

Tuesday 23rd September 2014

0900-1015 *Keynote Speaker*

Dr Christos Vassilakos, General Secretary of Research & Technology
Dr Athanassios Potsis, President of the Hellenic Association of Space Industries
Mr Robert Carpentier, Thales Alenia Space, VP of Marketing Sales Europe and North America
David Jameux, ESA/ESTEC, Convener of the ESA International SpaceWire Working Group,
Presentation: *SpaceWire on board of ESA's Rosetta Mission*

1035 - 1215 *Networks & Protocols 1(Long Papers)*
Session Chair, Antonis Tavoularis, Teletel

- (19) Felix Siegle, Tanya Vladimirova, Jørgen Ilstad, Omar Emam; FDIR TECHNIQUES FOR PAYLOAD STREAMING APPLICATIONS USING SPACEWIRE-BASED NETWORKS
- (48) Sandi Habinc, Anandhavel Sakthivel, Jonas Ekergrarn, Daniel Hellström, Martin Suess; SPACEWIRE TIME DISTRIBUTION PROTOCOL IMPLEMENTATION AND RESULTS
- (13) Irina Lavrovskaya, Yuriy Sheynin, Valentin Olenev, Ilya Korobkov, Dmitry Dymov; STP-ISS TRANSPORT PROTOCOL FOR SPACECRAFT ON-BOARD NETWORKS
- (22) Marie-Hélène Deredempt, Zhili Sun, Philippe Ricco, Vangelis Kollias, Ernest Canamares; SATELLITE /SPACECRAFT ON-BOARD DATA HANDLING BY COUPLING ARINC-664 (AFDX) AND SPACEWIRE
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1340-1425 *Components (Short Papers)*
Session Chair, Viacheslav Grishin, Submicron

- (21) Nigel Kellett, Gilles Rouchaud, Stéphane Hermant; SOLUTIONS FOR COPPER-BASED SPACEFIBRE LINKS
- (60) Tatiana Solokhina, Jaroslav Petrichkovich, Alexander Glushkov, Ilya Alekseev, Yuriy Sheynin, Elena Suvorova; RADIATION TOLERANT HETEROGENEOUS MULTICORE "SYSTEM ON CHIP" WITH BUILT-IN MULTICHANNEL SPACEFIBRE SWITCH FOR THE "INTELLIGENT" SIGNALS AND IMAGES PROCESSING SYSTEMS
- (3) John-Paul Coetzee, Alan Senior, Jørgen Ilstad; EXPERIENCES WITH A SPACEWIRE BACKPLANE CONNECTOR
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1425-1510 *Missions & Applications (Short Papers)*
Session Chair, Takayuki Yuasa, JAXA

- (7) Hiroki Hihara, Asako Terada, Satoko Kawakami, Muneyuki Iwanabe, Takayuki Tohma, Takashi Kominato, Kazuyo Mizushima, Kenichi Baba, Takeshi Takashima, Motohide Kokubun, Takayuki Yuasa, Tadayuki Takahashi, Masaharu Nomachi; SERVICE ORIENTED INTEGRATION OF SPACEWIRE AND CONVENTIONAL PROTOCOLS WITH REFERENCE TO SOIS
- (61) Martin Suess; FREQUENCY CALIBRATION OF THE SWI INSTRUMENT ON-BOARD OF JUICE USING SPACEWIRE TIME-CODES
- (20) Holger Michel, Adrian Belger, Björn Fiethe, Tobias Lange, Harald Michalik; HOW RMAP IMPROVES IN-FLIGHT UPDATE OF ON-BOARD SOFTWARE VIA SPACEWIRE
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1530 – 1620 *Standardisation (Long Papers)*
Session Chair, Glenn Rakow, NASA

- (5) Giuseppe Montano, Barry Cook, Ecaterina McCormick, Roger Peel, Paul Walker, David Jameux, Vangelis Kollias, Nikos Pogkas, Antonis Tavoularis; STANDARDISATION OF THE NETWORK MANAGEMENT SERVICE SUITE (N-MASS) FOR FAULT DETECTION, ISOLATION AND RECOVERY FOR SPACEWIRE
- (68) Joseph R Marshall; STANDARDIZED SPACEWIRE SOLUTIONS FOR NEXT GENERATION SYSTEMS
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1620-1645 *Test & Verification (Long Papers)*
Session Chair, Alan Senior, SEA

- (2) Antonis Tavoularis, Nikos Pogkas, Vangelis Kollias, Kostas Marinis, Vassilis Vlagkoulis; ISAFT-PVS: RECORDING, SIMULATION & TRAFFIC GENERATION AT FULL NETWORK LOAD

Wednesday 24th September

0845-1015 *Networks & Protocols (Short Papers)*
Session Chair, Stuart Mills, STAR-Dundee

