technologies for Energy Production, Reservoir Modeling, and Coal Combustion Products

Direct your attention to two separate discussions in this session, presented by the ASCE Energy Division. The first will focus on the ASCE Task Committee's Energy Production and Reservoir Water Quality guideline. The draft guideline will be discussed and a case study of a TVA reservoir will be presented. The second will cover current issues related to fossil energy production and coal combustion by-products used in civil-engineered developments.

COORDINATOR: John A. Hill, Jr., P.E., Cinergy - Power Services, Cincinnati, OH

PANELISTS:

John A. Hill, Jr., P.E., Cinergy - Power Services, Cincinnati, OH

Michael E. Sutton, Tennessee Valley Authority, Chattanooga, TN

Jimmy C. Knowles, The SEFA Group, West Columbia, SC

E. Cheri Miller, Tennessee Valley Authority, Chattanooga, TN

TECHNICAL SESSIONS

Nashville
2003
Civil Engineering
Conference &
Exposition

Keys to Your Future

As of 5/15/03. Subject to change.

PROFESSIONAL
QUALIFICATIONS**Policy Statement 465 – Body of Knowledge for the Future of Civil Engineering**

The purpose of this session is to discuss how Policy Statement 465 – Academic Prerequisites for Licensure and Professional Practice is being implemented and to discuss the DRAFT Body of Knowledge for Civil Engineering. Two universities will share their experience in designing a Bachelor's plus Master's Program to fulfill the BOK.

MODERATOR: **Jeffery S. Russell, Ph.D., P.E.**, University of Wisconsin, Madison, WI

SPEAKERS:

Jeffery S. Russell, Ph.D., P.E., University of Wisconsin, Madison, WI

The Master Plan to Implement Policy Statement 465

Stuart G. Walesh, Ph.D., P.E., Consultant, Valparaiso, IN

The Body of Knowledge for Civil Engineering

Marlee Walton, P.E.

Iowa State University, Ames, IA

Iowa State University Experience Designing a Bachelor's Plus Master's Program to Fulfill the BOK

Thomas Siller, Ph.D., Colorado State University, Fort Collins, CO

Colorado State University Experience Designing a Bachelor's Plus Master's Program to Fulfill the BOK

LEADERSHIP & MANAGEMENT

The Role of the Professional Engineer in Sustainable Economic Development and Poverty Alleviation

As engineers, we clearly hold the public trust in developing the "means of living" and when we operate in developing countries, even more is expected: We must be role models, trainers, and mentors in both technical and commercial matters within the "social fabric." Examine our role – in concept and in practice – from several key perspectives.

MODERATOR: **Michael G. Goode, P.E., PMP**, TELFORD Consulting, Fairfax, VA

SPEAKERS:

A. Hadi Rakin, P.E., Afghan Society of Engineers, Alexandria, VA

The Perspective from Afghanistan: Starting with Nothing

Frederick Adu-Nyako, Ghana Institution of Engineers, Accra-North, Ghana

The Perspective from Africa: Balancing of Multiple Legacies

Eva Molnar, Europe and Central Asia Region, The World Bank, Washington, DC

The Perspective of the Multilateral Lender/Developer**Jump-Starting Your Career as a Professional Engineer**

See a PowerPoint presentation on results of an Engineers Leadership Foundation (ELF) survey, which looked into courses / activities that 200 senior engineering managers and leaders engaged in – or wished they had – while in college, to advance their careers. While few disagreed that engineering knowledge has been essential to their careers, almost all agreed that they would have achieved leadership positions much faster had they engaged in "non-engineering activities," such as management, public speaking, and association involvement. Personal experiences and anecdotes shared by senior managers will follow.

MODERATOR: **Walter T. Marlowe, P.E.**, M.ASCE, Foundation for Professional Practice, Reston, VA

SPEAKERS:

William P. Henry, P.E., F.ASCE, Schaaf & Wheeler, Seattle, WA

Jump-Starting Your Career

D. Michael Mucha, P.E., M.ASCE, City of Olympia Department of Public Works, Olympia, WA

Jump-Starting Your Career as a Professional EngineerAPPLICATION OF
NEW TECHNOLOGY**Visualization 1: Technology Demonstrations**

A series of visualization demonstrations will showcase use of cutting-edge visualization technologies at various stages of development. Presenters will perform 30-minute demonstrations of their devices, applications, and systems, involving steel structures, augmented reality interaction methods for infrastructure field tasks, and multi-stakeholder visualization of design and construction information.

MODERATOR: **Phillip Dunston, Ph.D.**, Purdue University, West Lafayette, IN

SPEAKERS:

Bob Lipman, NIST, Gaithersburg, MD
Visualizing Steel Structures – From a Pocket PC to Virtual Reality

Amin Hammad, Carnegie Mellon University, Pittsburgh, PA

Virtual and Augmented Reality Interaction Methods for Infrastructure Field Tasks

Martin Fischer, Stanford University, Stanford, CA

Multi-Stakeholder Visualization of Design and Construction Information

INFRASTRUCTURE

Hot Topics in Safety

Hear about timely topics that have important implications for civil engineers nationwide.

MODERATOR: **Hal McKittrick, P.E.**, McKittrick & Assoc., Oakton, VA

SPEAKERS:

Mike Toole, Ph.D., P.E., Bucknell University, Lewisburg, PA

What Does the ASCE-OSHA Alliance Mean for ASCE Members?

Harlan Fair, P.E., H. Fair Associates, Hawthorne, NY

Hot Issues in Crane Safety

Mumtaz Usmen, Ph.D., P.E., Wayne State University, Detroit, MI

Is Michigan's Safe2Work Program the Wave of the Future?

TECHNICAL SESSIONS

GEOTECHNICAL

Measurement of Shear Wave Velocities and Application of the 2000 IBC in the Eastern US: Overview and Panel Discussion

Panelists will give an overview of the geotechnical aspects of applying the 2000 International Building Code (IBC) to seismic design. A panel discussion with audience participation will follow to address issues such as: What is lacking in the general understanding of application of the IBC codes in the eastern US? How can these deficiencies be remedied? What technical issues require further discussion and resolution?



MODERATOR: **Michael Kalinski, Ph.D., P.E.**, University of Kentucky, Lexington, KY

SPEAKERS:

Edward E. Rinne, P.E., G.E., Kleinfelder, Inc., Oakland, CA
Primer on International Building Code Seismic Provisions

Michael J. Marasa, P.E., Geosciences Design Group, LLC, Nashville, TN
In-situ Shear Wave Velocity Testing

David X. Zeng, Ph.D., Case Western Reserve University, Cleveland, OH
Laboratory Shear Wave Velocity Testing

STRUCTURES

ASCE Consensus Standards Program

ASCE Standards are a vital resource for the civil engineer and reflect state-of-the-art practices within the civil engineering profession. The development of Standards is a consensus process and involves the efforts of committee members, the ASCE membership, and the general public. This session will give you some insight into the Standards process and a look at Standards for the rehabilitation of existing buildings.

