Resilience of the Integrated Building: A Community Focus
Schedule-At-A-Glance

(Subject to Change)

Tuesday, April 11
12:00 – 7:00 p.m. Registration

Wednesday, April 12
7:00 a.m. – 7:00 p.m. Registration
7:30 a.m. – 8:00 p.m. Exhibit Hours
7:30 – 8:30 a.m. Continental Breakfast
8:00 a.m. – 5:00 p.m. Student Design Competition
8:30 – 10:00 a.m. Opening Keynote Plenary
10:00 – 10:30 a.m. Morning Networking Break
10:30 a.m. – 5:00 p.m. Concurrent Sessions
12:00 – 1:30 p.m. Networking Lunch
3:00 – 3:30 p.m. Afternoon Networking Break
6:00 – 8:00 p.m. Welcome Reception

Thursday, April 13
7:00 a.m. – 6:00 p.m. Registration
7:30 a.m. – 3:30 p.m. Exhibit Hours
7:30 – 8:30 a.m. Continental Breakfast
8:00 a.m. – 4:15 p.m. Concurrent Sessions
9:30 – 10:00 a.m. Morning Networking Break
11:30 a.m. – 1:00 p.m. Keynote Luncheon
2:30 – 2:45 p.m. Afternoon Networking Break
4:15 – 5:15 p.m. AEI Professional Project Awards Presentations
6:30 – 9:00 p.m. Awards Banquet

Conference Sponsors

Barton Malow
Turner
SOM
Smithgroup JJR
Simpson Gumpertz & Heger

Engineering of Structures
and Building Enclosures
Dear Friends and Colleagues,

It is a great pleasure and a distinct honor to extend to you a warm welcome to AEI’s 7th biennial professional conference here in Oklahoma City, Oklahoma. The theme of the conference is “Resilience of the Integrated Building: A Community Focus.” I invite you to exchange ideas, discover opportunities, reacquaint with colleagues, meet new friends, and broaden your knowledge.

Our technical program is rich and varied with two keynote presentations, three panel discussions, and 104 technical presentations spread over two very full days. With contributions from academics and industry professionals, these presentations cover planning, design, construction, operation, and maintenance of buildings. In particular, I am very excited by the 12 presentations discussing new and innovative methods in architectural engineering education. I hope you also take time to observe a couple of the AEI Student Design Competition presentations on Wednesday.

While in Oklahoma City, I invite you to discover this Great Plains city. Just two blocks east of the hotel is the Bricktown Entertainment District. Formerly a major warehouse district, it is now home to more than 30 restaurants, bars, clubs, and retail shops, along with family-friendly attractions, museums, and galleries. Bricktown also contains the Chickasaw Bricktown Ballpark, home to the Triple-A Oklahoma City Dodgers baseball team and located at the corner of Mickey Mantle and Johnny Bench Drives. Just across from the Bricktown Ballpark is the entrance to the Bricktown Water Taxi where you can take a fun and informative ride along the Bricktown Canal. For those interested in history, the Centennial Land Run Monument is located at the south end of the Bricktown Canal and commemorates the opening of the Unassigned Land in Oklahoma Territory with the Land Run of 1889. The monument contains 45 heroic-size bronze sculptures of land run participants and is one of the largest freestanding bronze sculptures in the world, occupying a corridor that is longer than a football field.

In addition to Bricktown, Oklahoma City hosts a number of other interesting attractions. Just one block south and west of the hotel is the Myriad Botanical Gardens, a 17-acre botanical garden and interactive urban park, a key architectural component of the downtown area. The gardens include the Crystal Bridge Tropical Conservatory, an indoor multilevel conservatory with towering palm trees, tropical plants, flowers, waterfalls, and exotic animals. One block south and east of the Gardens is Chesapeake Energy Arena, home to the NBA’s Oklahoma City Thunder basketball team. Finally, located a little over a half mile north and slightly west of the hotel is the Oklahoma City National Memorial and Museum, honoring the victims, survivors, and rescuers from the bombing of the Alfred P. Murrah Federal Building in 1995. The architect of the memorial, Hans Butzer, is giving Thursday’s keynote luncheon presentation.

