

SPSC 2008

PROGRAMME

Last update: 2 October 2008

Day 1 - Monday, 6 October 2008

08:00	Registration
	Opening Session
08:30	Workshop Opening and Introduction
09:00	ESA Telecommunications Long Term Plan <i>Jose M. Casas</i> <i>Deputy Head of the Telecommunications Department, European Space Agency (Netherlands)</i>
09:30	Abstract Satellite Broadband System: Its Needs and Technology <i>Iida, Takashi</i> <i>National Institute of Information and Communications Technology (Japan)</i>
10:00	Coffee Break
10:30	XM Satellite Radio Technology Fundamentals and Evolution <i>Dr. Stelios J. Patsiokas</i> <i>XM Satellite Radio Inc. (USA)</i>
11:15	Satellite Communications and R&D Activities <i>George Skikos</i> <i>Executive Technology & Operations Officer, Hellas Sat (Greece)</i>
Session 1	Mobile Satellite Multimedia Broadcasting Systems (I)
14:00	Abstract A High Efficiency Scheme for Quasi-Real-Time Satellite Mobile Messaging Systems <i>del Rio Herrero, O.; De Gaudenzi, R.</i> <i>European Space Agency (Netherlands)</i>
14:30	Abstract A Mobile Ad-hoc Satellite and Wireless Mesh Networking Approach for Public Safety Communications <i>Iapichino, G.1; del Rio Herrero, O.2; Bonnet, C.1; Baudoin, C.3; Buret, I.3</i> <i>1Institut Eurecom (France); 2European Space Agency (Netherlands); 3Thales Alenia Space (France)</i>
15:00	Abstract Satellite-Terrestrial Broadcasting/Multicasting Systems: A Layered Channel Coding and Scalable Video Coding Approach <i>Papadakis, G.1; Dimitriou, N.2; Chiew, T.-K.3; Avdikos, G.4</i> <i>1Zenon S.A. Robotics and Informatics (Greece); 2National Kapodistrian University of Athens, Institute of Accelerating Systems & Applications (IASA) (Greece); 3Institute for Infocomm Research (I2R) (Singapore); 4Zenon Group/Raymetrics S.A. and Department of Physics, National Technical University of Athens (Greece)</i>
15:30	Coffee Break
Session 2	Mobile Satellite Multimedia Broadcasting Systems (II)
16:00	Abstract Datacast Transmission Architecture for DVB-S2 Systems in Railway Scenarios <i>Vieira, F.; Vazquez Castro, M.A.; Lei, J.</i> <i>Universitat Autònoma de Barcelona (Spain)</i>
16:30	Abstract Application of Link Layer FEC to DVB-S2 for Railway Scenarios <i>Lei, J.1; Stockhammer, T.2; Vazquez Castro, M.A.1; Vieira, F.1</i> <i>1Universitat Autònoma de Barcelona (Spain); 2Digital Fountain (Germany)</i>
17:00	Abstract Using LTE in 4G Satellite Communications: Increasing Time Diversity through Forced Retransmission <i>Papaleo, M.; Neri, M.; Corazza, G.E.; Vanelli-Coralli, A.</i> <i>University of Bologna (Italy)</i>

17:30	<p>Abstract Turbo-Code Division Multiple Access: Capacity Enhancement of Mobile Satellite Systems Using Narrowband Multiuser Detection <i>Fines, P.1; Christofylaki, E.2; Febvre, P.3</i> 1Wireless Intelligent Systems Ltd. (United Kingdom); 2University of Westminster (United Kingdom); 3Inmarsat Ltd. (United Kingdom)</p>
18:00	End of day