MODERATOR: **Mike Sheridan, P.E.**, Sheridan Structural Solutions, Memphis, TN

SPEAKERS:

Harry B. Thomas, P.E., Grove City, OH

An Overview of the ASCE Consensus Standards Program

Chris D. Poland, P.E., S.E., Degenkolb Engineers, San Francisco, CA

ASCE Standard 31-02: Seismic Rehabilitation of Existing Buildings

HISTORY & HERITAGE

ASCE's 150th Anniversary and Section History Legacies

In a fast-paced session on Civil Engineering History Day, ASCE Sections will share their extensive efforts to document important civil engineering history for ASCE's 150th Anniversary through innovative publications to CD-ROMs. These imaginative concepts illustrate how other Sections / Branches might document their civil engineering history stories for future generations. Attendees of the ASCE Council of Presidents will learn much from these Section presentations.

MODERATORS: **Jerry R. Rogers**, ASCE Vice President, Zone 3, Houston, TX;
Fred P. Wagner, Jr., ASCE District 15 Director, Lubbock, TX

SPEAKERS:

Howard Thomas, F.ASCE & Tom Wolf, F.ASCE, CH2M Hill, Anchorage, AL
Alaska: Building the Great Land

Ronald J. Tannenbaum, GeoVal, Inc., San Diego, CA

History of Civil Engineering and Development in the San Diego Area: 150+++ Years!

Lloyd L. Pitts, Spanish Fort, AL

Alabama Section Activities for the ASCE 150th Anniversary




North Carolina Section Speaker TBA



Civil Engineering Magazine Presents... The Milwaukee Art Museum Addition See page 7.

PROFESSIONAL QUALIFICATIONS	LEADERSHIP & MANAGEMENT		APPLICATION OF NEW TECHNOLOGY	INFRASTRUCTURE
<p>Connecting PUIs to Doctoral Education</p> <p>Join us for a workshop-style discussion of techniques to connect students of primarily undergraduate engineering programs to the opportunities of doctoral education to encourage more domestic students to seek PhD's in engineering.</p> <p>COORDINATOR: Gregory D. Reed, Ph.D., P.E., University of Tennessee, Knoxville, TN</p> <p>PANELISTS: Vincent Drnevich, Purdue University, West Lafayette, IN P. Aarne Vesilind, Bucknell University, Lewisburg, PA</p>	<p>The Role of Professional Engineers in the Political Process</p> <p>Professional engineers who become involved in politics bring a new approach. They are analytic in evaluating programs, proposed legislation, and budgets. They are generally more pragmatic and detail-oriented than others. Their opinions on technical topics are usually highly respected and they lend a high level of integrity.</p> <p>MODERATOR: H. Edmund Bergeron, P.E., HE Bergeron (HEB) Engineers, North Conway, NH</p> <p>SPEAKERS: John Alger, P.E., NH House of Representatives, Rumney, NH Richard Weingardt, P.E., Richard Weingardt Consultants, Inc., Denver, CO Tom Berns, Berns & Clancy & Associates, Urbana, IL</p>	<p>The Engineering Workforce: Transformed</p> <p>Focus with us on the changes in the engineering profession in the last two decades as more women have entered the general workforce. A panel of three accomplished women will give their impressions of the challenges they have experienced as engineers, their successes and what they attribute them to, and how these experiences shape their future. An interactive discussion will entertain general acceptance, measurable accomplishments, and a look into the future for women in the engineering profession.</p> <p>MODERATOR: Erika Gomez, Committee on Diversity in ASCE, San Jose, CA</p> <p>PANELISTS: Carol Murray, P.E., New Hampshire Department of Transportation, Concord, NH Rachel Carlson, CH2M HILL, Inc., Oakridge, TN Sonia Ytuarte Nasser, P.E., County of Orange, Public Facilities and Resources Department, Watershed and Coastal Resources Division, Santa Ana, CA</p>	<p>Visualization 2: Technology Demonstrations</p> <p>A series of visualization demonstrations will showcase use of cutting-edge visualization technologies at various stages of development. Presenters will perform 30-minute demonstrations of their devices, applications, and systems. This session includes applications in active project control and defect detection and collaborative virtual environments.</p> <p>MODERATOR: Phillip Dunston, Ph.D., Purdue University, West Lafayette, IN</p> <p>SPEAKERS: B. Akinci, Carnegie Mellon University, Pittsburgh, PA Visualization of Construction As-Built Conditions and Design Models for Active Project Control and Defect Detection Phillip Dunston, Ph.D., Purdue University, West Lafayette, IN Mixed Reality-based Design Collaborative Virtual Environment for Mechanical Contracting</p>	<p>ASCE: In Tune or Out of Touch on Construction Site Safety?</p> <p>In 1989 when ASCE's first site safety policy was established, there was debate over whether a strong site safety policy statement would harm the civil engineering profession. Were ASCE members actually hurt, or was ASCE's position more realistic than some were willing to admit? A distinguished panel of experts, representing the spectrum of the industry, will discuss construction safety, responsibility/accountability, and relevancy of PS350 under various project delivery formats. Real life stories and examples will make this a lively session.</p> <p>MODERATOR: Jay Padgett, P.E., GeoServices Corporation, Forestville, MD</p> <p>PANELISTS: Gerry Schwartz, Jr., Ph.D., P.E., Jacobs Engineering, Maryland Heights, MO Harry Galer, Clark Construction, Bethesda, MD Robert Smith, P.E., Esq., Wickwire Gavin, Madison, WI Virginia Fairweather, Journalist and former Editor-in-Chief, ASCE's <i>Civil Engineering</i>, New York, NY</p>