On behalf of the ASCE Architectural Engineering Institute and the University of Oklahoma, welcome to Oklahoma City and welcome to the 2017 AEI Conference.

Jeffery S. Volz, Ph.D., P.E., S.E., M.ASCE, University of Oklahoma Conference Chair, AEI Conference 2017

Local Planning Committee

Conference Chair
Jeffery S. Volz, P.E., S.E., Ph.D., M.ASCE, University of Oklahoma, Norman, OK
Kevin Bohner, P.E., Wallace Engineering, Oklahoma City, OK
Gouranga Banik, Ph.D., P.E., F.ASCE, Oklahoma State University, Stillwater, OK
Alixandra Bradford, Henderson Engineers, Inc., Dallas, TX
Kasha Egan, P.E., Wallace Engineering, Oklahoma City, OK
Royce Floyd, Ph.D., P.E., University of Oklahoma, Norman, OK
Lisa Holliday, Ph.D., P.E., University of Oklahoma, Norman, OK
Michael Renes, P.E., LEED AP BD+C, Wallace Engineering, Oklahoma City, OK

National Conference Steering Committee

Chair, Conference Steering Committee
Christopher H. Raebel, P.E., S.E., M.ASCE, Milwaukee School of Engineering, Milwaukee, WI
Robert Grottenthaler, P.E., LEED, AP, Barton Malow Company, Baltimore, MD
Amy L. Hackney, P.E., LEED, AP, M.ASCE, Simpson Gumpertz & Heger, Inc., Los Angeles, CA
Adam Hapij, P.E., M.ASCE, Thornton Tomasetti / Weidlinger Applied Science Practice, New York City, NY
Moses D. Ling, P.E., The Pennsylvania State University, University Park, PA
Ali Memari, Ph.D., P.E., F.ASCE, The Pennsylvania State University, University Park, PA

ASCE Staff

Catherine M. Tehan, Aff.M.ASCE, Director, Architectural Engineering Institute
Verna L. Jameson, Aff.M.ASCE, Manager, Architectural Engineering Institute
Cristina Charron, Manager, ASCE Conferences & Meeting Services
Drew Caracciolo, Manager, Exhibits and Sponsorship Sales

www.aei-conference.org 3
TUESDAY, APRIL 11

Registration Hours
12:00 – 7:00 p.m., Century Foyer

Academic Council Meeting
8:00 – 11:00 a.m., Red Carpet Room

AEI Board of Governors Meeting
8:00 a.m. – 1:00 p.m., Frontier Room

Workshop For Student Chapter Leaders
11:00 a.m. – 2:00 p.m., Great Plains Room

Joint Meeting: AEI Board of Governors, Academic Council, and Executive Council Joint Meeting
1:00 – 5:00 p.m., Plaza South Ballroom

Student Design Competition Committee Meeting
8:00 – 10:00 p.m., Frontier Room

WEDNESDAY, APRIL 12

Registration Hours
7:00 a.m. – 7:00 p.m., Century Foyer

Exhibit Hours
7:30 a.m. – 8:00 p.m., Century Foyer

Continental Breakfast
7:30 – 8:30 a.m., Century Foyer

Student Design Competition
8:00 a.m. – 5:00 p.m., Plaza North Ballroom

Opening Plenary
8:30 – 10:00 a.m., Century Ballroom

KEYNOTE ADDRESS

Designing Community Networks To Support Resilient, Sustainable Buildings In Regions Of Risk
Louise K. Comfort, Ph.D., Director, Center for Disaster Management, University of Pittsburgh

As the number, frequency, and cost in lives and social disruption from natural hazards and disasters increase, the urgency of mobilizing collective action at the community level to build sustainable, resilient communities also increases. The challenge is to identify the factors that engage the whole community exposed to risk – public, private, nonprofit organizations, as well as household units – in sustainable programs of risk reduction, based on an informed understanding of risk coupled with practical guides to action. In this session participants will learn about a sociotechnical systems approach which identifies the set of interacting functions that are essential to maintain the resilience of a neighborhood, and focuses on the built environment as the physical context within which economic and social activity occurs.

