

Thursday November 5th

Time Zone Europe/Brussels | GMT/UTC +1

08:30 →

Resource Recovery: The Power to Change

| [Willy Verstraete, Avecom / UGent](#)

Room 1

Terrestrial Synergies

Room 2

Urine treatment

09:00 →

Design and simulation of circular water systems: the UWOT model

| [Dimitrios Bouziotas, KWR Water Research Institute](#)

Nitrify to support life: MELISSA's development path of an essential process

| [Siegfried Vlaeminck, UAntwerpen](#)

09:30 →

Grey water recycling from space to earth

| [Pierre Magnes, FGWRS](#)

Combining (bio)electrochemical processes and nitrification for urine recycling in Space

| [Jolien De Paepe, Ghent University](#)

09:45 →

Consolidating the Swiss activities and rationale for ALSS and MELISSA development

| [Théodore Besson, Earth Space Technical Ecosystem Enterprises SA](#)

Adaptation of activated sludge biomass for nitrification of concentrated urine

| [Anna Jurga, Wroclaw University of Science and Technology](#)

10:00 →

From wastewater treatment to space-inspired resource recovery with the Biomakery concept at the La Trappe brewery

| [Ralph Lindeboom, SEMiLLA IPstar](#)

Urine running in circles - human „waste“ as a resource for horticulture & agriculture

| [Ariane Krause, Leibniz Institute of Vegetable and Ornamental Crops - IGZ](#)

10:15 →

Terrestrial valorization of a MELISSA compartment: Photoheterotrophic production of purple microbial protein on brewery water

| [Abbas Alloul, UAntwerpen](#)

Optimization of proteomic analysis of minute amount of sample for the characterization of in-space nitrification.

| [Baptiste Leroy, UMon](#)

10:30 →

Break

10:45 →

Microalgae-based biofacade as a solution to support sustainable access to food, energy, and water in urban centers

| [Flora Girard, ETU UNIV NANTES](#)

Opening the 'yellow box': Main organics in urine and their fate during nitrification and microalgae cultivation

| [Veerle Van Malderen, University of Antwerpen](#)

11:00 →

BIOFACADE : a symbiosis between micro-algae production and buildings

| **Anouk Legendre, XTU architects**

Control of pH and process modelling contribute to stable alkalinity-limited urine nitrification

| **Valentin Faust, Eawag**

11:15 →

A model for the global carbon cycle

| **Pietro Guarato, Université de Lausanne**

Urine nitrification in space: assessing the effect of space conditions on synthetic nitrifying communities

| **Athraa Al-saadi, Ghent University**

11:30 →

Petit Langoustier isolated Island, global sustainability program

| **Marc Frilet, Petit Langoustier**

How to gradually acclimate MELiSSA's nitrification compartment to urine mixed with VFA-rich anaerobic digestion (C1) effluent.

| **Koen Rummens, KU Leuven**

11:45 →

Grey water re-use during music festivals using a mobile constructed wetland and a mobile drinking water system

| **Fida Hussain Lakho, Ghent University**

Poster pitches

Two-stage anaerobic digestion of organic wastes – laboratory experimental studies and mathematical modeling - **Hristo Najdenski, The Stephan Angeloff Institute of Microbiology**

Experimental set-up to investigate the transpiration process - **Joanna Kuźma, European Space Agency**

Novel bioinformatics tools for microbial monitoring and clinical diagnostics - **Mohamed Mysara, Belgian nuclear research center (SCK-CEN)**

Polishing goat farm waste water in view of advanced phosphate removal - **Rui Zhang, Ghent University**

The effect of nitrogen availability on cold acclimation of Arabidopsis thaliana plants - **Armida Gjindali, University of Manchester**

Microgreens for Human Nutrition in Spaceflight - **Christina M Johnson, NASA Postdoctoral Program**

Proposal for MELiSSA Overall Control Loop Architecture - **Carles Ciurans, UAB - UCA**

Microbes in Hydroponic Crop Cultivation in Space - **Danny Geelen, Ghent University**

12:00 →

Bacteria and Archaea distributions in California ephemeral wetlands

| **Jorge Montiel-Molina, University of California Merced**

12:15 →

High temperatures affect pollen fertility more than altered gravity: bottlenecks in the reproductive cycle of micro-tom

| **Maurizio Iovane, Department of Agricultural Sciences, University of Naples Federico II**

12:30 →

Lunch

Physical, chemical, and microbial contaminants

13:30 →

Breakout discussion sessions

Microbial Risk in closed systems

| **Mabilat Claude, bioMerieux**

13:45 →

MATISS1 et 2: Microbial aerosol tethering on innovative surfaces in the international space station

| **Laurence Lemelle, Ecole Normale Supérieure de Lyon / CNRS**

14:15 →

PARAGEN 1.0 a synthetic bacteriocin gene collection for rapid in vitro antimicrobial peptide selection for the microbial control of industrial fermentations

| **M Jason Bland, Syngulon**

14:30 →

Breakout discussion sessions

Broad-spectrum-applications metal-free and durable antimicrobial polymer coatings embedding bio-sourced antimicrobial agents for confined inhabited space stations

| **David Duday, Luxembourg Institute of Science and Technology**

14:45 →

Towards an inventory of ecotoxicological effects metals and alloys on marine environments after over fifty years of launching activities

| **Tatiana Vallaeys, Université de Montpellier**

15:00 →

Break

15:30 →

OSCAR: MELiSSA modelling approach

| **Pr Dussap, Institute**

Metallic copper rapidly inactivates the metal-resistant *Cupriavidus metallidurans*

| **Laurens Maertens, SCK-CEN & UNamur**

15:45 →

Decentralized sanitation & waste water treatment concepts.

| **Peter Scheer, SEMiLLA Sanitation BV**

16:00 →

Poster Award

| **Max Mergeay, MELiSSA Project**

16:15 →

Closing Remarks *(45min)*

| **Jose Gavira, ESA**