Envisioning the Moon Village – A Space Architectural Approach

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Regular Space Architecture Program @ TU Vienna
Module Emerging Fields in Architecture

Publications:
https://issuu.com/hochbau2/docs/hb2_moonvillage
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How do we - and how do the young people **want to** live in the future?
The Moon Village idea – a collaborative test bed for innovation
Crater research facility: KRATERHAUSEN

- set in the lava tubes in the crater wall
- research of the crater-based resources
- provides Moon Village with oxygen and water

Diagram:
- Lunar lander/surface base
- Sunlight
- Habitation/research base
- Peak of eternal light
- Permanently shadowed
- Robotic base
- Lava tubes with ice resources

Section through Philolaos Crater
Lunar Lander/Surface Base – a zero-waste policy

Step 1: Lunar Lander brings first human construction crew

Step 2: First Habitation Base during construction of the crater base

Step 3: Surface Base connected to the crater base
Floorplan – **Habitation and Research** Base

- separated levels for habitation and research
- connected through a two-storey lounge-chamber
- greenhouse and exercise motivation for 1/6 g
Section – Habitation and Research Base

Level 2: Habitation
- food prep station
- sleeping quarters
- hygiene units

Lounge
- greenhouse
- relaxation platform
- workout platform

Level 1: Research
- analysis areas
- additive manufacturing
- unpressurised lab
- gloveboxes
- filtration station
An Idea of an Experimental Food Lab & Lunar Kitchen
TUBE OF EDEN
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Program

- Enjoying Visually
- Breathing
- Eating
- Cooperation as Leisure
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Phase I – **Initial Habitat**

- **Greenhouse**
- **Airlock**
- **Rover**
- **Research Laboratory**
- **Crew Quarters**
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Guest Lectureres / Instructors: Manuela Aguzzi (Space Application Services), Marlies Arnhof (ESA YGT / TU Wien), Miriam Dall'Igna (Foster + Partners), Norbert Frischauf (OffWorld), Bernard H. Foing (ESA), Gernot Groemer (OEWF), David Kendall (ISU), Franz Kerschbaum (Uni Wien), Christian Köberl (NHM, Uni Wien), Christophe Lasseur (ESA), Irmgard Marboe (Uni Wien), Piero Messina (ESA HQ, Strategies Department), Rumi Nakamuri (OEAW), David Nixon (Astrocourier), Dorin Prunariu (cosmonaut, ASE), Franz Viehböck (former cosmonaut, Austria).