

Hurricane Hugo 20th Anniversary Symposium on Building Safer Communities –Improving Disaster Resilience

Charleston, South Carolina • October 22 – 23, 2009

PROGRAM AND REGISTRATION INFORMATION

The Purpose of the Symposium is to commemorate the 20th Anniversary of Hurricane Hugo by soliciting and presenting new information on (1) significant changes in coastal construction practices since Hurricane Hugo; (2) state of the practice ideas and research results that will benefit both design professionals and builders/developers in improving building safety and community resilience in hurricanes; and (3) issues affecting building safety and damage reduction that still need to be resolved.

Symposium Program. The *Symposium* program has been designed for structural engineers, architects, building officials, product manufacturers, contractors, developers, and researchers concerned with improving coastal construction practices in hurricane-prone areas.

Symposium Proceedings. Papers presented at the *Symposium* will be published in the *Symposium Proceedings*, which will be distributed on CD-ROM at or shortly after the *Symposium*.

Symposium Dates and Location

October 22 – 23, 2009

Embassy Suites Hotel Airport/Convention Center
5055 International Boulevard
North Charleston, SC 29418
Phone: 843-747-1882

Registration Information. The *Symposium* registration fee is \$225 (\$200 for ATC Subscribers with verification of current subscription) and includes *Symposium* Program, Proceedings, luncheons, reception, and coffee breaks. A late fee of \$50 will be applied to registrations postmarked or submitted online after Thursday, October 15, 2009.

Persons interested in registering for the Symposium can do online at www.ATCouncil.org, or by printing the registration form from the ATC website and returning with payment to:

Applied Technology Council
201 Redwood Shores Parkway, Suite 240
Redwood City, California, 94065
Phone: 650-595-1542, Fax: 650-593-2320
e-mail: atc@atcouncil.org

Continuing Education Units (CEUs). Participants will receive documentation for 1.275 CEUs or 12.75 equivalent hours.

Sponsoring Organization

Applied Technology Council
201 Redwood Shores Parkway
Suite 240
Redwood City, CA 94065
Phone: 650-595-1542
Fax: 650-593-2320



Current Symposium Financial Sponsors:



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Co-Sponsoring Organizations

- ASCE South Carolina Section
- Clemson University
- NOAA Coastal Services Center
- North Carolina Sea Grant
- South Carolina Sea Grant
- Structural Engineers Association of South Carolina
- The Citadel



Steering Committee. William Coulbourne (Chair), ATC; Robert Bacon, South Carolina Sea Grant; Sandy Eslinger, NOAA Coastal Services Center; Bernadette Hadnagy, ATC; Timothy Mays, Citadel; Spencer Rogers, North Carolina Sea Grant; Christopher Rojahn, ATC; Scott Schiff, Clemson University; Tom Smith, TlSmith Consulting.

Hotel Reservations. A block of guest rooms is being held at the Embassy Suites Hotel Airport/Convention Center at the rate of \$159 for a single or double occupancy room. The room block cut-off date is September 21, 2009. For room reservations, contact the Embassy Suites Hotel directly (1-800-EMBASSY or by calling the hotel directly at (1-843-747-1882) and specify the "ATC" room block..

SYMPOSIUM PROGRAM

Hurricane Hugo 20th Anniversary Symposium on Building Safer Communities –Improving Disaster Resilience

Embassy Suites Hotel Airport/Convention Center
5055 International Blvd., N. Charleston, SC 29418

THURSDAY, OCTOBER 22, 2009

- 8:00 a.m.: Symposium Registration
8:30 a.m.: Welcome and Introduction; *William Coulbourn*,
ATC; *Keith Summey*, *Mayor of North Charleston*
9:00 a.m.: Opening Plenary: Could Hugo Happen Again?;
Margaret Davidson, *NOAA Coastal Services Center*

10:00 a.m.: Coffee Break

COASTAL RISKS AND IMPACTS

Chris Jones, Moderator

- 10:15 a.m.: The Role of Pre-Storm Beach Conditions on Hugo
Oceanfront Damage; *Timothy Kana*
10:35 a.m.: The Evolution of Coastal Storm Surge Modeling
and Flood Mitigation for Coastal South Carolina;
Jonica Gibson
10:55 a.m.: Risk-Consistent Design Criteria for Coastal
Structures Exposed to Surge and Waves; *Long Phan*
11:15 a.m.: Impact of Sea-Level Rise on Current Building
Codes in Coastal Communities; *Adam Reeder*
11:45 a.m.: **Lunch, with Invited Speaker Peter Sparks,**
Prof. (retired), Clemson University