Day 2 - Tuesday, 7 October 2008

	Session 3 MIMO and Diversity Techniques for Satellite Communications	Session 4 Signal Processing for Secure Communications
08:30	<p>Abstract MIMO Applicability to Satellite Network <i>Pérez-Neira, A.1; Ibars, C.1; Serra, J.1; Gómez, J.1; del Coso, A.1; Caus, M.2</i> 1CTTC - Centre Tecnològic de Telecomunicacions de Catalunya (Spain); 2UPC (Spain)</p>	<p>Abstract A Digital Wideband Receiver System for Satellite Monitoring and Signal Intelligence <i>Schlegel, H.; Perthold, R.</i> IZT GmbH (Germany)</p>
09:00	<p>Abstract Dual Polarization for MIMO Processing in Multibeam Satellite Systems <i>Zorba, N.1; Realp, M.2; Perez-Neira, A.I.3</i> 1Centre Tecnologic de Telecomunicacions de Catalunya (CTTC) (Spain); 2Aggaros (Spain); 3Universitat Politècnica de Catalunya (UPC) (Spain)</p>	<p>Abstract SEU-Resistant SHA-256 Design for Security in Satellites <i>Juliato, M.; Gebotys, C.</i> University of Waterloo (Canada)</p>
09:30	<p>Abstract An Improved Partial CSIT Random Beamforming for Multibeam Satellite Systems <i>Zorba, N.1; Realp, M.2; Perez-Neira, A.I.3</i> 1Centre Tecnologic de Telecomunicacions de Catalunya (CTTC) (Spain); 2Aggaros (Spain); 3Universitat Politècnica de Catalunya (UPC) (Spain)</p>	<p>Abstract A SEU-Resistant, FPGA-Based Implementation of the Substitution Transformation in AES for Security on Satellites <i>Ghaznavi, S.; Catherine, G.</i> University of Waterloo (Canada)</p>
10:00	Coffee Break	
	Session 5 Coding, Modulation and Synchronization Techniques	Session 6 Satellite Communications Simulation/Emulation Tools
10:30	<p>Abstract Forward Error Correction for an Enhanced Sarsat Distress Message <i>Kerr, R.; Hunt, A.; Crozier S.; Lodge, J.</i> Communication Research Centre (Canada)</p>	<p>Abstract AINE: an IP Network Emulator <i>Morlet, C.1; Fernández Piñas, D.2</i> 1ESA/ESTEC (Netherlands); 2Indra Espacio (Spain)</p>
11:00	<p>Abstract Packet Loss Recovery in the Telemetry Downlink Via Maximum-Likelihood LDPC Decoding <i>Liva, G.1; Paolini, E.2; Chiani, M.2</i> 1DLR (Germany); 2Univ. of Bologna (Italy)</p>	<p>Abstract A Tool for Satellite Communications: Advanced DVB-RCS/DVB-S2 System and Protocol Simulator <i>Brandt, H.1; Boussemart, V.2</i> 1DLR (Germany); 2German Aerospace Center (DLR e.V.) (Germany)</p>
11:30	<p>Abstract On 64-APSK Constellation Design Optimization <i>Liolis, K.1; Alagha, N.2</i> 1Space Hellas S.A. (Greece); 2European Space Agency (ESA-ESTEC) (Netherlands)</p>	<p>Abstract Simulation Tool for Telecommunication System End-to-end Assessment <i>Morlet, C.1; del Rio Herrero, O.1; Arguello, L.1; Guillaume, A.2; Shlyayev, P.3; Esteves, J.4</i> 1ESA/ESTEC (Netherlands); 2EADS Astrium (France); 3GTI6 (France); 4Critical Software (Portugal)</p>
12:00	<p>Abstract Design of Spectrally-Efficient Continuous Phase Modulations <i>Barbieri, A.; Fertonani, D.; Colavolpe, G.</i> University of Parma (Italy)</p>	<p>Abstract A High Performance Digital Channel Simulator for Satellite Transmissions <i>Perthold, R.; Rommelfanger, O.</i> IZT GmbH (Germany)</p>

