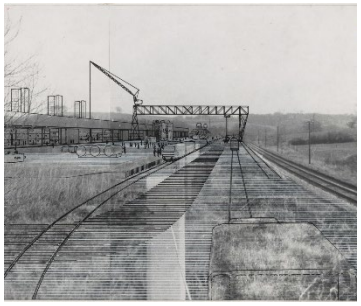

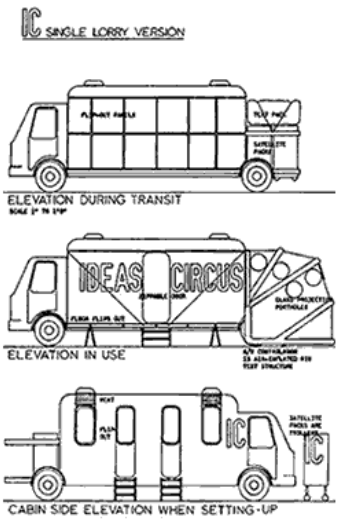



## DESIGN MATTER(S)

This studio provides a method for exploring the scalability of principles that translate from the nanoscale of chemistry to the macro scale of architecture. Students will learn about commonalities between the two fields of study and will address the disciplinary gap by exploring overlapping innovative processes that pertain scale to the manipulation of matter. Specifically, architecture students will learn from their collaboration with chemistry students to inform the design of an interactive Nanoscale Materials Pop Up Museum. At the end of course, a single Pop Up Museum design will be selected and will undergo several phases of design development in preparation for construction. Then the project will be fabricated in the summer 2023 and travel to local K-12 (CMS) schools and community events. The selected design team will have the option of continuing to be involved in the project after the end of the semester.

By allowing scientific principles to influence architectural design, the museum structure itself becomes an educational tool for communicating and presenting chemistry through experimental means that encourage occupation and play. Through design and collaboration, students will transform the museum from a fixed institution into a transportable community driven and event driven organization, democratizing museum attendance by targeting demographic groups less likely to frequent them. The mobile museum will create an atmosphere to enliven urban gatherings and local school events alike. Through design, we will take chemistry and nanoscale science out of the laboratory and into the community.

## OBJECTIVES

- To explore overlapping innovative processes pertaining to scale and the design of matter in the disciplines of chemistry and architecture
- Develop habits and methods that allow students to navigate the design process while working with and learning from collaborators
- Facilitate novel models of public intervention through flexibility in design and ease of transportation
- To use real world constraints as creative opportunities which allow for designs that evolve from complexity rather than complicatedness
- Gain a better understanding of design and fabrication procedures, testing and iterating through alternatives, and critically assessing experimental processes
- Develop an effective and coherent design process from conceptualization to actualization

## METHOD

The course will involve 3 related assignments that calumniate into a single project. The first assignment involves design research that stems from collaboration with chemistry students to explore overlapping innovative processes that pertain to scale and the manipulation of materials. The second part draws from that research to inform the design of a Nanoscale Materials Pop Up Museum and the third part involves the development of that design through large scale models and physical prototypes of proposed fabrication strategies.

Briefs are issued for each project, outlining objectives, methods, evaluation criteria, and important dates. Work is reviewed in a variety of ways: in one on one discussions with the instructor via desk crits; in small-group informal settings, with and without guest critics; in more formal settings with guest critics (including those from the department of chemistry) and among the instructor and students.

Images to left: Architectural projects of the 1960's, including Pottery's Think Belt by Cedric Price (top) and the Ideas Circus by Archigram (middle), proposed designs for transportable structures which would which would promote the dissemination of ideas and knowledge with their mobility between multiple educational intuitions. The Ideas Circus project even included maps of stops and names for the accompanying academic tours (bottom), with titles such as, "Microbiology for All" and "New Maths." (Cook, P; Archigram. Princeton Architectural Press. 1999, 100-101.)