Concurrent Sessions
10:30 a.m. – 5:00 p.m.
Track 1 - Plaza South Ballroom
Track 2 - Kiamichi Room
Track 3 - Red Carpet
Track 4 - Green Country

Right: Recent earthquake activity in Oklahoma.
Source: USGS
Far Right: Construction of Devon Tower, the tallest building in downtown Oklahoma City.
WEDNESDAY, APRIL 12 (continued)

Panel Discussions

10:30 a.m. – 12:00 p.m., Plaza South Ballroom

The National Institute of Standards and Technology’s Community Resilience Group is actively pursuing the implementation of their Community Resilience Planning Guide for Buildings and Infrastructure Systems that was published in 2016. The panel will discuss the status and significant accomplishments to date. Participants will leave the session with the following takeaways: a clear understanding of the NIST Community Resilience Guide as illustrated by the experiences of the pilot communities; specific suggestions with take-home value for how to start and implement the 6-step process in any community; an understanding of where researchers and professional designers and engineers can engage in the future development of resilience guidance documents; the tools that are now available or will soon be available to assist communities in resilience planning; and an understanding of how the each attendee can assist their community in becoming resilient.

Moderator: Therese P. McAllister, Ph.D., P.E., F. SEI, M.ASCE
Panelists:
Steve Cauffman, Research Engineer, National Institute of Standards & Technology
David Mizzen, EIT, Staff Engineer/Scientist, Applied Research Assoc.
Jay Raskin, Jay Raskin Architects, National Institute of Standards & Technology’s Community Resilience Panel
John van de Lindt, Ph.D., Colorado State University

Recent Oklahoma Earthquakes and the Built Environment
1:30 – 3:30 p.m., Plaza South Ballroom

Experts on seismology, structural engineering, and geotechnical engineering will discuss the patterns of seismicity and consequences of recent Oklahoma earthquakes. Brief presentations will be followed by questions and answers.

Moderator: Muralee Muraleetharan, Geotechnical Engineering Professor, Kimmell-Bernard Chair in Engineering, David Ross Boyd and Presidential Professor
Panelists:
Jeremy Boak, Director, Oklahoma Geological Survey
Scott Harvey, Assistant Professor of Structural Engineering

Networking Luncheon
12:00 – 1:30 p.m., Century Ballroom

KEYNOTE ADDRESS
MARS CITY: The Ultimate Resilient Facility

What do you do if your facility suffers a power failure for two weeks due to a global dust storm? What if there is contamination in your drinking water? What if your building systems need emergency spare parts and the nearest Home Depot is 48 million miles away – every two years. That’s just some of the issues you have living in a community on Mars. MARS CITY, a joint project of the Total Learning Research Institute and NASA has had to be designed to answer those questions. A simulation of building maintenance requiring a robust BIM, a complete specification of MEP engineering equipment and a populated maintenance management software system has been developed in concert with the National Institute of Building Sciences. In this session, participants will engage in the type of team brainstorming required to understand resilience issues required for building cities on other planets – and the lessons for resilience in extreme environments on Earth.

Kerry M. Joels, Ph.D.

Kerry Joels has a Doctorate in Aerospace and Education from Oklahoma State University. His professional experience includes creative and leadership positions with NASA, the National Air and Space Museum as Education Division Director and Curator, the White House Young Astronaut Program as Director of Curriculum, and the Challenger Center for Space Science Education as first Director of Program Development. He was a founding Board member of Total Learning Research Institute and is the serving President directing the SPACE EXPLORERS Space Shuttle and Mars Simulator programs and the MARS CITY STEM Challenge effort. He served on the White House Space Exploration Initiative for Moon/Mars mission planning. Programs he has directed or created have impacted millions of students over the past 30 years. He has also been the chairman of the Space Educator Award of the National Space Club recognizing others for 33 years. He is the author of the Mars One Crew Manual and other books.

