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Rice University's Baker Institute for Public Policy

AccelerateH2O
innovating water in Texas

21ST CENTURY WATER RESILIENCY CHALLENGES: TRENDS AND OPPORTUNITIES

Monday, December 4, 2017
1:00–6:00 pm

James A. Baker III Hall
Rice University

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About the Conference

The series of hurricanes and storms and subsequent flooding that affected the United States in 2017 highlight the need to prudently invest in water resiliency for the future. This is a unique moment for Greater Houston and the Texas Gulf Coast to adopt innovative technologies, best practices and rebuilding strategies to ensure more resilient communities, businesses and civic sectors. It can be a time to integrate successful approaches from around the world through academic, industry, government, foundation and entrepreneurial partnerships. There is also the potential to demonstrate leadership for Texas and other regions as Greater Houston works to develop robust and adaptive infrastructures and services capable of withstanding the impact — and shortening the recovery — from future disruptive events. Join us as we bring together local, regional and international experts to share the lessons they have learned in responding to extreme water challenges. The conversation will span immediate emergency response, longer-term planning strategies, and innovations and partnerships to help achieve water resiliency in the 21st century.

This event is sponsored by the **Baker Institute Center for Energy Studies** and **AccelerateH2O**.

Organizing Partners

Baker Institute Center for Energy Studies

The Baker Institute Center for Energy Studies (CES) provides new insights on the role of economics, policy and regulation in the performance and evolution of energy markets. Independently and through collaborations with other Baker Institute programs, Rice University faculty, and scholars from around the world, the CES consistently produces data-driven analysis to support a deeper understanding of local, national and international political and economic issues impacting energy markets. Programs at the CES center on economic modeling and forecasting, the nexus between energy and environment, and emerging technologies, regulations and geopolitical risk. Thus, the CES provides policymakers, corporate leaders and the public with a nonpartisan, high-quality and data-driven analytical voice on energy and environmental issues that often can be politically divisive.

AccelerateH2O

AccelerateH2O engages with public water utilities, private industries, academic and nonprofit research institutions, entrepreneurs, and investors to remove barriers and limitations for innovating water by using the world's best technologies, products, services and integrated solutions. By generating Technology Roadmaps, InvestH2O Forums, Industry Roundtables and full-scale Demonstration Hubs, AccelerateH2O identifies alternative programs, methodologies and applications that ensure water is reused, conserved and better managed. It discovers, invests in and promotes new and existing technologies that have potential to meet needs in Texas' $9 billion water technology market by addressing critical drought, flood and operational challenges. For more information, visit www.acceleratеh2o.org.

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Welcome and Introduction

1:00 pm **Kenneth B. Medlock III, Ph.D.**
James A. Baker, III, and Susan G. Baker Fellow in Energy and Resource Economics and Senior Director, Center for Energy Studies, Baker Institute

Dick Evans
Former Chairman, Cullen Frost Bank; and Co-chairman, AccelerateH2O Advisory Committee

Flood Resiliency Update

1:20 pm **Stephen Costello**
Chief Resilience Officer and "Flood Czar," City Houston

International Lessons on Innovation and Resiliency to Extreme Water Events

1:45 pm *Examples of lasting international strategies for integrated urban designs, innovative technical solutions, and alternative public and private sector practices that could be adapted for Greater Houston and Texas*

Moderator: **Dale Morris**, Senior Economist and U.S. Water Management Coordinator, Royal Netherlands Embassy

The Netherlands has established a team of global experts to address emergency response, ongoing water challenges and long-term resiliency strategies that have the potential to be adapted for Texas and other U.S. regions after Hurricanes Harvey, Katrina and Sandy. Morris will address a comprehensive, strategic plan that includes infrastructure, operations, risk mitigation and technology-innovation development.

Danny Lacker*
Senior Vice President, Water Security and Emergency Services Divison, Israel Water Authority

The Israel Water Authority, in conjunction with the Israeli Ministry of National Infrastructure, Energy and Water Resources and Mekorot, the Israeli national water company, has organized rapid emergency response to water quality challenges, which includes pre-positioned water resource delivery to 30,000 customers and industrial end users. These delivery platforms have provided solutions for a variety of extreme water events in Israel, as well as in remote locations for the United Nations. In addition, the Israel Water Authority is the lead agency for connecting water management with cyber security and the Internet of Things data exchange applications.

Karoly Gombas*
Representative, Danube River Basin Initiative

The Danube River Basin Initiative is a multicountry, multi-institutional approach to long-term flood and storm management issues that impact various ports, facilities, public and private infrastructure, and business continuity and community resilience. Using geographic information systems and other tools for digital mapping, data collection and analytics, the initiative has developed innovations that have the potential to address upstream flood-related risks and impacts to Greater Houston, including areas managed by the Trinity, Colorado, Brazos and Neches River Authorities.

Run Wang, Ph.D.*
Hubei University, and "Sponge City" Representative, Wuhan, China

After the September 2016 flood in Wuhan and Hubei Province — which was similar to Hurricane Harvey in terms of magnitude and impact — the region was designated as the pilot location for the national and provincial Sponge City Initiative to address fast-paced growth, reduction in ground cover and other effects of economic success that require immediate and long-term sustainable water management and resiliency. Wang is the lead contact for the region.

Piet Dircke
Global Leader for Water Management, Arcadis

Hank Habicht
Managing Director, U.S. Water Partnership

Habicht, former deputy administrator of the Environmental Protection Agency under President George W. Bush, now serves on the board of the U.S. Water Partnership, whose mission is to mobilize the best of U.S. expertise, resources and ingenuity to address global water challenges. Members of the organization include former secretaries of state, CEOs of Fortune 500 companies, and people with ties to global networks of water operations, infrastructure, investment and strategic planning entities.

* Joining via video conference

3:15 pm Break and refreshments in Doré Commons

Innovative Water Technology Demonstration Hub for Municipal Optimization and Water Resiliency

3:30 pm **Carol Haddock**
Interim Director, Public Works & Engineering, City of Houston

Richard Seline
Executive Director, AccelerateH2O

National Strategies for for Water Innovation and Resiliency

3:45 pm *Examples of coordinated and collaborative strategies for regional water innovation and resiliency programs, resource allocation and project implementation: How adapting global strategies and technology-driven investments can shape water resiliency for long-term regional growth and economic competitiveness*

Russ Conser
Former Senior Vice President, Shell GameChanger; and Member, AccelerateH2O Advisory Board

Justin Ehrenwerth
President and CEO, The Water Institute of the Gulf

David Waggonner
President, Waggonner & Ball Architects; and Senior Advisor to Hurricane Sandy and Northeast U.S. Recovery-Rebuild Programs

Summary, Next Steps and Closing Remarks

4:45 pm **Richard Seline**
Executive Director, AccelerateH2O

Michael D. Maher, Ph.D.
Senior Program Advisor, Center for Energy Studies, Baker Institute

Adjourn

5:00 pm Networking and refreshments in Doré Commons