“The work of the architect is redefined as a work of management and cultivation. Attention is shifted from the hermetic procedures of design to the life of the building as it unfolds over time, beyond the control of its authors and outside of the pervasive grasp of the culture industry.” –Stan Allen, “Artificial Ecology”

“One of the major anti-human fallacies of the scientific community...is the premise that it is possible to have total control over an interactive system of which oneself is a part.” –Gregory Bateson

MODEL/
The Biosphere II was a large-scale ecological experiment that emerged from the intersection of science, architecture, engineering and performance art. Within a space-frame enclosure sealed to eliminate the exchange of air from interior to exterior, a carefully selected array of plants, animals, micro-organisms and inorganic matter formed the building blocks of a fully self-sustaining environment. Imbued with technology, this reconstructed wilderness formed a vast infrastructural complex in which the choreographed cycle of organic processes and mechanical adjustments worked to maintain an inhabitable atmosphere. As both operators and subjects of the experiment, eight researchers occupied this unique megastructure as their home, laboratory and field site.

MEANS/
For this Wallenberg studio, we will adopt the adventurism of these original ‘bionauts’ to conduct our own architectural experiments, culminating in a design for a remote site—remote being a conceptual or material condition determined through each project. As a case study, the Biosphere II provides a visionary point of departure as we consider infrastructure as a co-construction of the built environment (controlled) and nature (variable).

The students’ projects will launch a transformation of the closed model of the Biosphere by situating its processes, organization, programs, and research agendas such that infrastructural exchanges occur between the contained realm and beyond; the closed will become open, and the isolated will become connected. Operating at multiple scales, from the individual researcher in the field to the region, the studio projects will assemble a visionary architecture for a new semi-autonomous complex for research.

“Consistent temperature control is another high priority. The first and simplest level of control is to keep the air moving. In the wilderness, for example, seventeen airhandlers perform the task.” – John Allen, Biosphere 2: Human Experiment

METHOD/
This studio will start with a high-energy charrette; working individually and in cooperation, students will generate a range of apparatus that materialize key concepts: containment, connection, negotiated edges, and material flow. These iterative spatial constructions will be diagrammed, analyzed, and transformed in order to supply us with formal strategies and organizational techniques to carry forward through the semester.

The second phase of the studio will begin with group-conducted research of the Biosphere II as a “materially closed” but “energetically open” model of infrastructure. Discussions will entertain questions of wilderness and controlled environments; landscapes as process and as aestheticized artifact; closure and the commons; history of infrastructure and the frontier. Teams will leverage their analytical investigations into design propositions, first at the scale of a ‘test module’ and then implicating a larger territory. The final projects will develop an architectural proposition that locates an interpolated scale of organization between the macro and the micro.