

# Technical Program

Thursday, September 18

1:30 pm - 3:00 pm

Concurrent Technical Sessions — Period 1

## Session 1A Structural Borne Noise and Vibration

Floor Vibrations in Laboratories: New Research, New Answers

*A. Yazdaniyaz, A. Carlson, S. Bui*

Enhancing Damping and Stiffness Properties of Floors With Viscoelastic and Composite

*A. Ebrahimpour, J. Martell*

Plumbing Appliance Noise - It Can Now Be Measured

*R. Thomalla*

Vibration and Acoustic Isolation of the Dallas Convention Center

*S. Campbell, Ph.D.*

Microvibration Design of Semiconductor Facilities

*A. Bayat, J. B. Davis*

## Session 2A Architectural Considerations

Opera House: An Integrated Approach to Complex Building Design - Specialist Environmental Analysis

*G. Palmer*

High Technology Architecture

*M. Kelly*

The Evolution of Health Care Delivery and Facility Design

*E. Partl*

Accessible Seating in Movie Theaters

*J. Rickard, K. Moore*

## Session 3A HVAC Design

Optimizing Ceiling Fan Locations with CFD

*R. Aynsley, M. Ali*

Humidity Control in Confined Building Spaces Using Liquid Desiccant Dehumidifier — Conceptual Investigation

*D. Dong, M. Liu*

Application of On-line Simulation for Building Energy System Fault Detection

*L. Song, M. Liu, D. Claridge, P. Haves*

Heat Transfer Analysis of Floor Heating Systems

*D. Sun, H. Chen, J. Zhang*

Evaluation of Ceiling Heat Fluxes in Residential Buildings

*M. Medina, M. Frempong*

## Session 4A Management 1

Interdisciplinary Design Case Studies in Europe and Southeast Asia

*G. Pearce, R. Frewer*

A Design-Build Risk-Sharing Partnership

*S. Klepper*

Project Management

*D. Brewer*

Interdisciplinary Coordination with the Civil Engineer

*D. Brewer*

3:30 pm - 5:00 pm

Concurrent Technical Sessions — Period 2

## Session 1B Fiber Reinforcement

Structural Application of Precast Fiber-reinforced Cellular Concrete in Composite Sections

*R. Zollo, C. Hays*

Damaged Unreinforced Masonry Walls Strengthened with Fiber-Reinforced Polymer Bars

*S. Baur*

Experimental Study of CFRP

Strengthening of Reinforced Concrete Beams

*C. Issa*

Shear and Flexural Strengthening of Masonry Infill Walls with FRP for Extreme Out-of-Plane Loading

*J. Myers, P. Carney*

## Session 2B LEEDS

Case Studies of Masonry as a Sustainable Material

*B. Trimble, E. Johnson*

A Macroscopic View of Sustainable Design in the Built Environment

*E. Tirador*

Systems Integration: Automotive Research Center

*R. Hammann*

How to Maximize LEED Points Using Concrete

*M. VanGeem, M. Marceau*

LEEDing the Transformation of Building Materials

*K. Rosa*

## Session 3B HVAC

Retrofit of the Historic Peekskill Theater

*S. Kumar, N. Raad, R. Antonucci, A. Vedavaz*

The Room Temperature Control during Season Switch with Single Duct Variable Air Volume System without Reheat

*C. Lieu, S. Deng, H. Brunner, W.D. Turner, D. Claridge*

Condition Assessment, Re-commission, and Measurement & Verification: A Multi-year Study of Army Buildings

*P. Rojas*

Single-Duct Constant Air Volume System Supply Air Temperature Reset: Using Return Air Temperature or Outside Air Temperature?

*G. Wei, W.D. Turner, D. Claridge, M. Liu, C.W. Beamer, D.S. Houglund*

## Session 4B Management 2

Planning Charettes Using Project Definition Rating Index

*G. E. Gibson, R. Gebken*

Integrated Design in the Work of Foster and Partners/ Ove Arup Partnership

*K. Dong, T. Leslie*

Proven Practices in Design-Build and Fast-Track

*G. Elvin*

The Role of Concealing Work in Fast Track Project Failure

*D. Ford*

Friday, September 19

8:30 am - 10:00 am

Plenary Session

Keynote Address: Fallingwaters: Reconstruction of an Architectural Masterpiece

*Mel Garber, Senior Project Manager, Robert Stilman Associates*

10:30 am - 12:00 Noon

Concurrent Technical Sessions — Period 3

## Session 1C Building Acoustic

Performance Review of Indoor Noise Criteria

*L. Wang, E. Bowden*

Uses and Limitations of Software for Acoustics Prediction and Auralization in Building Design