Welcome Reception
6:00 – 8:00 p.m., Century Foyer
Sponsored by
THURSDAY, APRIL 13

Registration Hours
7:00 a.m. – 6:00 p.m., Century Foyer

Student Competition Jury Feedback
7:00 a.m. – 9:00 a.m., Plaza North Ballroom

Exhibit Hours
7:30 a.m. – 3:30 p.m., Century Foyer

Continental Breakfast
7:30 – 8:30 a.m., Century Foyer

Concurrent Sessions
8:00 a.m. – 4:15 p.m.
Track 1 - Plaza South Room
Track 2 - Kiamichi Room
Track 3 - Red Carpet
Track 4 - Green Country
Track 5 - Plaza North

Panel Discussion
8:00 – 9:30 a.m., Plaza South Ballroom

Claims Reduction Through Understanding Failure

Panel Discussion Proposal
Architects, engineers, and other design professionals face a daunting array of professional risks. We navigate the risk landscape by carefully defining scope, performing work in a manner that is consistent of the applicable standard of care, and by effective coordination and communication. Moreover, the lifelong study of engineering failures can help design professionals be more aware of those aspects of the design process where failures have historically been most likely to originate.

This panel discussion will include brief discussions of the practice of forensic engineering and use case studies to demonstrate the integration between engineering practice and resulting claims.

Keynote Luncheon
11:30 a.m. – 1:00 p.m., Century Ballroom

KEYNOTE ADDRESS

Tails of Successful Architect|Engineer Collaborations”
Hans E. Butzer, Architect, AIA, AK NW, LEED AP,
Dean and A. Blaine Imel, Jr. Professor, Mabrey Presidential Professor of Architecture and Urban Design, Recipient of the American Institute of Architects Thomas Jefferson Award for Public Architecture, The University of Oklahoma College of Architecture

The Oklahoma City Skydance Bridge is a nationally-recognized and award-winning landmark that resulted from intense collaborations between architects and engineers, among others. Project co-creator and co-manager Hans E. Butzer will share experiences from the process of designing the iconic structure. His presentation will also touch upon his reasons for assembling a design team that included three independent structural engineers and four independent architects, and how these arrived at a consensus concept.

Sponsored by SOM

Professional Project Awards Presentation
4:15 – 5:15 p.m., Century Ballroom

Awards Banquet
6:30 – 9:00 p.m., Century Ballroom

Sponsored by SIMPSON GUMPertz & HEGER

Hotel Floor Plan
**Wednesday, April 12**

- **8:30 – 10:00 a.m.**  
  **Opening Plenary, Century Ballroom**  
  **Keynote Presentation:**  
  Designing Community Networks to Support Resilient, Sustainable Buildings in Regions of Risk  
  Louise K. Comfort, Ph.D., Director, Center for Disaster Management, University of Pittsburgh

