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Barnard and Columbia Architecture

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ARCHITECTURAL DESIGN: ENVIRONMENTS AND MEDIATIONS
COURSE NUMBER UN2103 Spring 2021
Mondays and Wednesdays, 10:00am – 12:50pm, room 404 Diana Center

Barnard and Columbia Colleges Architecture Department
Studio Critic: Madeline Schwartzman
Email: mschwart@barnard.edu (or mks1@columbia.edu or maddyschwartzman@gmail.com)
Office hours: by appointment (before 10am, after class or by appointment)
Teaching Assistant: *TBA*
Email both TA and Madeline on urgent matters, attendance, lateness,
Program architecture office Location: 5th Floor Diana Center
Architecture Administrator: Rachel Garcia-Grossman 212 854-8430

Junya Ishigami, Disc-shaped dwelling between two rocks, Chile; Tezuka Architects, Woods of Net

COURSE DESCRIPTION.

This architectural design studio course explores modes of visualization, technologies of mediation and environmental transformations. These explorations will be used as catalysts for architectural analysis and design experimentation.

Introducing design methodologies that allow us to see and to shape environmental interactions in new ways, the studio will focus on how architecture may operate as a **mediator** – an intermediary that negotiates, alters or redirects multiple forces in our world: physical, cultural, social, technological, political etc. The semester will progress through three projects that examine unique atmospheric, spatial and urban conditions with the aid of multimedia visual techniques; and that employ design to develop creative interventions at the scales of an interface, space and city.

LEARNING OBJECTIVES

Upon the completion of this course, students should be able to:

• Demonstrate an understanding of design method as a step-by-step, iterative and incremental process of research, synthesis, and feedback that requires experimentation and risk taking

• Visually communicate design concepts and design intent using discipline-specific techniques of representation

• Utilize analog and digital modeling and visualization techniques in the design process

• Demonstrate the ability to record relations, transformations, and environments

PROJECT DESCRIPTIONS

The studio assignments will incorporate analog and digital drawings, collages, diagrams, sketches, digital and physical models, animation and videos, etc. The working process will develop feedback loops between conceptual and critical thinking, design ideas and iterative experimentation, and techniques of architectural representation. Students will work individually as well as collaboratively.

PROJECT 1: HUMAN POWERED INTERFACE: Curtain Walls, Sensation, Filter

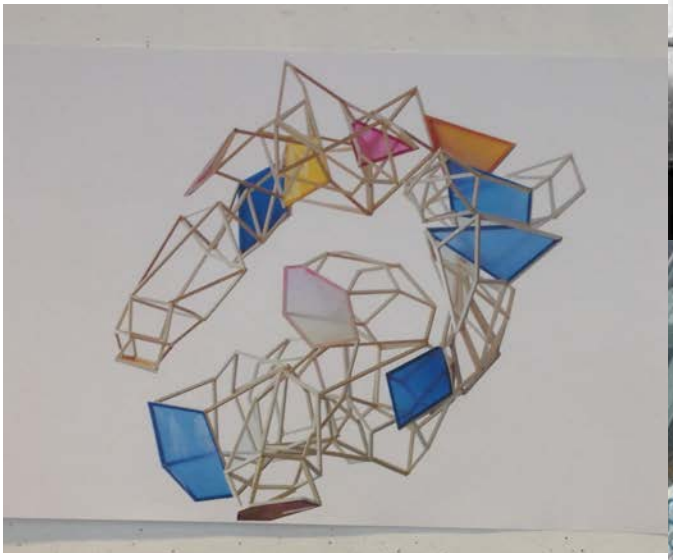
This project begins with site analysis through the creation of a portable field station for observation and documentation. Students choose a data set from their surrounding neighborhood, their room, or campus, and create a wearable or portable device that allows for field documentation of some ephemeral quality, including light, stars, clouds, weather, shadows, air flows etc. Data retrieved from “field station” is used to create digital documentation that will serve as blue prints for a larger “wearable wall”—part architecture, part clothing. The wearable wall should serve as a filter for experiencing some ephemeral environmental experience.

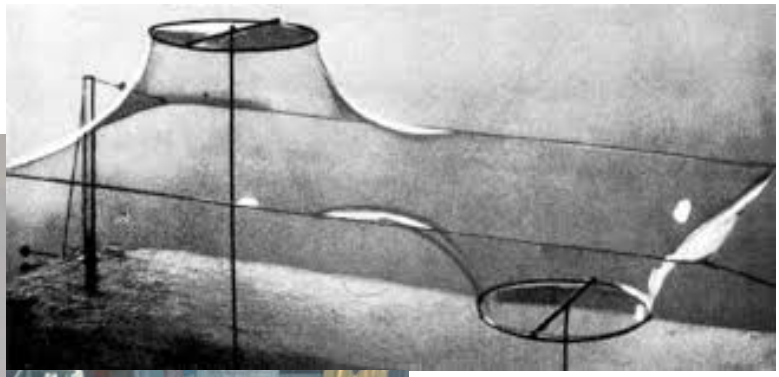
Unidentified image,

SO-IL and artist Ana Prvački, *L’air pour l’air*

PROJECT 2: 4TH DIMENSIONAL ARCHITECTURE: Un-blurring Time in Architecture

In *The Order of Time* physicist Carlo Rovelli (a friend from grad school) unravels our notion of time as linear. Instead he reveals time as a human construct. Time, as we know it, is a matter of perception. With that in mind, in Project 2 we will analyze the experience of a person walking through a public space in a large-scale work of architecture like the Lerner Center. The studio will then map human movement through architecture, including all facets of perception across the senses, from head to toe and at varied speeds, with the aim of creating diagrams that defy linear time. Collages and videos will be translated into digital documentation that then will be used to create an intervention into the public space. It will be an architectural intervention of simultaneity, a vision of the convergence of past, present and future.

