



CONFERENCE PROGRAM

		DAY 1 (September 6)		
		Main Track Room 2	STINT Workshop Room 3	SSP Workshop Room 4
09:00	09:30	Keynote speech: Jasmine Grosinger		
09:30	10:00	WiSEE opening ceremony		
10:00	10:30	Coffee Break		
10:30	11:00	Coffee Break		
11:00	12:30	Technical Paper session: communication and navigation in extreme space and Moon	STINT Talks: State of Delay-Tolerant Networking	SSP Invited Talks
		Chairs: Alex Minetto, Andrea Nardin (Politecnico di Torino)		
		1063: Reaching High Sensitivity in Moon Transfer Orbit: the GNSS LuGRE Receiver <i>Simone Tedesco, Fabio Bernardi, Salvatore Guzzi, Matilde Boschiero, Matteo Pulliero, Davide Marcantonio, Mattia Ghedin, Efer Miotti, Samuele Fantinato, Oscar Pozzobon, (Qascom srl)</i>	Protocols and Procedures for the Solar System Internet" <i>Speaker: K. Scott (retired from Mitre Corporation)</i>	D. Preble (Space Solar Power Institute) G. D. Durgin (Georgia Tech.)
		1062: The Space Qualification Process of the LuGRE GNSS Payload <i>Matteo Pulliero, Giacomo Cittadin, Matilde Boschiero, Mattia Ghedin, Davide Marcantonio, Samuele Fantinato, Efer Miotti, Oscar Pozzobon, Qascom srl, Italy; Claudia Facchinetti, Mario Musmeci (ASI)</i>	The Asynchronous Network Management System <i>Speaker: S. Heiner (The Johns Hopkins University Applied Physics Laboratory)</i>	
		1033: A Customized EKF model for GNSS-based Navigation in the Harsh Space Environment <i>Oliviero Vouch, Andrea Nardin, Alex Minetto, Matteo Valvano, Simone Zocca, Fabio DAVIS, Politecnico di Torino, Italy</i>	On Routing Loops in Bundle Protocol <i>Speaker: S. Burleigh (IPNSIG)</i>	
	Routing in the Space Internet of Things <i>Speaker: J. Fraire (Inria/CONICET/Saarland University)</i>			
12:30	14:00	Lunch		
14:30	16:00	Technical paper session: modern design of space technologies	STINT Technical paper session 1	SSP: Technical paper session: novel techniques for space solar power
		Chair: Ali Abedi (Aurora Engineering/University of Maine)	Chair: Jorge Finochietto (Universidad Nacional de Córdoba - CONICET)	Chair: Diego Masotti (Univeristy of Bologna)
		1066: AN ADDITIVELY MANUFACTURED CPW-BACK-FED WIDEBAND CIRCULARLY-POLARIZED RADIX METASURFACE PATCH ANTENNA FOR X-BAND SPACE APPLICATIONS	1075: SECURITY ON THE EDGE: THE ROLE OF AUTONOMY IN SECURING DTNS	1010: Novel Beam Forming at 28 GHz with Simple Phased Array