- **10:00 – 10:30 a.m.**  
  **Networking Break, Century Foyer**

- **10:30 a.m. – 12:00 p.m.**  
  **Technical Sessions**

<table>
<thead>
<tr>
<th>TRACK 1, Plaza South Ballroom</th>
<th>TRACK 2, Kiamichi</th>
<th>TRACK 3, Red Carpet</th>
<th>TRACK 4, Green Country</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SESSION 1:</strong> Building Electrical and Power Systems</td>
<td><strong>SESSION 2:</strong> Building Structural Systems</td>
<td><strong>SESSION 3:</strong> Sustainability</td>
<td><strong>SESSION 4:</strong> Building Materials</td>
</tr>
</tbody>
</table>
| Guidance and Tools for Community Resilience Planning - Implementation of the NIST Planning Guide  
**Moderator:** Therese P McAllister, Ph.D., P.E., F.SEI, MASCE  
**Panelists:** Steve Caulton, Research Engineer, National Institute of Standards & Technology  
David Mezzen, P.E., Staff Engineer/Scientist, Applied Research Associates  
Jay Raske, Jay Raske Architects, National Institute of Standards & Technology's Community Resilience Panel  
John van de Lindt, Ph.D., Colorado State University | Enhanced Resilience Through Building Performance Analysis, Amy Kim, Dorothy Reed  
| **SESSION 5:** Building Electrical and Power Systems | **SESSION 6:** Building Structural Systems | **SESSION 7:** Sustainability | **SESSION 8:** Building Materials |
| Recent Oklahoma Earthquakes and the Built Environment  
**Moderator:** Muralee Muraleetharan, Geotechnical Engineering Professor, Kimmell-Bernard Chair in Engineering, David Ross Boyd and Presidential Professor  
**Panelists:** Jeremy Book, Director, Oklahoma Geological Survey  
Scott Harvey, Assistant Professor of Structural Engineering | Structural Engineering for the Future, Caroline Field, Luke Pascoe  
A Comparison Between Static and Quasi-Dynamic Loading on Flexible Shear Connections, Christopher Raebel, Megan Hayes  
A Sustainable Approach to Assess the Resilience of Perforated Wood Shear Walls, Elizabeth Berry, Behnam Shadavaran, Fariborz Tehrani  
Improving Seismic Resilience Using Structural Systems with Friction-Based Fuses, Mark Sarkisian, Neville Mathias, Rupa Garai, Christopher Haruchi | A Case Study Comparison of LEED 2.2 to 4.0, Rachel Masier, Douglas Dansberg  
Assessing Resilience of LEED Certified Facilities in Oklahoma, Suchismita Bhattcharjee, Sandeep Langar, Brent Everett  
The Learning Buildings Framework (LBF) for Quantifying Building Adaptability, Brandon Ross  
The International Database of Adaptation and Demolition (IDAaD) Building Projects, Riley Marshall, Brandon Ross | Shape and Size Effects on the Compressive Strength of Cement Stabilized Rammed Earth, Deb Dural Tripura, Souvik Das  
Sustainability of Compressed Earth Block Design: Comparative Analysis of Stabilized Compressed Earth Block and Traditional Wood Framed Single Family Residences, Shideh Shadravan, Matthew D. Reyes, Daniel J. Butko, Lisa M. Holliday, Kenneth R. Hines, Juvenal Huizar  
Uses of Red Mud as a Construction Material, Mohamed Abdel-Rahman, Lizeth Gomez Santana, Miguel Fineira Cardova, Bilkas Ollazaran Martinez |

- **12:00 – 1:30 p.m.**  
  **Networking Luncheon, Century Ballroom**

- **1:30 – 3:00 p.m.**  
  **Technical Sessions**

<table>
<thead>
<tr>
<th>TRACK 1, Plaza South Ballroom</th>
<th>TRACK 2, Kiamichi</th>
<th>TRACK 3, Red Carpet</th>
<th>TRACK 4, Green Country</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SESSION 5:</strong> Oklahoma Earthquake Panel Discussion</td>
<td><strong>SESSION 6:</strong> Building Structural Systems</td>
<td><strong>SESSION 7:</strong> Sustainability</td>
<td><strong>SESSION 8:</strong> Building Materials</td>
</tr>
</tbody>
</table>
| Recent Oklahoma Earthquakes and the Built Environment  
**Moderator:** Muralee Muraleetharan, Geotechnical Engineering Professor, Kimmell-Bernard Chair in Engineering, David Ross Boyd and Presidential Professor  
**Panelists:** Jeremy Book, Director, Oklahoma Geological Survey  
Scott Harvey, Assistant Professor of Structural Engineering | Structural Engineering for the Future, Caroline Field, Luke Pascoe  
A Comparison Between Static and Quasi-Dynamic Loading on Flexible Shear Connections, Christopher Raebel, Megan Hayes  
A Sustainable Approach to Assess the Resilience of Perforated Wood Shear Walls, Elizabeth Berry, Behnam Shadavaran, Fariborz Tehrani  
Improving Seismic Resilience Using Structural Systems with Friction-Based Fuses, Mark Sarkisian, Neville Mathias, Rupa Garai, Christopher Haruchi | A Case Study Comparison of LEED 2.2 to 4.0, Rachel Masier, Douglas Dansberg  
Assessing Resilience of LEED Certified Facilities in Oklahoma, Suchismita Bhattcharjee, Sandeep Langar, Brent Everett  
The Learning Buildings Framework (LBF) for Quantifying Building Adaptability, Brandon Ross  
The International Database of Adaptation and Demolition (IDAaD) Building Projects, Riley Marshall, Brandon Ross | Shape and Size Effects on the Compressive Strength of Cement Stabilized Rammed Earth, Deb Dural Tripura, Souvik Das  
Sustainability of Compressed Earth Block Design: Comparative Analysis of Stabilized Compressed Earth Block and Traditional Wood Framed Single Family Residences, Shideh Shadravan, Matthew D. Reyes, Daniel J. Butko, Lisa M. Holliday, Kenneth R. Hines, Juvenal Huizar  
Uses of Red Mud as a Construction Material, Mohamed Abdel-Rahman, Lizeth Gomez Santana, Miguel Fineira Cardova, Bilkas Ollazaran Martinez |