TECHNICAL SESSIONS

GEOTECHNICAL	STRUCTURES	HISTORY & HERITAGE
<p>Proposed AASHTO LRFD Method for Tieback Walls: How Should It Be Applied?</p>  <p>In this panel discussion, interpretations of the AASHTO Load and Resistance Factor Design (LRFD) method for tieback walls will be presented and compared to current design methods. New factors for AASHTO LRFD will be explained, and their impact on typical design results will be evaluated. This timely session allows accelerated calibration of LRFD and includes the principal researcher for the NCHRP study.</p> <p>MODERATOR: Hubert J. Deaton III, P.E., Schnabel Foundation Company, Sterling, VA</p> <p>PANELISTS: Jim Withiam, Ph.D., P.E., D'Appolonia, Monroeville, PA New AASHTO LRFD Factors for Tieback Wall Design Edward J. Ulrich, P.E., Ulrich Engineers, Inc., Houston, TX LRFD and Global Stability Jeffrey W. Dodson, P.E., Schnabel Foundation Company, King of Prussia, PA Calibrating LRFD in the Southeast Sanjoy Chakraborty, Ph.D., Wilbur Smith Associates, Columbia, SC Implementation of AASHTO LRFD Pile Design in Comparison with LFD</p>	<p>Best of 2003 Structures Congress</p>  <p>The Structural Engineering Institute has arranged to have the three best presentations from the 2003 Structures Congress rolled into this single session. Each year, attendees of the Structures Congress vote on their favorite presentation given during that event, the Public Relations Committee of SEI tallies the ballots, and the top-three vote getters are combined into this exciting and diverse session: Bringing you the "BEST OF THE BEST" direct from the Structures Congress! (<i>The 2003 Structures Congress was held in Seattle on May 29-31 and printing deadlines prohibited listing the individual presentations.</i>)</p> <p>MODERATOR: David R. Wright, P.E., Carpenter Wright Engineers, PLLC, Nashville, TN</p>	<p>Historic Bridges and Canals: A Heritage at Risk</p>  <p>In this session, speakers describe three projects representative of our civil engineering bridge and canal legacy and discuss efforts underway to preserve and protect them.</p> <p>MODERATOR: Eric DeLony, Chief, Historic American Engineering Record (HAER), National Park Service, Washington, DC</p> <p>SPEAKERS: Robert Kapsch, National Park Service, Washington, DC Historic Canals of South Carolina Charles Cook & Joseph Pullaro, Lichtenstein Engineering, Paramus, NJ Rehabilitation of Nashville's Historic Shelby Street Overpass Billy Joe Peyton (invited), Assistant Director, Institute for the History of Archeology and Technology, West Virginia University, Morgantown, WV Charles Ellet's Wheeling Suspension Bridge</p>

THURSDAY, NOVEMBER 13 4:00 PM - 5:30 PM • Concurrent Technical Sessions V

LEADERSHIP & MANAGEMENT

Increasing Your Firm's Profitability

Hear the results of PSMJ's latest financial statistics survey of the engineering industry. In conducting this survey for the past 20 years, PSMJ has found that profitability is highly dependent on how well the firm manages project budgets to minimize project write-offs because of budget overruns, uncollectible accounts, etc. Learn simple, proven methods to dramatically improve project profitability.

MODERATOR: Mike D'Alessandro, P.E., PMP, PSMJ Resources, Inc., Newton, MA

SPEAKERS:

Bill Fanning, PSMJ Resources, Inc., Newton, MA
Financial Trends in the Engineering Industry

Mike D'Alessandro, P.E., PMP, PSMJ Resources, Inc., Newton, MA
Successful Scope and Change Management Using Earned Value

Dan Lovett, P.E., Howard R. Green Company, Des Moines, IA
Controlling Project Overruns Using Monthly Project Reviews

Feeding the Engineering Pipeline: The Endless Task

Leaders of national, regional, and statewide organizations share initiatives from their organizations that provide insight into how to promote diversity in the civil engineering profession. They also address how to establish innovative methods to develop technology-based criteria to bolster engineering programs in colleges and universities.

MODERATOR: Crespin Guzman, P.E., Claunch & Miller, Inc., Austin, TX

SPEAKERS: Patsy White Smith, National Association of Women in Construction (NAWIC), Hermitage, TN

Yvonne B. Freeman, Ph.D., Southeast Consortium for Minorities in Engineering (SECME), Georgia Institute of Technology, Atlanta, GA

Pamela Cook, Texas Alliance for Minorities in Engineering (TAME), Inc., University of Texas at Austin, Austin, TX

APPLICATION OF NEW TECHNOLOGY

Visualization 3: Remote Sensing

This session presents applications of remote sensing to develop visual aids in surface and subsurface structures. Specific applications include the use of GPS, gyroscopes, and other mounted sensors and seismic imaging to detect subsurface structure.

MODERATOR: Ed Kase, NSA Geotechnical Services, Inc., Golden, CO

SPEAKERS:

David L. Fagerman, PLS, RPLS, Bentley Systems, Inc., Huntsville, AL

DTM Creation Technology Update: Using Vehicle-Mounted RTK GPS, Gyroscopes, and Mounted Sensors

Ed Kase, NSA Geotechnical Services, Inc., Golden, CO

Using Seismic Imaging to Accurately Characterize Subsurface Ground Construction

INFRASTRUCTURE

Water Intrusion in Buildings, Problems and Remediation

Get a full picture of the health, legal/engineering, and construction aspects of water infiltration, and subsequent indoor air quality and infection control issues. Experienced professionals will discuss practical issues and answer questions on water infiltration and mold remediation.

MODERATOR: Bill Nash, P.E., McCarthy Building Companies Inc., St. Louis, MO

PANELISTS:

Bob Johnson, CIH, CSP, RDJ and Associates, Franklin, TN

Brian Mullins, Esq., Wickwire Gavin, P.C., Madison, WI

Representative from a remediation specialty contractor

4:00 PM - 5:30 PM

ASCE Estate Planning Seminar

See page 13.



Civil Engineering Magazine Presents... Building the Great Pyramid See page 7.

TECHNICAL SESSIONS

GEOTECHNICAL • 3:30 PM-5:00 PM (Special Start Time)

Applications of Earthquake Simulation Techniques to Geotechnical Design

Examples of recently-developed earthquake simulation techniques that have been successfully applied in geotechnical engineering will be presented. The examples will introduce you and other practicing engineers to the basic principles of modeling and the capability of the simulations techniques.

MODERATOR: David X. Zeng, Ph.D., Case Western Reserve University, Cleveland, OH

CO-MODERATOR: Arul K. Arulmoli, Ph.D., P.E., P.G., Earth Mechanics, Inc., Fountain Valley, CA

SPEAKERS:

Geoffrey R. Martin, Ph.D., University of Southern California, Los Angeles, CA

Design of Pile Foundations for Liquefaction-Induced Lateral Spread Displacements

Kanthasamy K. Muraleetharan, Ph.D., University of Oklahoma, Norman, OK
Pile-Dike-Soil Interaction Analyses for a Port Facility Using a Fully Coupled Finite Element Computer Code

Scott R. Steedman, Ph.D., Whitby Bird & Partners Engineers, London, UK

Design of Devonport Dock Walls Using Results of Centrifuge Tests

S.P. Gopal Madabhushi, Ph.D., Cambridge University, Cambridge, UK

Use of Dynamic Centrifuge Modeling in Geotechnical Design



Refreshments will be served in the back of the room.

TERZAGHI LECTURE • 5:00 PM-6:30 PM (See page 11.)

