

General Overview of the Program

ISGP 2024 in Dubai

	Sunday, May 26th	Monday, May 27th	Tuesday, May 28th	Wednesday, May 29th	Thursday, May 30th	Friday, May 31st
09:00						
09:30						
10:00		Opening Ceremony Plenary 1 – CURRENT CONCEPTS Almehdi Soudersaan "The Lunar Challenge: Lunar dust and the human being in moon missions" Ann Bergreen "Insects as food for space travel and planetary sustainability"	Plenary 2 Session dedicated to MBRSC Protein Crystallization in microgravity	Plenary 3 Rodents in Altered Gravity: Advances in Space Biology/Research	Coffee break available Plenary 4 LBNP as countermeasure	
10:30		Coffee break	Coffee break	Coffee break		
11:00		Young Investigators Session (1)	Young Investigators Session (2)	Young Investigators Session (3)		
11:30		Lunch Break	Lunch Break	Lunch Break	Lunch Break	
12:00		Lunch & Poster	Lunch & Poster	Institutional session (1)	Institutional session (2)	
12:30						
13:00						
13:30						
14:00						
14:30						
15:00						
15:30	Welcome of participants for registration					
16:00		Moon Exploration	Muscle and movements	VIVALDI dry immersion study	Closing Ceremony	
16:30		Studies with gender differences	Medical issues for exploration	Animal Models		
17:00		Space Exploration and extreme environments	SIRIUS & Isolation studies	Immunology and inflammation	ISGP General Assembly	
17:30		Coffee break	Coffee break	Coffee break		
18:00		Cells and plants	Cardiovascular system	Hypergravity		
18:30						
19:00		Welcome party (18:30 – 21:00)	Young Investigator event : Ghawa & Career (18:30 – 20:00)	Gala Dinner and Young Investigators Award Ceremony (19:30 – 22:00)		
19:30						

Detailed Scientific Program

ISGP 2024 in Dubai

Monday, May 27th

Opening Ceremony

Plenary 1 - Current Concepts (9:30 – 11:00)

Alamelu Sundaresan

The Lunar Challenge- Lunar dust and the human being in moon missions

Åsa Berggren

Insects as food for space travel and planetary colonization

Young Investigator session – 1 (11:30 – 12:30)

Khulood Ahrari

Effect of Space Flight on Sperm Function and Integrity: A Systematic Review

Damien Lanéelle

Orthostatic tolerance according to cerebral arterial pattern variations during hemodynamic stress combining lower body negative pressure and head-up-Tilt

Victorien Faivre-Rampant

Does gravity affect intrinsic cardiac function? Effects of different gravitational loads on the cardiac performance independent of the preload

D.A. Sidorenko

The ryanodine receptor stabilizer S107 prevented the increase in fatigue and the decrease in strength of rat soleus muscle after simulated gravitational unloading

Parallel Session (a) “Moon Exploration” (14:00 – 15h30)

Salma Subhi

Chondrites: Understanding the Origins of the Solar System

Chiara Pucciariello

The REGOLIFE project: Bio-Engineering Lunar Regolith for Moon Crop Cultivation

Jay Bookbinder

SpinSat: a Novel Mission Architecture for Deep Space Radiation and Gravitational Studies

Shannon Marchal

Research into “Lunar Hay Fever” on Earth – Finding Answers in an in Vitro Airway Model?

Fawzan Mohamed Kareem Navaz

Utilizing bio-inspired hierarchical multi-shell structures (BHMSS) for radiation shielding in space exploration

Alimsha Riyas

Lunar scientific research base (LSRB) - an analogue habitat proposal for future manned missions (Modalities of presentation to be confirmed)

Parallel Session (a) “Studies with gender differences” (14:00 – 15h30)

Asrar Abdi

Effects of Menstrual Cycle on Hemodynamic and Autonomic Responses to Central Hypovolemia

Vishwajeet Shankhwar

Does Gender Influence Cardiovascular and Autonomic Responses to Central Hypovolemia?