*R. Torres*

Acoustic and Illumination Design and of Conference Rooms

*R. Muehleisen*

Fundamental Considerations in Using Controlled Noise to Increase Speech Privacy in Open Plan Offices and Similar Spaces

*R. Coffeen*

Parametric Understanding on Integration of Architectural Design and Sound Issues in Small Scale Churches - Session Moved

*Q. Ciao*

## Session 2C\* Codes and Standards 1

Introduction to the C3 Code Set

*A. Fraser*

Integration of Administration and Enforcement

*A. Fraser*

*\*Special session by NSPA*

## Session 3C IAQ

Integrated HVAC System Design and its Impacts on Indoor Air Quality and Energy Consumption

*Y. Cui, M. Liu*

Benchmarking Indoor Air Quality in Elementary Schools

*M. Sanders, R. Corsi, V. Torres*

Predicting the Impact of Building Material Selections in Indoor VOC Concentrations

*JS Zhang, X Gao, Z Zhang, TQ Dang*

## Session 4C Multi-Hazard Approach

Multi-hazard Approach to Structural System Selection

*S. Baldrige*

Broader Solutions for a Multi-Hazard Environment

*S. Hirsch*

Holes in a Chicago Skyline: Why Building Integrated Solutions Fail to Attract Money

*J. H. Strothman, J. C. Strothman*

Designing Schools for Multiple Natural Hazards

*A. Gardner*

## Earn Up to 12 Professional Development Hours (PDHs)

This conference offers up to 12 PDHs for attending the plenary and concurrent sessions. Your on-site registration packet will contain more information concerning ASCE's voluntary continuing professional development program.

1:30 pm - 3:00 pm

Concurrent Technical Sessions — Period 4

**Session 1D  
Seismic**

Seismic Retrofitting of School Buildings in the Mid West  
*N. Uddin, T. Muarer*

Development of Innovative Timber Technologies  
*R. Tomasi, M. Del Senno, F. Paganini, M. Piazza*

Recent Developments in Seismic Isolation Systems for Masonry Infill and Brick Veneer Walls  
*A. Memari*

Earthquake Damage Resistant Architectural Glass Panels  
*R. Behr, P. Kremer, A. Memari*

**Session 2D\*  
Codes and Standards**

Working Design with Codes  
*N. McNabb*

Managing the Existing Built Environment  
*N. McNabb*

\*Special session by NSPA

**Session 3D  
Building Automation**

High Accuracy Temperature Control in Metrology Laboratories  
*T.Zsirai*

Development of an Expert System for the Calculation of Building Design Cooling Load  
*L. Goa, B. Hua, and Y. Lu*

Computer-Assisted Learning of Energy Implication of Architecture Design  
*A.Mokhtar*

Integrating Ducts in the Conditioned Space: Successes and Challenges  
*J.Siegel, I. Walker*

Neural Network Based Prediction of the PMV Index  
*L. Goa, B. Hua, and Y. Lu*

**Session 4D  
Building Operations**

The Importance of Lighting Maintenance: A Case Study  
*R. Davis*

The Capturing of POE Data in Semantic Building Models  
*D. Patil, G. Augenbroe*

Benchmarking of a Building Performance Assessment Toolkit  
*C.S. Park, G. Augenbroe*

Intelligent Built Environmental Systems for Human Health, Productivity, Security and Sustainability  
*J.S. Zhang*

3:30 pm - 5:00 pm

Concurrent Technical Sessions — Period 5

**Session 1E  
Technology**

Trends in Advanced Technology: What Facilities will be Needed?  
*J. Munday*

Siphonic Roof Drainage and the Boston Convention and Exhibition Center: "Defying Gravity"  
*J. Rattenbury*

Introduction to Architectural Aspects and Developments in Research on Structural Performance of Autoclaved Aerated Concrete (AAC) Products  
*A. Memari, M. Chusid*

Steel Framing in Single-Family Residential Applications; Is It Practical?  
*H. D. Braden*

**Session 2E  
Codes & Standards**

SEI/ASCE 37-02 Design Loads on Structures During Construction Standard — A Tutorial on Its Substance and Use  
*SEI Committee Representative*

The Design of Airport Traffic Control Towers as They Relate to Model Codes  
*G. Johnson, W. Cooper, D. Patrick*

Codes and Standards Resource Tool for Advanced Technology Facilities  
*A. Chasey, J. Jones*

**Session 3E  
New Building Commissioning**

Beyond Conventional Building Commissioning - Delivering Total System Performance  
*D. Dodds*

New Building Commissioning Session  
*C. Hawkins*

Introduction to the DOE Continuous Commissioning Guidebook - Maximizing Building Energy Performance and Efficiency  
*M. Liu, D. Claridge, D. Turner*