STRUCTURES

Extreme Loads for Structures

The tragic events of September 11 and the threat of future terrorist attacks have focused efforts on the assessment of the progressive collapse potential of high-profile structures and Federal Buildings subject to extreme loads. How resilient are structures to extreme loading and progressive collapse? This session will include presentations describing progressive collapse assessment methods, fire engineering, and blast-resistant design recommendations.

MODERATOR: Julio A. Ramirez, Ph.D., Purdue University, West Lafayette, IN

SPEAKERS:

Nathan C. Gould, Ph.D., P.E., S.E., ABS Consulting Group, Maryland Heights, MO
Quantifying the Potential for Progressive Collapse in New and Existing Buildings

Thomas R. Slawson, Ph.D., P.E., US Army Engineer Research and Development Center, Vicksburg, MS

Blast Resistant Design of Structures

Long T. Phan, Ph.D., P.E., National Institute of Standards & Technology, Gaithersburg, MD

Performance of Concrete Structures in Fire



HISTORY & HERITAGE

New National & International Historic Civil Engineering Landmarks

Hear presentations on three of the newest ASCE national and international historic civil engineering landmarks.

SESSION CHAIRMAN: Garland P. Rose, Jr., P.E., ASCE District Director, District 9

SPEAKERS:

David Beatty, US Army Corps of Engineers Louisville District (ret.), Louisville, KY

Louisville and Portland Canal: Gateway to the Western Waterways

Mike Fitts, Tennessee State Architect, Nashville, TN

Tennessee State Capitol

Augustine J. Fredrick, P.E., ASCE History and Heritage Committee

Historic Bridges of Wales and Scotland



PROFESSIONAL QUALIFICATIONS

Faculty Rewards Systems That Value Teaching

Administrators at various levels from several universities across the country will discuss how quality teaching is included in their institution's faculty reward programs. The presentations will be approximately 15 minutes long, to allow half the session time for a panel discussion.

MODERATOR: Norman Dennis, University of Arkansas, Fayetteville, AR

SPEAKERS:

Sandra Houston, Ph.D., Arizona State University, Tempe, AZ

Rewarding Good Teaching at the Arizona State University

Ken Murray, North Carolina A&T State University, Greensboro, NC

Rewarding Systems That Value Good Teaching

James T. Yao, Texas A&M University, College Station, TX

A Model Faculty Reward System (White Paper Synopsis)

LEADERSHIP & MANAGEMENT

Engineering Ethics Live!

The Editorial Board of the ASCE Journal of Professional Issues in Engineering Education and Practice (JPI) and the National Institute for Engineering Ethics (NIEE) are pleased to present "Engineering Ethics Live!" Based on the NIEE Applied Ethics Case of the Month program, this high-energy forum features live performances of ethics cases in skits by students from the University of Tennessee, Vanderbilt University, and the U.S. Military Academy at West Point, as well as audience participation and commentary from a guest panel of ethics experts.

MODERATOR/MASTER OF CEREMONIES:

H. Dennis D. Truax, Ph.D., P.E., DEE, F.ASCE, Mississippi State University, MS

SPEAKERS:

E. Walter LeFevre, Ph.D., P.E., F.ASCE, University of Arkansas, Department of Civil Engineering, Fayetteville, AR

Joe D. Manous, Jr., Ph.D., P.E., M.ASCE, United States Military Academy, West Point, NY

Jimmy H. Smith, Ph.D., P.E., F.ASCE, Texas Tech University, National Institute for Engineering Ethics, Lubbock, TX

Paul C. Taylor, P.E., F.ASCE, Kaku Associates, Santa Monica, CA

Customer Relationship Management

Customer Relationship Management (CRM) encompasses the ability of an enterprise to successfully leverage customer information to improve service, sales, and marketing activities to identify, attract, and best serve customers and execute a customer-centric business strategy. This session will explore the elements of CRM and its enabling technologies applicable to civil engineering.

MODERATOR: A. Lee Barco, P.E., F.ASCE, BearingPoint Inc., Norfolk, VA

SPEAKERS:

A. Lee Barco, P.E., F.ASCE, BearingPoint Inc., Norfolk, VA

CRM Overview

Scott W. Frix, Oracle Corporation, Reston, VA

Oracle CRM Solutions for Civil Engineering Organizations

APPLICATION OF NEW TECHNOLOGY

Advanced Technology in Transportation

This session presents three transportation-related topics: Tunneling analysis with CADD, transit time prediction, and the impact of standards on automatic guided transportation safety.

MODERATOR: David Fagerman, Bentley Civil Engineering, Huntsville, AL

SPEAKERS:

Ron Gant, Bentley Systems, Inc., Madison, AL

Tunneling Analysis with CADD

Mei Chen, University of Kentucky, Lexington, KY

Transit Travel Time Prediction Using Combined Artificial Neural Network and Kalman Filtering

A. Stuparu, French National Institute for Transport and Safety Research, Arcueil, France

Standards Impact on Automatic Guided Transportation Safety

TECHNICAL SESSIONS

WORLD WATER & ENVIRONMENTAL RESOURCES

Developments in Water Management and Detention Policies



Hear a presentation on the Tennessee Valley Authority's (TVA's) Reservoir Operations Study (ROS) and results of the Environmental Impact Study (EIS) conducted for this, and a seminar on the leading shifts in design approaches and regulatory requirements for stormwater detention. The presentation is of timely, local interest, as the draft EIS is scheduled to be finalized this fall. The seminar includes examples of some of the more innovative approaches in use in the South-Central US to balance design and regulatory considerations for stormwater detention.

MODERATOR: Thomas K. Palko, P.E., Metropolitan Government of Nashville / Davidson County, Nashville, TN

SPEAKERS:

David T. Nye, P.E.

Overview of the TVA Reservoir Operations Study

Charles D. McCormick, P.E., Fuller, Mossbarger, Scott and May Engineers Inc., Louisville, KY

The Changing Approaches to Detention – No Longer Your Father's Pond

GEOTECHNICAL

Brownfield Site Redevelopment: Case Histories



Hear presentations of case histories of the redevelopment of three brownfield sites, which vary in size, location, required design elements, and reuse.

MODERATOR: Krishna R. Reddy, Ph.D., P.E., University of Illinois at Chicago, Chicago, IL

SPEAKERS:

James M. Downing, P. E., Barge, Waggoner, Sumner & Cannon, Inc., Nashville, TN

Approach to Reclamation and Redevelopment of the North Potato Creek Watershed in the Copper Basin

Sam Williams, R.G., C.HG., GeoSyntec Consultants, San Diego, CA

Recipe for a Successful Brownfields Development on a Grossly Contaminated Property for a Big Box Retailer in Honolulu, HI

Shawn R. Niaki, Ph.D., P.E., DEE, GSG Environmental, Inc., Chicago, IL

US EPA Brownfields Pilot Demonstration Program at a Former Petroleum and Refining Research Facility

EARTHQUAKE ENGINEERING

Seismicity of Tennessee and Implications to Building Codes

Focus on seismic monitoring efforts and seismic hazard assessment in the Central US, and the impact of the seismic hazard prescribed by new code provisions. The seismic hazard risk in this part of the country has been difficult to quantify due to a lack of recorded data. Seismic monitoring networks in place for less than 20 years have improved to enable engineers to better understand the earthquake risk and correlate this with building code provisions. Recent code changes have significantly increased seismic design forces. Are these appropriate and what impact will they have?

