

Quarterly Connection

A NIBS Member Newsletter

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Feature Story

The Return of BEST

After a six-year hiatus, NIBS brought back the in-person [Building Enclosure Science and Technology conference](#) on March 19-20.

Building enclosure experts and BEST6 attendees didn't miss a beat.

The conference took place at the Sheraton Austin Hotel at the Capitol in Austin, Texas.

This year's theme was "The Next Generation of Building Technology," focusing on building safety, resilience, durability, sustainability, and occupant comfort in two tracks: building science and building practice.

Technical sessions covered everything from optimizing retrofitting and increasing building performance to monitoring for design resilience and challenges of practice.

BEST6 keynote speaker, Sam Rashkin, Founder of Housing 2.0, discussed why climate change is an existential threat and how reducing carbon emissions plays a crucial role in righting this ship.

Low-carbon buildings have the capacity to change everything, he said.

BEST6 Highlights

In a session on the first day of BEST6, Graham Finch, with RDH Building Science Inc., presented on Managing Aesthetic Expectations from Weathering of Wood Claddings with Clear Finishes.

“We’re seeing more wood being used in exposed locations with mixed results,” he said. “Wood claddings are excellent building science litmus paper. You can tell where it’s wet ... [where there is] fungal and mildew growth. We’re seeing bigger and bigger projects exploring the use of wood.”

The desire nowadays seems to be modern wood claddings with clear finishes. Finch said the “ultimate holy grail is uniform natural weathering, which is very hard to achieve.”

Finch’s conclusion: It’s useful to compare performance of different stain types and see failure mechanisms to estimate maintenance requirements.

BEST6 was made possible through the generous support of our sponsors, including Tremco Construction Products Group; Kingdom of Saudi Arabia; Salas O’Brien; Wiss, Janney, Elstner Associates, Inc.; International Institute of Building Enclosure Consultants; Compass Datacenters; Air Barrier Association



of America; AIA Austin Building Enclosures Council; Prosoco; Tenmat; York Flashings; Terracon; AABC Commissioning Group; Architectural Record; and Greenroofs.com. [Read More>>](#)

A Look Ahead at Building Innovation

2024 brings many more NIBS signature events, including Building Innovation 2024, which takes place May 22-24, at the Capital Hilton in Washington, DC. Building Innovation brings together a unique group of individuals – government agencies, contractors, architects, scientists, and more – to meet, network, and learn about tools, technologies, groundbreaking research, and case studies that affect the built environment.

Also in 2024, NIBS celebrates 50 years of service to the U.S. built environment. [Read More>>](#)



NBIMS V4 Launch

NBIMS – United States Version 4 Scheduled for April Hard Launch

Last fall, the National BIM Standard – United States Version 4 was softly launched during the Building Innovation conference in Washington.

Building Innovation attendees learned why having a U.S. standard for building information management (BIM) is important and how it aligns with other international BIM standard efforts, such as ISO 19650 and the Industry Foundation Classes.

NBIMS v4 is very different than our previous versions of NBIMS, said John Messner, Chair, National BIM Standard - US Planning Committee and Architectural Engineering Professor with Penn State University, during Building Innovation.

“This isn’t just a new progression,” Messner said. “This is a new direction for the National BIM Standard. The challenge was how to develop clear, industry-focused standards and guidelines for facilities including buildings and infrastructure.”

Addressing Industry Challenges Around Information Management

The National Building Information Management Standard-United States was developed to address industry challenges around information management in a fragmented networked industry. While emerging database technology, such as BIM, enables designers, contractors, and owners to create and exchange information in unprecedented ways, implementing these technologies in the construction industry is more difficult.

The construction industry needs to be able to specify the data structure and content as well as establish coordination processes and practices across the industry network.

This is where NBIMS-US comes in – by creating standard data requirement specifications and structures for BIM uses and information exchanges.

The previous version of NBIMS-US was a collection of standards and guidelines that supported the implementation of building information modeling in planning, design, construction, and operations of buildings and infrastructure in the U.S. and beyond; however, additional and new content was needed.