- **3:00 – 3:30 p.m.**  
  **Networking Break, Century Foyer**

---

AEI BUILD  
AEI Deliver  
AEI Enclose  
AEI Learn  
AEI Modular  
AEI Perform  
AEI Resilient  
AEI Secure  
AEI Sustain
### Technical Program (continued)

<table>
<thead>
<tr>
<th>TRACK 1, Plaza South Ballroom</th>
<th>TRACK 2, Kiamichi</th>
<th>TRACK 3, Red Carpet</th>
<th>TRACK 4, Green Country</th>
</tr>
</thead>
</table>

**Welcome Reception, Century Foyer**

### Thursday, April 13

**8:00 – 8:30 a.m.**

<table>
<thead>
<tr>
<th>TRACK 1, Plaza South Ballroom</th>
<th>TRACK 2, Kiamichi</th>
<th>TRACK 3, Red Carpet</th>
<th>TRACK 4, Green Country</th>
</tr>
</thead>
</table>

**Networking Break, Century Foyer**

**9:30 – 10:00 a.m.**
10:00 – 11:30 a.m.  Technical Sessions

<table>
<thead>
<tr>
<th>TRACK 1, Plaza South Ballroom</th>
<th>TRACK 2, Kiamehchi</th>
<th>TRACK 3, Red Carpet</th>
<th>TRACK 4, Green Country</th>
<th>TRACK 5, Plaza North Ballroom</th>
</tr>
</thead>
</table>

11:30 a.m. – 1:00 p.m.  Keynote Luncheon, Century Ballroom  
Tail of Successful Architect-Engineer Collaborations  
Hans Butzer, Architect, AIA, AR NV, LEED AP BD+C

1:00 – 2:30 p.m.  Technical Sessions

<table>
<thead>
<tr>
<th>TRACK 1, Plaza South Ballroom</th>
<th>TRACK 2, Kiamehchi</th>
<th>TRACK 3, Red Carpet</th>
<th>TRACK 4, Green Country</th>
<th>TRACK 5, Plaza North Ballroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital and Media-Based Assignments in the Structures Classroom, M.S. Uihlein</td>
<td>Toward a Structural Comprehension of an 18th Century Spanish Colonial Stone Masonry Monument: The Church of Mission San Jose y Miguel de Aguayo, Texas, Angela Lombardi, Saadet Toker Besson</td>
<td>The Increasing Globalization of Criminal Prosecutions in Disasters and Tragedies, Denis Binder</td>
<td>Digital and Media-Based Assignments in the Structures Classroom, M.S. Uihlein</td>
<td>A Comparative Case Study Approach: Identifying the Discrepancy Between Energy Performance Results, Himanshu Patel Tuniki, Pelin Gultekin-Bicer</td>
</tr>
</tbody>
</table>

2:30 – 2:45 pm  Networking Break, Century Foyer
### Registration Benefits

<table>
<thead>
<tr>
<th>Included in Your Registration Fee</th>
<th>Full</th>
<th>Daily Day 1</th>
<th>Daily Day 2</th>
<th>Student Full</th>
<th>Exhibitor/Sponsor Full</th>
</tr>
</thead>
<tbody>
<tr>
<td>Networking Lunch 4/12</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keynote Luncheon 4/13</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reception</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awards Banquet</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proceedings</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continental Breakfast 4/12</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continental Breakfast 4/13</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2:45 – 4:15 p.m.  | **Technical Sessions**