MODERATOR: Dayakar Penumadu, Ph.D., University of Tennessee, Knoxville, TN

SPEAKERS:

Martin C. Chapman, Ph.D., Department of Geological Sciences, Virginia Tech, Blacksburg, VA
A Summary of Seismological Observations of the Eastern Tennessee Seismic Zone, and Implications for Seismic Hazard Assessment

Mitch Withers, Ph.D., Center for Earthquake Research and Information (CERI), University of Memphis, Memphis, TN

Implications of a New East and West Tennessee Seismic Monitoring Network on Improved Rapid Response and Building Code and Design

Richard M. Bennett, Ph.D., P.E., Department of Civil and Environmental Engineering, University of Tennessee, Knoxville, TN

Implications of Recent Seismic Hazard Descriptions on US Building Codes

FRIDAY, NOVEMBER 14 2:00 PM - 3:30 PM • Concurrent Technical Sessions VII

PROFESSIONAL
QUALIFICATIONSNew Frontiers in Civil Engineering –
Staking Our Claim in a Bio/Nano/Info World

Future advances in biotechnology, nanotechnology and information technology are expected to impose significant changes and present unprecedented opportunities for the civil engineering profession. This session will enable you to focus on and discuss environmental and infrastructure engineering; transportation and mobility issues; safety, health and security; and project/program management and entrepreneurship, in response to positions presented by the moderator.

MODERATOR: Mumtaz Usmen, Ph.D., P.E., Wayne State University, Detroit, MI

SPEAKERS:

Galip Ulsoy, Director, Division of Civil and Mechanical Systems, National Science Foundation

Emerging Research Trends in the Civil and Mechanical Systems Division at NSF

Chris Hendrickson, Carnegie Mellon University, Pittsburgh, PA
Organizing Civil Engineering Education and Academic Research for New Frontiers: Responding to Bio/Nano/Info Opportunities

Kimberly Jones, Howard University, Washington, DC
Nanotechnology Applications in Civil and Environmental Engineering

LEADERSHIP & MANAGEMENT

The Reality of US Ethics
Functioning in a Global Society

2:00 - 5:30 PM

What are US ethical values? Do we practice what we preach internationally? How are we perceived “over-there”? Do overseas ethics and cultural values differ from the US? Listen and then share your experiences during the open discussion.

MODERATOR: James L. Lammie, Parsons Brinckerhoff, New York, NY

SPEAKERS:
James L. Lammie, Parsons Brinckerhoff, New York, NY

Establishing the Baseline of American Ethics in Business

Malcolm W. Kennedy, Ph.D., Power Consultant, Newcastle, United Kingdom

A Global Consultants View of Ethics

Nazir Alli, National Roads Agency, South Africa
Our View of US Ethics and Practices

Igor Jokanovic, General Road Administration, Republic of Srpska, Bosnia & Herzegovina

Our View of US Ethics and Practices

Frederic S. Berger, The Louis Berger Group, Inc., Washington, DC

Ethics from a US Global Company Perspective

Civil Engineers Must Run Things
As Well As Make Things Run

Civil engineers are typically ignored for societal leadership roles at a time when just the opposite is needed. This session addresses why this must be changed – and shows what civil engineers need to do to change it. Panelists, who have served in societal and community leadership roles, will discuss their experiences and what engineers must do to run things.

MODERATOR: Richard Weingardt, Richard Weingardt Consultants, Inc., Denver, CO

SPEAKERS:
Ray Chamberlain, Ph.D., Parsons Brinckerhoff Quade, Denver, CO

The Cost to Our Profession for NOT Running Things

Lt. Gen. Henry J. “Hank” Hatch, P.E., Former Chief of Engineers and Commander of the US Army Corps of Engineers, Oakton, VA

Imperatives and the Impediments

Richard Weingardt, Richard Weingardt Consultants, Inc., Denver, CO

Why More Civil Engineers Need to Show Up in Arenas Outside of Engineering and What They Can Do to Show Up to Lead

APPLICATION OF
NEW TECHNOLOGYDisaster Management with
Modern Technology I

Learn how we are using modern technology to mitigate natural disasters, with emphasis on rivers and dust storms.

MODERATOR: Shou-Shan Fan, Gaithersburg, MD

SPEAKERS:
Zhu Qingping, Yellow River Conservancy Commission (YRCC), PRC

A Decision Support System for Flood Warning in the Yellow River

Chheng-Lun Shieh, National Chen-Kung University, Taiwan, ROC

Integrated River Basin Disaster Management Planning

Wang Tao, Cold and Arid Regions Environmental and Engineering Research Institute, PRC

Prediction of Sandy Desertification and Dust Storm in Northern China

Civil Engineering Magazine Presents...The Pentagon Building Performance Study Team Findings See page 7.

TECHNICAL SESSIONS

WORLD WATER & ENVIRONMENTAL RESOURCES

Case Studies and Advances in Wastewater
Treatment

This session focuses on wastewater treatment, from siting a treatment plant to design of a drip distribution system to sludge handling.

MODERATOR: Kenneth G. Diehl, Jr., P.E., Smith Seckman Reid, Inc., Nashville, TN

SPEAKERS:

Eleanor Allen, P.E., CH2M HILL, Bellevue, WA

Searching for Brightwater – Siting a New Greenfield Wastewater Treatment Plant

James T. Watson, P.E., Tennessee Valley Authority, Chattanooga, TN
Guidelines for the Use of Drip Distribution Technology for Wastewater

David W. Bible, P.E., ARCADIS, Chattanooga, TN

Sludge Handling at the Moccasin Bend Wastewater Treatment Plant

EARTHQUAKE ENGINEERING

Consequence-Based Earthquake Engineering in
Mid-America

The Central US was the site of a series of very large earthquakes in the early 1800s. Research activities at the Mid-America Earthquake Center in Urbana, IL have focused on the risks of large but infrequent earthquakes. Presentations will describe aspects of a new approach to seismic risk reduction known as Consequence-Based Engineering (CBE).