A Fresh Take on Consensus-Based Standards

The latest version of NBIMS-US provides a fresh take on consensus-based standards by defining BIM uses, requirements, and planning, documenting information exchanges, and delivering best business practices for the entire built environment

Version 4 is presented in four primary modules that will allow future versions to be updated more frequently. The Project BIM Requirements (PBR) module is entirely new content and outlines typical BIM requirements for any given project. The PBR enables owners, designers, and contractors to have clear communication and expectations about project requirements, leading to enhanced project outcomes.

The BIM Execution Planning (BEP) module completely revamps previous versions of the BEP tools and serves as a foundational planning document that defines the implementation strategy of BIM for any given project. The BEP module contains updated standards, guidelines, and resources for project teams.

The BIM Uses Definition (BUD) module contains 16 streamlined and consolidated BIM Uses with defined attributes for each. The BUD module provides consistent terminology for the purposes of applying BIM on any given project.

The Construction to Operations Building information exchange (COBie) module contains the latest update to the data schema. COBie provides a standard organization of data that is used to managing and maintain facility assets.

Content That Cohesively Works Together

All four modules contain content that works cohesively together to make up the NBIMS-US. Succinctly, PBR establishes the requirements, BEP provides the planning tool, BUD provides a standard terminology for how BIM is implemented, and COBie provides a data format for exchanging information. In addition to the four modules, the latest version also includes a robust introduction narrative and updated terms and definitions for the industry.

The NIBS web team currently is putting the finishing touches to the new website that will accompany NBIMS-US Version 4. Stay tuned for more updates.

Congressional Briefing

Earthquake and Wind Storm Programs: Saving Lives and Livelihoods

Nearly half of Americans live and work in high seismic regions throughout the United States. These regions currently have \$108 trillion of national building assets.

The work of the National Earthquake Hazards Reduction Program (NEHRP) helps mitigate risk to these buildings and our communities.

Separately, windstorms are responsible for 60% of the nation's total damage from natural disasters. Human and economic recovery from these events can take years – possibly decades. The negative impacts from windstorm damage will only increase as “Tornado Alley” creeps eastward, making future risk mitigation from the work of the National Windstorm Impact Reduction Program (NWIRP) crucial.

Both program reauthorizations – NEHRP and NWIRP – expired in September 2023 and 2018, respectively.

The built environment urges Congress to pass the reauthorization of NEHRP and NWIRP with increased funding to the National Institute of Standards and Technology (NIST) and Federal Emergency Management Agency (FEMA) for critical activities like functional recovery, existing building retrofit design, and lifeline infrastructure standards, as described in the 2011 [NRC Report](#) and the [NEHRP Strategic Plan](#).

On March 7, the National Institute of Building Sciences and industry partners hosted a Congressional briefing at the Rayburn House Office Building to speak with representatives and make an appeal for reauthorization of these programs.

“Building on the successes in seismic design building codes over the past 40 plus years, we now have the science to build communities that recover rapidly after disasters,”



said NIBS Interim President & CEO Stephen T. Ayers. “The implementation must be intentional.”

