

# **CHIBADAI International Workshop on Space Agriculture and Horticulture 2025**

## **PROGRAM**

**March 9, 2025 (Sunday)**

**Building E (2F Godokogi-shitsu) and Tojogaoka Hall, Matsudo campus**

**●Tour of the research facilities (Prof. Goto's laboratory) of plant factory with artificial light  
(Invited speakers only)**

10:00 – 11:30

Lunch and Registration

11:30 – 13:00

**●Opening address by Arata Momohara (Dean, Graduate School of Horticulture, Chiba University)**

13:00 – 13:05

### **Session I: Plants and foods for manned space exploration**

Chairs: E Goto & R Wheeler

**●Elison Blancaflor (Exploration & Research Technology Programs, NASA)**

‘A Green Revolution for Space: harnessing plants for multiplanetary living’

13:15 – 13:50

**●Hayato Ohkuma (Space Exploration Innovation Hub Center, JAXA)**

‘Status of JAXA's research and development for the realization of a lunar farm’

13:50 – 14:15

**●Mizuki Komasa<sup>1</sup> and Yuta Kikuchi<sup>1,2</sup> (<sup>1</sup>Space Foodsphere, <sup>2</sup>JAXA)**

‘Stardust Program: Strategies to create advanced resource-recycling food supply systems to support long-term lunar stays’

14:15 – 14:40

(Break) 14:40 – 15:00

### **Session II: Centers of plant research for space in Australia and Japan**

Chairs: M Hanaoka & M Gilliam

**●Matthew Gilliam (ARC Centre of Excellence in Plants for Space, The University of Adelaide)**

‘P4S: re-designing plant, food and bioresource production for Space and Earth’

15:00 – 15:35

●Hideyuki Takahashi (Research Center for Space Agriculture and Horticulture, Chiba University)

‘Research Center for Space Agriculture and Horticulture at Chiba University: its backgrounds and goals’

15:35 – 16:00

●Mitsumasa Hanaoka (Research Center for Space Agriculture and Horticulture, Chiba University)

‘Towards the establishment of plants and crops suitable for the space environments’

16:00 – 16:25

### **Session III: Poster session (plus mixer)**

#### **Tojogaoka Hall**

16:30 – 18:00

**March 10, 2025 (Monday)**

**Building E (2F Godokogi-shitsu) and Tojogaoka Hall, Matsudo campus**

### **Session IV: Environmental control for plant production in space**

Chairs: S Hikosaka & Y Kitaya

●Eiji Goto (Research Center for Space Agriculture and Horticulture, Chiba University)

‘Environmental control for plant production in space’

9:00 – 9:25

●Raymond M. Wheeler (Exploration & Research Technology Programs, NASA)

‘NASA’s contributions to controlled environment agriculture’

9:25 – 10:00

Break (10:00 – 10:20)

●Kyunghwang Kim (EDEN initiative, German Aerospace Center (DLR))

‘The EDEN Initiative at the German Aerospace Center (DLR): achievements, vision, and progress through innovation and collaboration’

10:20 – 10:55

●Eri Hayashi (President, Japan Plant Factory Association (JPFA))

‘Current state and challenges of plant factories in Japan’

10:55 – 11:20

Lunch (11:20 – 13:00)

**Session V: Resource recycling for closed ecosystem**

Chairs: A Nakano & C Lasseur

- Akimasa Nakano, Daisuke Aoki, Takaaki Wajima (Research Center for Space Agriculture and Horticulture, Chiba University)

‘Development of zero-emission technology for closed ecosystem’

13:00 – 13:35

- Christophe Lasseur (MELiSSA project, ESA)

‘Circular Life Support Systems in Europe: main achievements and remaining challenges’

13:35 – 14:10

- Yoshiaki Kitaya (R&D Center for the Plant Factory, Osaka Metropolitan University)

‘Resource-recycling food production in space’

14:10 – 14:35

Break (14:35 – 15:00)

**Session VI: Japanese plant research in ISS Kibo module**

Chairs: J Hidema & A Higashibata

- Akira Higashibata (JEM Utilization Center, JAXA)

‘Introducing of JAXA spaceflight experiments with plants’

15:00 – 15:25

- Tomomichi Fujita (Graduate School of Science, Hokkaido University)

‘Space Moss: Environmental response and utilization of mosses in space’

15:25 – 15 :50

- Jun Hidema (Research Center for Space Agriculture and Horticulture, Chiba University)

‘Plant UV-B: Study on plant responses against the stresses of microgravity and high ultraviolet ray in space’

15:50 – 16:15

**Summing up and discussion for future collaboration**

16:20 – 17:30

Dinner (18:00 – 20:00)

**March 11, 2025 (Tuesday)**

**Kashiwanoha campus** (<http://www.fc.chiba-u.jp/english/access.htm#Access>)

**Tour of facilities at Kashiwanoha campuses of Chiba University/JPFA (Invited speakers only)**

(10:00 – 12:00)