CONFERENCE PROGRAM

Sunday, September 29

20:00 - 22:30	**Ka Band Conference Chairs Dinner (by invitation)**

Monday, September 30

08:00 - 08:30 **Foyer**

Registration

08:30 - 08:40 **Ulisse**

Opening Session: Welcome

Chair: Richard Gedney, ACTS, USA

Franco Marconicchio, Space Systems Consultant, Italy and Richard T. Gedney, ACT Co., USA (25th Ka and Broadband Communications Conference Co-Chairs)

08:40 - 09:20 **Ulisse**

Keynote: Technological Innovations in Space Communications by Badri Younes, Deputy Associate Administrator, Space Communications and Navigation (SCaN), NASA HQ, USA

Chair: Denise Pochak, NASA GRC, USA

Introduction by Denise Ponchak, NASA GRC, USA

The keynote speech will focus on the interoperable space and how Ka-band is slated to play a major role in enabling it and meeting the Aerospace Industry s need for 5G. Badri will talk about compatibility in space and new Ka-band radios that will allow users to roam in space.

09:20 - 10:50 **Ulisse**

Round Table: Interoperable Space and Enabling Technology and Capabilities

Chair: Badri Younes, SCaN/NASA HQ, USA

Moderator: Badri Younes, SCaN/NASA HQ, USA

This Panel will discuss the rapid technology revolution in satellite communications technologies from Ka-band to higher frequency bands such as Q/V and beyond to optical systems and how they can meet the future high growth demand. The panel will further discuss suitability of certain frequency bands and technology approaches to enable interoperability among space systems while continuing to meet Market demand for robust connectivity across the globe; and, a growing need for higher capacity and resiliency for mobility services such as in-flight entertainment and autonomous vehicles which will eventually exceed all other markets. Panelists will discuss topics that include overcoming the regulatory boundaries and challenges while discussing level of maturity and readiness of standards and technology in higher frequency bands.

Panelists (in alphabetical order):

1. Skot Butler - Intelsat
2. James Hinds - Airbus UK
3. Jason Robbins - ViaSat
4. Rainee Simons - NASA
5. Stephen Townes - JPL/NASA
6. Enrico Vassallo - ESA

10:50 - 11:15 Coffee Break

11:15 - 12:45 **Ulisse Room**

Plenary Panel 1: Optical Communications

Chair: Pete Vrotsos, Director, Satellite Programs, ZIN Technologies, USA

Moderator: Pete Vrotsos, Director, Satellite Programs, ZIN Technologies, USA

At the 24th Ka Band and 36th ICSSC Conference Plenary Session on Optical Technology and Systems,

we heard for industry leaders on the rapidly maturing industrial technology base that will make optical communications price point ever closer to microwave communications. Just as the first Ka-band Conference ushered in the new capabilities enabled by the ACTS satellite, the 25th Ka-band Conference, we are going to explore the new capabilities and applications that optical communications will enable. This year s panel will be industry leaders that will share their perspective on those new capabilities and applications.

Panelists in Alphabetical order:

1. Naoto Kadowaki - Vice President at NICT
2. Stephen A. Townes - Chief Technologist of the Interplanetary Network Directorate & Manager of the Technologies, Standards and Spectrum Program Office at NASA Jet Propulsion Laboratory
3. Thomas H. Wood - Senior Director of Optical Communications & Networking Technologies at LGS Innovations
4. Badri Younes - Deputy Associate Administrator at SCaN / NASA HQ

13:00 - 14:30	Lunch Break

14:30 - 16:10

Ulisse Room

17th BroadSky Workshop: Space Technologies Supporting Aviation

Chair: Naoto Kadowaki, Vice President, NICT, Japan

Chair: Naoto Kadowaki, Vice President, NICT, Japan

Recently, flight operation of aircraft is supported by several kinds of space technologies. Many commercial flights provide WiFi services to passengers utilizing satellite communications. Moreover, GNSS plus Space-based Augmentation System (SBAS) and air traffic management (ATM) system utilizing satellite communications are utilized for safer and more efficient flight operations. ICAO decided to use Space Weather information for international aviation.
The Workshop focuses on such space technologies supporting flight operations and services.

PROGRAM (TBD)

14:30 - 16:10

Amalfi Room

Ka 1: New Telecom Systems

Chair: Marco Brancati, Telespazio, Italy

#29 - Single-chip Frequency Converter for new telecom constellations

Francesco Vitulli, Thales Alenia Space Italia - Italy

Andrea Suriani, Thales Alenia Space Italia - Italy

Francesco Scappaviva, MEC s.r.l. - Italy

Davide Resca, MEC s.r.l. - Italy

#87 - RATIONAL CHOICE OF HPAs FOR LEO-MEO-GEO UPLINKS

Mike Cascone, CPI - United States

#105 - ITAL-GOVSATCOM: A NEW SATELLITE TELECOMMUNICATION SYSTEM FOR SECURE COMMUNICATION AND INSTITUTIONAL USERS

FRANCESCA PIERALICE, Italian Space Agency - Italy

Giorgia Parca, Italian Space Agency - Italia

Enrico Russo, Italian Space Agency - Italy

Antonio Sposito, Italian Space Agency - Italia

Giuseppe D Amore, Italian Space Agency - Italia

Antonio Bartoloni, Ministry of Economic Developme - Italia

Marco Bernardi, Ministry of Economic Developme - Italia

#25 - Geostationary cluster-based concept for satellite telecommunications

David Gomez Otero, European Space Agency - United Kingdom

Barnaby Osborne, European Space Agency - United Kingdom

Francisco de Pablos Martin, European Space Agency - UK
Tomas Navarro, European Space Agency - UK

