Pratt Ice Box Challenge: Empowering Tomorrow’s High-Performance Designers

This May, Pratt Institute and the Building Energy Exchange (BE-Ex) present the exhibit launch for the Pratt Ice Box Challenge: Empowering Tomorrow’s High-Performance Designers at 31 Chambers St. Originating from Brussels, Belgium, the Ice Box Challenge demonstrates the benefits of highly energy efficient Passive House strategies through a public demonstration scientific comparing two ice-filled boxes to see which keeps the heat out better.

In the first-ever student-led initiative, Pratt Institute students raise awareness about the role of high-performance buildings in reducing energy consumption, greenhouse gas emissions, and combating climate change.

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Pratt Institute and BE-Ex are excited to announce the Ice Box Challenge, a unique exhibit that will launch on May 14, 2024, at the Building Energy Exchange, and will be on display throughout the summer.

The Ice Box Challenge compares the performance of two ice boxes—one built using standard construction methods and the other using high-performance, sustainable building techniques. The goal is to see which box better preserves its ice content over time, visually demonstrating the benefits of energy-efficient design. This innovative challenge highlights the pivotal role of architecture in climate action and emphasizes sustainable building practices.

The launch event will commence at 5:30 PM at the Building Energy Exchange, with remarks from the Mayor’s Office of Climate and Environmental Justice, NYSERDA, and other industry leaders. We’ll also hear from the team of students who designed the exhibit. Attendees will have the opportunity to engage with the speakers, students, and faculty, learn about the latest trends in green building, and see the tangible impact of sustainable design practices firsthand.

Featuring the work of ten Pratt undergraduate students from Professor In Cho’s Passive House Design Build Studio, including: Kelsey Delahunt; Jeremias Emestica; Khushali Jain; Tyler Haas; Yuxin Li; Emerald Liang; Angie Widjaja; Maxwell Wolfe; Shruti Sridhar; and Vivian Weiwei Sun.

Susanne DesRoches, Vice President of Clean and Resilient Buildings, NYSERDA, said, “In the face of a changing climate, the design of high-performance buildings is now more important than ever, and this challenge is a fantastic and fun way to demonstrate solutions in action. Each year, the Building Energy Exchange and Pratt Institute, my alma mater, presents us with new building designs that clearly show incredible opportunities to improve energy
efficiency in buildings, which is crucial both to reducing emission and to creating a healthier living environment for all New Yorkers."

“Sustainable and equitable design are critical when it comes to our efforts to combat climate change, especially in our environmental justice communities,” said Mayor’s Office of Climate & Environmental Justice Executive Director Elijah Hutchinson. “This exhibit illustrates how all New Yorkers can benefit from energy-efficient architecture and showcases the vital role high-performance, low-carbon buildings can play in cutting our emissions.”

“Building Energy Exchange is thrilled to host this exhibit, spotlighting the substantial benefits of high-performance design while championing student work,” said Richard Yancey, Executive Director of the Building Energy Exchange. “The Ice Box Challenge showcases the impact of building design on energy efficiency and occupant comfort, giving future generations a hands-on opportunity to learn about Passive House principles and construction.”

What is Passive House?

Passive House, a building standard focused on improving air quality, thermal control, and energy efficiency, was developed by Dr. Wolfgang Feist in the late 20th century. The approach has garnered attention and support as an impactful strategy to reduce global greenhouse gas emissions and achieve the objectives of the Paris Agreement. In New York City, efforts to align local building codes with Passive House standards are underway, with the potential to dramatically decrease the City’s energy consumption, given its high percentage of emissions from the built environment.

Carolyn Shafer, Director of the Center for Sustainable Design Strategies at Pratt Institute, says, “Graduates of Pratt will go on to shape the built environment, influence material culture, and the daily experiences of countless individuals. In light of the pressing imperative to mitigate the adverse effects of human activities on the Earth’s climate, as well as its air, water, soils, organisms, and human communities, it is imperative that students possess the tools to critically assess the impacts of their creative endeavors on resources within both local and global spheres. Through the Ice Box Challenge initiative, Pratt Students are demonstrating how innovation and creativity can lead to transformative solutions to meet the demands of a warming planet.”

“One of the most important roles of education is empowering individuals with the knowledge, skills, and inspiration to take action and make a difference in their lives and in their communities,” said In Cho, co-founder of Passive House for Everyone and visiting professor at Pratt Institute. “Exploring high performance building strategies of Passive House through the Ice Box Challenge maximized students’ engagement in their learning process, while allowing them to contribute actively as social and environmental change agents by sharing their knowledge with others through the Ice Box Challenge Public Exhibition.”
Throughout this studio, Pratt Institute students engage deeply with Passive House design principles, progressing from conceptual stages to actual construction. They incorporate sustainable materials and advanced building techniques to meet stringent standards, learning from practical experience and initial mistakes in prototypes. The process not only enhances their design skills but also instills a profound understanding of green construction's impact.

The culmination of these efforts is showcased in the Pratt Ice Box Challenge: Empowering Tomorrow’s High-Performance Designers. This exhibit serves as both an educational tool and a public demonstration, illustrating the potential of sustainable design to a wide audience, including students, architects and design professionals, and high-performance building industry professionals, emphasizing the benefits and necessity of high-performance building standards in contemporary urban environments.

The exhibit will be open for viewing starting on May 14th, 2024, and will run for six months, ending in October. The launch event will take place on Tuesday, May 14th, from 5:30 to 7:30 PM, at the Building Energy Exchange (31 Chambers St, Suite 608, Manhattan).

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*BE-Ex is an independent non-profit organization dedicated to reducing the effects of climate change by improving the built environment. BE-Ex accelerates the transition to healthy, comfortable, and energy efficient buildings by serving as a resource and trusted expert to the building industry.*

Contact:
Adrienne La Forte
al@be-exchange.org
(212) 349.3900 x1007

[www.be-exchange.org](http://www.be-exchange.org)