TOOLS OF THE TRADE FOR CREATING DISASTER RESILIENCE - SESSION 1

Timothy Mays, Moderator

- 12:45 p.m.: Aerodynamic Methods to Mitigate Wind Damage;
Jason Lin
1:05 p.m.: Development of a Synthetic Coastal Surge
Database due to Hurricane for South Carolina;
Weichi Pang
1:25 p.m.: Roof-to-wall connector design values; *Scott Schiff*
1:45 p.m.: What Would a Repeat of Hurricane Hugo Do?;
Philip Schneider

2:30 p.m.: Coffee Break

TOOLS OF THE TRADE FOR CREATING DISASTER RESILIENCE - SESSION II

Scott Schiff, Moderator

- 2:45 p.m.: Design Method Improvements to Prevent Roof
Aggregate Blow-off; *Jay Crandell*
3:05 p.m.: Design of Wood Frame Structures for Wind and
Seismic Forces—New Technologies for Structural
Design and Material Efficiency; *Bryan Readling*
3:25 p.m.: Surface Drag Coefficient Behavior During
Hurricane Ike: Implications for the ASCE Wind
Load Standard and Hurricane Storm Surge
Forecasting; *Brian Zachry*
3:45 p.m.: Building Resilience and the Role of the Code
Official Immediately after the Disaster; *James
Ryan*
4:30 a.m.: **Symposium Closure, Day 1**
5:30 p.m.: **Reception**

FRIDAY, OCTOBER 23, 2009

HURRICANE DAMAGE REDUCTION – ARE WE GETTING BETTER?

William Coulbourn, Moderator

- 8:30 a.m.: Implementation of Recommendations from Post-
Hugo Studies: Where do We Stand?; *Chris Jones*
8:50 a.m.: FEMA's Mitigation Assessment Team Program—
Where Have WE been and Where Have We Still
to Go?; *Eric Letvin*
9:10 a.m.: Building Code Compliance—Are we Fooling
Ourselves?; *Timothy Rickborn*
9:30 a.m.: Have we Really Seen it all? Storm Damage from
Hugo, Andrew, and Katrina Applied to Other
Metro Locations: Wind Effects, Storm Surge and
Wave Damage; *Janine Pardee*

10:15 a.m.: Coffee Break

IMPROVING RESILIENCE

Robert Bacon, Moderator

- 10:30 a.m.: Adoption of ICC 600; *Scott Sundberg*
10:50 a.m.: Historical Performance of Critical Facilities
Exposed to Hurricanes: Lessons Learned and
Opportunities for Improvement; *Thomas Smith*
11:10 a.m.: Amphibious Foundations-Strategy for Hurricane
Resilient Housing; *Elizabeth English*
11:30 a.m.: Protecting Lives with Shelters and Safe Rooms: 20
Years of Challenges and Successes; *Scott Tezak*
11:50 a.m.: **Lunch, with Invited Speaker Todd Davison,**
Director, Gulf Coast Services Center

WHAT'S ON THE HORIZON FOR TOOL DEVELOPMENT

Thomas Smith, Moderator

- 1:30 p.m.: New Wind Design Guide for Practitioners;
William Coulbourn
1:50 p.m.: Revisiting Wind Uplift Testing of Wood Roof
Sheathing—Interpretation of Static and Dynamic
Test Results; *David Pravatt*
2:10 p.m.: 20 Years of Building Code Changes and Wind
Engineering Technology; *Randy Shackelford*

2:30 p.m.: Coffee Break

RESEARCH ONGOING AND RESEARCH THAT'S NEEDED – A PANEL DISCUSSION

Christopher Rojahn, Moderator

- 2:45 p.m.: Field Data Collection for Hurricane Wind Events;
Forrest Masters
3:05 p.m.: Field Data Collection of Storm Surge and Wave
Height Measurements; *Spencer Rogers*
3:25 p.m.: The Netherlands Flood Experience and What We
Can Learn; *Christopher Rojahn*
4:05 p.m.: Full Scale Wind Tunnel Studies and the Benefits
of this Research; *Timothy Reinhold*

5:00 p.m.: Symposium Closure, Day 2