#69 - Lunar Comms: A Satellite Constellation for Lunar Communications and Navigation
David Gomez Otero, European Space Agency - United Kingdom
Octavio Camino, ESA - Germany
Tomas Navarro, ESA - United Kingdom
Francisco de Pablos Martin, ESA - United Kingdom
Francesco Liucci, ESA - Netherlands
Xavier Geneste, ESA - Netherlands

Capri

14:30 - 16:10

Ka 2: Propagation 1
Chair: Carlo Riva, Polytechnic of Milan, Italy

#22 - USING NUMERICAL WEATHER PREDICTIONS TO COMPARE THE LEO ATTENUATION STATISTICS COMPUTED FROM FIXED-ELEVATION STATISTICS AND FROM LEO TIME SERIES
Mojtaba Razavian, UCLouvain - Belgium
Laurent Quibus, UCLouvain - Belgium
Danielle Vanhoenacker-Janvier, UCLouvain - Belgium

#61 - Cloud Simulation Platform for Satellite and Terrestrial Network Simulations
Janne Kurjenniemi, Magister Solutions - Finland
Jani Puttonen, Magister Solutions - Finland
Timo Nihtila, Magister Solutions - Finland
Mika Innanen, Magister Solutions - Finland
Riku Järvinen, Magister Solutions - Finland
Vesa Hytönen, Magister Solutions - Finland

#95 - Preliminary Results of the THOR7 Propagation Experiment in the North Pole Region
Julien Queyrel, ONERA - France
Xavier Boulanger, ONERA - France
Laurent Castanet, ONERA - France
James Nessel, NASA Glenn Research Center - USA
Torgeir Prytz, Kongsberg Satellite Services - Norway
Antonio Martellucci, ESA/ESTEC - The Netherlands

#58 - LINK-BUDGET ANALYSIS OF W- AND E-BAND SATELLITE SERVICES
Benjamin Schoch, University of Stuttgart - Germany
Jonas Keim, University of Stuttgart - Germany
Sébastien Chartier, University of Stuttgart - Germany
Sabine Klinkner, University of Stuttgart - Germany
Ingmar Kallfass, University of Stuttgart - Germany

#86 - THE GALILEO E6-B PROPAGATION CHANNEL: AN EXPERIMENTAL CHARACTERIZATION
Daniele Borio, European Commission, JRC - Italy
Melania Susi, European Commission, DG JRC - Italy
Tommaso Senni, Technical Advisor for EC - Belgium
Ignacio Fernandez-Hernandez, European Commission, DG GROW - Belgium

Stampa

14:30 - 15:50

Ka 3: Antenna Technologies
Chair: Avraham Freedman, SatixFy, Israel

#118 - Digital Steerable Multibeam Antenna Aperture Usage

Avraham Freedman, SatixFy - Israel
Divaydeep Sikri, SatixFy - UK
Bahadir Canpolat, SatixFy - Israel
Cetin Altan, SatixFy - UK

#97 - ELECTRONICALLY STEERED MULTI-BEAM ANTENNA ARRAY PERFORMANCE AND BEAM TRACKING IN MOBILITY

Bahadir Canpolat, Satuxfy UK Ltd - United Kingdom
Cetin Altan, Satixfy UK Ltd - United Kingdom
Divaydeep Sikri, Satixfy UK Ltd - United Kingdom

#153 - DISCRETE LENS FOR ARRAY FED REFLECTOR ANTENNAS

Pasquale Nicolaci, Space Engineering - Italy
Gianfranco Ruggerini, Space Technologies for Innovat - Italy
Giovanni Toso, ESA - Netherland

#66 - Verification and Validation of Active Electronically Scanned Arrays for Satellite and 5G Communications

Marco Lisi, Independent Consultant - Italy
Chris Behnke, National Instruments - USA
Raffaele Fiengo, National Instruments - Italy
Salvatore D'Addio, ESA/ESTEC - Netherlands

15:40 - 16:10	Coffee Break
16:30 - 18:30	**Ulisse** **17th BroadSky Workshop: Space Technologies Supporting Aviation** *Chair: Naoto Kadowaki, Vice President, NICT, Japan*
16:30 - 18:30	**Amalfi** **Ka 4: Navigation 1** *Chair: Marco Lisi, Indipendent Consultant (former ESA and European GNSS Agency)*

#59 - PRoPART - Precise and Robust Positioning for Automated Road Transports

Stefan Nord, RISE Research Institutes of Sweden - Sweden

#148 - Iris4Rail: Satellite Communications in the Railway Environment

Alessia Miglietta, Thales Alenia Space Italia - Italy
Stefano La Barbera, Thales Alenia Space - Italy
Carla Marrone, Thales Alenia Space - Italy
Luca Pandolfi, Thales Alenia Space - Italy
Roberto Winkler, Thales Alenia Space - Italy
Fidel Pita Sande, Indra Sistemas - Spain
Amar Vora, ESA - United Kingdom
Michele Castorina, ESA - Italy
Joan Manuel Cebrian Puyuelo, Indra Sistemas - Spain
Christian Wullems, ESA - Netherlands
Christopher Frost-Tesfaye, ESA - United Kingdom

#156 - D-Flight: the Italian solution for Unmanned Traffic Management

Marco Brancati, Telespazio SpA - Italy
Federica Mastracci, Telespazio - Italy
Cristiano Baldoni, ENAV - Italy
xxx xxx, Leonardo - Italy