<table>
<thead>
<tr>
<th>TRACK 1, Plaza South Ballroom</th>
<th>TRACK 2, Kiamichi</th>
<th>TRACK 3, Red Carpet</th>
<th>TRACK 4, Green Country</th>
<th>TRACK 5, Plaza North Ballroom</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SESSION 27:</strong> Building Envelope</td>
<td><strong>SESSION 28:</strong> Building Structural Systems</td>
<td><strong>SESSION 29:</strong> Community Planning for Resilience</td>
<td><strong>SESSION 30:</strong> Forensic Studies and Lessons Learned</td>
<td><strong>SESSION 31:</strong> Occupant Safety</td>
</tr>
<tr>
<td>A Decision Support System for Condition Assessment of Distressed Concrete Buildings, Barkavi Thanuskodi</td>
<td>Finite Element Analysis of Reinforced Concrete Beams With Temperature Differentials, M.Meheri Mirazzadeh, Martin Noel, Mark Green</td>
<td>Predicting Tornado Damage and Recovery through Coarse Modeling of Physical-Socio-Economic Interactions at the Community-Level, Hassan Masoomi, John van de Lindt, Lori Peek, Jennifer Tobin-Gurley, Kathrina Simonen</td>
<td>Incorporating Case Studies in the Civil and Architectural Engineering Curriculum, Norbert Delatte</td>
<td>Tornado Width for Computer Modeling from Google Earth Data and Period of the Vortex, Damas Dominguez, Panneer Selvam</td>
</tr>
</tbody>
</table>

4:15 – 5:15 p.m. | AEI Professional Project Awards Presentations, Century Ballroom

6:30 – 9:00 p.m. | Awards Banquet, Century Ballroom
ADA Compliance
The Sheraton Downtown Hotel is barrier-free in compliance with the Americans with Disabilities Act (ADA). ASCE/AEI will make every reasonable effort to accommodate your needs. If you require special assistance, please contact us no later than 20 business days prior to the event. ASCE/AEI cannot ensure the availability of appropriate accommodations without prior notification.

Attendee Packets
The packet you will receive at the on-site registration desk includes your name badge, this final program, a lanyard, tickets for events you have ordered, PDH information, and general announcements.

Attire
The dress code for the Conference is business casual (i.e., slacks, casual dresses) to business attire (i.e., neckties, business suits). Meeting room temperatures will vary, so wear layered clothing to ensure your personal comfort. We also recommend attendees wear comfortable shoes. Please note that certain events may have specific details on attire and you should refer to the event for more information.

Badge Policy and Ribbons
Your Conference registration name badge is your admission to the educational sessions. Please wear your badge at all times. Tickets are required for the special events, meals, and tours. Please be sure to bring your tickets with you to each event as you will not be admitted without a ticket. Ribbons will be available at the Registration Desk. ASCE/AEI does recommend you remove your badge when leaving the hotel.

Cancellations/Refunds
Cancellations must be received by ASCE in writing. A refund will be issued, minus a $75 processing fee, if the cancellation notice is received by ASCE by March 29, 2017. No refunds will be made for cancellations received after March 29, 2017. Send cancellations to registrations@asce.org or fax to 703-295-6144.

Conference Proceedings
The Conference proceedings will be available as a thumb drive. One copy is included with each full registration. Additional copies may be purchased for $175. To pick up your copy, present the ticket you received in your registration packet to an ASCE staff member at the Registration Desk. You must claim your thumb drive by 6:00 p.m. Thursday, April 13. To purchase a copy after the Conference, call ASCE at (800) 548-ASCE (2723), or send a fax to (703) 295-6211; or order online at www.pubs.asce.org.

Conference Surveys
A survey will be e-mailed to all attendees every day and at the conclusion of the conference. Hearing your opinions and suggestions helps plan future conferences.

Medical Emergencies
ASCE/AEI hopes that your visit to Oklahoma City and AEI Conference 2017 will be free of medical incident. However, if you become ill at The Sheraton Downtown Hotel, please contact the front desk and tell them you have a medical emergency that requires immediate attention. St. Anthony Hospital is the closest hospital downtown. Located at 1000 N Lee Ave, Oklahoma City, OK 73102.

No Smoking Policy
ASCE/AEI supports a “No Smoking” Policy. Smoking is prohibited at The Sheraton Downtown Hotel and all venues hosting ASCE/AEI events.