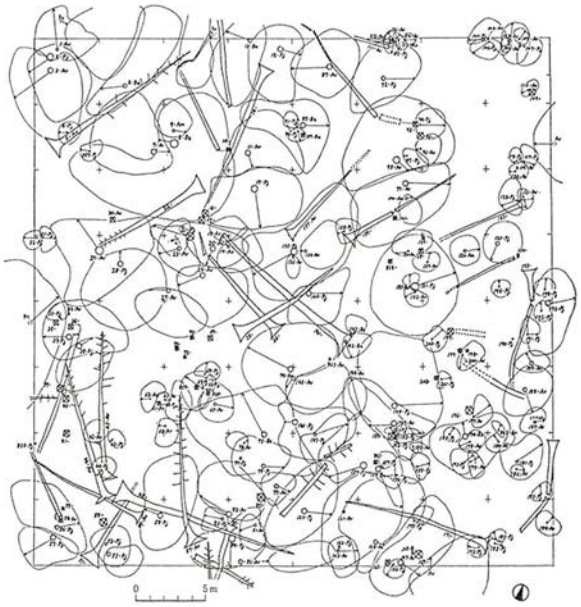




Student models of Lerner Center, Bernard Tschumi, Columbia University campus. Experimental model of Frei Otto

PROJECT 3: TIME TRAVELING NYC INFRASTRUCTURE: NYC Past, Present and Future

According to Eric W. Sanderson and Markley Boyer, authors of *Mannahatta: A Natural History of New York City*, the island known as Mannahatta, when the Dutch arrived, had fifty-seven different ecosystems. It was a paradise of timber forests, fresh water ponds and mammals from beaver to bear. We know what it is now. What does the future hold, as climate change, rising seas, pandemics and food shortages threaten to change the way we live? This project asks students to create a new infrastructure across multiple zones of the city, a “new Babylon” or relative of what the Situationist Constant Nieuwenhuys (1920-2005) envisioned. Using architectural drawings and archival data and maps, we will document select public spaces, their occupations, and occupiers, both past and present, to create a hybrid timescape for the inhabitants of the city. These will bridge across time, and social strata.



Junya Ishigami's Tree Canopy Projection for carrying out surveys of forest ecology in 'Another Scale of Architecture' 2010, Junya Ishigama, house and restaurant, bird's eye view

DESIGN AND TECHNICAL SKILLS

The studio curriculum will be an introduction to fundamental design and technical skills. Workshops will be offered both in class and outside studio sessions to support software tutorials. In addition to periodic presentations by the studio critic and the TA, DAL Assistants will conduct other informal evening workshops focusing on techniques and methods relevant to ongoing projects. These sessions are optional but you are strongly encouraged to attend. Students in this course are required to gain proficiency in the following:

Architectural Drawings
Analytical Diagrams
Plans, Elevations, Sections
Three-dimensional drawings: Axonometric, Isometric, Perspective, etc.
Freehand Sketching

Modeling Skills
Model-making using a variety of materials using paper, wood, chipboard, foam core, wire, plexiglass, etc.

Software Skills
Line drawings using Adobe Illustrator
2D/3D Renderings, Collages using Adobe CS
Three-dimensional modeling using Rhino
Moving Image Media (Adobe CS, iMovie)

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CALENDAR

EXERCISE 1

Week 1.	Sept. 9th	Introduction
		PROJECT 1A: HUMAN POWERED INTERFACE: FIELD STATION
	Sept. 11th	Meeting and mini-presentations, model construction
Week 2.	Sept. 14th	**CRITIQUE 1A.**
		BEGIN PROJECT 1B: HUMAN POWERED INTERFACE: WEARABLE WALL
	Sept. 16th	Meeting and mini-presentations
	Sept. 18th	Individual meetings
Week 3.	Sept. 21st	**CRITIQUE 1B. BEGIN**
		PROJECT 2A: 4TH DIMENSIONAL ARCHITECTURE: PHOTOGRAPHIC ANALYSIS
	Sept. 23rd	Photography, Photoshop workshop, Illustrator
	Sept. 25th	Meeting and mini-presentations, analysis and concept discussion
Week 4.	Sept. 28th	**CRITIQUE 2A.**
		BEGIN PROJECT 2B 4TH DIMENSIONAL ARCHITECTURE: MOTION/SENSE SPATIAL CONSTRUCTION
	Sept. 30th	Model construction: layers and multiple data sets
	Oct. 2nd	Meeting and mini-presentations
Week 5.	Oct. 5th	**CRITIQUE 2B. BEGIN PROJECT 3A: TIME TRAVELLING NYC: RESEARCH AND VIDEO**
	Oct. 7th	Adobe Premiere workshop (iMovie if necessary)
	Oct. 9th	Editing, fx, rhythm, audio techniques
Week 6.	Oct. 12h	**CRITIQUE 3A. BEGIN PROJECT 3B: THE FUTURE OF INFRASTRUCTURE**
	Oct. 14th	Meeting and mini-presentations
	Oct. 16th	Meeting and mini-presentations
Week 7.	Oct. 19th	**FINAL REVIEW**