#158 - Distributed and layered approach for GNSS signal monitoring and threats detections

Marc POLLINA, M3 Systems - France
Olivier DESENFANS, M3 Systems - Blegium

#32 - SATELLITE CONNECTIVITY AS KEY ENABLER FOR COOPERATIVE AND AUTOMATED MOBILITY (CAM)

Helmut Zaglauer, Airbus Defence and Space GmbH - Germany
Klaus Schoenherr, Airbus Defence and Space GmbH - Germany
Ian Petersen, Airbus Defence and Space GmbH - Germany
Alberto Camuso, Airbus Defence and Space GmbH - Germany

#245 - The role of GNSS to support UAS operations for surveillance applications

Marco Nisi, Sistematica S.p.A. - Italy
Alberto Mennella, Topview s.r.l. - Italy
Pawel Zalewski, Academia Morska - Poland
Bilal Muhamad, Aarhus University - Denmark

Capri

16:30 - 17:50

Ka 5: Q/V Technologies & Experiments

Chair: Tommaso Rossi, University of Rome Tor Vergata, Italy

#35 - DETAILED TRANSMISSION ERROR ANALYSIS OF A DVB-S2 CARRIER OVER A Q/V BAND CHANNEL

Michael Schmidt, JOANNEUM RESEARCH - Austria
Johannes Ebert, JOANNEUM RESEARCH - Austria
Eveline GRESCHITZ, JOANNEUM RESEARCH - AT
Patrick NIDERHOLD, JOANNEUM RESEARCH - AT
Juan CASTRO, ESA - NL

#103 - IMPLEMENTATION AND EXPERIMENTAL OPTIMIZATION OF Q/V-BAND SMART GATEWAY MANAGEMENT SYSTEM IN THE FRAMEWORK OF Q/V-LIFT H2020 PROJECT

Giorgia Parca, Italian Space Agency - Italy
Giuseppe Codispoti, Italian Space Agency - IT
Federica Muscolo, Italian Space Agency - Italy
Carlo Riva, CNIT - IT
Lorenzo Luini, CNIT - It
Tommaso Rossi, Università degli Studi di Roma - IT
Mauro De Sanctis, Università degli Studi di Roma - IT
Marina Ruggieri, Università degli Studi di Roma - IT

#108 - a feasibility study of Q/V band phased arrays for aeronautical terminals

giandomenico amendola, Universita della Calabria - Italy
Luigi Boccia, Universita della Calabria - Italy
Emilio Arnieri, Universita della Calabria - Italy
Giuseppe Codispoti, Agenzia Spaziale Italiana - Italy
Giorgia Parca, Agenzia Spaziale Italiana - Italy
Fabrizio Massaro, Eutelsat - France

#48 - EVALUATING THE IMPACT OF CMA EQUALIZATION FOR Q/V-BAND SATELLITE COMMUNICATION

Tommaso Rossi, University of Rome Tor Vergata - Italy
Mauro De Sanctis, University of Rome Tor Vergata - Italy
Marina Ruggieri, University of Rome Tor Vergata - Italy
Giuseppe Codispoti, Italian Space Agency - Italy
Giorgia Parca, Italian Space Agency - Italy

Stampa

16:30 - 18:30

Ka 6: High Speed Onboard Processing and Digital Payload Architecture and Technologies

Chair: Peter Garland, Consultant (former MDA Corp.)

#73 - MAC ARCHITECTURE FOR THE USER BEAMS OF ISL-INTERCONNECTED OBP SATELLITES

Arik Keshet, SatixFy Ltd. - Israel

David Gazelle, SatixFy Ltd. - Israel

#18 - On-board Signal Processing Platform

Bart Desoete, Antwerp Space - Belgium

Nicolas Huot, Antwerp Space - Belgium

#60 - FLEXIBLE SIMULATION FRAMEWORK FOR HIGH THROUGHPUT SATELLITE SYSTEM RADIO RESOURCE MANAGEMENT

Jani Puttonen, Magister Solutions Ltd - Finland

Lauri Sormunen, Magister Solutions Ltd - Finland

Riaz Uddin Mondal, Magister Solutions Ltd - Finland

Janne Kurjenniemi, Magister Solutions Ltd - Finland

#49 - QUIC OVER SATELLITE: INTRODUCTION AND PERFORMANCE MEASUREMENTS

Joerg Deutschmann, FAU Erlangen-Nürnberg - Germany

Cristian Mogildea, FAU Erlangen-Nürnberg - Germany

Jörg Deutschmann, FAU Erlangen-Nürnberg - Germany

Kai-Steffen Hielscher, FAU Erlangen-Nürnberg - Germany

Reinhard German, FAU Erlangen-Nürnberg - Germany

#91 - ON THE USE OF NEURAL NETWORKS FOR FLEXIBLE PAYLOAD MANAGEMENT IN VHTS SYSTEMS

Flor Ortiz-Gomez, Universidad Politï¿½cnica de Madrid - Spain

Ramon Martinez, UPM - Spain

Miguel Salas-Natera, UPM - Spain

Salvador Landeros-Ayala, UNAM - Mexico

Daniele Tarchi, University of Bologna - Italy

Alessandro Vanelli-Coralli, University of Bologna - Italy

#85 - Eutelsat Quantum Transmit Array Calibration System

Esteban Laria, Airbus - United Kingdom

Alessandro Le Pera, Eutelsat - France

19:00 - 21:00 Conference Welcome Cocktail Reception

Tuesday, October 1

Oakes Foyer

08:00 - 08:30 **Registration**

08:30 - 10:30

Ulisse

Plenary Panel 2: High accuracy, authentication, precise timing: key GNSS enablers of future integrated applications