MODERATOR: James H. Parker, P.E., S.E., Structural Design Group, Inc., Nashville, TN

SPEAKERS:

Daniel P. Abrams, Ph.D., P.E., Mid-America Earthquake Center, Urbana, IL

Introduction to Consequence-Based Engineering

Amr S. Elnashai, Ph.D., Mid-America Earthquake Center, Urbana, IL
Framework Development and Damage Synthesis

Barry J. Goodno, Ph.D., P.E., Georgia Institute of Technology, Atlanta, GA
Consequence Minimization

Glenn J. Rix, Ph.D., Georgia Institute of Technology, Atlanta, GA
Hazards Definition

STRUCTURES

Urban Aerodynamics



Urban areas can often be uncomfortable climates during periods of warm, humid weather. Learn about strategic planning of urban areas to provide more comfortable environments, and techniques for mitigating heat island effects and the natural ventilation of buildings.

MODERATOR: Sean B. Smith, P.E., S.E., Gresham, Smith and Partners, Nashville, TN

SPEAKERS:

Richard Aynsley, Ph.D., School of Engineering Technology and Management, Southern Polytechnic State University, Marietta, GA

Urban Planning and Design – The Big Picture

Regan Potangaroa, Ph.D., School of Architecture, UNITEC Polytechnic, Auckland, New Zealand

Urban Aerodynamics – Natural Ventilation of Office Buildings

Mohamed Elnahas, Ph.D., North Dakota State University, Fargo, ND

Urban Design to Mitigate Heat Islands

PROFESSIONAL QUALIFICATIONS

Experience with ABET Engineering Criteria 2000

A few years ago, the Accreditation Board for Engineering and Technology (ABET) implemented Engineering Criteria 2000 by which engineering programs are evaluated for accreditation. These criteria have captured the attention of the education community. This session presents the experience of three civil engineering department heads/professors who have recently gone through accreditation visits.

MODERATOR: M. Krishnamurthy, Ph.D., P.E., Orange County Public Works Department, Orlando, FL

SPEAKERS:

Robert P. Elliott, Ph.D., P.E., University of Arkansas, Fayetteville, AR
EC 2000 Round Two – The Arkansas Experience

Manoj Chopra, Ph.D., P.E., University of Central Florida, Orlando, FL
Outcomes Assessment Tools Identified for the Civil Environmental Engineering Programs at the University of Central Florida

Joseph C. Reichenberger, Loyola Marymount University, Los Angeles, CA
Complying with EC2000 CE Program Criteria in a Small CE Program

LEADERSHIP & MANAGEMENT

The Reality of US Ethics Functioning in a Global Society

Session begins at 2:00 PM (see page 32) and continues in this timeslot.

Making the Right Technology Choices

We are on a steep technology growing curve and have years of room for improvement in both the development and use of information systems. Learn how technology is changing the way engineers work and what a manager needs to know about technology to make effective leadership and management decisions. Hear how firms are evaluating the cost-effectiveness of technology.

MODERATOR: Ken Matsuoka, County of Ventura, Ventura, CA

SPEAKERS:
Scott Bash, Brown and Caldwell, Atlanta, GA
Effective Use of Business Information Systems to Stall Complacency and Build Enthusiasm in Meeting Organizational Goals

Charles A. Rowney, Camp Dresser and McKee, Maitland, FL
Coping with the Tradeoffs: Knowledge Sharing versus Security

APPLICATION OF NEW TECHNOLOGY

Disaster Management with Modern Technology II

This session takes a look at modeling ice jams, water stress, and flood security, and disaster management – with information technology.

MODERATOR: Shou-Shan Fan, Gaithersburg, MD

SPEAKERS:

Hung-Tao Shen, Clarkson University, Potsdam, NY

Modeling River Ice Jams

Ximing Cai, International Food Policy Research Institute & International Water Management Institute, Washington, DC

Global Water Stress and Food Security: The Current Status and Future Prospects

Louise Comfort, University of Pittsburgh, PA

Managing Disaster with Information Technology: Needs, Lessons Learned, and Further Research Needed

TECHNICAL SESSIONS

GEOTECHNICAL

Geotechnology for Brownfield Development

Panelists will give presentations on the use of ground improvement methods (soil mixing, grouting, ground freezing, ground heating, solidification/stabilization, vertical barriers, alternative and innovative technologies) to develop brownfields in urban areas. A panel discussion and audience Q&A that follow will focus on advantages and disadvantages of these methods, chemical interactions between these systems and contaminated site soils/groundwater, and long-term performance.

MODERATOR: Nazi Yesiller, Ph.D., Wayne State University, Detroit, MI

PANELISTS:

Christopher R. Ryan, P.E., Geo-Solutions, Inc., Pittsburgh, PA

Vertical Barriers for Brownfield Development

Michael W. Terry, Hayward-Baker Inc., Alpharetta, GA

Use of Soil Mixing for Contaminated Sites

Marty E. Tittlebaum, Ph.D., P.E., University of New Orleans, New Orleans, LA

Advances in In-situ Fixation and Stabilization for Contaminated Sites

Jeffery C. Evans, Ph.D., Bucknell University, Lewisburg, PA

Chemical Interactions and Long-Term Performance of Treated Contaminated Sites



STRUCTURES

International Building Code Issues

The structural and non-structural seismic design provisions of the International Building Code will dramatically increase the design effort of structural engineers in many areas within the central and eastern US. Are you ready? Come and listen to this panel of experts explain some of these new design provisions and get answers to your questions. Sure to be a session you will not want to miss!

MODERATOR: James M. Stephenson, Structural Design Group, Inc., Nashville, TN

PANELISTS:

Chris Cramer, United States Geological Survey, Memphis, TN
Seismic Hazard Mapping

Glenn J. Rix, Ph.D., Georgia Institute of Technology, Atlanta, GA
Site Classification

James R. Harris, P.E., J R Harris & Company, Denver, CO
Seismic Design Provisions

John Hutton, S.E., Lockwood Greene, Atlanta, GA
Non-Structural Components



EDUCATION

Web-Based Technical Information

More and more technical information is becoming available on the internet. You can find digital libraries, databases of monitoring information, technical journals, training modules, simulation collaborations, and other types of information. In this session, learn about recent developments in web-based information from several major institutions.

