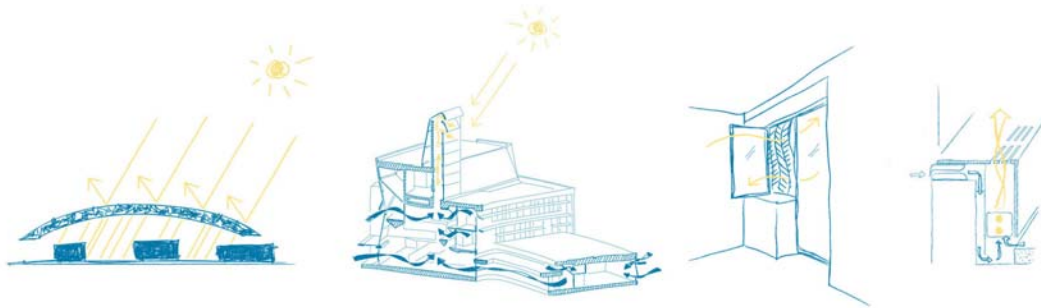


ARC2014: Design Studio 4 – Comprehensive Building Project
Winter 2022
Course Coordinator: Sam Dufaux

Instructor: Sam Dufaux



Sketches by Transsolar

Title: Perforated Net Zero

Due to our environmental concern, today the definition of what architecture is has been reduced to an idea of an overly controlled, super insulated and airtight box. This concept, now integral to sustainability best practices, is misleading and reduces architecture to a sealed and static fortress between an interior and exterior climate.

This Studio is a reaction against this simplistic definition and takes the position that to be sustainable, or even exist, architecture must be perforated. As a starting point, we will explore the concept of *perforation* as a way to reconnect to and design for people, nature and the climate.

The goal is to rethink the premise of the well-tempered environment, an endless and stable space, and investigate the perforation's capacities to organize programs, heat, cool and ventilate spaces, absorb water and energy, store carbon, filter air and light, grow plants, create microclimates and beyond.

We will examine perforations at different scales from the macro (urban and ecological) to the micro (particles) and simply look at architecture as being the 'art of perforating'. Through that lens, we will study precedents and examine architectural elements such as walls, floors, ceilings, roofs and how they strategically integrate perforations such as windows, doors, stairs, vents, shafts, grilles, shades, etc. to become inhabitable space connected to our larger environment.