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	<p><i>John O'Keefe, Blake Roberts, Eduardo Rojas-Nastrucci, Embry-Riddle Aeronautical University, USA ; Bryce Gray, Kenneth Church, Sciperio Inc., USA</i></p>	<p><i>Dr. Edward Birrane, Sarah Heiner, Johns Hopkins Applied Physics Laboratory, USA</i></p>	<p><i>Naoki Shinohara, Hiroyuki Kamada, Bo Yang, Wenyi Shao, Kyoto University, Japan</i></p>
	<p>1076: MACHINE LEARNING ALGORITHM CO-DESIGN FOR A 40 NM RRAM ANALOG COMPUTE-IN-MEMORY ACCELERATOR</p> <p><i>Ethan Weinstock, Yiming Tan, Wantong Li, Shimeng Yu, Georgia Institute of Technology, USA</i></p>	<p>1031: UNIBO-BP: A NEW BUNDLE PROTOCOL IMPLEMENTATION</p> <p><i>Carlo Caini, Lorenzo Persampieri, University of Bologna, Italy</i></p>	<p>1011: Wireless and versatile Interface for Space and Harsh Environments</p> <p><i>Marina Díaz Michelena, Alejandro Giménez, Miguel Ángel Rivero, Eduardo de Diego, David Salamanca, Alberto López, Alberto Aspás, Sergio Fernández Romero, María Parrondo, Pedro Tejedor, Instituto Nacional de Técnica Aeroespacial (INTA), Spain</i></p> <p><i>Claudio Aroca, Universidad Politécnica de Madrid, Spain</i></p>
	<p>1043: DATA-BASED MODELING OF MMS/FPI MICROCHANNEL PLATE DETECTOR RESISTANCE USING TEMPERATURE PROXY</p> <p><i>Joseph Patton,, Ali Abedi, Aurora Engineering/University of Maine, USA</i></p> <p><i>Alexander Barrie, Stewart Doe, Aurora Engineering/NASA GSFC, USA</i></p>	<p>1012: LUNAR COMMUNICATION SERVICES: FEASIBILITY STUDY ON TRAFFIC PRIORITIZATION OF QUASI-REAL TIME COMMUNICATIONS OVER DTNS</p> <p><i>Teresa Algarra Ulierte, Koojana Kuladinithi, Andreas Timm-Giel, Hamburg University of Technology, Germany; Felix Flentge, European Space Agency, Germany</i></p>	<p>1028: PADDLESATS: ATTITUDE CONTROL AND STATION-KEEPING FOR ULTRA-LOW DENSITY SSP SATELLITES</p> <p><i>Vaibhav Bhosale, Jonathan Dolan, Grishma Kalepu, Deeksha Manjunath, Gregory Durgin, Georgia Institute of Technology, United States of America</i></p>
16:00	16:30	Coffee break	
		Technical session: space-based monitoring applications	STINT Technical paper session 2
		Chair: Fabio Dovis (Politecnico di Torino)	Chair: Carlo Caini (University of Bologna)
		<p>1018: High-temperature fully integrated wireless monitoring system for aerospace applications</p> <p><i>Ahmad HASSAN, Aref Trigui, Yvon Savaria, Polytechnique Montreal, Canada; Mohamad Sawan, Westlake University, China</i></p>	<p>1036: ANALYSIS OF BUNDLE PROTOCOL SECURITY POLICIES FOR SAFEGUARDING SPACE MISSIONS AGAINST THREATS</p> <p><i>Pablo Madoery, Carleton University</i></p> <p><i>Renato Cherini, Universidad Nacional de Córdoba</i></p> <p><i>Alessandro Cammarano, RDI Network</i></p> <p><i>Juan Grosso, RDI Network</i></p> <p><i>Jorge M Finochietto, Universidad Nacional de Córdoba - CONICET</i></p>
16:30	17:30	<p>1029: STRUCTURE OF A INTERMEDIATE-FREQUENCY BASED IONOSPHERE SCINTILLATION MONITOR</p> <p><i>Yiming Wang, Kai Guo, Siqi Huang, Zhipeng Wang, Yanbo Zhu, Beihang University, China; Shujing Wang, School of Electronic Information Engineering, China</i></p>	<p>1040: Exploring A Cognitive Routing Strategy for Efficient Energy Management in Space DTNs</p> <p><i>Ricardo Lent, University of Houston, United States of America</i></p>
		<p>1030: INVESTIGATION OF IONOSPHERIC SCINTILLATION EFFECTS ON RTK IN BRAZIL</p> <p><i>Honglin Tang, Kai Guo, Siqi Huang, Yanbo Zhu, Zhipeng Wang, Beihang University, China; Jichao Dong, Aviation Data Communication Corporation, China</i></p>	<p>1037: DTN DEMONSTRATIONS IN ESA GROUND SEGMENT</p> <p><i>Camillo Malnati, SpaceCube GmbH, Germany; Felix Flentge, ESA/ESOC, Germany</i></p>
		<p>An Introduction on Space Solar Power"</p> <p>Speaker: R. Zekavat (Worcester Polytechnic Institute)</p>	
		<p>Effective Strategies for forging Strong Industry and University Relationships Via Collaborative Data Science Projects</p> <p>Speaker: Fatemeh Emdad (Worcester Polytechnic Institute)</p>	
18:30	(transfer to dinner by bus)		
19:30	GALA DINNER		



