

## IMAGINE YOUR FUTURE, BUILD YOUR DREAMS: Architecture and Space, Design IV/2025 SS

Tutor:	Associate Prof. Cuisong Qu
Number of participants:	15 Exchange students + 5 Tongji students
Studio Time:	FEB. 26 2025 to APR. 23 2025, Wed 17:50-21:25 & Fri 13:30-16:50
Studio Place:	Wed.: B3/Fri.:B1
First Meeting:	FEB. 26 2025, Wed. at 17:50-21:25, B1

### **Introduction :**

This design studio chose the ongoing international architectural student competition as the working topic, IMAGINE YOUR FUTURE, BUILD YOUR DREAMS, which is held by *Jacques Rougerie Foundation*, France. These innovative architectural projects ought to take place in either the ocean, guardian of our environmental and societal quality of life, or space, field of development and of technologic applications, unavoidable for the future of our civilization.

In the last four years we did the project in the category of the Architecture and Sea level rise with great success that three groups have won the nominee. This time we'll explore the space again, after the workshop with this topic in last SS ended with pleasant experiences. All participants were believing in opening up fields of development and technological applications that are essential for the future of our civilization.

Architectural innovation linked to bio-inspiration and sustainable development are the watchwords of this call for creativity.

Space exploration is much more than a simple adventure. It's the driving force that propels our civilization towards new horizons. Space exploration is much more than just an adventure, it's the driving force propelling our civilization towards new horizons. For centuries, it has profoundly changed our perception of the universe and stimulated innovation on Earth.

For centuries, space exploration has revolutionized our perception of the universe and spawned major technological advances. However, it has also brought to light considerable challenges linked to human adaptation to unique extraterrestrial environments.

The challenges of space exploration are manifold, ranging from microgravity to astronomical distances. To meet them, we need to innovate and push back the limits of our know-how by designing engineering adapted to these hostile environments. Innovative technological solutions are needed to meet energy requirements and environmental constraints.

To achieve the goal of integrating humans and their environment at the heart of the space quest, while guaranteeing their well-being and safety, your project must incorporate

architecture and engineering adapted to extraterrestrial environments, with their unique specificities: the interstellar void, cosmic radiation, extreme temperatures, atmosphere management, adaptation to microgravity, autonomy and durability and much more.

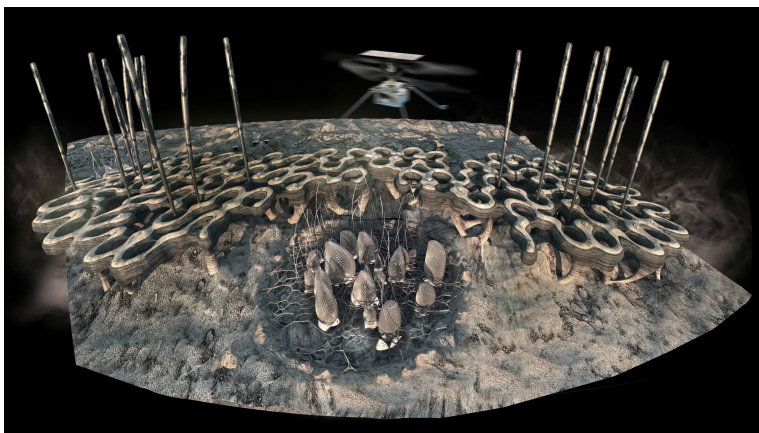
Whatever the choice of subject, it is imperative that the human being and his environment are placed at the heart of the reflection, and that engineering specific to the chosen environment is implemented. The project must be based on the specific lifestyles of human beings, exploiting as far as possible the intrinsic characteristics of the environment, which may be extreme, and taking into account the impact of gravity on architecture, changes in the gestures of daily life, and the surface/volume notion in which your project is situated, whether:

- THE LUNAR OR MARTIAN VILLAGE
- A RESEARCH STATION ON THE SATELLITE OF JUPITER EUROPE
- AN ORBITAL OR ON A STAR SPACE PORT

Your projects must be bold, forward-looking. Enthusiastic more than normalized, they will show that inspiration, when it intersects form, function and environment, can lead a simple idea where it is not expected. Based primarily on biomimicry, in line with the safeguarding of our ecosystems and its biodiversity, they will have to be conceived and drawn in a multidisciplinary way.

We will be 10 billion by 2050. Three-quarters of the population will live near rivers and seashore and will be directly impacted by climate change, rising waters and erosion. As for the exploration of space, it is now inevitable and must be part of a transgenerational approach, conducive to other possibilities, and change paradigms to reconcile Humanity and Nature. As an example shows the project MARS REEF which won the GRAND PRIX, 2022, designed by Samer El Sayary | Egypt:

“The Mars agricultural units are assembled into a circular formation of a used pit crater, surrounded by the modular units to facilitate access by sub-terrestrial units. The agricultural land covering the crater will be the first Martian outdoor park, visible from all the surface units raised by tiny windows and accessible by the sub-terrestrial units.”



MARS REEF, designed by Samer El Sayary | Egypt

Key words: Architectural innovation, bio-inspiration, sustainable development, space, special habitat

**Timeline:**

Week 1-2:

- Conduct thorough research and literature review
- Develop a comprehensive strategy
- Formulate project teams
- Generate initial three concepts
- Gather relevant materials

Week 3-5:

- Refine project structure and direction
- Narrow down to a single idea
- Curate selected materials
- Prepare for a detailed midterm presentation

Week 6-8.5:

- Polish and finalize all project components
- Ensure coherence and alignment throughout the work
- Engage in the creation of final submission documents
- Craft the final presentation

**Submission Requirements:**

Documents to provide to the competition:

- 1 - A3 summary board in a free form that incorporates the downloadable template
- 2 - A0 summary board in a free form that incorporates the downloadable template
- 3 - Project Presentation File, A3 - 10 pages maximum
- 4 - Video or 3D animation, 1'30" max (optional)

Documents to submit as studio result: **A0 page summary board digital, A3 work book digital**

Final presentation: APR. 23 2024, Wed, **1 pages A0 summary board printed**

Examples of laureates of 2023

