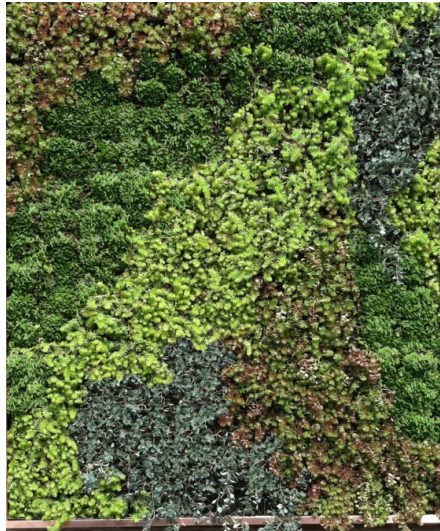


EDIBLE WALL WITH URINE VALORISATION

Alexandra Florin & Michka Mélo – 22.07.2015 – Hackuarium

Hydroponic Green Wall

Industrial Hydroponics Nutrients



Beauty

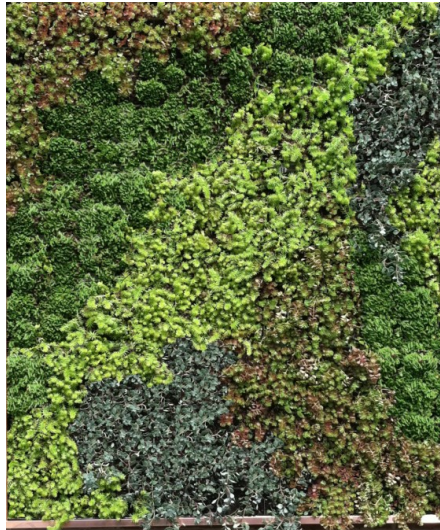
Fresh, Humid & Purified Air

Insulation

Edible Wall with Urine Valorization



Urine-Sourced Nutrients



Food

Fresh, Humid & Purified Air

Beauty

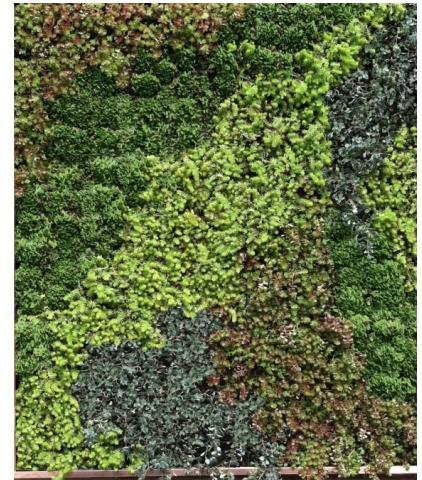
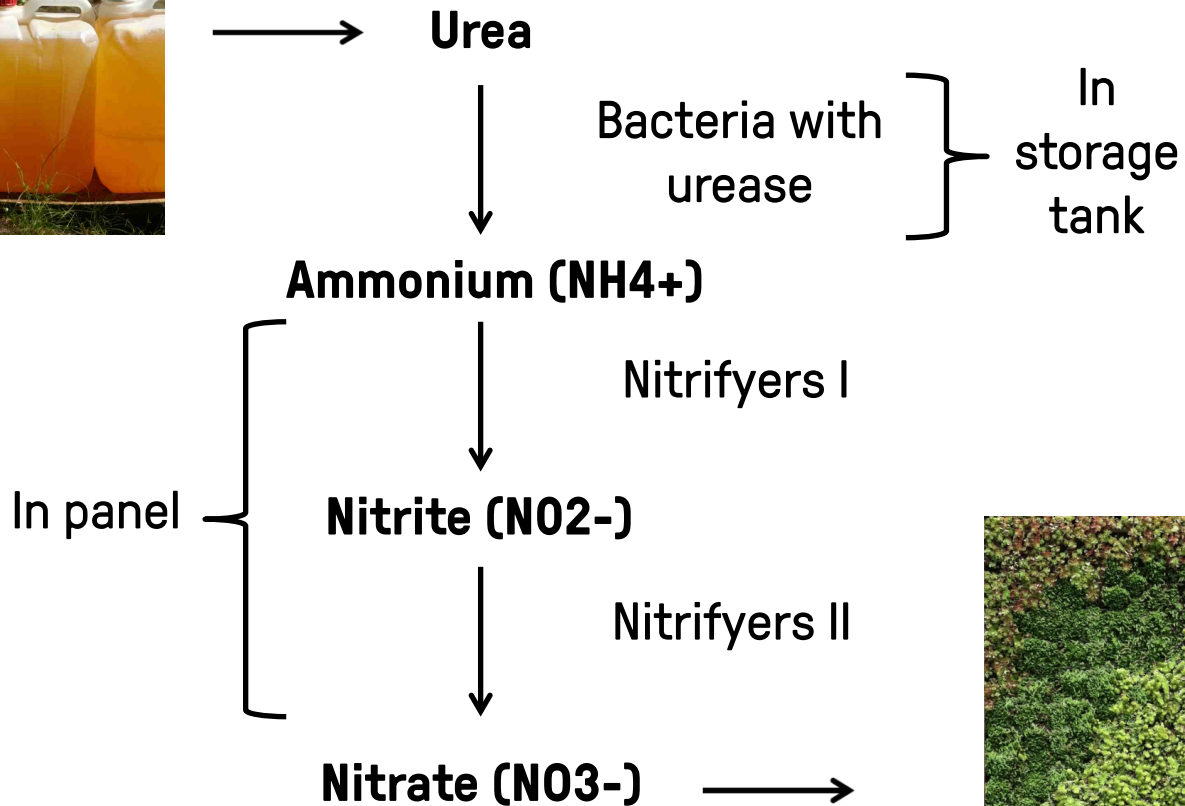
Insulation