- (12) Kaori Iwase, Hiroki Hihara, Osamu Watanabe, Takahiko Tanaka, Takayuki Yuasa, Takahiro Yamada, Takayuki Tozawa, Toru Tamura; THE EVALUATION OF SPACEWIRE-R DRAFT SPECIFICATION THROUGH THE CONNECTIVITY TEST USING SPACE CUBE2
- (23) Ksenia Khramenkova; AUTOMATED SPACEWIRE NETWORK ADMINISTRATION
- (34) Michiya Hayama, Yosuke Yokoyama, Riko Yagi, Isao Odagi, Hiroto Namikoshi; IMPACTS OF FAULTS ON A SPACEWIRE NETWORK
- (46) Wang Zhen, Lu Guoping; SPACEBOURNE UNIFIED DATA & INFORMATION NETWORK
- (18) Krzysztof Romanowski, Witold Holubowicz, Piotr Lancmański, Vangelis Kollias, Nikos Pogkas; SPACEMAN: A SPACEWIRE NETWORK MANAGEMENT TOOL
- (55) Yuriy Sheynin, Ekaterina Balandina, Yevgeni Koucheryavy, Sergey Balandin; PROTOCOL DESIGN FOR WIRELESS EXTENSION OF EMBEDDED NETWORKS: OVERVIEW OF REQUIREMENTS AND CHALLENGES
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1035-1215 *Components (Long Papers)*

Session Chair, Hiroki Hihara, NEC

- (53) Jonas Ekergrarn, Sandi Habinc, Fredrik Ringhage, Fredrik Sturesson, Martin Simlastik, Steven Redant, Kurt Stinkens, Geert Thys, Jagadeesa Das Arul Mahesh, Martin Suess; GR718 – RADIATION-TOLERANT 18X SPACEWIRE ROUTER BASED ON THE DARE 180 NM LIBRARY
- (8) Michael Epperly, Steven Torno; GALVANICALLY ISOLATED SPACEWIRE
- (72) Giorgio Magistrati, Volodymyr Burkhay; RADIATION-TESTED EXTENDED COMMON MODE LVDS COMPONENTS
- (42) Nicolas Ganry, Guy Mantelet, Steve Parkes, Chris McClements; ATMEL'S RAD-HARD SPARC V8 PROCESSOR 200MHZ LOW POWER SYSTEM ON CHIP INTEGRATING STATE OF THE ART SPACEWIRE ROUTER
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1315-1430 ***SpaceFibre (Long Papers)***
Session Chair, Jim Lux, NASA

- (67) Steve Parkes, Chris McClements, David McLaren, Angel Monera Martinez, Albert Ferrer Florit, Alberto Gonzalez Villafranca; SPACEFIBRE IMPLEMENTATION, TEST AND VALIDATION
- (16) Elena Suvorova, Irina Lavrovsakaya, Valentin Olenev, Yuriy Sheynin; SPACEFIBRE/SPACEWIRE-RT IMPLEMENTATION EXPERIENCE AND EVOLUTION TRENDS
- (14) Elena Suvorova, Nadezhda Matveeva, Yuriy Sheynin; QOS IN SPACEFIBRE AND SPACEWIRE/GIGASPACEWIRE PROTOCOLS
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1430-1600 **Poster Presentations**

Thursday 25th September 2014

0900-0950 ***Networks & Protocols 2 (Long Papers)***
Session Chair, Olivier Notebaert, Astrium SAS

- (38) Takayuki Yuasa, Tadayuki Takahashi, Masaharu Nomachi, Hiroki Hihara; A SPACEWIRE ROUTER ARCHITECTURE WITH NON-BLOCKING PACKET TRANSFER MECHANISM
- (43) David Gibson, Steve Parkes, Chris McClements, Stuart Mills, David Paterson; SPACEWIRE-ON THE CASTOR SPACEFLIGHT PROCESSOR
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0950-1050 ***SpaceFibre (Short Papers)***
Session Chair, Martin Suess, ESA

- (58) Martin Suess, Matthew Rowlings; AN EXPERIMENTAL EVALUATION OF SPACEFIBRE RESOURCE REQUIREMENTS
- (17) Elena Suvorova, Nadezhda Matveeva; NETWORK LAYER SUPPORT IN SPACEFIBRE PROTOCOL
- (24) Paul Rastetter, Tim Helfers, Constantin Papadas, Steve Parkes; SPACEFIBRE DEMONSTRATOR: DEMONSTRATION AND TESTING
- (59) Vladimir Goussev, Dmitri Skok; ADVANCED OVERSAMPLING TECHNIQUES FOR THE SPACEFIBRE
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1110-1210 ***Onboard Equipment & Software (Short Papers)***
Session Chair, Brice Dellandrea, Thales Alenia Space

- (35) Alan Senior, John-Paul Coetzee, Jørgen Ilstad; THE DRAFT ECSS SPACEWIRE BACKPLANE STANDARD
- (63) Bruce Yu, Alberto Gonzalez, Albert Ferrer, Chris McClements, Steve Parkes; INTEGRATING STAR-DUNDEE SPACEFIBRE CODEC WITH TI TLK2711
- (32) Wahida Gasti, Alan Senior, John-Paul Coetzee; MARC – LESSONS LEARNT
- (70) David Paterson, David Gibson, Steve Parkes; AN RTEMS PORT FOR THE AT6981 SPACEWIRE-ENABLED PROCESSOR: FEATURES AND PERFORMANCE
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1325-1455 ***Test & Verification (Short Papers)***
Session Chair, Yuriy Sheynin, St Petersburg State University of Aerospace Instrumentation