Professional Development Hours (PDHs)
You may earn PDHs, which are nationally recognized units of record, by attending conference technical sessions and short courses. Please note there are differences from state to state in continuing education requirements for professional engineering licensure. ASCE follows NCEES guidelines on continuing professional competency. Get details on your state’s requirements by going to www.ncees.org/about. Within 30 days of the end of the Conference, the session information will be uploaded into the MyLearning system. You will receive an email from the Conference registration system with a link and detailed instructions on how to access MyLearning and to update your session attendance. By accessing the MyLearning system for this Conference, you automatically Agree and Certify you attended the selected sessions. The system will remain open for 30 days from the receipt of the registration email to allow you time to make any adjustments and print your certificate and transcript. After that 30-day mark, you will need to contact ASCE Customer Service at registrations@asce.org or (800) 548-2723 to modify your Conference attendance information.

Program and Session Cancellation
ASCE/AEI reserves the right to cancel programs and/or sessions because of low registration. In the unlikely event of a cancellation, all registrants will be notified and will receive a full refund, if applicable. Programs and sessions are subject to change, and ASCE/AEI reserves the right to substitute a program, session, and/or speaker of equal caliber to fulfill the educational requirements.

Recording Policy
Photographic, video or audio recording of any education session is strictly prohibited without prior written permission from both ASCE and the session presenter(s).

Recycle Your Badge Holder
Please help ASCE stay green by returning your badge holder at the end of the Conference in the receptacles provided by the Registration Desk.

Registration Hours
Tuesday, April 11 12:00 p.m. – 7:00 p.m.
Wednesday, April 12 7:00 a.m. – 7:00 p.m.
Thursday, April 13 7:00 a.m. – 6:00 p.m.

Release/Waiver
Photograph Release: By attending the conference, I hereby release any photographs that may be incidentally taken of me by ASCE/AEI during these events to be used for any purpose.

Liability Waiver: I agree and acknowledge that I am participating in ASCE/AEI events and activities at my own free and intentional act; and I am fully aware that possible physical injury might occur to me as a result of my participation. I give this acknowledgement freely and knowingly that I am, as a result, able to participate in ASCE/AEI events, and I do hereby assume responsibility for my own wellbeing. I also agree not to allow any other individual to participate in my place.

General Information
www.aei-conference.org 11
The AEI Conference 2017 thanks its Sponsors, Exhibitors, and Cooperating Organization for helping to make this event possible.

**EXHIBITORS**

**ASCE/AEI Institute**  
www.asce.org/aei  
The Architectural Engineering Institute (AEI) serves the building community by promoting an integrated, multidisciplinary approach to planning, design, construction, and operation of buildings and by encouraging excellence in practice, education, and research of architectural engineering.

**The University of Oklahoma**  
www.ou.edu/coe.html  
Founded in 1890, the University of Oklahoma is a public research university located in Norman, Oklahoma, 20 miles south of Oklahoma City. The undergraduate population at the Norman campus is just over 20,000, giving students a major university experience in a private college atmosphere.

**Thermadapt**  
www.thermadapt.com  
Thermadapt, LLC, is a high-tech company specializing in advanced R&D of building envelope materials. Since 2009, it has been centered on designing, developing, modeling and demonstrating thermally adaptive building coverings. These inexpensive coverings have been tested on instrumented buildings for seven years, demonstrating insulation values as high as R100/in.

**Pond Robinson & Associates**  
www.pondrobinson.com  
PR&A provides engineering consulting, with an emphasis on client service, to national real estate professionals, building owners, real estate advisors and managers and lenders.

**eMi**  
www.emiworld.org  
Engineering Ministries International is a group of volunteer engineers, architects and land surveyors who offer technical design service to Christian organizations in developing countries that want to build something complicated enough to require technical expertise. The service is offered on short-term mission trips of 1-2 weeks.

**Baker-Peterson LLC**  
www.baker-peterson.com  
Baker-Peterson is an underground utility locating company that provides private utility locating and consulting services. They offer a variety of utility locating services such as electromagnetic locating, ground penetrating radar, subsurface utility engineering (S.U.E.), and utility mapping.

**COOPERATING ORGANIZATION**

**NFPA**  
www.nfpa.org  
Founded in 1896, NFPA is a global, nonprofit organization devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards.

**SPONSORS**

**Barton Malow**  
**Turner**  
**SMITHGROUP**  
**JJR**  
**SIMPSON GUMPertz & HEGEr**  
**SOM**

| Engineering of Structures and Building Enclosures |