Chair: Marco Lisi, Indipendent Consultant (former ESA and European GNSS Agency)

Marco Lisi, Indipendent Consultant (former ESA and European GNSS Agency)

In the next months Global Navigation Satellite Systems (GNSS), in particular the European GNSS, Galileo, will provide new features in the field of high accuracy, authentication and precise timing.
These new features might become the enablers of future integrated applications, triggered by the parallel developments in satellite communications and in wireless terrestrial networks (5G).
Higher accuracy (centimeter level) is being achieved not only through the adoption of multi-constellation, multi-frequency receivers, but also with the introduction of a free-of-charge Galileo High Accuracy Service (HAS), based on a PPP (Precise Point Positioning) approach.
High accuracy is deemed essential for the full development of applications based on autonomy, both for civilian drones (Unmanned or Remotely Piloted Aircraft Systems) and for autonomous cars.
The Galileo Open Service (OS) will soon provide a Navigation Message Authentication feature, known as the Open Service Navigation Message Authentication (OS-NMA). Via this feature, users can verify that a navigation message comes from a Galileo satellite and not a potentially malicious source. This new free service will enable an entire new world of applications requiring authentication of user position and time.
Precise timing, being by provided by GNSSs, is becoming essential in many critical infrastructures of our society, starting with the telecommunications networks. 5G, in particular, will raise by one or two orders of magnitude the requirements in terms of synchronization and timing.
With the contribution of leading experts the panel will discuss the exciting, but challenging, opportunities made possible by the integration of GNSS, sensing and telecommunications technologies.

Panelists:

1. Fiammetta Diani, European GNSS Agency, Czech Republic
2. Marco Brancati, Telespazio, Italy
3. Marc Pollina, M3S, France
4. Oscar Pozzobon, Qascom, Italy

Stampa

08:30 - 10:30 **6th General Assembly Aldo Paraboni Experimenters Group**

Chair: Carlo Riva, Polytechnic of Milan, Italy

10:30 - 11:00 *Coffee Break*

Ulisse

11:00 - 12:20 **Ka 7: Data Relay Systems**

Chair: Denise Pochak, NASA GRC, USA

#70 - Flexible Modem Interface – Enabling Network Solutions for Multi-Service Provider Roaming Across the Wideband SATCOM Enterprise

Gerard Jansson, LinQuest Corporation - United States

Kevin Zhang, Supinf Technologies, LLC - USA

#40 - Ka-band ISL for small satellites

Massimo Cuzzola, Antwerp Space - Belgium

#72 - Commercial Communication Services For NASA Space Missions: Capability Assessment,

Opportunities and Challenges

Kul Bhasin, Comsat Architects - United States

Pete Vrotsos, Zin Technologies - United States

Eli Naffah, NASA Glenn Research Center - United States

#110 - NASA Communication Services Program

Elias Naffah, NASA GRC - United States

Phil McAlister, NASA Headquarters - USA

Amalfi

11:00 - 12:20

Ka 8: HTS Systems & Components

Chair: Hampton Chan, Maxar Technologies, USA

#44 - Linearizers for V-Band Satellite Uplink and Downlink Amplifiers

Robert Gray, Linearizer Technology Inc - United States

Roger Dorval, Linearizer Technology - USA

Allen Katz, College of New Jersey - United States

#57 - Neo Traveling Wave Tube – an innovative concept for Ka-Band flexible telecom payloads

Ernst Bosch, Thales Germany GmbH - Germany

Wolfgang Duerr, Thales Germany GmbH - Germany

Gael Derven, Thales AVS - France

Frederic Andre, Thales AVS - France

#88 - CURRENT DESIGN OF Ka-BAND DEGITAL BEAM FORMING TECHNOLOGY FOR THE HIGH THROUGHPUT SATELLITE COMMUNICATIONS SYSTEM

EIICHI SAKAI, MITSUBISHI ELECTRIC CO - Japan

Nobuyoshi Horie, Mitsubishi Electric Co. - Japan

Yoshio Inasawa, Mitsubishi Electric Co. - Japan

Arimasa Kanasash, Mitsubishi Electric Co. - Japan

Masaaki Kusano, Mitsubishi Electric Co. - Japan

Hitomi Ono, Mitsubishi Electric Co. - Japan

Terumi Sunaga, Mitsubishi Electric Co. - Japan

Toshiyasu Tsunoda, Mitsubishi Electric Co. - Japan

#9 - Adaptive nonlinear equalization based on memory polynomial for wideband satellite communication

Shunsuke Uehashi, Mitsubishi Electric Corporation - Japan

Yasunori Nouda, Mitsubishi Electric Corporation - Japan

Shigenori Tani, Mitsubishi Electric Corporation - Japan

Shigeru Uchida, Mitsubishi Electric Corporation - Japan

Atsushi Okamura, Mitsubishi Electric Corporation - Japan

Capri

11:00 - 12:20

Ka 9: Optical Communications

Chair: Pete Vrotsos, ZIN Technologies, USA

#43 - TDP1 Laser Communication Terminal performances and trend analysis: 5 years of service

