8:00 **NETWORKING MEETINGS (AS NEEDED BASIS)**

AUDITORIUM

9:00 **Keynote Lecture**

Power-2-Food using Green Acetate and Microorganisms

Martin PERSSON (Manager of Fermentation Technology, Novonesis, Denmark)

	AUDITORIUM	FARADAY	CINE 3
	Track 1: Eating and Breathing in Space **1.2 Plant Characterisation**	Track 2: Valorising Wastes, Recovering Water and Drinking in Space **2.2 Wastewater Treatment, Water Recovery and Drinking in Space**	Track 3: Paving the Path to Circular Systems for Space and Earth **3.2 Space Demonstrators and Ground Analogues**
	Chairs: Lucie Poulet (Université Clermont Auvergne), Lucie Thibaud (ZARM)	**Chairs:** Korneel Rabaey (University of Gent), Siegfried Vlaeminck (University of Antwerp), Kai Udert (Swiss Federal Institute of Aquatic Science and Technology, EAWAG), Cyprien Verseux (University of Bremen)	**Chair:** Natalie Leys (SCK-CEN)
		Safe Water to Drink	
09h45	Can Plants Grow Upright in Space? Mechanisms Underlying Stability and Root Anchorage **Valérie LEGUÉ, Université Clermont Auvergne, France**	Risk-based Treatment and Monitoring of On-site Water Reuse on Earth **Eva REYNAERT, German Environment Agency, Germany**	MELiSSA Pilot Plant: Contributing to MELiSSA Loop Closure **Carolina ARNAU JIMENEZ, MELiSSA Pilot Plant – Universitat Autònoma de Barcelona, Spain**
10h15	Angle Dependence in the Plant Gravitropic Response **Marta DEL BIANCO, Italian Space Agency, Italy**	Snow's Eye Measurement Suite: a Modular Acoustic-Radar–Spectroscopic Payload for Quantitative and Compositional Water-ice Reconnaissance in Support of MELiSSA Life-Support and ISRU Systems **Jan MIKOLAJCZYK, University of Warsaw, Poland**	EDEN LUNA – Science and Technology Demonstration Platform **Vincent VRAKKING, German Aerospace Center, Germany**
10h30	Not Only Roots: Plant Response to Gravity Stimulus to Retain Flower Orientation **Giovanna ARONNE, University of Naples Federico II, Department of Agricultural Sciences, Italy**	Antimicrobial Coating: Protecting and Improving Human Space Flights **Filiz EMIRLI, NTNU / Spectrum Blue, Norway**	Mapping the Paths of Human Space Exploration, a Life Science Prospective **Marta DEL BIANCO, Italian Space Agency, Italy**
10h45	Altered Gravity Effects on Pollen Germination and Tube Growth: Species Selection for Experimental Models in the FLOS Project **Luigi Gennaro IZZO, University of Naples Federico II, Italy**	Water Recovery from Aerosol Streams with an Eye to Microgravity **Giuseppe BARBIERI, Consiglio Nazionale delle Ricerche – Istituto per la Tecnologia delle Membrane, Italy**	Lunar Agriculture Module Ground Test Demonstrator (LAM-GTD) – an International Effort to Develop a Full-scale Testbed for Bio-regenerative Life Support, including Canada's Role in the Lunar Agriculture Module – Ground Test Demonstrator **Michel Fabien FRANKE, German Aerospace Center (DLR)** **Jared STOOCHNOFF, Canadia Space Agency (CSA)**
		From Water to Food	
11h00	Are There Main Trends in Plants' Responses to Ionizing Radiation? **Veronica DE MICCO, University of Naples Federico II, Dept. Agricultural Sciences, Italy**	Noble Rot Wine Pills **Elena LUCIANI, Università Campus Bio-Medico di Roma – Scienze dell'Alimentazione e della Nutrizione Umana, Italy**	
11h15	**COFFEE BREAK**		
		From Water to Food (continued)	
11h45	Real-time Thermal Imaging of Leaf Temperature to Explore Plant Transpiration and Leaf Boundary Layer Effects on Ground and in Microgravity **Øyvind JAKOBSEN, CIRiS, NTNU Samfunnsforskning AS, Norway**	Perception of Green Juice Under Simulated Immersive Earth and Space Environments for the Design of Palatable Space Compatible Beverage **Lydia ONG, Centre of Excellence in Plants for Space, The University of Melbourne, Australia**	Bioregenerative Life Support Systems for the Moon: Italy's Pioneering Project Supported by the Italian Space Agency **Micol BELLUCI, Italian Space Agency, Italy**
12h00	Watermeal as a Resilient Nutrient Source for Space Farming: Omics-based Insights into Gravity-driven Adaptation for Closed Life Support Systems **Tatpong TULYANANDA, Mahidol University Faculty of Science, Thailand**	Lettuce Cultivation in a Urine-Fertilizer Scenario: Exploring Sodium Tolerance and Acclimation **Mona SCHIEFLOE, CIRiS- Centre for Interdisciplinary Research in Space, NTNU Samfunnsforskning AS, Norway**	Radiobiome: Host-Gut Microbiome Functional Resilience to Radiation **Michaela WALSH, University College Dublin, Ireland**
12h15	Stress Response of Hydroponically Cultivated Kale (Brassica oleracea) to Sodium Chloride and the Potential Mitigation Effect of Co-cultivation with Saltwort (Salsola Komarovii) **Kaia MACLEOD, NTNU, Norway**	Lettuce Cultivation Based on Urine-Derived Fertilizer – In-Situ Resource Utilization of Calcium Oxide for pH Control and Calcium Supplementation in Hydroponics **Anja JENNER, Centre for Interdisciplinary Research in Space (CIRiS), NTNU Samfunnsforskning AS, Norway**	Running a Photobioreactor in Space for the Production of Oxygen and Edible Spirulina Biomass **Natalie LEYS, Belgian Nuclear Research Center SCK CEN, Belgium**
12h30	Impact of Super-Elevated CO2 Concentration on Biomass and Oxygen Production of Kale Cultivated in the Higher Plant Chamber of the MELiSSA Pilot Plant **Enrique Peiro, MELiSSA Pilot Plant – Universitat Autònoma de Barcelona, Spain**	Simulated MELiSSA C3 Effluent as Sole Nitrogen Source for Kale and Lettuce Cultivation in a Closed-loop Hydroponic System (C4b) **Stefania COZZOLINO, Department of Agricultural Sciences – University of Naples Federico II, Italy**	Operation of Biolab for Human Spaceflight Applications at the Microgravity User Support Center (MUSC) **Katharina HILDEBRANDT, German Aerospace Center, Germany**
12h45	Custom Light Engines for the PaCMan Plant Characterization Unit: a Replicable Design Pathway for Upgrading Photobiological Systems in Space Research **Piero SANTORO, MEG Science, Italy**	LunarPlant: Human Waste Utilization in Hydroponic Systems for Cultivation of Leafy Greens in Space **Ann-Iren KITTANG, NTNU Samfunnsforskning AS, Dept. CIRiS, Norway**	Miniaturized and Monitored growth chambers for Cyanobacteria Culture in Space: MIMOCYCS **Eva CREUS OLEART, SENER Aeroespacial, Spain**
		Wastewater Treatment	
13h00	The Use of the Plant Characterization Unit for Investigating Crop Sub-Optimal Mineral Nutrition **Emmanuel FROSSARD, ETH Zurich, Swizterland**		Hardware Development for the BASIC ISS Experiment and Planned InFlight and Post-Flight Data Collection **Solène WURTZ PRA, Université Clermont Auvergne, France**

