2014 7th Advanced Satellite Multimedia Systems Conference and the 13th Signal Processing for Space Communications Workshop

(ASMS/SPSC 2014)

Livorno, Italy
8-10 September 2014

IEEE

IEEE Catalog Number: CFP1416E-POD
ISBN: 978-1-4799-5894-8

S1: Welcome and Information

S2: DVB-S2x: an Overview on the DVB-S2 Evolution

S3: Coffee Break

S4: Optical Free Space Links for Satellite-Ground Communications

S5: Lunch Break

S6: Applications of random linear network coding (RLNC) to satellite communications

S7: MIMO Precoding in Wireless Systems and Potential Applications in Satellite Networks

S8: Coffee Break

S9: MIMO Over Satellite: No Longer a Toddler

S10: Welcome Cocktail

S11: OPENING

S12: Keynote Speech: Towards the Terabit/s Satellite – Trends and Issues

S13: Coffee Break

S14: QoS and Routing management in Satellite Networks

PMIPv6-Based IP Mobility Management Over Regenerative Satellite Mesh Networks

Esua Jaff (University of Bradford, United Kingdom), Prashant Pillai (University of Bradford, United Kingdom) and Yim-Fun Hu (University of Bradford, United Kingdom)

pp. 1-8

Gateway Handover Implications on Transport Layer Performance in Terabit Satellite Networks

Giovanni Giambene (University of Siena, Italy), Doanh Kim Luong (University of Siena, Italy), Van Anh Le (University of Siena, Italy) and Tomaso De Cola (German Aerospace Center (DLR), Germany)

pp. 9-16

S15: Advanced Interference and Fading Mitigation Techniques for Satellite Systems

S16: Advanced Detection and Estimation Algorithms

S17: Internet-Centric Networking for Satellite/Terrestrial Integrated Systems

S18: SatCom for Maritime and Emergency Scenarios

S19: Lunch Break

S20: Modulation and Coding Schemes

S21: Satellite-based 4G systems and beyond

S22: Performance optimisation of Satellite Networks

Index Coding for Unicast Flows in Interactive Satellite Networks

Michael Heindlmaier (Technische Universität München & Institute for Communications Engineering, Germany), Andrea Munari (German Aerospace Center (DLR), Germany), Gianluigi Liva (DLR - German Aerospace Center, Germany) and Matteo Berioli (TriaGnoSys GmbH & Zodiac Aerospace, Germany)

pp. 211-217

On the Use of Multiple Satellites to Improve the Spectral Efficiency of Broadcast Transmissions

Alessandro Ugolini (University of Parma, Italy), Amina Piemontese (University of Parma, Italy), Andrea Modenini (University of Parma, Italy) and Giulio Colavolpe (University of Parma, Italy)

pp. 218-225

Balancing Closed and Open Loop CSI in Mobile Satellite Link Adaptation

Alberto Rico-Alvariño (University of Vigo, Spain), Jesús Arnau (University of Vigo, Spain) and Carlos Mosquera (University of Vigo, Spain)

pp. 226-233

S23: Coffee Break

S24: Cognitive and Opportunistic Techniques

Automatic Modulation Classification for Adaptive Power Control in Cognitive Satellite Communications

Anestis Tsakmalis (University of Luxembourg & SnT, Luxemburg), Symeon Chatzinotas (University of Luxembourg, Luxemburg) and Björn Ottersten (University of Luxembourg, Luxemburg)

pp. 234-240

Implementation Issues of Cognitive Radio Techniques for Ka-band (17.7-19.7 GHz) SatComs

Shree Krishna Sharma (University of Luxembourg, Luxemburg), Sina Maleki (University of Luxembourg & The Interdisciplinary Centre for Security, Reliability and Trust (SnT), Luxemburg), Symeon Chatzinotas (University of Luxembourg, Luxemburg), Joel Grotz (Newtec Cy., Belgium) and Björn Ottersten (KTH Royal Institute of Technology, Sweden)

pp. 241-248

ACCORD - AutomatiC reCOnfigurable Radio for Dual-use

Marco Andrenacci (MBI, Italy), Sabino Titomanlio (MBI, Italy), Rosalba Suffritti (Mavigex, Italy) and Giuseppe D'Angelo (Space Engineering S.p.A., Italy)

pp. 249-255

Interference Statistical Distribution for Cognitive Satellite Communication Systems Operating Above 10GHz

Charilaos Kourogiorgas (National Technical University of Athens, Greece) and Athanasios D. Panagopoulos (National Technical University of Athens, Greece)

pp. 256-261

S25: Integration of SatCom and SatNav for Alerting and Public Protection

Reference Scenarios for the Deployment of Emergency Communications; Earthquake and Mass Casuality Incident Situations
Robert Mort (Systek Consulting Ltd, United Kingdom), Haitham Cruickshank (University of Surrey, United Kingdom), Anton Donner (German Aerospace Center (DLR), Germany), Egil Bovim (Egil Bovim Consulting, Norway) and Julián Seseña (Rose Vision, Spain)
pp. 262-268