thomas marynowski, Tesat Spacecom - Germany

Alicia Sanchez-Tercero, Tesat Spacecom - Germany

Nils Hoepcke, Tesat Spacecom - Germany

Patricia Martin Pimentel, Tesat Spacecom - Germany

Karen Saucke, Tesat Spacecom - Germany

Frank Heine, Tesat Spacecom - Germany

#8 - Free Space Optics Transportable Test Platform

Roger McGarrahan, PathFinder Digital LLC - United States

George Haddad, NASA GRC - United States

Justin Bertelsen, PathFinder Digital - USA

Nicolas McGarrahan, PathFinder Digital - USA

#55 - Satellite Laser Communication to the Temperate Zone and Arctic

Paul Christopher, PFC Associates - United States

#154 - NASA Optical Communications Flight Missions for 2020 to 2022

Donald Cornwell, NASA Headquarters - United States

Badri Younes, NASA Headquarters - United States

11:00 - 12:20

Stampa

6th General Assembly Aldo Paraboni Experimenters Group

Chair: Carlo Riva, Polytechnic of Milan, Italy

12:30 - 14:00 *Lunch Break*

13:30 - 14:30

Stampa

Ka 21: Earth Observation

Chair: TBD

#15 - METEOSAT THIRD GENERATION (MTG) KA BAND SITE DIVERSITY TESTS MEASUREMENTS

frederic Jaillot, EUMETSAT - France

Xavier Boulanger, ONERA - France

Gilles Garnier, EUMETSAT - Germany

#7 - GeoSAR can fill the Gap in Radar Reconnaissance

Hans Braun, RST Radar Systemtechnik AG - Switzerland

Ruomeng Guan, RST Radar Systemtechnik GmbH - Germany

#99 - Feasibility of Utilizing Current Propulsion Technologies in Support of Very Low Earth Observation Space Platforms

Sam Dakka, University of Nottingham - United Kingdom

14:00 - 15:20

Amalfi

Ka 10: Special Topics 1

Chair: George Haddad, NASA, USA

#75 - GNSS trends and downstream market in 2019

Flavio Sbardellati, GSA - Czech Republic

#51 - Operations Management of Satellite Launch Centres

Federico Lisi, "La Sapienza" - DIAG - Italy

Andrea Tortorelli, Sapienza University of Rome - Italy

Alessandro Giuseppi, La Sapienza University of Rome - Italy

Federico Lisi, Sapienza University of Rome - Italy

Emanuele De Santis, La Sapienza University of Rome - Italy

Francesco Liberati, University of Rome "La Sapienza" - Italy

#64 - EMERGE - Commercial Vehicles & Emerging Technologies for everyday and emergency operations: advanced navigation, advanced communication, advanced

Stefano Beco, Telespazio S.p.A. - Italy

Alessandro Neri, RadioLabs - Italy

Fortunato Santucci, Universitï¿½ dell Aquila - DISIM - Italy
Marco Pratesi, Università dell Aquila - DISIM - Italy
Sandro Chiocchio, Università dell Aquila - DISIM - Italy
Arianna Persia, Università dell Aquila - DISIM - Italy
Giovanni Guidotti, Leonardo S.p.A. - Italy
Marco Brancati, Telespazio S.p.A. - Italy
Guido Arista, ELITAL S.r.l. - Italy

#102 - Flexible modem interface (FMI) in space – Extending standardized commercial satellite communications services to space users
Daniel Zeleznikar, NASA - United States

Capri

14:00 - 15:20

Ka 11: Satellites and 5G 1
Chair: Barry Evans, University of Surrey, United Kingdom

#150 - PAYLOAD SYSTEM OF VERY HIGH THROUGHPUT SATELLITE FOR INTEGRATED 5G SERVICES IN INDIA
Neha Mehra, Indian Space Research Organisation - India
Abhishek Kakkar, ISRO - India
Subhash Bera, ISRO - India
Sumitesh Sarkar, ISRO - India

#155 - Integrated satellite and terrestrial 5G networks for railway infrastructure diagnostic service
Marco Brancati, Telespazio SpA - Italy
Antonio Ceccarelli, Telespazio - Italy

#62 - IP Mobility Management for Dual HTS-5G Vehicular Terminal Systems
Yamini Harikrishnan, Satellite Applications Catapult - United Kingdom
Alessandro Modigliana, SatelliteApplicationsCatapult - United Kingdom

#222 - 5G hybrid backhauling for better QoE
Mamoutou DIARRA, EKINOPS - France
Luc Ottavj, EKINOPS - France
Thierry Masson, EKINOPS - France
Amine Ismail, EKINOPS - France

Stampa

14:00 - 15:40

Ka 12: Navigation 2
Chair: Flavio Sbardellati, European GNSS Agency, Czech Republic and Marco Nisi, Sistematica SpA, Italy

#120 - SPACEOPAL GALILEO SERVICES AND NAVIGATION PRODUCTS
Lucia Licata, Spaceopal - Germany
Paolo Minciacchi , SPACEOPAL - GERMANY
André Bauerhin, SPACEOPAL - Germany
Pierluigi Fedele, SPACEOPAL - GERMANY
Loredana Bruca, SPACEOPAL - GERMANY

#67 - Effect of GNSS on-board and user antennas phase center calibration on high accuracy positioning applications
Marco Lisi, Independent Consultant - Italy
Jose Rodriguez Mejia, UNPHU - Dominican Republic
Eugenio Taveras Polanco, UNPHU - Dominican Republic

#96 - OS-NMA on-board: assessing the first position-authenticated smart tachograph

