ENGINEERING DESIGN
Seminar Series Fall 2020

Esther Obonyo

Associate professor of engineering design and architectural engineering, Penn State

Monday, Nov. 2
4:00 – 5:00 p.m.

Zoom: bit.ly/DESIGN-Obonyo
Password: 799029

Leveraging Engineering Design

Advancing Equity in High Performance Buildings

Low-income households disproportionately bear the impacts of unhealthy buildings, unhealthy in that they are vulnerable to disaster and use energy inefficiently, among other deficiencies. Unsurprisingly, these households are also underrepresented in the design and construction of sustainable, healthy buildings. "Black Lives Matter" protests have brought to light poor housing and other social issues as longstanding manifestations of racial and systemic inequalities. We will not succeed in our efforts to attain sustainable, resilient communities if we do not address existing social injustice. The Global Building Network is developing a just, equitable, and inclusive approach to building design and construction. It's an effort to consider the holistic performance of buildings in culturally, economically, and politically diverse communities around the world.

SPEAKER BIO

Esther Obonyo completed her undergraduate training in building economics, quantity surveying—first class honors. Her master's was in architectural technology. She completed an industry-based doctorate in civil and building engineering, which focused on the use of data mining in efforts directed at driving business improvement and innovation in the built environment. She is the founding director of the Global Building Network, a partnership between the United Nations Economic Commission for Europe and Penn State. The consortium comprises of 40 globally distributed institutions, which are collectively working on all aspects of building performance. One of the thrust research areas for the consortium focuses on the frontier challenges in areas such as building components and materials that can promote health, safety, and well-being. Obonyo's primary research focuses are in the areas of construction safety, sustainable structural materials for building envelope systems, data-driven decision support systems, science policy, and building performances for vulnerable populations. During her tenure at the University of Florida, she taught and researched wood design for 10 years. Obonyo is a 2015-16 Jefferson Science Fellow placed with the USAID Global Development Lab in Washington, D.C. where she served as a senior policy advisor for the data and research team. She also supported some of the evidence generation work for digital development. Obonyo has extensive industry experience, having worked as a construction engineer, project manager, and innovations analyst at several engineering and construction companies in Kenya, the United Kingdom, and the United States. Her work has been disseminated through more than 100 journal papers, conference proceedings, and presentations. She serves on the editorial board of the Journal of IT in Construction, Buildings, and Intelligent Systems. She was also guest editor for the Journal of Sustainability.

PennState College of Engineering | ENGINEERING DESIGN, TECHNOLOGY, AND PROFESSIONAL PROGRAMS