Protecting the Nation Through Prevention and Preparedness

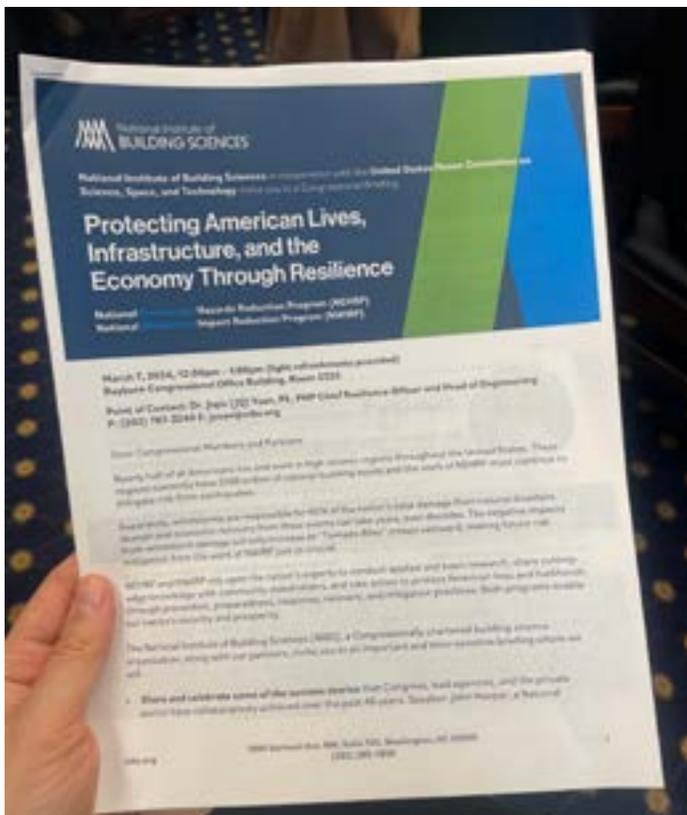
NEHRP and NWIRP rely on the nation’s experts to conduct applied and basic research and share cutting-edge knowledge with community stakeholders. The programs enable our nation’s security and prosperity through prevention, preparedness, response, and recovery.

“I’ve seen what happens when communities aren’t prepared and haven’t mitigated,” said Dr. Lucy Arendt, professor with St. Norbert College and Chair of the NEHRP Advisory Committee on Earthquake Hazards Reduction, during the briefing. “People are displaced from their homes. Schools are closed. Businesses shutter. There’s a lot of trauma.”

Arendt said investment in knowledge, time, and money prior to a severe disaster is significantly less than the cost to help communities recover from a major threat.

Daniel Kaniewski, a former FEMA deputy administrator and member of the NIBS Multi-Hazard Mitigation Council, said the term “hazard mitigation” is just a “fancy way of saying strengthen the built environment.”

“There is a resilience gap between where we are today and where we should be as a resilient nation,” Kaniewski said. “I saw firsthand the collapse of infrastructure. These are things you might not see because it’s buried underground. But without water and power, that community cannot recover. Lifeline infrastructure needs to be restored quickly and efficiently.” [Read More>>](#)



Columns

Consultative Council Issues Report on Access to Clean Water and Sanitation

In February, the NIBS Consultative Council issued a new report entitled **Clean Water, Sanitation, and the Built Environment**, focusing on how commercial and residential buildings access and use water resources.

The water and sanitation access report calls for:

- Improved and increased data collection efforts regarding water access, quality, and use in households and buildings.
- Increased market share for WaterSense and other efficiency programs, expansion of the use of alternate

water sources, and increased focus to water efficiency as it relates to energy efficiency.

- Increased funding for centralized and decentralized water and sanitation infrastructure, especially for projects in underserved communities, and support for strong water treatment standards.

“The development of a national strategy to provide sustainable water and sanitation services to rural and disadvantaged communities is of critical importance,” said Stephen T. Ayers, Interim President & CEO, in a release. “Part of this must include increased funding for water sector workforce programs to ensure a pipeline of future skilled workers.”

The Clean Water and Sanitation report will be included in a three-part 2024 Moving Forward Report to POTUS this spring.

Future-Proofing Our Built Environment

By Yvonne Castillo

Architecture and engineering firms face the daunting task of creating enduring structures amidst uncertain future climate conditions. Planning for the coming decades necessitates integrating climate science as a pivotal component of their decision-making process.

Global warming scenarios vary widely, from severe impacts due to high greenhouse gas emissions to more moderate changes if emissions are significantly curbed. Yet, it’s clear that even with reduced emissions, the cooling effects will unfold over time. The challenge of designing for a range of potential future climates, which will differ by region, cannot be underestimated.

The urgency of this challenge is underscored by a startling FEMA statistic: 65% of U.S. counties, cities, and towns have not implemented modern building codes. This oversight leaves the nation vulnerable to the escalating frequency and intensity of weather events, endangering lives, property, and the broader economy.



Integrating Climate Science into Building Science

Modern building codes are the bedrock of safe construction, reflecting advancements in materials, methodologies, and building science. However, their current reliance on historical weather data—instead of future-forward climate data—casts doubt on their effectiveness in an era of climate change.

