2022 SSPEED CONFERENCE
POST-HARVEY CLIMATE & FLOOD IMPACTS ON THE BUILT ENVIRONMENT

DAY 1  THURSDAY, APRIL 28, 2022

8:00 - 8:30  REGISTRATION & COFFEE (THE COMMONS)

WELCOME
8:30 - 8:45  Reginald DesRoches, Provost, Rice University
8:45 - 9:10  Philip Bedient, Director, SSPEED Center & Professor, Rice University

SESSION I.  CLIMATE IMPACTS & DISASTERS
9:10 - 9:30  The New Orleans Story: Katrina to Ida
             John Pardue, Professor, Louisiana State University
9:30 - 10:00 Coastal Protection: a Dutch perspective on the Upper Texas Coast
               Baukje "Bee" Kothuis, Chief Dutch Representative, NBSO Texas
10:00 - 10:20 Projected changes in large-scale hydroclimate for the Southern Great Plains in the 21st century: key messages & uncertainties
               Sylvia Dee, Assistant Professor, Rice University

10:20 - 10:40  BREAK (THE COMMONS)

SESSION II.  MEASURING AND MAPPING FLOOD RISK
10:40 - 11:00  Inland Flood Risk and Analysis
               Philip Bedient, Director, SSPEED Center & Professor, Rice University
11:00 - 11:30  Smart Resilience: Harnessing Big Data and AI to Augment Flood Resilience
               Ali Mostafavi, Associate Professor, Director, UrbanResilience.AI Lab, Texas A&M
11:30 – 12:00  Climate Change Impact on Design
               Charlie Penland, Managing Principal, Infrastructure, Walter P Moore

12:00 – 1:00  LUNCH (THE COMMONS)
DAY 1

KEYNOTE

RECENT ANALYSIS OF STORM SURGE IMPACTS FOR PROPOSED COASTAL PROTECTION SYSTEMS FOR HOUSTON-GALVESTON
1:00 - 1:25
Clint Dawson, J.J. McKetta Centennial Energy Chair in Engineering, University of Texas

SESSION III.

FLOOD RESPONSE IN THE BUILT ENVIRONMENT
1:25 - 1:45
Longitudinal Flood Vulnerabilities in Built Environments and Their Association with Resilience and Recovery
Hanadi Rifai, John and Rebecca Moores Professor, University of Houston

1:45 - 2:05
Urban Flood Risk Pt 1: A Shallow Dive
Andy Yung, Principal, Infrastructure, Walter P Moore

2:05 - 2:25
Urban Flood Risk Pt 2: Update on the HCFCD Study
Christina Hughes, Walter P Moore with Todd Ward (HCFCD) and Ataul Hannan (HCFCD)

2:25 - 2:50
BREAK (THE COMMONS)

SESSION IV.

CLIMATE & MODELING OF COASTAL CLIMATE IMPACTS
2:50 - 3:10
Understanding the Role of Sea Level Rise & Changing Storm Climatology on US Compound Flood Hazard
Avantika Gori, PhD Candidate, Princeton University

3:10 - 3:30
Projected changes in Texas hurricanes by the end of the 21st Century
Pedram Hassanzadeh, Assistant Professor, Rice University

3:30 - 3:50
Atlantic hurricane and climate interactions over past two thousand years: Insights from sedimentary records of coastal overwash
Lizzie Wallace, Junior Fellow, Rice University

SESSION V.

ADVANCED FLOOD MODELING & PREDICTION
3:50 – 4:10
Smart Systems for Transportation Mobility and Safety during Floods
Andrew Juan, Research Scientist, Rice University
Pranavesh Panakkal, PhD Candidate, Rice University

4:10 – 4:25
Mesh Modularization Enables Surrogate ML for Hydrodynamic Applications
Matthew Garcia, PhD Candidate, Rice University

4:25 – 4:45
Predictive Flood Modeling System for Urban Flooding & Swiftwater Rescue
Kelsey McDonough, Hydrologic Engineer, Vieux & Associates, Inc.

4:45 – 5:00
How Utilities and Agencies are Leveraging Innovative Tools to Address Flood Risk
Morgan Jackson, Water Resources EIT, Stantec

RECEPTION

PLEASE JOIN US FOR APPETIZERS & DRINKS
5:00 – 6:30

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**FRIDAY, APRIL 29, 2022**

**SESSION VI. MEASURES TO IMPROVE FLOOD RISK ESTIMATES**

8:30 – 9:00  
**Texas Storm Study - Development of Design Storms for Large Watersheds in Texas**  
Simeon Benson, USACE, Fort Worth

9:00 – 9:20  
**Review of the Depth-Area-Reduction-Factor for the Design Storms**  
Daniel Li, Postdoctoral Researcher, University of Texas, Arlington

9:20 – 9:40  
**Improving Design Storm Concepts for Large Watersheds in Texas**  
David Curtis, Sr. Vice President, WEST Consultants, Inc.

9:40 – 10:00  
**Modern Flood Warning Systems and Future Trends**  
Nick Fang, Associate Professor, UT Arlington

10:00 – 10:20  
**BREAK (THE COMMONS)**

**SESSION VII. GOVERNMENTAL ROLE**

10:20 – 10:40  
**Houston’s Resilient Future**  
Carol Ellinger Haddock, Director, Houston Public Works City of Houston

10:40 – 11:00  
**Empowering Decision Makers with the Information They Want**  
Tyler Payne, Project Manager, Community Development & Revitalization, Texas GLO

11:00 – 11:20  
**The Changing Face of Flood Mitigation in Texas – A Success Story in the Making**  
Jerry Cotter, Chief of Water Resources Management, USACE (Fort Worth)

11:20 – 11:40  
**Introduction to Risk Rating 2.0: Equity in Action**  
Gilbert Giron, CFM, MPA, Regional Flood Insurance Liaison, FEMA

11:40 – 12:00  
**Systemic Financial Risk arising from Flood Losses to Residential Properties**  
Greg Characklis, Director, Center of Financial Risk in Environmental Systems, UNC

**SESSION VIII. CONCURRENT SESSIONS**

12:00 – 1:00  
**LUNCH (THE COMMONS)**

**SESSION IX. CONCURRENT SESSIONS**

2:00 – 2:20  
**Defining and Assessing Historic Climate-Driven Trends in Events “Like” February 2021**  
John Nielsen-Gammon, Texas State Climatologist, Texas A&M University

2:20 – 2:40  
**BREAK (THE COMMONS)**

**KEYNOTE**

3:45 – 4:05  
**CLIMATE CHANGE: ENGINEERING METHODS AND THE FUTURE OF THE TEXAS COAST**  
Jim Blackburn, Co-Director, SSPEED Center & Professor in the Practice, Rice

**CLOSE**

4:05 – 4:15  
**THANK YOU FOR ATTENDING SSPEED’S ANNUAL CONFERENCE.**  
Philip Bedient, Director, SSPEED Center & Professor, Rice University