Giovanni Gamba, Qascom S.r.l. - Italy
Carlo Sarto, Qascom S.r.l. - ITALY
Alexandre Allien, FDC - France
Simon Cancela Diaz, GMV - SPAIN
Fabio Pisoni, ST Microelectronics S.r.l. - ITALY
Giuseppe Avellone, ST Microelectronics S.r.l. - ITALY
Domenico Di Grazia, ST Microelectronics S.r.l. - ITALY
Giovanni Gogliettino, ST Microelectronics S.r.l. - ITALY
Flavio Sbardellati, GSA - CZECH REPUBLIC

#89 - Galileo and EGNOS as an Asset for UTM Safety and Security
Adrian Jimenez Gonzalez, everis Aerospace and Defense - Spain
Enric Oliveres-Marin, Everis Aerospace and Defense - Spain

#74 - HIGH ACCURATE POSITIONING FOR AUTONOMOUS VEHICLES ENABLED BY CONNECTIVITY
Jessica García Soriano, Ficosa - Spain
Maria Teresa Fernandez, GMV - Spain
Philippe Xu, UTC - France
Emanuela Falletti, LINKS Foundation - Italy
Enrique Dominiguez Tijero, GMV - Spain
Miguel Ortiz, ISFTTAR - France
Javier Ibanez-Guzman, Renault - France
Giuseppe Avellone, STMicroelectronics - Italy
Emmanuel Stawiarski, Renault - France

15:40 - 16:10	Coffee Break

Amalfi

16:10 - 17:50

Ka 13: Protocols & High Data Rate Waveforms
Chair: Nader Alagha, ESA, The Netherlands

#109 - DVB-S2X Air Interface Supporting Beam Hopping Systems
Nader Alagha, ESA - Netherlands
Alberto Morello, RAI - Italy

#254 - Extending the Licklider Transmission Protocol to Multi- Band Links
Marc Sanchez Net, JPL/CALTECH - United States

#33 - Gaining 5% in efficiency by optimizing the symbol rate over a satellite transponder
Dieter Duyck, Newtec CY - Belgium
Dirk Breynaert, Newtec CY - Belgium
Joel Grotz, SES S.A. - Luxembourg

#117 - Beam Hopping Air Interface Analysis and Simulations
Avraham Freedman, SatixFy - Israel
Doron Rainish, SatixFy - Israel
Guy Lesthievent, CNES - France
Xavier Giraud, Novacom - France
Christian Rohde, Fraunhofer-IIS - Germany
Daniel Delaruelle, Newtec - Belgium

#27 - Adaptive co-channel interference mitigation in beamforming systems
Leah Wang, Lockheed Martin - United States

#23 - Performance Analysis of Future Mobile Interactive Networks using an Advanced Air

Interface Demonstrator

Johannes Ebert, JOANNEUM RESEARCH - Austria

Harald Schlemmer, JOANNEUM RESEARCH - Austria

Karin Plimon, JOANNEUM RESEARCH - Austria

Nikolaos Toptsidis, HE SPACE for the European Spac - The Netherlands

16:10 - 17:10

Capri

Ka 14: Q/V Technologies & Experiments 2

Chair: Naoto Kadowaki, NICT, Japan

#152 - DESIGN OF LOW-COST GROUND STATIONS FOR FUTURE Q/V-BAND SATELLITE COMMUNICATION SYSTEMS

Naresh Deo, QuinStar Technology - United States

#71 - Adaptive Q/V-band Feeder Links for future HTS and VHTS Systems

Carlo Riva, Politecnico di Milano - Italy

Lorenzo Luini, Politecnico di Milano - Italy

Roberto Nebuloni, IEIIT/CNR - Italy

Giuseppe Codispoti, ASI - Italy

Marco Lisi, Independent Consultant - Italy

#176 - ESA activities for Alphasat Aldo Paraboni campaigns

Antonio Martellucci, ESA/ESTEC - Netherlands

Juan Castro, ESA/ESTEC - Netherlands

Edoardo Benzi, ESA/ESTEC - Netherlands

Philippe Sivac, ESA/ESTEC - Netherlands

16:10 - 18:10

Stampa

Ka 15: Ground Systems

Chair: Richard Gedney, ACTS, USA

#24 - Robust Logon Waveform Deployed in Large Mobile Satellite Access Networks

Daniel DELARUELLE, NEWTEC - Belgium

#21 - GEOSTATIONARY SATELLITE VSAT NETWORK SIMULATION

Koenraad Lievens, Newtec - Belgium

Barbara Plavcic, Newtec - Belgium

#52 - SIMPLIFIED AND ROBUST GROUND SEGMENT SYNCHRONIZATION TO BEAMHOPPING SATELLITES

Dimitrios Christopoulos, Newtec CY - Belgium

Dirk Breynaert, Newtec CY - Belgium

#53 - ADJACENT BEAM INTERFERENCE MINIMIZATION VIA REAL-TIME DYNAMIC BEAMHOPPING PLAN CALCULATION

Dimitrios Christopoulos, Newtec CY - Belgium

Dimitrios Christopoulos, Newtec CY - Belgium

Dirk Breynaert, Newtec CY - Belgium

#54 - GLOBAL CAPACITY CONTROLLER FOR SEAMLESS DYNAMIC RESOURCE MANAGEMENT IN FLEXIBLE SATELLITE SYSTEMS

Dimitrios Christopoulos, Newtec CY - Belgium

Dirk Breynaert, Newtec CY - Belgium

#31 - On-ground shaping and encapsulation for the forward downlink of regenerative low-complexity LEO satellites