Kunihiko Tanaka

Galvanic Vestibular Stimulation Decreases Parathyroid Hormone in Menopausal Women

Ivan Vasilev

Parameters Of Venous Hemodynamics In Female Volunteers During Their Stay In A 5-day “Dry” Immersion

Galina Vassilieva

Five-day “Dry” Immersion With Female Subjects (“Immersion-5F-LF”): Main Objectives And Results

Parallel Session (b) “Space exploration and extreme environment” (16:30 – 18h00)

Yasmin Halawani

AstroBEAT: Cardiovascular Variability Analysis and Lunar Microgravity Twin

Monica Monici

Mechanisms of Adaptation to Extreme Environments The Exposome Signature Project

Elena Fomina

Methods for the prevention of monotony in interplanetary spaceflight

Leonardo Surdo

Crew-interactive AI-powered Health Applications via the ICE Cubes Media Set

Judith-Irina Buchheim

Support of a Crew Activity with the Crew Interactive Mobile Companion (CIMON)

Sandeep Sureh Babu

Potential of Bioprinting in Space Missions: Challenges on the way forward

Parallel Session (b) “Cells and plants” (16:30 – 18h00)

Mahamed Ashiq

*Hypergravity Confers Abiotic Stress Tolerance In Bread Wheat (*Triticum aestivum* L.)*

Irina Ogneva

*The *Drosophila Melanogaster* Oocytes Demonstrate The Mechanoreception Under Short-Term Modelling Micro- and Hypergravity*

Devjoy Dev

The effect of short-term exposure to simulated microgravity on circadian clock gene expression in mouse embryonic fibroblasts

Mohamed Jamal

Oral tissues and neural crest derived stem cells as a model to study oral health in microgravity environment

Osman Patel

Impact of microgravity exposure on genes regulating cell turnover in rat mammary gland

Tuesday, May 28th

Plenary 2 - Session dedicated to MBRSC (9:00 – 11:00)

Including talks about “protein crystallization and microgravity”

Young Investigator session – 2 (11:30 – 12:30)

Anas El-Gneidy

Spaceflight associated neuro-ocular syndrome (SANS): a systematic review, implications for the SANS case definition

E. Yu. Gorbacheva

The Ovarian-Pituitary Axis Of Mice After Antiorthostatic Suspension During The Full Estrous Cycle

Ines Ebner

Changes in physical activity levels during 60-days of 6°head-down-tilt bed rest - a preliminary data analysis of the BRACE study

T.J. Pereira

Does an N95 mask improve Orthostatic Tolerance?

Parallel Session (a) “Muscle and movements” (14:00 – 15h30)

Elena Tomilovskaya

Perspectives of electromyostimulation approaches for muscle strength and endurance maintenance under motor unloading conditions: from Space to Earth

Ivan Ponomarev

Effect of 7-day course of electromyostimulation on the contractile and viscoelastic properties of the muscles of the lower extremities under conditions of support unloading

Karolina Biszczad

Space Tourism- MyotonPRO experiment on Muscle Tone

Tatiana Shigueva

Effects of Electromyostimulation on Characteristics of Reflex Excitability of Calf Extensor Muscles Under Dry Immersion Conditions

Nelly Abu Sheli

Maximal Voluntary Muscle Force And Muscle Tone Of The Lower Extremities In Patients With Chronic Cerebrovascular Insufficiency And Deficit Of Physical Activity After A Course Of Modulated Electrical Myostimulation (“Russian Currents”)

Anna Ganicheva

The Role Of Spaceflight Experience And Mission Duration In The Success Of Completing Model Tasks On The Planet Surface

Parallel Session (b) “Medical issues for exploration” (14:00 – 15h30)

Ahmed Bakri

The impact of Microgravity on Experimental Periodontitis: An In Vivo Study

Monica Monici

Wound Healing and Tissue Regeneration in Space The SUTURE in SPACE Experiment

Elias A

Risk of Thromboembolism in Space: Current Evidence and Perspectives

Ilya Rukavishnikov

Analysis Of The Possibility Of Using Ground-Based Space Flight Models In Studying The Effects Of Stress, Accompanied By A Decrease In Motor Activity Of Various Duration, On Hemostasis Parameters And The State Of The Human Vascular Bed

Philippe Arbeille

Liver tissue changes during 6-month space flight measured by ultrasound RF signal processing

Parallel Session (a) “SIRIUS & Isolation studies” (16:30 – 18h00)

Asma Parveen

Effects of an 8-months isolation on Body Composition and Cardiopulmonary Exercise Testing.