Satellite Assisted Delivery of Alerts: A Standardization Activity Within ETSI
Luca Simone Ronga (CNIT, Italy), Matteo Berioli (TriaGnoSys GmbH & Zodiac Aerospace, Germany), Sara Jayousi (CNIT University of Florence, Italy), Josef Rammer (Dr Rammer RM e U, Italy), Tomaso De Cola (German Aerospace Center (DLR), Germany) and Laurent Franck (Télécom Bretagne, France)
pp. 269-275

GNSS-based Emergency Message Service: Lessons Learnt and Future Prospects
Daisuke Iwaizumi (Keio University, Japan), Peter Buist (National Aerospace Laboratory NLR, The Netherlands), Naohiko Kohtake (Keio University, Japan), Takaki Ishida (Keio University, Japan) and Shota Iino (Keio University, Japan)
pp. 276-283

The European Data Relay System: High Speed Laser Based Data Links
Frank F Heine (Tesat Spacecom, Germany), Herwig Zech (Tesat Spacecom, Germany), Gerd Muehlnikel (Tesat Spacecom, Germany), Rolf Meyer (DLR, Germany) and Sabine Philipp-May (DLR, Germany)
pp. 284-286

S26: 'GUIDED 'TOUR OF THE "FOSSI MEDICEI"

S27: 'LECTURE AND COCKTAIL WITH PAPER AWARDS

S28: GALA DINNER

S29: Keynote Speech: Connecting people and objects everywhere in the world: new challenges and opportunities

S30: Future Broadband SatCom Systems and Architectures

Architecture and Analysis of a Satellite Downstream Boost for xDSL Networks
Claudio Cicconetti (MBI, Italy), Agostino Isca (MBI srl, Italy), George Agapiou (Hellenic Telecommunications Organization, Greece), Ioanna Papafili (Hellenic Telecommunications Organization, Greece), Erasmo Atteo (ITS S.M Capua Vetere, Italy), Maurizio Manzo (ITS S. M. Capua Vetere, Italy), Dimitris Syvridis (National and Kapodistrian University of Athens, Greece) and Michael Bourmpos (National and Kapodistrian University of Athens, Greece)
pp. 287-292

Frame Based Precoding in Satellite Communications: A Multicast Approach
Dimitrios Christopoulos (University of Luxembourg & SnT, Luxemburg), Symeon Chatzinotas (University of Luxembourg, Luxemburg) and Björn Ottersten (KTH Royal Institute of Technology, Sweden)
pp. 293-299

Increasing the Feeder Link Efficiency in Broadband Satellite Systems
Enzo Alberto Candreva (University of Bologna, Italy), Rosalba Suffritti (Mavigex, Italy) and Mathieu Dervin (Thales Alenia Space, France)
pp. 300-305

Satellite's Role in the Penetration of Broadband Connectivity Within the European Union
Stefano Agnelli (Eutelsat, France), Pierre Feltz (Eutelsat, France), Pierre-François Griffiths (Eutelsat, France) and Delphine Roth (Eutelsat SA, France)
pp. 306-311

S31: Advanced Broadband and Broadcast Networks and Techniques

Linear Precoding in Multibeam Satellite Under Licensed Shared Access
Miguel Ángel Vázquez (CTTC, Spain), Ana Isabel Perez (Universitat Polit`ecnica de Catalunya, Spain) and Miguel Angel Lagunas (Telecommunications Technological Center of Catalonia, Spain)
pp. 312-317

Review of Terabit/s Satellite, the Next Generation of HTS Systems
Patricia Inigo (Airbus Defence and Space, France), Oriol Vidal (EADS Astrium, France), Eric Alberty (EADS Astrium, France), Bernard Roy (Airbus Defence and Space, France) and Javad Anzalchi (EADS Astrium, United Kingdom)
pp. 318-322

Gateway Diversity for Q/V Feeder Links: Requirements, Characteristics, and Challenges
Argyrios Kyrgiazos (University of Surrey, United Kingdom) and Barry Evans (University of Surrey, United Kingdom)
pp. 323-330

DVB-S2X Channel Models: Motivations and Rationales
Alberto Ginesi (ESA/ESTEC, The Netherlands), Stefano Cioni (European Space Agency & ESTEC, The Netherlands) and Martina Angelone (European Space Agency, The Netherlands)
pp. 331-338

S32: Signal processing in Satellite Communications

Design of FIR Filters with Sum of Power-of-Two Representation Using Simulated Annealing
Roland Baudin (Thales Alenia Space, France) and Guy Lesthievent (CNES, France)
pp. 339-345

Novel Spread Spectrum Approach to Multi-port Amplifier Calibration
Alessandro Le Pera (Eutelsat S.A., France), Patricia Jung-Mougin (Airbus DS, France), Ian Morris (Airbus DS, United Kingdom), Glyn Thomas (Airbus DS, United Kingdom) and Peter James (EADS Astrium, United Kingdom)

pp. 346-351

On Acquisition and Tracking Methods for SC-FDMA Over Satellite
Davide Benfatto (Mavigex S. r. l., Italy), Niccoló Privitera (Mavigex, Italy), Rosalba Suffritti (Mavigex, Italy), Adegbenga Awoseyila (University of Surrey, United Kingdom), Barry Evans (University of Surrey, United Kingdom) and Svilen Dimitrov (German Aerospace Center (DLR), Germany)
pp. 352-359