Dieter Duyck, Newtec CY - Belgium

	Dirk Breynaert, Newtec CY - Belgium
20:30 - 23:00	Conference Dinner

Wednesday, October 2

08:30 - 10:10

Ulisse

NASA Commercial Services Program

Chair: Philip McAlister, NASA HQ, USA

Author: Philip McAlister, NASA HQ, USA

U.S. national space policy requires federal agencies such as NASA to purchase and use commercial space capabilities and services to the maximum practical extent when such capabilities and services are available in the marketplace and meet United States Government requirements. It also requires agencies to â€œpursue potential opportunities for transferring routine, operational space functions to the commercial space sector where beneficial and cost-effective.â€• NASA is implementing this policy through a new program, the Communications Services Program (CSP), led by the Commercial Spaceflight Development Division at NASA Headquarters. CPS will work with the commercial market to identify requirements and explore opportunities that are mutually beneficial to NASA and industry, and will develop an acquisition model for incorporating commercial communications services into NASAâ€™s operations.
Mr. Phil McAlister, Director of NASA Commercial Spaceflight Development Division, will discuss NASAs initial plans to achieve commercially provided relay services.

10:10 - 10:30 Coffee Break

10:30 - 11:50

Amalfi

Ka 16: Special Topics 2

Chair: Arduino Patacchini, ARPASAT (Former CEO of Skylogic/Eutelsat), France

#115 - An Evaluation Approach for the Expansion of Commercial Services in NASA's Communications and Navigation Network Evolution

Erica Weir, Teltrium Solutions LLC - United States

James Schier, NASA - USA

Peter Weed, Teltrium - United States

Ian Schrock, Teltrium Solutions LLC - USA

#65 - FLEXIBLE MODEM INTERFACE (FMI) ON-ORBIT EXPERIMENT WITH SCAN TESTBED DEMONSTRATES SERVICE INTEROPERABILITY BASELINE BETWEEN US GOVERNMENT AGENCIES

Robyn Atkins, ZIN Technologies, Inc. - United States

Gerry Jansson, LinQuest Corporation - United States

Nancy Kemper, Hughes Network Systems - United States

#172 - PRACTICAL SECURITY CONSIDERATIONS FOR IoT SYSTEMS OVER SATELLITE

Joan Bas, CTTC - Spain

Ana Perez, CTTC/UPC - Spain

#167 - Preliminary Analysis of Commercial Service Architectures in Support of Communications Links for NASA Low Earth Orbit Spacecraft

James Nessel, NASA - United States

Ian Nemitz, NASA - United States

Peter Schemmel, NASA - USA

Bushara Dosa, NASA - USA

Thomas Kacpura, NASA - USA

Capri

10:30 - 12:10

Ka 17: Propagation 2

Chair: James Nessel, NASA GRC, USA

#10 - FROM 10-MIN RAIN-RATE TIME SERIES TO 1-MIN RAIN-RATE TIME SERIES IN SPINO D'ADDA

Emilio Matricciani, Politecnico di Milano - Italy

#68 - The Ionosphere Prediction Service: space weather forecast service for GNSS users

Filippo Rodriguez, Telespazio - Italy

Roberto Ronchini, Telespazio - Italy

Stefano Di Rollo, Telespazio - Italy

#26 - ATTENUATION DUE TO SNOW ACCUMULATION ON ANTENNA AT KA-BAND; EFFECT AND MITIGATION TECHNIQUES

Martin Rytir, FFI - Norway

Jostein Sander, FFI - Norway

#38 - Space-time Modelling of Rainfall Rate Distribution for European Satellite Networks

Guangguang Yang, University of Portsmouth - United Kingdom

David Ndzi, University of West of Scotland - United Kingdom

Abdulkarim Tawfik, University of Portsmouth - United Kingdom

Misha Filip, University of Portsmouth - United Kingdom

Li Bai, University of Portsmouth - United Kingdom

#19 - ADAPTIVE MARGINS FOR EFFICIENT ACM AT EHF BANDS

Kufre-Mfon Ekerete, University of Surrey - United Kingdom

Adegbenga Awoseyila, University of Surrey - United Kingdom

Barry Evans, University of Surrey - United Kingdom

Stampa

10:30 - 11:30

Ka 18: Satellites and 5G 2

Chair: Chris Hoeber, CFH Engineering, USA (Consultant for the Communications Satellite Industry), USA

#90 - A virtualised and orchestrated satellite and terrestrial integrated 5G Test Bed.

Barry Evans, University of surrey - United Kingdom

Yogaratnam Rahulan, University of Surrey - United Kingdom

Sergar Vural, University of Surrey - United Kingdom

George Kamel, University of Surrey - United Kingdom

Joe Cahill, VTiDirect Solutions - Ireland

Mark Kavanagh, VTiDirect Solutions - Ireland

#47 - Multi-Connectivity in 5G Terrestrial-Satellite Networks: the 5G-ALLSTAR solution

Federico Lisi, "La Sapienza" - DIAG - Italy

Giacinto Losquadro, CRAT - Italy

Francesco Delli Priscoli, Sapienza University of Rome - Italy

Antonio Ornatelli, Sapienza University of Rome - Italy

Manuel Donsante, CRAT - Italy

#39 - Spectrum Sharing Framework for 5G Cellular System and Satellite Services

Barry Evans, University of surrey - United Kingdom

AbdelRahim Mohamed, University of Surrey - United Kingdom

12:10 - 13:30 Lunch Break

Amalfi

13:30 - 14:50

Ka 19: HTS Systems & Components 2

Chair: Nafiz Karabudak, LM, USA

#14 - 21-GHz wide-band satellite transmission performance and service availability evaluation with BSAT-4a broadcasting satellite