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		DAY 2 (September 7)		
		Main Track	STINT Workshop	SSP Workshop
		Room 1	Room 2	Room 3
09:00	09:30	Keynote speech: Harry Shaw (NASA) Opportunities and challenges for future interoperability and international cooperation in space communications		
09:30	10:00			Invited talk
10:00	10:30			Disruptive innovation opportunities for funding research for In Space Solar Energy Harvesting for innovative space applications. Speaker: Stela TKATCHOVA (EiC)
10:30	11:00	Coffee break		
			STINT Technical Paper Session 3	SSP Technical paper session 2: novel materials and devices for space solar power
			Chair: Edward Birrane (The Johns Hopkins University Applied Physics Laboratory)	Chair: Alessandra Costanzo, (University of Bologna)
11:00	12:30		1019: On the Tractability of Yen's Algorithm and Contact Graph Modeling in Contact Graph Routing <i>Olivier De Jonckère, Technische Universität Dresden, Germany; Juan A. Fraire, CONICET - Universidad Nacional de Córdoba, Argentina; Scott Burleigh, D3TN, United States of America</i>	1069: PRELIMINARY STUDY OF AN IN-SPACE WIRELESS POWER TRANSMISSION FOR CUBESATS <i>A. Baris Gok, Diego Masotti, Alessandra Costanzo, University of Bologna, Italy</i>
			1020: Interregional Routing with Contact Passageways for Interplanetary Networks <i>Olivier De Jonckère, Technische Universität Dresden, Germany; Juan A. Fraire, CONICET - Universidad Nacional de Córdoba, Argentina</i>	1016: Analysis of Space Ambient Power in the Martian Environment <i>Kaitlyn Graves, Madeline Holda, Ryan Willsey, Ridwan Sadiq, Gregory Durgin, Georgia Institute of Technology, United States of America</i>
			1022: BUNDLE PROTOCOL VERSION 7 IMPLEMENTATION WITH CONFIGURABLE FAULTY NETWORK AND EVALUATION <i>Aidan Casey, Ethan Dickey, Jihun Hwang, Sachit Kothari, Raushan Pandey, Wenbo Xie, Purdue University, United States of America</i>	1021: MICROWAVE COMPONENTS IN CERAMIC 3D-PRINTING TECHNOLOGY FOR SPACE APPLICATION <i>Cristiano Tomassoni, Enrique López-Oliver, University of Perugia, Italy; Paolo Vallerotonda, Fabrizio Cacciamani, Luca Pelliccia, RF Microtech Srl, Italy</i>
				1014: CONDUCTIVE MESH ON GLASS RECTENNAS FOR SPACE AMBIENT POWER <i>David West, Seung Yoon Lee, Manu Saxena, Tijana Igic, Nima Ghalichechian, Gregory Durgin, Georgia Institute of Technology, United States of America</i>
12:30	14:00	Lunch		
14:30	16:00	Technical paper session: Wireless communication and signal processing technologies for space (1)	STINT Panel: State of Delay-Tolerant Networking	SSP Technical paper session 3: Space-based Solar Power Systems and techniques
		Chairs: Fabio Dovis (Politecnico di Torino)		Chairs: Greg Durgin (Georgia Tech)



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	<p>1009: Cooperative Fault-Tolerant Reconfigurable Control of Heterogeneous Wireless and Networked Space Robotics and Satellite Systems <i>A. R. Mehrabian, K. Khorasani, Concordia University, Canada</i></p>		<p>Invented: Model Simulation of a Space Solar Power System using Disaggregated Apertures of Transmission (DAGATs) <i>Alex Shroeder, et. al., Georgia Tech, United States of America</i></p>	
	<p>1041: Feedback on a fortification technique for exchanges of 802.15.4 data frames for real-time, critical data collection application <i>Théophile - Élie Decaestecker, Antonio Freitas, Michel Misson, Clermont Auvergne University, France; Thomas Roméro, CNES, France</i></p>	<p><i>Panelist: E. Birrane (The Johns Hopkins University Applied Physics Laboratory), S. Burleigh (The Interplanetary Networking Special Interest Group), C. Caini (University of Bologna)</i> <i>Moderator: Juan Fraire (Inria/CONICET/SaarU)</i></p>	<p>1067: Street of Coverage Constellation for Space Based Solar Power <i>AMIT kumar BAGHEL, Henrique Chaves, IT AVEIRO, Portugal; Nuno Borges Carvalho, Pedro Pinho, Instituto de Telecomunicac,oes, DETI, Portugal</i></p>	
	<p>1035: COMPREHENSIVE GPR SIGNAL ANALYSIS VIA DESCRIPTIVE STATISTICS AND MACHINE LEARNING <i>Himan Namdari, Majid Moradikia, Douglas Todd Petkie, Seyed Zekavat, Worcester Polytechnic Institute, United States of America; Radwin Askari, Michigan Technological University, United States of America</i></p>		<p>Results from the First Test of a Conversion Module for Space Solar in Orbit <i>Paul Jaffe, NRL, United States of America; Chris DePuma, DARPA, United States of America</i></p>	
16:00	16:30		Coffee break	
	Technical paper session: Wireless communication and signal processing technologies for space (2)		Talks: Models in Space Systems: Integration, Operation and Networking (MISSION) - project workshop	
	Chair: Eduardo Rojas (Embry-Riddle Aeronautical University)			
	<p>1060: Testing a 1 Gbit/s Optical Wireless Communication System against Extreme Space Conditions <i>Nicola Vincenti, Giulio Cossu, Lorenzo Gilli, Ezgi Ertunc, Ernesto Ciaramella, Scuola Superiore Sant'Anna, Italy Roberto Dell'Orso, Andrea Maggi, Maurizio Massa, Fabrizio Palla, Istituto nazionale di Fisica Nucleare, Italy</i></p>	<p>Polygon-Based Algorithms for N-Satellite Constellations Coverage Computing <i>Speaker: Santiago Henn (CONICET)</i></p>		
16:30	17:50	<p>1078: Leveraging Transformer and CNN for Monocular 3D Point Cloud Reconstruction <i>AmirHossein Zamani, Amir G. Aghdam, Concordia University, Canada Kamran Ghaffari T., Traxara Robotics Inc., Canada</i></p>	<p>Three Approaches to Routing in Uncertain Delay-Tolerant Networks Compared <i>Speaker: Arnd Hartmanns (Twente University)</i></p>	
	<p>1077: Adversarial Attacks on Resource Management in P2P Wireless Communications <i>Ahmad Ghasemi, Majid Moradikia, Seyed Reza Zekavat, WPI, United States of America, Ehsan Zeraatkar, Shiraz Urban Railway Organization, United States of America</i></p>	<p>Distributed On-Demand Routing for LEO Mega-Constellations <i>Speaker: Gregory Stock (SaarU)</i></p>		
18.45	(transfer by bus)			
20:30	SUNSET BEACH PARTY			