Carine Platat

Body composition and glucose homeostasis during a 8-month ground-based isolation study

Stefan Du Plessis

Effects of Isolation on Cardiovascular and Autonomic systems

Mariia Kokueva

Evaluation of individualized physical training protocols in experiments SIRIUS-21 and SIRIUS-23 (to be confirmed)

Nandu Goswami

Effects of Prolonged Isolation on Human Health: From Ground-based Analogs to Spaceflight Environments

Parallel Session (b) “Cardiovascular system” (16:30 – 18h00)

Andrew Blaber

Altered Cardiorespiratory Interactions with Spaceflight: Preliminary Results from CARDIOBREATH

Carmen Possnig

Understanding mechanisms and unveiling countermeasures for the bedrest- induced decrease in cerebral blood flow: Preliminary data

Adrien Robin

Gravitational dose-response curves for cardiovascular and ocular variables after 24h bedrest or drug-induced hypovolemia

Jacques-Olivier Fortrat

Self-organized criticality of Heart rate variability During Actual and Simulated Weightlessness: insights from Lower Body Negative Pressure

Olga Vinogradova

Synchronization Of Blood Pressure And Heart Rate Oscillations In Different Frequency Ranges As A Measure Of Disturbances In The Regulation Of Systemic Hemodynamics During Tilt Test

Sami Alghayath

Assessment of Hemodynamic and Autonomic Responses to Changes in Posture in Diabetics in Dubai: A Prospective Cohort Study

Wednesday, May 29th

Plenary 3 - Rodents in altered gravity: Advances in Space Biology Research (9:00 – 11:00)

Chaired by S. Tavella & J. van Loon

Young Investigator session – 3 (11:30 – 12:30)

Victoria Ly

Self-Generated Lower Body Negative Pressure Exercise, a Low Power Countermeasure for Deep-Space Missions

Zhiyao Ma

Exploring the Impact of Simulated Microgravity on Osteoarthritis Development: The Role of CD36 and Sex-Specific Responses in a Mouse Model

Constance Badali

SpaceBike – Preliminary Insights into Neuromuscular Adaptation through Bed Rest

R. Yu. Zhedyaev

Direct Comparison of Head-Down Bed Rest and Dry Immersion Effects on Human Cardiac Baroreflex During Orthostatic Stress

Plenary session “Institutional session - 1” (13:30 – 15h00)

During this session, a presentation of roadmaps and perspectives on life sciences in space will be presented by a panel of representatives from academic institutions and space agencies

Parallel Session (a) “VIVALDI dry immersion study” (15:00 – 16h30)

Rebecca Billette de Villemeur

Of The Dry Immersion Model For ESA: Description Of The VIVALDI I And II Studies

RK. Vergos

VIVALDI I And II: General Tolerance To 5 Days Of Dry Immersion In 38 Healthy Men And Women

Nastassia Navasiolava

Dry immersion effects on circadian rhythms and day-night variability of core temperature, heart rate, and blood pressure

Peter Fernandez

Exploring Bone Adaptation and Energy Metabolism Between Males and Females Under Dry Immersion Conditions

Adrien Robin

Venous functions and leg volume changes during the two ESA Vivaldi dry-immersion studies in men and women

Marc Kermorgant

Gender Related Differences On Dry Immersion-Induced Ophthalmological Changes

Parallel Session (b) “Immunology and inflammation” (17:00 – 18h15)

C. Fonte

Hindlimb unloading, a physiological model of microgravity, modifies the murine bone marrow IgM repertoire in a similar manner as aging but less strongly

A. Campioli

Adaptation to 3g Hypergravity: A Multidisciplinary Tissue Sharing Program from a 14- and 27-Day Mouse Experiments

Alessandro Leuti

Simulated Microgravity Affects Specialized Pro-Resolving Mediators and Human Inflammatory Homeostasis in a Cell-Specific Manner

Naim A. Khan

Inflammation and spaceflights: the neuroprotective effect of dietary fatty acid and its derivative.

Mei ElGindi

Effects of Simulated Microgravity on Immune System Potency in 3D Microenvironment

Parallel Session (a) “Animal models” (15:00 – 16h30)

Theo Fovet

The NEBULA Project: Effect Of Pre-Flight Physical Training On Bone And Muscle In A Mouse Microgravity Analog Model.

Zeinab Ibrahim

Exploring Novel Therapeutics Targets Against Cardiovascular and Skeletal Muscle Deconditioning in Hindlimb Unloading Model

Jack van Loon

Fetal mouse long bones under continuous microgravity or in-flight periods of 1×g centrifugation as countermeasure.