Yoichi Suzuki, NHK - Japan
Yoichi Suzuki, NHK - Japan
Yuki Koizumi, NHK - Japan
Shinya Abe, NHK - Japan
Kazunori Yokohata, NHK - Japan
Susumu Nakazawa, B-SAT - Japan
Osamu Yamazaki, B-SAT - Japan
Hisashi Sujikai, NHK - Japan
Shinsuke Yokozawa, NHK - Japan

#41 - On critical design of bandwidth-on-demand high throughput satellite communications system technology

Amane Miura, NICT - Japan
Eihisa Morikawa, NICT - Japan
Naoko Yoshimura, NICT - Japan
Hiroyuki Tsuji, NICT - Japan
Takashi Takahashi, NICT - Japan
Mitsugu Okawa, NICT - Japan
Teruaki Orikasa, NICT - Japan
Kazunori Okada, NICT - Japan
Kazuyoshi Kawasaki, NICT - Japan
Tomoshige Kan, NICT - Japan
Masaki Sato, NICT - Japan
Shinichi Kozono, NICT - Japan
Takuya Okura, NICT - Japan
Yuma Abe, NICT - Japan
Morio Toyoshima, NICT - Japan
Masaki Takahashi, Tohoku Univ. - Japan
Yuichi Kawamoto, Tohoku Univ. - Japan
Nei Kato, Tohoku Univ. - Japan
Eiichi Sakai, Mitsubishi Electric Cor - Japan
Terumi Sunaga, Mitsubishi Electric Corp. - Japan
Nobuyoshi Horie, Mitsubishi Electric Corp. - Japan
Toshiyasu Tsunoda, Mitsubishi Electric Corp. - Japan
Arimasa Kanasashi, Mitsubishi Electric Corp. - Japan
Masaaki Kusano, Mitsubishi Electric Corp. - Japan
Yoshio Inasawa, Mitsubishi Electric Corp. - Japan
Hitomi Ono, Mitsubishi Electric Corp. - Japan

#92 - MATRIX (Multiple Access Telecom Reconfigurable Intersatellites X): An Innovative fractionated satellite system enabling higher reuse of frequency

Michael Hadjitheodosiou, ESA - Netherlands
Ana Bolea Alamanac, ESA - Netherlands
Nicolas Girault, ESA - Netherlands
Xavier Geneste, ESA - Netherlands

13:30 - 14:50

Capri

Ka 20: Propagation 3

Chair: Antonio Martellucci, ESA, The Netherlands

#114 - ATMOSPHERIC ATTENUATION ANALYSIS USING ALPHASAT BEACON AND DISTROMETER IN PRAGUE

Karel Pitaš, Institute of Atmospheric Physics, Czech - Czech Republic

#77 - EARTH-SPACE PROPAGATION STATISTICS: ALPHASAT MEASUREMENTS COLLECTED IN GRAZ AND BUDAPEST

Felix Cuervo, JOANNEUM RESEARCH - DIGITAL - Austria

Michael Schmidt, JOANNEUM RESEARCH - Austria

Michael Schoenhuber, JOANNEUM RESEARCH - Austria

Laszlo Csurgai-Horvath, Budapest University of Tech. -

Antonio Martellucci, European Space Agency - The Netherlands

Juan Rivera-Castro, European Space Agency - The Netherlands

#168 - A Global Model for Estimating Atmospheric Phase Scintillation Statistics

James Nessel, NASA - United States

Michael Zemba, NASA - United States

#169 - A Novel Vortex Radiometer Concept for Real-time Atmospheric Monitoring and Prediction

James Nessel, NASA - United States

Peter Schemmel, NASA - USA

14:50 - 15:20 Coffee Break

15:20 - 17:20

Ulisse

Plenary Panel 3: The Disruptive Impact of 5G and Other New Technologies

Chair: Chris Hoeber, CFH Engineering, USA

Moderator: Chris Hoeber, CFH Engineering, USA

As we have for the past three years, we will examine the disruptive forces that are reshaping the space communications ecosystem, starting with the promise of ubiquitous high speed wireless 5G. This is the latest technology wave that is reshaping the communications satellite industry. The first wave was HTS systems that completely changed the bandwidth value proposition. Then came LEO systems, with their embrace of advanced low cost manufacturing techniques, and the rise of entrepreneurial NewSpace. LEO satellites and NewSpace overlap, and they may be two sides of the same coin. Add in the concurrent changes in the terrestrial communications world, with streaming video substituting for linear programming leading to a surge of cord cutting, and the result is a turbulent environment where the next wave of change occurs before the industry has had a chance to react to the last wave.

Panelists (in Alphabetical Order):

1. Marco Brancati - Chief Technology Officer Telespazio
2. Barry Evans - Professor, University of Surrey
3. Peter Garland - Vice President Advanced Programs, MDA Corporation, Canada (retired)
4. Arduino Patacchini - former CEO of Skylogic (Eutelsat) (retired)
5. Jason Robbins - CEO Viasat Europe
6. James Hinds - Director of Strategy Development Space Systems Airbus Defence and Space
7. Badri Younes - Deputy Associate Administrator, Space Communications and Navigation (SCaN), NASA HQ, USA

17:20 - 17:40

Ulisse

Closing Session:

Chair: Richard Gedney, ACTS, USA

Franco Marconicchio, Space Systems Consultant, Italy and Richard T. Gedney, ACT Co., USA (25th Ka and Broadband Communications Conference Co-Chair)

Peter Garland, Consultant, Canada