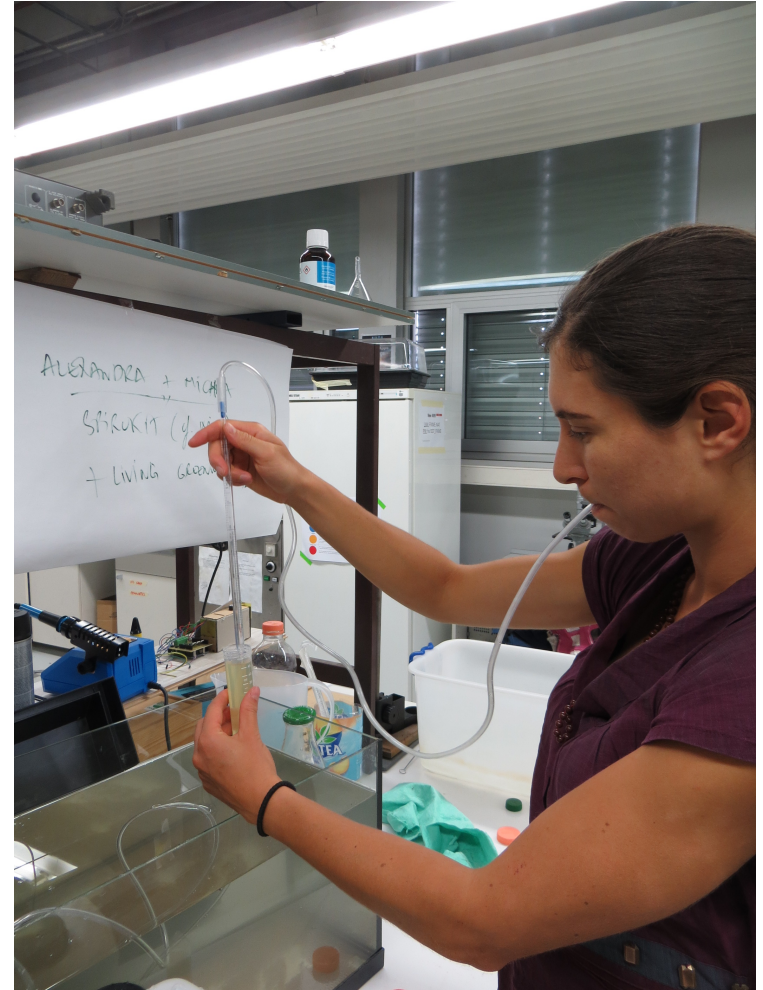
Basic System Components



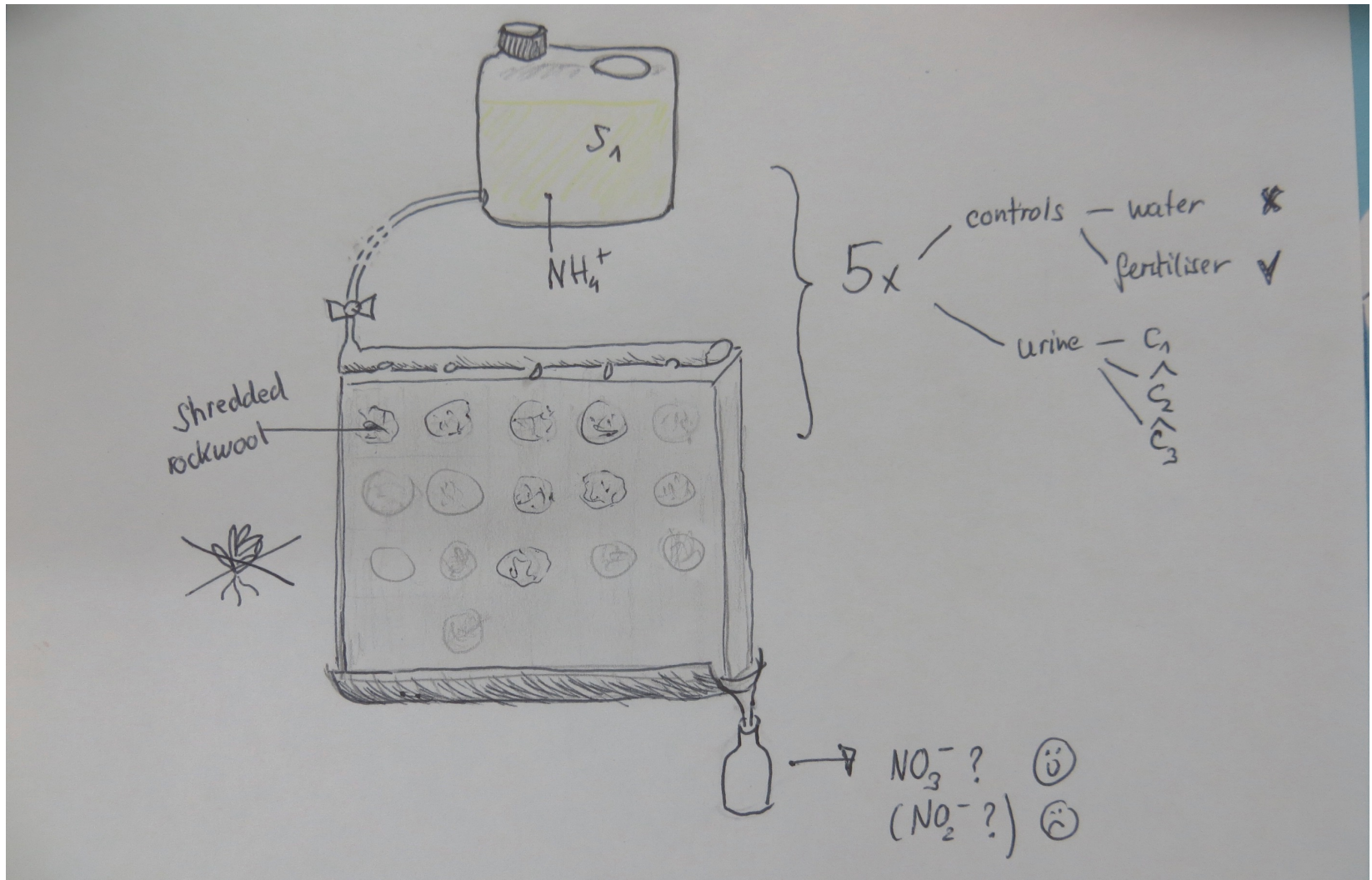
Nitrification



This Afternoon



First Experiment



Short-Term Next Steps

- Maintain & monitor nitrifying culture
- Look for other inoculum(s)
- Build supporting structure for the modules
- Set up automatic irrigation system
- Build DIY urinal
- Plan alternative in case of failure
- Plan the next experiments

Further Next Steps

- Nitrification in modules with inoculation through soil
- Testing with plants – First functional prototype
 - » Dilution fine tuning
- Integration of air purification

WELCOME ABOARD !

Alexandra Florin & Michka Mélo

First Experiment

- Objective
 - » Induce a nitrification in the modules in “quick & dirty” mode
- Setup
 - » Five modules
 - » Without plants
 - » Inoculation of the panels with nitrifiers
 - Through a liquid culture
 - » Manual “fertigation”
 - » Testing presence of nitrate in exhaust water
 - » Feeding modules with five different solutions
 - Negative control > water
 - Positive control > hydroponics nutrient mix
 - 3 levels of urine concentration