Timur Mirzoev

Spinal mechanisms triggering the spontaneous tonic activity of the postural soleus muscle under hindlimb unloading

Ameneh Ghadiri

Femurs of Mice Exposed to Hypergravity Show Deregulation of Genes Mainly Associated with ECM-receptor Interactions and Protein Digestion and Absorption

G. Murgia G

Hypergravity Exposure Induces Alterations Of Erythrocyte Membrane And Antioxidant Potential Of Mice Housed In The MDS Facility

Parallel Session (b) “Hypergravity” (17:00 – 18h15)

Rebecca Billette de Villemeur

A 60-Day Bed Rest With Artificial Gravity And Cycling Exercise: The BRACE Study – Description Of The Study Method

Jan Millek

Does Artificial Gravity Tolerance Change Across seasons?

Maryam Almarzooqi

Comprehensive exploration of artificial gravity solutions for optimizing long-term space exploration missions

Alina Saveko

Effect of different short-radius centrifugation interval training modes on vertical stability (presentation modalities to be confirmed)

Thursday, May 30th

Plenary 4- LBNP as countermeasure (10:00 – 12:00)

Chaired by N. Goswami & A. Blaber

Plenary session “Institutional session - 2” (13:30 – 15h00)

Pierre Denise

SPACEMED Erasmus Mundus Joint MSc: The first European Master’s program in Physiology and Medicine of Humans in Space and Extreme Environments

J. Bonnefoy

Gravitational Experimental Platform for Animal Models, a New Platform at ESA's Terrestrial Facilities to Study the Effects of Micro- and Hypergravity on Aquatic and Rodent Animal Models

Neil Melville

ESA's Parabolic Flight Activities: An overview of our campaigns, capabilities, and new application routes for Technological and Commercial proposals

Marisa Covington

Navigating the NASA IRB and human research multilateral review board (HRMRB): an ethics perspective

Cyndi Roman

ClinicalTrials.gov: Understanding the Clinical Trials Requirements at NASA

Closing ceremony

Posters Session

You will need to print your poster. Recommendation as maximum size is A0.

Tatiana Kostrominova

Role of Inositol-trisphosphate Receptors in the Regulation of Signaling Pathways During Unloading-induced Rat Soleus Muscle Atrophy

Monica Christova

Activating Orthostatic Response with Motor Imagery: Potential Application in Returning Astronauts and Older Adults

Amira Sayed Khan

Novel GPR120 agonist modulates systemic and neuroinflammation

Aya Hesham

Space-Fit Far Infrared Suit for Back Pain Mitigation onboard the International Space Station (ISS)

Alexandru Nistorescu

Assessing Achilles Tendon Mechanics With MusTone Device: A Myotonometric Approach To Understanding Tissue Dynamics

Abdulrahman Alblooshi

Exploring the Therapeutic Potential of Gravitational Psychology in Disease Understanding

Pauline Jacob

Long-duration head-down tilt bed rest confirms the relevance of the neutrophil to lymphocyte ratio and suggests coupling it with the platelet to lymphocyte ratio to monitor the immune health of astronauts

Adel Elmoselhi

Effects of Isolation and Confinement on Vascular Health during Space Travel: Insights from a SIRIUS-21 Analog Mission

Karin Schmid-Zalaudek

Effects of hemodynamic responses during stand test following 15 minutes of sinusoidal vibration of varying intensity

Masahiro Terada

Performing the bedrest study for the space medicine educational programs

Devjoy Dev

Exploration of the biomechanical stress on the body while performing functional and operationally relevant movement patterns under variable gravitational stress

Kristina Sharlo

Effects of Muscle Electrical Stimulation under 6-day Dry Immersion on Soleus Muscle Signaling

Natalia Vilchinskaya

Time-course of alterations in the expression of mechanosensitive ion channels in rat soleus muscle under simulated microgravity

Ameline Saouli

Effects of Simulated Microgravity on Sperm Function: An In Vitro Study Evaluating Sperm Quality and Function-Specific Genes

Tiffany Stead

Examining Hypercoagulability in Females Exposed to Dry Immersion: a mechanism for Development of Venous Thromboembolism in Microgravity?

Irina Bryndina

Sphingolipids as regulators of skeletal muscle phenotype at gravitational unloading

Victoria Gulimova

X-Ray Phase Contrast Microtomography Investigation Of Thick-Toed Geckos Caudal Vertebrae After A Long-Term Space Flight Using Machine Learning

Andrew Blaber

Exploring Cardio-postural Interactions in relation to Prolonged Space Missions

Andréa Bertona

Evaluation of Short-Term Simulated Microgravity and Cognitive Task Effects on Central and Regional Hemodynamic Vascular Parameters during Progressive Head Down Tilt (HDT) Inclination

Mariia Kokueva

Evaluation of individualized physical training protocols in experiments SIRIUS-21 and SIRIUS-23 (to be confirmed)