**Session 4E  
Education and Ethics**

Teaching Building Integration: Using Campus Buildings for Active Learning  
*R. Davis*

Enhancing Architectural Engineering Education Through Industry and Practitioner Partnerships: A Case History and Lessons Learned  
*M. K. Parfitt, J. Dougherty, L. Geschwinder*

Educational Paradigms for Integrated Building Systems  
*L. Bachman*

A Method for Resolving Ethical Problems in the Engineering Profession  
*D. Brewer*

Saturday, September 20

8:30 am - 10:00 am

Concurrent Technical Sessions — Period 6

**Session 1F  
Building Envelope**

Full-Scale Performance Evaluation of Wood-Frame Building Envelopes  
*M. Horvat, P. Fazio*

Energy Efficient Precast Concrete Envelope for Residential Construction  
*W. Holmes, M. Liu, M. Tadros*

Moisture Intrusion Detection System for Exterior Cladding Systems  
*B. Hickey*

Responsibility and Innovation of Facades  
*T. Mejicovsky, K. Settlemyre*

**Session 2F  
Structural**

A Comparative Sustainability Assessment of Standard Housing Blocks in Hong Kong and Proposed Integer Concept Tower Alternative  
*A. Amato, R. Frewer, S. Humphrey, C. Boonstra*

Integrated Computer-Based Approach for Conceptual Structural Design  
*R. Mora, C. Bedard, H. Rivard*

The Unbonded Brace - A New Age Solution Integrating Basic Structural Principles  
*K. Dong, E. Ko*

New Technology in Concrete Reinforcing  
*M. Barrett*

**Session 3F  
Continuous Commissioning**

Continuous Commissioning Efforts to Solve Chiller Sequencing and Loading Problems  
*M. Abbas*

Continuous Commissioning: Impacts on Building Energy and System Operation - An Engineer View  
*Y. Zhu*

Continuous Commissioning of a Large Campus with Multiple Buildings  
*G. Wei*

Operating Strategies for Campus Cogeneration Systems in a Turbulent Utility Market  
*S. Deng, T. Haggie, J. Harless, T. Bading*

**Session 4F  
Business**

In Pursuit of Catalysts for New Technology - A Case for Qualifications-Based Selection (QBS) of Professional A/E Services  
*S. Christodoulou, F.H. Griffis, L. Barrett, M. Okungbowa*

Bill for Value and Profit  
*M. Webber*

Partnering: Tool for Claims Reduction  
*K. Siddiqi, V. Voyton*

Determination Factors of Premium Rate in CAR  
*C. Hyun, K. Koo*

10:30 am - 12:00 Noon

Concurrent Technical Sessions — Period 7

**Session 1G  
Retrofit and Existing Buildings**

An Open Building Strategy for Building Conversion  
*S. Kendall*

Retrofit Abstract for Sinclair Hall  
*J. Muscarella*

Framework for Assessing the Performance of Building Systems  
*T. Gentry, G. Augenbroe, C. Park, H. Moon*

**Session 2G  
Design**

Evaluation of Tensile and Bearing Capacities of Cold-Formed Steel Connections Attached with Pneumatically Driven Pins  
*S. Baur*

Design Methodology for Airport Traffic Control Tower Cab Glass  
*S. Norville, G. Johnson*

Shear and Flexural Strengthening of Masonry Infill Walls with FRP for Extreme Out-of-Plane Loading  
*J. Myers, P. Carney*

Structural Analysis of the 50-foot Tall Gate Sculpture Commemorating the 9-11 Tragic Event  
*F.Park*

**Session 3G  
Commissioning+H27**

Continuous Commissioning Leading Retrofit Process / Case Study  
*K. Hansen, J. Wang*

Using Design Phase Commissioning to Lower Costs and Improve Project Quality  
*D. Sellers*

Commissioning a Dual-duct Constant Volume System without Converting to a VAV System  
*I. Joo, M. Liu*

Integrated Whole Facility System Optimization through Continuous Commissions: A Case Study  
*G. Wang, I. Joo, L. Song, M. Liu*

**Session 4G  
FIAPP**

Technology Utilization on Building Projects and Associated Impacts on Project Success  
*J. O'Connor, S. Won, L. Yang*

Strategic Management for Applying CAD-Based Project Management Systems and FIAPP — A Business Process Re-Engineering Approach  
*E. Chang*

FIAPP-Based System for Architectural Project Planning  
*L. Barrett*

Fully Integrated and Automated Project Processes (FIAPP) in Building Construction and Renovation — A Brick at a Time  
*K. Subsomboon, S. Christodoulou*