12:30	Lunch Break	
	Session 7 On Board Signal Processing Techniques and Emerging Applications	Session 8 Modulation, Synchronization and Detection Techniques
14:00		Abstract Optimizing the Error Recovery Capabilities of LDPC-staircase Codes Featuring a Gaussian Elimination Decoding Scheme <i>Cunche, M., Roca, V.</i> <i>INRIA Rhone-Alpes, Planete Research Team (France)</i>
14:30	Abstract Satellite AIS System Study <i>Cervera, M.; Ginesi, A.; Casini, E.</i> <i>European Space Agency (Netherlands)</i>	Abstract On Multicarrier Schemes for Doubly-Selective Channels <i>Cero, A.1; Barbieri, A.1; Colavolpe, G.1; Wylie-Green, M.P.2</i> <i>1University of Parma, Dept. of Information Eng. (Italy); 2Nokia Siemens Networks Irving, TX (United States)</i>
15:00	Abstract CASCADE Demodulator <i>Cherkaoui, J.; Zanus, A.</i> <i>MDA (Canada)</i>	Abstract Fundamental Issues in Time-Delay Estimation of Multicarrier Signals with Applications to Next-Generation GNSS <i>Zanier, F.; Luise, M.</i> <i>University of Pisa (Italy)</i>
15:30	Abstract Demonstrating Semi-Transparent On Board Packet Switching by Satellite (ULISS) <i>Haardt, C.</i> <i>Thales Alenia Space (France)</i>	Abstract Assessment of Potentiality of Adjacent Channel Interference Mitigation in a Low-Rate TDMA System <i>Gallinaro, G.1; Rita, R.2</i> <i>1Space Engineering (Italy); 2European Space Agency (Netherlands)</i>
16:00	Abstract S-UMTS Processor Key Technologies Demonstrator <i>Topping, C.1; Bishop, A.1; Craig, T.1; Howe, D.1; Hamer, J.1; Senior, A.2; Angeletti, P.3</i> <i>1Astrium Ltd. (United Kingdom); 2S.E.A (Group) Ltd. (United Kingdom); 3ESA (Netherlands)</i>	Abstract Optimal Noncoherent Detector for HS-GNSS Receivers <i>Lopez-Salcedo, J.A.; Vicario, J.L.; Seco-Granados, G.</i> <i>Universitat Autònoma de Barcelona (UAB) (Spain)</i>
16:30	Coffee Break	
16:30	Poster Session	
	<p>Abstract Wavelet Packet Transform Processing for Interference Excision in TT&C Spread-Spectrum Transponder <i>Simone, L.1; Caselli, F.2</i> <i>1Thales Alenia Space (Italy); 2University of Rome, "Tor Vergata" (Italy)</i></p> <p>Abstract On-Board Processing of Video Image Sequences <i>Forchhammer, S.1; Andersen, J.D.1; Chanrion, O.2; Rasmussen, I.L.2</i> <i>1Technical University of Denmark (Denmark); 2National Space Institute, DTU (Denmark)</i></p> <p>Abstract Performance Evaluation of a MIMO Satellite Diversity System <i>Mohammed, A.; Hult, T.</i> <i>Blekinge Institute of Technology (Sweden)</i></p> <p>Abstract DVB-S2 ACM and ACM/QoS integration for triple-play bi-directional satellite services in the UNIC project <i>Vignaroli, L.1; Mignone, V.1; Rossini, M.1; Bertella, A.1; Tabone, M.1; Vaccaro, A.2; Boccolini, G.3</i> <i>1Rai Radiotelevisione Italiana (Italy); 2MBI (Italy); 3University of Pisa (Italy)</i></p>	

	<p>Abstract Interoperability and Testing in Broadband Satellite Networks <i>Abbas, M.1; Stergioulas, L.1; El-Haddadeh, R.1; Kretschmer, M.2; Pitsilis, V.3; Tsiolis, I.4; Zagkos, D.4; Hatziefremidis, A.4</i> 1School of Information Systems, Computing and Mathematics, Brunel University (United Kingdom); 2Fraunhofer Gesellschaft zur Foerderung der angewandten Forschung e.V. (Germany); 3National Center for Scientific Research "Demokritos" (Greece); 4Hellenic Aviation Industry S.A. (Greece)</p> <p>Abstract A Rain and Scintillation Ka-Band Channel Simulator <i>Sala, J.1; Lamarca, M.2; Lopez, J.A.2; Rey, F.2; Riba, J.2; Vazquez, G.2; Villares, X.2; Jalon, A.M.3; Rodriguez, P.3</i> 1Technical University of Catalonia (UPC) (Spain); 2UPC (Spain); 3Thales Alenia Space España (Spain)</p> <p>Abstract IP/MPLS Satellite Network Convergence in ULISS Project <i>Dubois, E.1; Baudoin, C.2; Beylot, A.L.3; Chaput, E.3; Haardt, C.2</i> 1TeSA (France); 2Thales Alenia Space (France); 3IRIT/ENSEEIH/TESA (France)</p> <p>Abstract A Three Dimensional Model for Land Mobile-HAP-MIMO Fading Channels <i>Michailidis, E.; Kanatas, A.</i> University of Piraeus (Greece)</p> <p>Abstract Performance of MRC Satellite Diversity Receivers over Correlated Lognormal and Gamma Fading Channels <i>Sakarellos, V.K.; Skraparlis, D.; Panagopoulos, A.D.; Kanellopoulos, J.D.</i> National Technical University of Athens (Greece)</p> <p>Overview of the Application of High Altitude Platform (HAP) Systems in Future Telecommunication Networks <i>Avdikos, G.1; Papadakis, G.1; Dimitriou, N.2</i> 1Zenon Group (Greece); 2Institute of Accelerating Systems and Applications (Greece)</p>
17:30	End of day

