CALL FOR PAPERS & PRESENTATIONS

Architectural Engineering Institute Conference 2017
Oklahoma City, Oklahoma | April 12-14, 2017

Resilience of the Integrated Building: A Community Focus

www.aei-conference.org
About the Conference

The Architectural Engineering Institute (AEI), in partnership with the University of Oklahoma (OU), is pleased to announce the 7th Biennial Professional Conference for 2017. The theme of the conference is the “Resilience of the Integrated Building: A Community Focus.”

The conference offers an opportunity for members of the building construction industry, including structural, mechanical, and electrical engineers, construction management professionals and architects, to learn about and discuss advanced strategies and state-of-the-art practices of building technology. The conference will feature presentations on building integration, as well as the latest technology in the many areas of the building design, construction, and maintenance. The conference offers a balance between academics and practice and will offer presentations, panel discussions, workshops, technical paper sessions, invited and keynote presentations, and local tours of technical interest.

Industry professionals will benefit from presentations by experts in the fields of structural, mechanical, and electrical design and construction management as they relate to integrated building systems. Members of academia will benefit from presentations on current research initiatives and opportunities to network with practitioners. Students will benefit from interacting with industry professionals and peers from universities other than their own.

DETAILS ABOUT YOUR SUBMISSION

Abstracts/proposals, a maximum of 300 words, should be submitted for consideration by April 30, 2016. Papers and presentations should consider focusing on suggested topics listed below. Please note that items listed in **bold italics** are focused topics of particular interest.

All submissions should be sufficient to judge the quality and appropriateness of the work for consideration in the conference. Papers and presentations will be selected from the open call, as well as by special invitation. Submissions will be reviewed by the AEI Technical Proceedings Sub-committee (TP) for decisions on acceptance. Criteria used to review and evaluate the abstracts/sessions include, but are not limited to, technical content, quality of presentation and the goals of the AEI Conference Committees.

Abstracts/proposals should be clearly marked with the names, titles, credentials and affiliations of authors and co-authors, presenters and co-presenters. The name, organization, address, phone number, and email address of the primary author/presenter should be included.


Authors whose abstracts and/or final papers are selected for inclusion in the technical program will be required to register for the conference at the appropriate fee, attend the conference, and make their presentations in person.

All sessions will be offering professional development hours (PDHs) to conference attendees.

Please note that it is the author’s/presenter’s responsibility to obtain any necessary permissions and/or approvals from employers, project owners, clients, photographers, or other parties prior to final submission. Material included in your submission from previously published sources, including the Internet, may require permission from the copyright holder of that publication or website. It is the author’s responsibility to obtain the permission for reuse of this material and include the appropriate credit information in the paper or presentation.

Call for Papers

Authors of accepted abstracts, who wish to be published and present at the conference, are required to submit a 10-12 page final paper for inclusion in the proceedings. The proceedings will be copyrighted and published electronically by ASCE (on a CD or other media). Authors may submit individually or as part of group (3-5 abstracts) to form a full session proposal. Please note that PowerPoint presentations will not be published by ASCE, but will be distributed separately. Please note that abstracts are required however papers are not required.

Call for Presentations

AE practitioners proposing a presentation only are encouraged to focus subjects on the most current industry practices in a vendor neutral format. They may be developed by single or multiple presenters, or may form a panel discussion. Please note that PowerPoint presentations will not be published by ASCE, but will be distributed separately.

The Technical Program and AEI Build

The AEI Conference technical program will be developed on the latest AEI initiative called AEI Build. AEI Build draws on the best ideas in design, construction, and maintenance of buildings and offers the Architectural Engineering community a new resource of innovative research, new developments, and best practices in eight practice focus-areas of the architectural engineering profession: Deliver, Enclose, Learn, Modular, Perform, Resilient, Secure, and Sustain.

The AEI Build initiative was developed in response to increased hazards and their effects on the built environment. It provides a technical forum to amass a growing knowledge base for the Architectural Engineering community to discuss, debate, and share new ideas that affect a more pronounced change in the design, construction, and maintenance of buildings.

The AEI Build initiative is one of several strategic steps embraced by the AEI Board of Governors to help realize the Institute’s vision to be the worldwide resource for the advancement of the design and construction of integrated buildings.

For more information please visit the website at AEI Build, [www.asce.org/architectural-engineering/aei-build](http://www.asce.org/architectural-engineering/aei-build).
DESTINATION

Conference Hotel
Sheraton Oklahoma City Downtown Hotel
1 North Broadway Avenue
Oklahoma City, OK 73102
(405) 235-2780
www.sheratonokc.com

Oklahoma City: “The Big Friendly”

Known as “The Big Friendly,” Oklahoma City is a bustling hub on the southern Great Plains. With its rugged Western past, stockyards, and working oil wells, it’s rich cowboy culture blends with its vibrant metropolitan life.

Many of the city’s top sightseeing attractions are set in the historic former warehouse district of Bricktown. Museums, event venues, and restaurants create a picturesque neighborhood on the Bricktown Canal with its small water taxis. Here are some of the sites waiting for you to discover:

- Oklahoma City Zoo
- Oklahoma City Museum of Art
- National Cowboy and Western Heritage Museum
- Myriad Botanical Gardens
- Museum of Osteology
- Oklahoma History Center
- 45th Infantry Division Museum
- Horse shows – both cowboys and cowgirls, but as the Horse Show Capital of the World, Oklahoma City attracts the best equestrian riders from across the nation and around the world as well!

