

Buildings of the Future Vision Study: NYC Workshop Agenda

High-Density Urban Environments and Buildings of the Future

Monday, May 4; 9AM - 5PM

The City College of New York

25 Broadway, 7th Floor, New York, NY 10004

What can a standard American building be in a high-density urban environment in 100 years from a city to personal scale? This dialogue will examine the energy, resource, and information flows of today and tomorrow; how technologies have been and will be influencing city life; how a connected built environment can help us adapt to changes; and prepare for unanticipated events.

RSVP Required - Please contact futurebuildings@pnnl.gov if you would like to attend.

9:00-9:20 *Arrival and Registration*

9:20-9:30 *Welcome and Introduction*

Jorge Gonzalez, The City College of New York
Pat Phelan, Department of Energy

9:30-9:45 *Buildings of the Future: Seeing Beyond this Century*

Nora Wang, Pacific Northwest National Laboratory
Pat Phelan, Department of Energy

An overview and introduction to the Building of the Future Scoping Study, including the research framework and current thinking of future building attributes.

9:45-11:15 *Cities of the Future: Intelligence and Resilience*

Jorge Gonzalez, The City College of New York
Alex Washburn, Stevens Institute of Technology
Mark Arend, City University of New York

The panel will discuss the issues related to local and regional climate change. It will explore their impacts on the urban environment and the short-term and long-term implications for developing resilient buildings and cities. The topics include predication of storm and extreme heat event, simulation of micro-climate, measuring and tracking building's regional impact over time.

11:30-1:00 *Urban Data for Future Cities*

Masoud Ghandehari, New York University
Tom Butcher, Brookhaven National Labs
David Gifford, New York City Economic Development Corporation
Constantine Kontakosta, NYU
Jinjin Huang, Con Edison
Robert Cavey, Praxis

What urban data are available? What are the new ways to query and analyze these data? This panel will discuss the roles that data play in the city life. How multi-scale urban data can be incorporated into building design and operation, and its interaction with the physical, environmental and human systems in cities to inform decisions around sustainability and resilience.

1:00-1:30 *Lunch*

1:30-3:00 *Occupants of the Future: Wellness and Performance*

Edward Bogucz, Syracuse University
Jianshun “Jensen” Zhang, Syracuse University
Vivian Loftness, Carnegie Mellon University
Joseph Allen, Harvard University

Over the last 15 years, the green building movement in the U.S. has elevated attention to indoor environmental quality (IEQ) and associated issues of occupant wellness and performance. As buildings of the future become more customizable and adaptable, occupants of the future are likely to require a new generation of systems that can provide “precision IEQ,” tailored to individual requirements and preferences.

This panel will explore how occupants of the future will expect their buildings to provide more healthful and personalized environments through innovations that optimize indoor air quality, thermal comfort, lighting, and other factors.

3:10-4:40 *Smart Buildings and Smart Controls*

Bill Worek, Stony Brook University
Mike Schell, AirTest
Marc Thuillard, Belimo-US
Larry Weber, Honeywell

In this session, the current status of sensors employed to monitor the building environment and control building equipment operation to maintain comfort and reduce energy consumption will be reviewed. New Developments and challenges will be summarized to further understand building monitoring and control of the future as well as discuss the emerging opportunities such sensors provide.

4:40-5:00 *Summary*

5:00-6:30 *Social Hour*



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