MODERATOR: Beth A. Gross, P.E., GeoSyntec Consultants, Austin, TX

SPEAKERS:

Muniram Budhu, Ph.D., University of Arizona, Tucson, AZ
National Civil Engineering Digital Library (NCEDL) Phase 1: Geotechnical, Rock, and Water Resources Engineering (GROW)

Kernell Ries, United States Geological Survey, Reston, VA
USGS National Streamflow Information Program: Safeguarding Lives and Property and Ensuring Water Resources

Kim Roddis, Ph.D., University of Kansas, Lawrence, KS
National Web-Based Instruction Site for Structural Steel Design

Christina Beldica, Ph.D., National Center for Supercomputing Applications, Champaign, IL

The Network for Earthquake Engineering Simulation (NESS) Program: Finding New Ways to Reduce Earthquake Hazards

SATURDAY, NOVEMBER 15 8:00 AM - 9:30 AM • Concurrent Technical Sessions IX

PROFESSIONAL QUALIFICATIONS

Testing Water... And Ethics

Sure to ignite a lively discussion among session attendees, "Testing Water... And Ethics" is an interactive video that brings the question of ethics down to a hard-hitting real-world situation. A young professional is confronted with an ethical dilemma. What should he do? In most cases, there are as many answers to that question as there are viewers. Join this session to share in the summary discussion of ethical issues.

MODERATOR: Walter Marlowe, P.E.,
Foundation for Professional Practice, Reston, VA

SPEAKER:
Garland P. Rose, P.E., FASCE, Barge, Waggoner,
Sumner & Cannon Inc., Nashville, TN

LEADERSHIP & MANAGEMENT

Leadership during Your Midlife Crisis

How do you provide leadership after the kids have grown up and the dog died? Are you having difficulty relating to the personal values of your younger staff? Does leadership by example no longer work? Are some of your fellow principals "burned out" and just putting in time waiting for retirement?

MODERATOR: H. Edmond Bergeron, P.E., HE
Bergeron (HEB) Engineers, North Conway, NH

SPEAKERS:
Frank Votapka, P.E., USFS,
Kootenai National Forest, Libby, MT

James Colantonio, P.E., Coler & Colantonio,
Norwell, MA

Greg Ten-Eyck, P.E., Leonard Rice Engineers,
Inc., Denver, CO

Incident at Morales – An Engineering Ethics Story

Developed by the National Institute for Engineering Ethics (NIEE) and produced/directed by Emmy award-winning/Oscar-nominated Great Projects Film Co., "Incident at Morales" is a 35-minute ethics video that emphasizes the positive responsibilities of engineers and the resulting benefit to the public. Cast in an international context, the film was created by a team of engineers and philosophers from several universities and companies to dramatize a fictional but realistic case study in engineering ethics, with funding from a major National Science Foundation grant and donations from engineering organizations and individual NIEE members.

MODERATOR: William Lawson, P.E., M.ASCE,
National Institute for Engineering Ethics,
Texas Tech University, Lubbock, TX

SPEAKERS:
Jimmy Smith, Ph.D., P.E., FASCE,
National Institute for Engineering Ethics,
Texas Tech University, Lubbock, TX
Video Screening and Guided Discussion

E. Walter LeFevre, Ph.D., P.E., FASCE,
University of Arkansas, Fayetteville, AR
Commentary on the NIEE Ethics Video

APPLICATION OF NEW TECHNOLOGY

Advanced Project Planning

Attend this session to learn about project planning using advanced technology, including optimization of construction scheduling, grid and ground surveying, and decision tree risk assessment of a mission to Europa.

MODERATOR: Ron Gant

SPEAKERS:
Vellanki Kumar, Osmania University,
Hyderabad, India
Multi-criteria Optimization for Project
Scheduling in Construction Industry Using Fuzzy
Logic Approach

Ron Gant, Bentley Systems, Inc., Madison, AL
Grid versus Ground: Which Approach Should
the Civil Engineer and Land Surveyor Use?

Ram Manvi, Ph.D., California State University,
Los Angeles, CA

Decision Tree Assessment of Challenging
Technologies for a Mission to Europa

INFRASTRUCTURE

Culture and Trust in Construction

A new way forward for contracting and project partnerships will require a much higher level of trust to free the project team from the encumbrance of individual self-interest and replace this with respect for each participant's part in team efforts. UK procurement strategies and project delivery methods, which encompass this principle, will be analyzed in this session for possible emulation elsewhere.

MODERATOR: Barry Jones, Ph.D., FASCE,
F.CIOB., California Polytechnic Institute,
San Luis Obispo, CA

SPEAKERS:
Michael J. Riley, University of Plymouth,
Plymouth, UK

The Use of Trust as a Resource in Construction

William Dean, The Clark Construction
Group, Inc., Bethesda, MD

Leadership, Trust, and the New World

Lewis J. Parker & David C. Brown,
University of Southampton, UK; Michael J. Riley,
University of Plymouth, Plymouth, UK
Selecting the Team

Sue Turpin-Brooks, University of Plymouth,
Plymouth, UK

The Effect of Gender on Construction Culture

Edward Fekpe, Battelle, Columbus, OH
Benefits of Performance-based Outcome
Contracting in Highway Construction

TECHNICAL SESSIONS

STRUCTURES

Rehabilitation of Existing Structures

As the nation's infrastructure and building inventory ages, rehabilitation options are often more cost effective and practical than replacement. Rehabilitation may also be required to satisfy more stringent performance objectives or design criteria than originally considered. Strategies for rehabilitation of existing structures must be creative and include the use of innovative materials. This session will focus on bridge and dam rehabilitation projects and general techniques for strengthening concrete structures

MODERATOR: Mike Wilson, P.E., US Army Corps of Engineers, Nashville District, Nashville, TN

SPEAKERS:

Amir Arab, P.E., Horner & Shifrin, Inc., St. Louis, MO

Evaluation of the Impact of Recommended LRFD Guidelines for the Seismic Design of Highway Bridges Based on NCHRP Project 12-49 vs Current Design Provisions for Three Existing Bridges

Kenneth Hull, P.E., US Army Corps of Engineers, Nashville District, Nashville, TN
Alkali Aggregate Reaction at Center Hill Dam

Jay Thomas, P.E., Structural Preservation Systems, Springfield, VA

Techniques and Design Considerations for Strengthening of Existing Concrete Structures



STRUCTURES

Structural Expression

The designer's quest for elegant expressive structures can be traced back many centuries. What was the inspiration for many of these well-known structures and forms? The innovative structural solutions developed by several renowned engineers, the Masters, will be presented along with more recent examples of structural expression in high-wind and seismic areas.

MODERATOR: Rose Rodriguez, P.E., Stanley D. Lindsey and Associates, Ltd., Nashville, TN

SPEAKERS:

Richard Aynsley, Ph.D., School of Engineering Technology & Management, Southern Polytechnic State University, Marietta, GA

Expressing Structure – Examples from the Masters

Regan Potangaroa, Ph.D., School of Architecture, UNITEC Polytechnic, Auckland, New Zealand
Structural Expression in Seismic Areas

Leighton Cochran, Ph.D., Cermak Peterka Petersen, Fort Collins, CO
Structural Expression in Wind Sensitive Structures



Civil Engineering Magazine Presents... Cathedral of Our Lady of the Angels See page 7.