ON EXHIBITING

Showcase your company at an exhibit table during the AEI CONFERENCE where attendee networking events and food and beverage breaks take place several times a day. Please contact Drew Caracciolo, ASCE Sales, at dcaracciolo@asce.org or at (703)295-6087. Please visit the conference website at www.aei-conference.org for more information.

ON SPONSORING

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KEY DATES

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Abstract Acceptance/Rejection Notification May 16, 2016
Draft Papers Due July 30, 2016
Peer Review Comments Available to Authors September 15, 2016
Registration Opens October 9, 2016
Final Papers Due November 18, 2016

Local Planning Committee

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

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Kevin Bahner, 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
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Adam Hapij, P.E., M.ASCE, Thornton Tomasetti / Weidlinger Applied Science Practice, New York City, NY
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ASCE Staff

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Verna L. Jameson, Aff.M.ASCE, Manager, Architectural Engineering Institute
Meredith Johnson, Manager, Conferences & Meeting Services
Trista Boyd, Administrator, Conferences & Meeting Services

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SUGGESTED CONFERENCE TOPICS

Topics listed in **bold italics** are focused topics and the committee encourages proposals for these special sessions.

**BUILDING CODES**
- Community resilience through building codes
- Economic impact of resiliency in building codes
- Integrating resiliency into building codes
- Multi-hazard mitigation strategies in building codes

**BUILDING ENVELOPE**
- Curtain wall design and retrofit
- Dynamic façade systems
- Innovative products for curtain walls
- Policy and incentives for high performance design
- Resiliency of building envelopes
- Service life and construction criteria
- Solar design
- Structural sealant glazing systems
- Thermal behavior and design
- Transparency, photovoltaics, “smart glass”
- Wind-borne debris resistant curtain walls

**BUILDING MATERIALS**
- Building sustainability
- Composite and innovative materials in buildings
- Polymer composites
- Properties of materials (creep, durability, etc.)
- Resiliency of building materials

**BUILDING STRUCTURAL SYSTEMS**
- Blast resistant design for buildings
- Connections and anchors
- Design guides, codes and standards
- Wind load design
- Earthquake design and retrofit
- Improving the resilience of building structural systems
- Progressive collapse methods
- Reliability of building structural systems
- Structural characterization and validation
- Structural design of buildings for serviceability
- Structural modeling and analysis
- Vibration and deflection control and serviceability

**BUILDING MECHANICAL SYSTEMS**
- Bio fuel cells in building design
- Building energy performance
- Chilled beams and retrofitted induction unit technology
- Commissioning
- Control systems
- Improving the resilience of building mechanical systems
- Innovative heating and cooling technologies
- Reliability of building mechanical systems
- Retrofit of mechanical systems within existing buildings

**COMMUNITY PLANNING FOR RESILIENCE**
- Can we effectively plan for multiple hazards?
- Economic impact of community resilience
- Role of community planning in recovering from hazards

**INTEGRATED SYSTEMS**
- Carbon neutral, net-zero-energy, zero-carbon and self-sustaining buildings
- Controls systems
- Design process visualization and integration
- Performance-based engineering
- Smart buildings and urban environments

**BUILDING ELECTRICAL AND POWER SYSTEMS**
- Distributed generation and cogeneration
- Energy harvesting from non-traditional sources
- Improving the resilience of building electrical and power systems
- Integration of fire protection, egress and communication systems
- Powering low demand devices
- Reliability of building electrical and power systems
- Strategic planning for integration and optimization of flows
- Sustainable energy initiatives

**BUILDING SECURITY**
- Building security assessment
- Building security standards
- Continuity of operations
- HVAC security design
- New sustainable materials in fire and life safety systems
- Protection of buildings from chemical and biological threats
- Rapid alert systems for building occupants (dynamic route guidance systems, integrated audio/video technology, wireless systems, etc.)
- Security for critical infrastructure protection
- Sheltering in place

**SUSTAINABILITY**
- Are sustainability and resiliency at cross-purposes?
- Impact of LEED on resiliency
- New ideas in sustainability
- Resiliency through sustainability

**ARCHITECTURAL SYSTEMS/INTERIOR DESIGN**
- Acoustics
- Fire Protection Systems and smoke containment
- Healthier and safer buildings for families with children
- Improve the social-communal experience of occupants
- Integration of buildings in historic urban districts

**DESIGN AND CONSTRUCTION**
- Building integration solutions
- Construction project control
- Cost and economics considerations
- FIAPP, BIM, Interoperability
- Front-end planning for buildings
- Life-cycle perspective and cost analysis
- New construction methods and systems for complex projects
- Operational service considerations in facility management
- Performance of constructed facilities
- Planning: methods and applications
- Productivity studies
- QA/QC testing
- Role of LEED/sustainability in the construction process
- Strategies to increase the speed of construction (e.g., lean)

**FORENSIC STUDIES AND LESSONS LEARNED**
- Behavior of facilities during extreme events
- Building failures: structures, foundations, envelope, etc.
- Building robustness studies
- Multi-hazard reliability and risk assessment

**ARCHITECTURAL ENGINEERING EDUCATION**
- Architectural engineering capstone design courses
- Emerging trends in AE education in the United States
- FE Exam – What’s best for the AE student? How do we make it better?