CONFERENCE PROGRAM

		DAY 3 (September 8)	
		NTN6G workshop Room 1	GLUE workshop Room 2
09:00	09:30	Keynote speech: Vartan Piroumian " Digital Twins: Advancing Engineering in Space and Extreme Environments"	
		Keynote	Tutorial
09:30	10:00	The evolution of NTN from 5G to 5G-Advanced and the path to 6G" Speaker: A. Guidotti (CNIT)	Integrated Space-Aerial-Terrestrial Wireless Networks for Global Connectivity Speaker: Mustafa Kishk (Maynooth University), Mohamed-Slim Alouini (King Abdullah University)
10:00	10:30	The road to unified 6G networks (1st part) Moderator: K. Ntontin (SnT, University of Luxembourg) Munira Jaffar, EchoStar Dorin Panaitopol, Thales Communications Security S.A.S. Thierry Berisot, NOVAMINT Benjamin Barth, DLR	
10:30	11:00	Coffee break	
		NTN6G Panel session	Tutorial
11:00	12:30	The road to unified 6G networks (2nd part) Moderator: K. Ntontin (SnT, University of Luxembourg) Munira Jaffar, GSOA Dorin Panaitopol, Thales Communications Security S.A.S. Thierry Berisot, NOVAMINT Benjamin Barth, DLR	Integrated Space-Aerial-Terrestrial Wireless Networks for Global Connectivity Speaker: Mustafa Kishk (Maynooth University), Mohamed-Slim Alouini (King Abdullah University)
12:30	14:00	Lunch	
		Tutorial session	Tutorial session
14:30	16:00	NB-IoT over NTN: Technology Overview, Challenges, and Potential Solutions Speaker: C. Amatetti, R. Campana (University of Bologna)	AI for Non-Terrestrial Networks Speaker: B. De Filippo, R. Campana (University of Bologna)
16:00	16:30	Coffee break	
		Technical paper session	
		Chair: Carla Amatetti (University of Bologna)	
16:30	17:50	1008: On Enhancing Reliability in B5G NTNs with Packet Duplication via Multi-Connectivity <i>Mikko Majamaa, Henrik Martikainen, Jani Puttonen, Magister Solutions, Finland; Timo Hämäläinen, University of Jyväskylä, Finland</i>	



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1032: Use of Rate Splitting in Multibeam Multicast NOMA Satellite
Communication Systems

Sareh Majidi Ivani, Concordia university, Canada

1013: In-Lab Performance Analysis of a 5G Non-Terrestrial Network using
OpenAirInterface

*Florian Völk, Robert Schwarz, Andreas Knopp, University of the Bundeswehr
Munich, Germany*

1034: NTN: FROM 5G NR TO 6G

Mohamad Sayed Hassan, Qualcomm FRANCE SARL, France; Chiranjib Saha, Ji
Lianghai, Alberto Rico Alvarino, Jun Ma, Le Liu, Qiang Wu, Qualcomm
Technologies, Inc. United States of America