- (51) Brice Dellandrea, Steve Parkes, David Jameux; MOST: MODELING OF SPACEWIRE & SPACEFIBRE TRAFFIC
 - (11) Kai Stohlmann, Görschwin Fey, Daniel Lüdtkke; AUTOMATIC PERFORMANCE TRACKING OF A SPACEWIRE NETWORK
 - (62) Stephen Mudie, Chris McClements, Alan Spark, Stuart Mills, Alex Mason, Martin Dunstan, Steve Parkes; RECORDING SPACEWIRE TRAFFIC
 - (65) Stuart Mills, Pete Scott, Steve Parkes; HIGH SPEED TEST AND DEVELOPMENT WITH THE SPACEWIRE BRICK MK3
 - (41) Shigeyuki Arase, Iwao Fujishiro, Masaharu Nomachi; SPACEWIRE-TO-GIGABITETHER AND SPACEWIRE BACKPLANE
 - (66) Alex Mason, Steve Parkes; USING SPACEWIRE WITH LABVIEW
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1515-1600 ***Standardisation (Short Papers)***
Session Chair, Sandi Habinc, Aeroflex Gaisler

- (28) Olivier Notebaert, Jérôme Lachaize, Rémi Clavier, Andre Fueser, Hans-Juergen Herpel, Giuseppe Montano, Luc Planche; SPACEWIRE 2: NEEDS AND EVALUATION METRICS
 - (71) Glenn Rakow, Alexander Kisin; MANCHESTER CODING OPTION FOR SPACEWIRE: PROVIDING CHOICES FOR SYSTEM LEVEL DESIGN
 - (15) Elena Suvorova, Ludmila Koblyakova, Evgeny Yablokov; SPACEWIRE CONTROL CODES IN SPACEWIRE, GIGASPACEWIRE AND SPACEFIBRE NETWORKS
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1600-1625 ***Missions & Applications (Long Paper)***
Session Chair, Steve Parkes, University of Dundee

- (4) Vangelis Kollias, Nikos Pogkas, Antonis Tavoularis; FLIGHT EQUIPMENT VALIDATION WITH ISAFT: THE EUCLID FINE GUIDANCE SENSOR CASE

Poster Presentations

- (6) Philippe Plasson, C. Cuomo, T. Gadeaud, A. Gaget, L. Gueguen, L. Malac-Allain, E. Revert; IMPLEMENTATION OF A RMAP BOOTLOADER ON THE SOLAR ORBITER RPW EXPERIMENT
- (25) Yu Otake, Kohei Hosokawa, Yasuhiro Sota, Takahiko Tanaka, Hiroki Hihara; THE STUDY AND PROPOSAL FOR IMPROVEMENT THE MULTI-LANE OPERATION OF SPACEFIBRE PROTOCOL
- (26) Yuriy Sheynin, Elena Suvorova, Nadezhda Matveeva, Alexey Khakhulin, Igor Orlovsky, Dmitry Romanov; SPACEFIBRE BASED SPACECRAFT NETWORK CASE STUDY
- (31) Wang Zhen, Dong Yaohai; THE REMOTE VIRTUAL-CHANNEL TRANSFER PROTOCOL
- (36) Julián Blaso, Olga Navasquillo, David Cano, M^a Angeles Esteban; ACTIVE OPTICAL CABLE FOR SPW APPLICATIONS
- (37) Sridhar Sundaram Natchinarkiniyan, Paul Rastetter; SPACEWIRE TO SPACEFIBRE BRIDGE
- (40) Dmitry Raszhivin, Yuriy Sheynin; PROTOCOLS FOR DETERMINISTIC PACKETS DELIVERY IN SPACEWIRE NETWORKS
- (49) Wei Han, Baosheng Wang, Baokang Zhao, Jing Tao, Zhu Tang; HANDS: A HETEROGENEOUS AEROSPACE NETWORK ARCHITECTURE FOR DISAGGREGATED SATELLITES BASED ON SPACEWIRE
- (50) Jinzhen Bao, Baokang Zhao, Zhenghu Gong, Chunqing Wu, Wanrong Yu, Zhengqian Feng; TOWARDS SOFTWARE DEFINED SPACEWIRE NETWORKS
- (52) Pete Scott, Alan Spark, Paul Crawford, Steve Parkes; THE SPACEWIRE PHYSICAL LAYER TESTER (SPLT)
- (54) D. Cozzi, D. Jungewelter, D. Kleibrink, S. Korf, J. Hagemeyer, M. Pormann, J. Ilstad; AXI-BASED SPACEFIBRE IP CORE IMPLEMENTATION