This discrepancy highlights a critical gap: the integration of climate science into building science. Until this integration is realized, climate modeling may serve as an essential conduit of foresight, equipping professionals with predictions of probable future environmental conditions for their projects.

[Read More>>](#)

Reducing CO2 Emissions With Green Cement and Concrete

By: Dr. Hessam Azarijafari, Sara Barrett, Dr. Ankita Gangotra, Dr. Amlan Mukherjee, Dr. Karthik Obla, Justin Wilkes, and Dr. Jiqiu Yuan

As the most commonly used human-made resource on the planet, cement and concrete production accounts for approximately 6% of the world's CO2 emissions. With demand rising and the global construction industry projected to reach \$16 trillion USD by 2030, achieving carbon neutrality will require intentional actions from policymakers and industry partners to ensure low carbon construction materials enter the marketplace.

Seeking to develop and strengthen sustainable trade between the European Union and United States, the Trade and Technology Council (TTC) sponsored a stakeholder listening event on January 31, 2024, where representatives from the private sector shared their perspectives on a range of industry trading topics to inform the Transatlantic Initiative for Sustainable Trade (TIST) Program.

Trade channels between the EU and U.S. for articles of cement, concrete, and aggregates already exist today with total bilateral trade flows worth several hundred million (EUR and USD). Efforts in reducing barriers to trade must focus on green, low-carbon products to grow the global market for low-carbon cement. Reducing the barriers to trade could be a significant factor in growing the low carbon cement and concrete global market. [Read More>>](#)



NIBS' Roger Grant and Board Member Sandra Benson recently spoke at the buildingSMART International Summit in Valencia, Spain. The conference theme was Achieving Sustainability Goals with openBIM.

NIBS in the News

Governing

More Resilient Buildings Will Save Lives And Money

The movement to create the most efficient, safe and resilient built environment got a big push from the inclusion of \$1 billion in the Inflation Reduction Act to help state and local governments implement and adopt modern codes. Applications for the first \$400 million opened in September. [Read More>>](#)

Building Enclosure

National Institute Of Building Sciences Celebrates 50 Years Of Service To The Nation

2024 marks five decades of significant contribution and service by the National Institute of Building Sciences to the U.S. built environment. NIBS was officially established in August 1974, by the U.S. Congress in the Housing and Community Development Act, Public Law 93-383. [Read More>>](#)

Yahoo Finance

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San Francisco Chronicle

California Flood Risk Map: See Which Neighborhoods Near You Are Danger Zones

As an intense atmospheric river-fueled storm sweeps through California, regions across the state are preparing for serious flooding, power outages, and street closures as a result of this intense cyclone. [Read More>>](#)



Construction Links Network

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Hud User

The Future Is Modular: Hud And Mod X's Offsite Construction Workshop And Tours

In early February, the National Institute of Building Sciences and MOD X organized a 2-day tour of offsite housing construction

facilities and projects in Boston, Maryland, and Virginia. The tour welcomed visitors from the United Kingdom, Ireland, Sweden, and Japan as well as federal agency partners. The tour concluded with a workshop at the HUD Headquarters in Washington, DC. [Read More>>](#)

Honolulu Star-Advertiser

Column: Don't Rebuild Using Dated, Nonresilient Safety Codes

Consistent with similar efforts advanced by analogous lobbies in other states, this bill puts the builder and developer interests ahead of Hawaii's residents, whose health and safety it places at greater risk. [Read More>>](#)



Observances & Events

April: World Landscape Architecture Month

April: National Volunteer Month

April: National Rebuilding Month

April 22-30 – Passover

April 22 – Earth Day

April 27 - National Rebuilding Day

May: Building Safety Month

May: National Electrical Safety Month

May: National Water Safety Month

May: Asian American and Pacific Islander Heritage Month

May 6-10 - Construction Safety Week

May 22-24 – [Building Innovation 2024](#)

May 27 – Memorial Day

June – National Safety Month

June – Pride Month

June 17 – [Women Executives in Building Symposium](#)

June 19 – Juneteenth



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