Programme

INTERNATIONAL WORKSHOP
1st IoST Workshop: Building bridges for a global network

Place: Av. Beauchef 851, Santiago, Región Metropolitana, Chile. Sala B06 (Hybrid)
Date: 4 and 5 April 2024 (9:45 - 17:30)

DAY 1 PROGRAM
Thursday, April 4th, 2024

9:30 – 9:45	Participants registration		
9:45 – 10:00	Welcome words	PhD Marcos Diaz	Space and Planetary Exploration Laboratory; SPEL- U. de Chile
Panel 1			
10:00 – 10:20	Incorporation of Internet of Space Things (IoST) into the development of the national satellite system (SNSAT)	Colonel (I) Hernan Tello Sepulveda	Chilean Air Force
10:20 - 10:40	Status of the activities in Chile related to Internet of Space Things (IoST)	PhD Marcos Díaz	Space and Planetary Exploration Laboratory; SPEL- U. de Chile
10:40– 11:00	LoRa communication systems in CubeSats: ArkEdge cases and future plans	Masanobu Tsuji	ArkEdgeSpace
11:00 – 11:40	Coffee break		
Panel 2			
11:40 – 12:00	Channel Modeling in IoT Deployments Supported by LEO Nanosatellites	PhD César Azurdia	Department of Electrical Engineering of the University of Chile
12:00 – 12:20	Using novel manufacturing technologies for CubeSat antennas: preliminary results	PhD Francisco Pizarro	Pontificia Universidad Católica de Valparaíso, PUCV

12:20 – 12:50	**Group discussion activity (PhD Marcos Diaz & PhD Sofía Vargas)**		
12:50 – 14:00	**Lunch**		
	Panel 3		
14:00– 14:20	Impact of space weather effects on IoST performance	PhD Juan Carlos Valdés	Space and Planetary Exploration Laboratory; SPEL- U. de Chile
14:20 – 14:40	Reprogramming capabilities of a IoST CubeSat	PhD Matías Vidal	Space and Planetary Exploration Laboratory; SPEL- U. de Chile
14:40- 15:00	Satellite positioning using IoT signals	PhD (c) Rodrigo Muñoz	Space and Planetary Exploration Laboratory; SPEL- U. de Chile
15:00 – 15:20	Challenges and restrictions in propulsion systems to correct the orbital altitude of IoT CubeSats	Janis Licuime Rivera	Space and Planetary Exploration Laboratory; SPEL- U. de Chile
15:20 – 15:40	Challenges in large satellite constellations operations for IoST applications (ONLINE)	PhD Carlos González	German Aerospace Center (DLR)
15:40- 16:00	Potential uses for space applications of a network of telescopes originally conceived to perform fast-photometry solar system studies.	PhD Cesar Fuentes	Universidad de Chile, UCH
16:00- 16:20	Preliminary efforts for multi-Sensor, multi-Space Object, multi-Tracking using Lie Algebra and Low Cost Telescopes	PhD Martin Adams	Universidad de Chile, UCH
16:20 – 16:40	Optical detection and tracking of satellites from ground	PhD Esteban Vera	Pontificia Universidad Católica de Valparaíso, PUCV
16:40- 17:00	Coffee break		
17:00 – 17:45	Group discussion activity- Closing the day (PhD Marcos Diaz & PhD Sofía Vargas)		

DAY 2 PROGRAM
Friday, April 5th, 2024

9:30 – 9:45	Participants registration		
9:45 – 10:00	Welcome message	University authority	FCFM- U.de Chile
	Panel 1		
10:00 – 10:20	Zero digital GAP: what we are missing and how satellite technologies can help	Claudio Araya San Martín (Subsecretario)	Subsecretaría de Telecomunicaciones
10:20 - 10:40	LoraWAN Use Cases and Deployment Experiences in Chile	Tzu-Chiang Shen	BlueShadows
10:40– 11:00	Opportunities using narrow band technology in collaboration with the ham radio community in Chile	Italo Mazzei	Radio Amateurs Chile
11:00 – 11:40	Coffee break		
PANEL 2			
11:40 – 12:00	Plasma thruster for CubeSats	PhD Leopoldo Soto	Comisión Chilena de Energía Nuclear
12:00 – 12:20	IoST to monitor and track reentering spacecraft	PhD Rodrigo Cassineli	Universidad Federico Santa María
12:20 – 12:50	**Group discussion activity (Dr. Marcos Diaz & Dr. Sofía Vargas)**		
12:50 – 14:00	**Lunch**		
	PANEL 3		
14:00– 14:20	Improving the initial calibration of attitude estimation for an IoT CubeSat	PhD (c) Elías Obreque	Space and Planetary Exploration Laboratory; SPEL- U. de Chile
14:20 - 14:40	Attitude Determination and system Control Methods for IoT Cubesat	Felipe Díaz	Space and Planetary Exploration Laboratory; SPEL- U. de Chile

14:40 – 15:00	Attitude determination systems for IoT nanosatellites	PhD Samuel Gutierrez	Space and Planetary Exploration Laboratory; SPEL- U. de Chile
15:00- 15:20	Design of a testing system for microsatellites propulsion with IoT mission	PhD student Emanuel Escobar	Space and Planetary Exploration Laboratory; SPEL- U. de Chile
15:20 – 15:40	Low-cost MicroPropulsion System and its opportunities in CubeSat for fine attitude correction	Patricio Jara	Space and Planetary Exploration Laboratory; SPEL- U. de Chile
15:40 – 16:00	Design and Implementation of a Satellite Honeypot (ONLINE)	PhD (c) Efrén López Morales	Texas A&M University-Corpus
16:00 – 16:20	Stabilized light sources and their applications in space missions	PhD (c) José Pedreros	Space and Planetary Exploration Laboratory; SPEL- U. de Chile
16:20 – 16:50	Coffee break		
16:50 – 17:30	**Group discussion activity (PhD Marcos Diaz & PhD Sofía Vargas)**		