



Robyn Houghton

**Option Studio Fall 2020**

**ONLINE ONLY**

**JERRY A. WELLS, PROFESSOR, DEPARTMENT OF ARCHITECTURE, CORNELL UNIVERSITY  
MUSTAFA K. ABADAN, FAIA PARTNER, SKIDMORE, OWINGS & MERRILL, NEW YORK CITY**

## **Architectural Explorations on Global Challenges**

### **Eco-Buildings in Extreme Climates**

***“In extreme situations, the entire universe becomes our foe, at such critical times, unity of mind and technique is essential.” —Morehei Ueshiba***

This studio will explore how two primary global challenges of our times—Climate Change and Societal Disruptions—can be addressed through architectural explorations on four specific sites, two hot and two cold. The invention of the elevator in England at the end of the 19th century made it possible to build tall buildings. Before that time, office buildings were about a maximum of 6 stories. The construction of tall buildings began in Chicago, Illinois (what is called the first Chicago School), and later in New York City. They were eventually called Skyscrapers. In the iconic tall buildings of the 1930's, the floor plans of nearly all of these buildings provided a reasonable depth of space from the outside wall to the elevator core, thus allowing all habitable rooms to have access to light and air. Many were built before air conditioning and electricity and had windows that would let in light and fresh air. Sometime in the age of cheap energy, in the 1960's and 1970's, the floor plates in many buildings began to enlarge and lighting and cooling were supplied entirely by fossil fuels. Many of these high-energy use buildings have and will continue to become obsolete in your lifetime. It is incumbent upon architects to re-think the environmental and performance aspects of buildings. Building design has included both structural integration and formal explorations, however, the next phase of innovation will bring environmental and performance aspects as the progenitor of form and organization. For instance, the recent global COVID-19 Pandemic has made vertical circulation via elevator problematic. Given the uncertain duration of events like this Pandemic, architects must explore building design through the lens of climate change and societal disruption rather than attack the challenges of the building type from a formal or geometric perspective or a primarily structural focus. This studio will approach building design as an integrated design exercise bringing together issues of siting, architecture, structure, environmental systems, climate change, and societal disruptions and will have a special focus on sustainability strategies through architectural explorations of four specific sites. Initially the studio will divide into 4 randomly selected teams where students in each group will collectively analyze, synthesize, and develop strategies appropriate for hot versus cold ecological conditions and develop specific programs for their project. Each team then will research, analyze, synthesize their site through specific climate and programmatic lenses. In addition to the extreme cold and hot climate comparisons, the students will also explore the programmatic nuances of Institutional and Non-Profit organizations as clients and how their mission can serve as architectural drivers. In the second half of the semester the students will apply their understanding of these complex, intertwined issues to their own designs on specific sites.

STUDIO: MWF 12:40 p.m. - 4:30 p.m EST - ONLINE ONLY

Cornell AAP Department of Architecture