Robust SC-FDMA Subcarrier Mapping for Non-Linear Channels
Enzo Alberto Candreva (University of Bologna, Italy), Daniele Tarchi (University of Bologna, Italy), Alessandro Vanelli-Coralli (University of Bologna, Italy) and Giovanni Emanuele Corazza (University of Bologna, Italy)
pp. 360-365

S33: Coffee Break

S34: Multibeam Satellite Systems

Interference Coordination for the Return Link of a Multibeam Satellite System
Argyrios Kyrgiazos (University of Surrey, United Kingdom), Ui Yi Ng (University of Surrey, United Kingdom) and Barry Evans (University of Surrey, United Kingdom)
pp. 366-373

A Greedy Approach Combined with Graph Coloring for Non-Uniform Beam Layouts Under Antenna Constraints in Multibeam Satellite Systems
Jean-Thomas Camino (LAAS-CNRS & Airbus Defence and Space, France), Stephane Mourgues (Astrium Eads, United Kingdom), Christian Artigues (University of Toulouse, France) and Laurent Houssin (Laas-CNRS & University of Toulouse, France)
pp. 374-381

DVB-RCS2/S2 Testbed: A Distributed Testbed for Next-Generation Satellite System Design and Validation
Stefan Erl (German Aerospace Center (DLR), Germany) and Tomaso De Cola (German Aerospace Center (DLR), Germany)
pp. 382-389

An Energy-Efficient Solution for Packet-Based Transmissions with QoS Constraints in the Multibeam Satellite Downlink
Riccardo Andreotti (University of Pisa, Italy), Filippo Giannetti (University of Pisa, Italy) and Marco Luise (University of Pisa & WISER srl, Italy)
pp. 390-397

S35: Satellite-Based Wireless Sensor Networks and Smart Grids for M2M and SCADA applications

Internet of Things Application Layer Protocol Analysis Over Error and Delay Prone Links
Matteo Collina (University of Bologna, Italy), Marco Bartolucci (University of Bologna, Italy), Alessandro Vanelli-Coralli (University of Bologna, Italy) and Giovanni Emanuele Corazza (University of Bologna, Italy)
pp. 398-404

A Study on TCP Error Recovery Interaction with Random Access Satellite Schemes

F. Manlio Bacco (ISTI-CNR & University of Siena, Italy), Alberto Gotta (ISTI-CNR & CNIT, Italy), Cesare Roseti (University of Rome Tor Vergata, Italy) and Francesco Zampognaro (University of Rome Tor Vergata, Italy)

pp. 405-410

Architecture for Satellite Services Over Cryptographically Heterogeneous Networks with Application Into Smart Grid

Vahid Heydari Fami Tafreshi (University of Surrey & CCSR, United Kingdom), Haitham Cruickshank (University of Surrey, United Kingdom) and Zhili Sun (University of Surrey, United Kingdom)

pp. 411-418

Transmission Rate Allocation Over Satellite Networks with Quality of Experience - Based Performance Metrics

Igor Bisio (University of Genoa, Italy), Stefano Delucchi (University of Genoa, Italy), Fabio Lavagetto (University of Genoa, Italy) and Mario Marchese (DIST-University of Genoa, Italy)

pp. 419-423

S36: Propagation measurements and channel models

Q-band Beacon Receiver for Alphasat TDP#5 Propagation Experiment

László Csurgai-Horváth (Budapest University of Technology and Economics, Hungary), István Rieger (Budapest University of Technology and Economics, Hungary), Vilmos Béres (Totaltel Telecom Techniques Ltd., Hungary) and László Kormos (Totaltel Telecom Techniques Ltd., Hungary)

pp. 424-427

Advances of Far Field Test Range for SatCom On-the-Move Terminals

Gregor Siegert (Fraunhofer IIS, Germany), Wolfgang Felber (Fraunhofer Institute for Integrated Circuits IIS, Germany), Mostafa Alazab (Ilmenau University of Technology, Germany), Markus Landmann (Fraunhofer Institute for Integrated Circuits IIS, Germany) and Florian Raschke (Fraunhofer Institute for Integrated Circuits IIS Germany, Germany)

pp. 428-435

Analysis and Modeling of the Cloud Impairments of Satellite-to-Land Mobile Channel At Ku and Ka Bands

Ali M. Al-Saegh (Universiti Putra Malaysia, Malaysia), Aduwati Sali (UPM, Malaysia), Mandeep Singh (Universiti Kebangsaan Malaysia, Malaysia) and Alyani Ismail (Universiti Putra Malaysia, Malaysia)

pp. 436-441

Dust & Sand (DUSA) Storms Impact on LEO Satellite Microwave Radio Links

Kamal M Harb (University of King Fahd of Petroluim and Mineral (KFUPM), Saudi Arabia)

pp. 442-447

S37: Lunch Break

S38: Roundtable

S39: Closure