13:15 **LUNCH**

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		Wastewater Treatment (continued)	
14h15	Studying the Effects of Mycorrhizal Symbiosis in a Simulated Lunar Environment under Differing Gravity Levels **Andreas GUÐMUNDSSON GÄHWILLER, University of Iceland, Iceland**	Removal of Organic Acids for Life Support Systems in Space using a Synthetic Microbial Community in a Microbial Electrolysis Cell **Korneel RABAEY, Ghent University, Belgium**	The Space Omics Spaceflight Related Results and Simulated Microgravity Facilities Provided to the Space Biology, Life Support Systems and Astrobiology Communities in Spain **Raul HERRANZ, CIB Margarita Salas (CSIC), Spain**
14h30	Effect of Bio-stimulation from Limnospira Indica on Microbiome Modulation and Plant Resilience **Cécile RENAUD, University of Mons, Belgium**		Centralized Testing Facility for Space Food Production, Handling, and Bioregenerative Processes **Tor BLOMQVIST, German Aerospace Center (DLR), Germany**
14h45	,Use of Microalgae and Cyanobacteria from BLSS as Fertilisers for Lunar and Martian Regolith Simulants **Izabela ŚWICA, University Warmia and Mazury, Poland**	Nitrify for life: Sustainable Solutions for Space and Earth **Siegfried VLAEMINCK, University of Antwerp, Belgium**	TBC Anais LLODRA-PEREZ, MEDES, France
15h00	Enhancing Performance, Stability, and Resilience of Lunar Bioregenerative Life Support Systems through Intercropping Strategies **Antonnio PANNICO, Department of Agricultural Sciences, University of Naples Federico II, Portici, Italy**		A two weeks, sealed study in bioregeneration at Biosphere 2, **Kai STAATS , Arizona University, USA**