PROFESSIONAL QUALIFICATIONS

Teaching Diversity – What Every College Student and Professor Should Know

Learn about techniques used in the academic arena to teach diversity and prepare practicing engineers. The panel will discuss how various universities are incorporating diversity into their engineering curriculum.

MODERATOR: Dwayne James, Jacobs Civil Inc.

PANELISTS:

Jeffery Russell, Ph.D., P.E., University of Wisconsin, Madison, WI
Teaching Diversity – University of Wisconsin Experience

Richard Reid, Ph.D., P.E., South Dakota State University, Brookings, SD
Teaching Diversity – South Dakota State University Experience

Eugene DeLoatch, Ph.D., P.E., Morgan State University, Baltimore, MD
Teaching Diversity – Morgan State University Experience

LEADERSHIP & MANAGEMENT

A Guide to Hiring and Retaining Great Civil Engineers

This session will present the new Manual 103 written by the Committee on Employment of Civil Engineers with the help of human resource experts. This manual provides information on how engineering employers can attract quality engineers and retain the talented engineers already on board.

MODERATOR: Andrew Brozyna, City of Ventura, Ventura, CA

SPEAKERS:

Harvey Gobas, Brown & Caldwell, Irvine, CA

Norm Haraguchi, Brown & Caldwell, Human Resources, Walnut Creek, CA

Heather Audet, The Robert B. Balter Company, Owings Mills, MD
A Guide to Hiring and Retaining Quality Civil Engineers

Asset Management & GASB34

This seminar will provide an overview of GASB34, including its history and development, to give you an appreciation for its significance, purpose, and potential impacts. We will review implementation timelines – including the options available to public entities – and examine requirements set forth in GASB, with a distinct separation of the two approaches available, i.e., straight line depreciation and the modified approach. In order to utilize the modified approach available in GASB34, the speakers will present the concepts, principles, and actual examples of asset management implementation that specifically meet GASB34 requirements.

MODERATOR: Cindy Orndoff, University of Missouri – Columbia, Columbia, MO

SPEAKERS:

Charlie Nemmers, Transportation Infrastructure Center, University of Missouri-Columbia, Columbia, MO

The Asset Management Approach to Decision Making

Sherrie Andrae, Lincoln University, Jefferson City, MO

An Accountant's View of Asset Management's Role in GASB34

Martin Manning, American Public Works Association (APWA), Clark County, NV

Public Works and Asset Management

TECHNICAL SESSIONS

GEOTECHNICAL

Geophysical Imaging and Dynamic Response Analysis Applications



Characterization of subsurface soil profiles and assessment of soil properties are needed for a wide range of engineering applications including site remediation and soil-structure interaction. Development of geophysical imaging methods and in-situ testing techniques have significantly improved the understanding of subsurface soil conditions. This session will include presentations on the use of some of these methods to support engineering and bioremediation studies and develop site-specific seismic response criteria.

MODERATOR: William E. Doll, Ph.D., Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN

SPEAKERS:

Jacob Sheehan, Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN

Geophysical Imaging of the Oak Ridge Reservation Using Seismic Refraction Tomography and Multielectrode Resistivity Methods

Dayakar Penumadu, Ph.D., University of Tennessee, Knoxville, TN

Dynamic Soil Property Characterization and Earthquake Response Analysis Approach for TN and SC

Choon B. Park, Ph.D., Kansas Geological Survey, University of Kansas, Lawrence, KS
Shear Wave Velocity (Vs) Estimation of Near Surface Materials by MASW Method

EARTHQUAKE ENGINEERING

Advances in Seismic Design of Buildings and Nonstructural Components

Lessons learned from past earthquakes and the desire to reduce damage from future events has led to development of new seismic design concepts and recommendations in both the design of structures and nonstructural components. Building codes and design guidelines have introduced the concept of Performance-Based Design. This session will include presentations on Performance-Based Seismic Design and seismic qualification of nonstructural components. The recently published AISC Seismic Design Provisions for steel moment frames, based on the FEMA 350 recommendations, will also be featured.

MODERATOR: Gray Hodge, P.E., Hodge Design Associates, P.C., Evansville, IN

SPEAKERS:

Nathan C. Gould, P.E., S.E., ABS Consulting Group, Maryland Heights, MO
Performance-Based Seismic Design in the Midwest

Jeffery A. Gatscher, Square D Company, Nashville, TN

Acceptance Criterion for Seismic Qualification Testing of Secondary Systems and Nonstructural Building Components

Thomas A. Sabol, Ph.D., P.E., S.E., Englekirk & Sabol, Consulting Structural Engineers, Los Angeles, California

Seismic Design Recommendations for Steel Moment Frames

EDUCATION

Sustainability in Engineering Education

Session will highlight educational and research activities that faculty in civil engineering and related academic programs are engaged in to promote sustainable development, in both public and private academic institutions, and at undergraduate, graduate, and professional continuing education levels.

MODERATOR: Dr. Miriam Heller, Program Director, Civil and Mechanical Systems, National Science Foundation, Arlington, VA

SPEAKERS:

Dr. Miriam Heller, Program Director, Civil and Mechanical Systems, National Science Foundation, Arlington, VA

Introductory Remarks and Highlights of NSF's Advisory Committee Report on Environmental Research and Education

Dr. Jorge A. Vanegas, Georgia Institute of Technology, Atlanta, GA
Teaching Sustainability at the Georgia Institute of Technology

Dr. Arpad Horvath, University of California at Berkeley, CA

Teaching Sustainability at the University of California at Berkeley

Dr. Annie R. Pearce, Head, Sustainable Facilities & Infrastructure Branch, Georgia Tech Research Institute, Atlanta, GA

Teaching Sustainability to Industry Practitioners

Dr. Carol Diggelman, Milwaukee School of Engineering, Milwaukee, WI
Challenges in Teaching Sustainability

TECHNICAL SESSIONS

Sustainability in Action – Practice

Session will highlight activities illustrating the range of civil engineers' activities to promote sustainable development. These include a unique program that educates future engineers to work effectively in the developing world; measuring progress towards sustainability; and efforts by the US engi-

neering community to support US commitments made at the Johannesburg conference and enhanced engineering programming at UNESCO as part of the US planned reentry this year.

MODERATOR: William Kelly, Ph.D., P.E., The Catholic University of America, Washington, DC

SPEAKERS:

Bernard Amadei, Ph.D., University of Colorado, Boulder, CO
Engineering for Developing Communities / Viewing the Developing World As the Classroom of the 21st Century

William A. Wallace, Consultant, FDIC Sustainable Development Task Force, Littleton, CO
Measuring Progress Toward Sustainability

Michael R. Sanio, World Federation of Engineering Organizations, Alexandria, VA
UNESCO – Engineering & Technology for International Development – Harnessing Engineering Capability