Day 3 - Wednesday, 8 October 2008

	<p>Session 9 OBP and Advanced Payload Techniques (I)</p>
08:30	<p>Abstract Proof of Concept of a High Throughput Processor for Broadband Access Networks <i>Hughes, R.1; Brown, S.1; Howe, D.1; Chiassarini, G.2; Gianfelici, D.2; Altamura, P.2; Angeletti, P.3</i> 1Astrium Ltd (United Kingdom); 2Space Engineering S.p.A. (Italy); 3ESA - ESTEC (Netherlands)</p>
09:00	<p>Abstract Characterisation of TWTA Non-Linearity by Means of Time-Domain Correlation Method <i>Colzi, E.1; Angeletti, P.1; Aloisio, M.1; D'Addio, S.1; Oliva Balague, R.1; Casini, E.2</i> 1European Space Agency (Netherlands); 2NATO C3 Agency (Netherlands)</p>
09:30	<p>Abstract Performance Improvement from Linearizing Power Amplifiers In Multi-Port Amplifier Subsystems <i>Huang, X.; Caron, M.</i> Communications Research Centre (Canada)</p>
10:00	Coffee Break
	<p>Session 10 Advanced Digital Receiver Techniques</p>
10:30	<p>Abstract Code Detection at Launch and Early Orbit Phase for CDMA TT&C <i>Maffei, M.; Simone, L.</i> Thales Alenia Space Italia (Italy)</p>
11:00	<p>Abstract SNR Estimation for Apsk in Awgn with Unknown Channel Phase Offset <i>Das, A.1; Das, A. (Nandan)1; Ng, J.2</i> 1ViaSat Inc. (United States); 2University of California, San Diego (United States)</p>

11:30	<p>Abstract DA-GLRT Burst Detection and Synchronization Based on a Chirp-Like Preamble <i>Rey, F.1; Lamarca, M.1; López-Salcedo, J.A.1; Riba, J.1; Sala, J.1; Vazquez, G.1; Villares, X.1; Jalón, A.M.1; Rodríguez, E.2</i> 1Universitat Politècnica de Catalunya (Spain); 2Thales Alenia Space, (Spain)</p>
12:00	<p>Abstract A Software-Radio Test-bed for Measuring the Performance of DVB-S2 Receiver Circuits <i>Savvopoulos, P.; Papandreou, N.; Antonakopoulos, T.</i> University of Patras, Department of Electrical and Computer Engineering (Greece)</p>
12:30	Lunch Break
	<p>Session 11 OBP and Advanced Payload Techniques (II)</p>
14:30	<p>Abstract Signal Frequency Channelizer/ Synthesizer <i>Cherkaoui, J.; Glavac, V.</i> MDA (Canada)</p>
15:00	<p>Abstract On-Board DSP Techniques for Radio-Science Applications <i>Simone, L.1; Maffei, M.1; Gelfusa, D.1; Boscagli, G.2</i> 1Thales Alenia Space Italia (Italy); 2ESA/ESTEC (Netherlands)</p>
15:30	<p>Abstract Reconfigurable Implementation for On-Board Digital Processors <i>Morlet, C.1; Iacomacci, F.2; Autelitano, F.2; Quaranta, F.2</i> 1ESA/ESTEC (Netherlands); 2Thales Alenia Space (Italy)</p>
16:00	End of day