



International Symposium on LIVING IN SPACE 2019

from basic biology to the MOON, MARS and beyond

Date and Time : 15th March 2019 (Fri) 8:55~18:05

Venue : Inamori-Hall, Shiran-kaikan, Kyoto University

PROGRAM

08:30-08:55 REGISTRATION

08:55-09:15 **Opening Remarks**

Satoshi FURUKAWA (JAXA) Head of the Scientific Research on Innovative Areas "Living in Space"

Chair: Akihisa TAKAHASHI

Key word: Space radiation; Microgravity; Combined effect; Cancer Progression

Planned Experiments on Cancer Progression in Space at the International Space Station

Akihisa TAKAHASHI (Gunma University)

Session I

09:15-10:15

Interplay of Space Radiation and Microgravity in DNA Damage and DNA Damage Response

Honglu WU (Johnson Space Center, NASA, USA)

Collaborative Research – Combined Effects of Simulated Microgravity and Space Radiation on Human Cells

Megumi HADA (Prairie View A&M University, USA)

10:15-10:30 BREAK

Chair: Kenichi IWASAKI

Key word: Cardiovascular adaptation to space

Session II

10:30-11:30

Cardiovascular Adaptations to Spaceflight: Reflections of a Space Cardiologist

Benjamin D. LEVINE (The University of Texas, USA)

Chair: Hironobu MORITA

Key word: Plastic alteration of vestibular system

Session III

11:30-12:30

Plastic alteration of the vestibulo-cardiovascular reflex induced by spaceflight

Hironobu MORITA (Gifu University)

Vestibular Control of Blood Pressure: Neural Mechanisms and Role of Cognition

Bill YATES (University of Pittsburgh, USA)

12:30-13:30 LUNCH BREAK

Chair: Atsuko SEHARA

Key word: microgravity; stem cells; aging

Cell Mechanosensing

Keiji NARUSE (Okayama University)

Session IV

13:30-15:00

Physiological alterations in spaceflown *Caenorhabditis elegans*

Atsushi HIGASHITANI (Tohoku University)

Effects of Space Stay on Skeletal Muscle

Atsuko SEHARA (Kyoto University)

Understanding muscle stem cell regenerative decline with aging

Pura MUÑOZ-CÁNOVES (Pompeu Fabra University, Spain)

Chair: Toru SHIMAZU

Key word: Human Space Exploration beyond the Low Earth Orbit

Human Space Exploration beyond the Low Earth Orbit

--Developing technology for moon-base habitation and its application to the earth society through Space Colony Research Center at the Tokyo University of Science --

Session V

15:00-16:00

Chiaki MUKAI (Tokyo University of Science, JAXA)

From Here to Mars: How the Year-long ISS Mission and the Twins Study Moved Us Closer to the Red Planet

John CHARLES (NASA Emeritus, Scientist-in-Residence, Space Center Houston Space Life Sciences Consultant, USA)

16:00-16:15 COFFEE BREAK

Chair: Ichiyo MATSUZAKI

Key word: Extreme environment; Organizational psychology; MARS500

Session VI

16:15-17:15

Psychological resilience among astronauts during space missions: Evidence from space and analogues

Gro Mjeldheim SANDAL (University of Bergen, Norway)

Chair: Toshio KOKUBO

Key word: Sleep and wakefulness; forward genetics; phosphoproteomics

Session VII

17:15-18:00

Toward the Mysteries of Sleep

Masashi YANAGISAWA (University of Tsukuba)

18:00-18:05 **Closing Remarks**

Chiaki MUKAI (Tokyo University of Science, JAXA), **Satoshi FURUKAWA** (JAXA)

Venue Organizer : Atsuko SEHARA (Kyoto University)