

## Event Report

### 65th International Astronautical Congress (IAC) 2014 September 29 – October 3, 2014, Toronto, Canada

#### SATC Attendance:

Attending members: 3  
Olga Bannova  
Barbara Imhof  
Jackelyne Silva-Martinez

Attending alumni: 1  
Susmita Mohanty

#### Space Architecture Sessions:

There were two space architecture sessions (E5.1 & E5.3) in this year's IAC:

##### **E5.1: Space Architecture: technical aspects, design, engineering, concepts and mission planning.**

October 1 2014, 09:45 — 713B

Co-Chair(s): Olga Bannova, University of Houston, United States; Anna Barbara Imhof, LIQUIFER Systems Group (LSG), Austria

Total abstracts submitted to session	8
Abstracts rejected and transferred to other sessions	0
Total abstracts accepted	8
Papers presented	6
Papers withdrawn	2
Paper no show	0

## Paper overview

1. Scott Yim, Lindsea Wilbur. Social-space analogs: exploring the emerging issues of interplanetary settlement (IAC-14,E5,1,1,24684). – *the paper advocates new scenarios focusing on social interaction for simulation missions in preparation of human Mars missions.*
2. Luca Levrino, Giacomo Gatto, Eugenio Gargioli, Sherrie Hall, Jeffrey Hoffman, Paolo Maggiore, Nicole Viola, Maria Antonietta Viscio, Janelle Wellons. Human life support in permanent lunar base architectures (IAC-14,E5,1,2,25487). – *the paper focus on a greenhouse improvement study where we learned that we can reduce weight with LED illumination (as of current technological state) and inflatable structures (when volume is a primary driver).*
3. Nejc Trost, Chiharu Sasagawa. modular space architecture: design considerations for trans-planetary manned exploration. (IAC-14,E5,1,5,24506). - *a catalogue of inflatable and hard shell modules to different space destinations. The element configuration includes its modular interior.*
4. Lucie Poulet, Ondrej Doule. Greenhouse Automation, Illumination and Expansion Study for Mars Desert Research Station (IAC-14,E5,1,6,22971). – *the paper spoke about improving the lightening situation of the greenhouse to increase the vegetable production for 125% and the reorganization of the work and storage area to increase productivity of plants and crew, as well as expansion and integration options for the greenhouse at MDRS.*
5. Leonidas Gargalis, Marianthi Liapi. Adaptable intelligent spacecraft modules for various vehicle and habitat architectures (IAC-14,E5,1,7,26033). – *the paper presented one transforming module for three different gravitational stages, including the transforming interior.*
6. James (Jim) Burke, Lucie Poulet. Architectures for accommodating lunar plant growth demonstrations (IAC-14,E5,1,8,21007). – *the paper was about Lunar farming and forestry using plants in all variety for nutrition and building material, also having insects as part of the eco-cycle in a Lunar greenhouse, basically looking at Lunar farming form a holistic point of view.*

### **E.5.3 Space Architecture: Designing Human Systems Interaction:**

October 2 2014, 09:45 — 713B

Co-Chair(s): Jackelynn Silva Georgia Institute of Technology, United States;  
Anna Barbara Imhof, Liquifer Systems Group (LSG), Austria;

Rapporteur(s): Susmita Mohanty, Earth2Orbit, India (standing in for Regina Peldszus)

Total abstracts submitted to session	10
Abstracts rejected and transferred to other sessions	2
Total abstracts accepted	8
Papers presented	5
Papers withdrawn	2
Paper no show	1

#### **Paper overview:**

1. Regina Peldszus, Jackelynn Silva, Barbara Imhof. Contemporary Human Technology Interaction Issues in Space Architecture: A Position Paper (IAC-14,E5,3,1,25092).
2. Melissa Battler, Matthew Cross, Volker Maiwald, Ayako Ono, Csilla Orgel, Hans van t'Woud, Bernard Foing. Scientific Studies, Human-Rover Interactions, and Technology Demonstrations Conducted by Euromoonmars Crew 125 at a Gale Crater Analogue Site (IAC-14,E5,3,3,27009)
3. Susmita Mohanty, Barbara Imhof, Alistair Nottle, Thomas Vogele, Jakob Schwendner, Weiss Peter, Virginie Taillebot, Bernard Gardette, Thibaud Gobert, Yahodhan Nevatia, Diego Urbina, Knut Fossum, Victor Parro, Olga Prieto. Operation Scenarios and Constraints for Joint Human-Robot Surface EVA Missions on Moon and Mars (IAC-14,E5,3,4,24147)
4. Luca Levrino, Margherita Censi, Alessandro Ciani, Alessandro Cingoli, Chiara Gastaldi, Paolo Maggiori, Ricardo Repenning, Maria Viscio. "NEA Robotic Friend: An Innovative and Versatile Vehicle to Support Human Mobility around Asteroids" (IAC-14,E5,3,5,22618)
5. Sandford Mcleod. "Permanent Habitation, Human, Mechanical, Environmental Ambient Intelligence, Constant Sociological Interface in Space" (IAC-14,E5,3,6,24648)

### **Events & Paper Details in Other Sessions by SATC members:**

Susmita Mohanty, Barbara Imhof, et.al. IAC-14,D4,2,8  
Olga Bannova, et.al. IAC-14,A1,4,12  
Olga Bannova, et.al. IAC-14, E5,2,2  
Olga Bannova, et.al. IAC-14, E5,2,3  
Olga Bannova, et.al. IAC-14,B3,7,10  
Olga Bannova, et.al. IAC-14, E1,7,3  
Jackelynne Silva-Martinez, IAC-14,A1,P,7  
Jackelynne Silva-Martinez, IAC-14,A3,2D,21

City As A Spaceship (CAAS) Panel at the Global Network Forum

### **SA Sessions Attendance:**

Session 5.1: average attendance 20, peak attendance 35  
Session 5.3: average attendance 17, peak attendance 20

### **Other related SATC meetings & gatherings:**

n/a

### **Contributions & Editing Team**

This Event Report was produced and edited by David Wong, based on information contributed by Barbara Imhof, Jackelynne Silva-Martinez and Olga Bannova.