	AUDITORIUM	FARADAY	CINE 3
	Track 1: Eating and Breathing in Space **1.3 On-Board Food Production and Preparation**	Track 2: Valorising Wastes, Recovering Water and Drinking in Space **2.2 Wastewater Treatment, Water Recovery and Drinking in Space**	Track 3: Paving the Path to Circular Systems for Space and Earth **3.3 Terrestrial Applications**
	Chairs: Stefania de Pascale (University of Naples Federico II), Giorgio Boscheri (Thales Alenia Space Italia))	**Chairs:** Korneel Rabaey (University of Gent), Siegfried Vlaeminck (University of Antwerp), Kai Udert (Swiss Federal Institute of Aquatic Science and Technology, EAWAG), Cyprien Verseux (University of Bremen)	**Chairs:** Jeremy Pruvost (University of Nantes), Antoinette Kazbar (University of Wageningen)
		Urine Processing	Process Development for Waste Valorisation
15h15	MOONRICE: Cereal Crop Production for Future Planetary Base **Marta DEL BIANCO, Italian Space Agency, Italy**	Simulation of a Constructed Wetland for Wastewater Treatment on the Moon or Mars **Patrick Grove, The Spring Institute for Forests on the Moon, France**	Enabling Microbial and Microalgal Functional Ingredients for Terrestrial and Space Applications **Iulian BOBOESCU, Wageningen University, the Netherlands**
15h30		An Integrated System for Water and Nutrient Recovery to Enable Sustainable Space Habitation **Alaa KULLAB, Hydromars AB, Sweden**	
15h45	Liquid Management in Space (LiMiS): Innovations in Microgravity Food Production **Sophie LABONNOTE-WEBER, NTNU Samfunnsforskning, Norway**	From Mineralized Urine to Balanced Nutrient Solution for Crop Cultivation: Long-Term Supplementation Strategies and Nutrient Solution Dynamics **Øyvind JAKOBSEN, CIRiS, NTNU Samfunnsforskning AS, Norway**	Fogponics in the Loop: Developing and Testing a Nutrient Delivery System for Bioregenerative Space Agriculture **Siert HAMERS, Delft University of Technology, the Netherlands**
16h00	Development Status and Test Results of JAXA's Plant Growth Unit for Advanced Cultivation Experiments **Dylan Shun IZUMA, Japan Aerospace Exploration Agency (JAXA), Japan**	On-Site Resource Recovery from Urine with Zero-Waste Discharge: Challenges on the Way from a Process to a Product **Michel RIECHMANN, EAWAG / OGMO, Switzerland**	Microbially Driven Electro-Filtration for Recovery of Energy, Water and Nutrients: Transforming Urine into Bio-Fertiliser for Growing Plants in Space Missions **Iwona GAJDA, University of the West of England, United Kingdom**
16h15	SELENE **Giorgia PONTETTI, G & A Engineering S.r.l., Italy**	Towards a More Representative Synthetic Urine: Inclusion of Organic Compounds and Validation of Their Conversion During Anaerobic Storage **Nele KIRKERUP, EAWAG / ETH Zurich, Switzerland**	INCITE – Innovative Ionic Liquid-Enzyme Tandems for Enhanced Biomass Degradation **Antonielle MONCLARO, CMET/ Ghent University, Belgium**
16h30	MICROx2: A Microgreens Greenhouse for Lunar Surface Missions **Giorgio BOSCHERI, Thales Alenia Space, Italy**	Urea Hydrolysis, Nitrification and COD Removal of Synthetic and Human Urine in a Continuous Packed-Bed Bioreactor with a Defined Microbial Community at the Melissa Pilot Plant **Queralt FARRÀS, Universitat Autònoma de Barcelona, Spain**	Gravity-Adaptive Wolffia (Water Lentils) For Bioregenerative Life Support Systems: A Three-Year Multi-G Study and its Application to Terrestrial Cultivation Technology **Leone Ermes ROMANO, Department of Agricultural Sciences, University of Naples Federico II, Italy**
16h45	Space-Fed, Space-Ready: Innovations in Astronaut Nutrition and Extraterrestrial Agriculture, **Patrick GROVE (on behalf of Borja BARBERO), Moon Village Association, United States**	Enhancing The Conversion of Organics in Urine Treatment with a Synthetic Community Through Genomic Screening Targeted for Creatinine-Degrading Bacteria **Patricia GUTIÉRREZ LOZANO, University of Antwerpen, Belgium**	

	AUDITORIUM
17:00	**Poster Pitch Contest**
17:15	**COFFEE BREAK**
17:30 18:00	**Round Table Event : Art for Space** moderated by **Marc OBÉRON** (Founder of Cinema for Change International Film Festival, France) **Keynote Lecture** Research Progress on Bioregenerative Life Support System (BLSS) by “Lunar Palace-1” Team **Hui LIU** (Lunar Palace 365 Experiment Captain, Beihang University, China)
18:30 20:00	**FREE TIME**
20:00 22:00	**Gala Dinner** – Barceló Granada Congress Getting there **9 minutes**

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