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AGENDA

11th International Workshop on Application of Field Programmable Gate Arrays in Nuclear Power Plants

October 8-11, 2018 in Dallas, Texas

Day 1 – Monday, 8 October 2018		
Time	**Event**	**Speaker**
8:00 – 9:00	Registration	
Opening Session		
9:00 – 9:15	Welcome, Introduction & Agenda	Mark Burzynski SunPort SA
9:15 – 9:45	Message from the Host Organization: Digital I&C Design & Implementation for NPPs	Steve Yang, Doosan HF Controls
9:45– 10:30	Invited Presentation 1: IAEA Activities in the Field of Nuclear I&C Engineering	Janos Eiler IAEA
10:30 – 11:00	Coffee Break	
11:00 – 11:45	Invited Presentation 2: Development and Application Experience of FPGA and CPU based system for safety related I&C system	Kook Hun Kim National Academy of Engineering of Korea
Technical Session on V&V Best Practices		
11:45 – 12:30	Presentation 1: Development of Doosan HFC-FPGA Platform	Jordan Mott Doosan HF Controls
12:30 – 14:00	Lunch Break	
Technical Session on V&V Best Practices (continued)		
14:00 – 14:30	Presentation 2: Acceptable FPGA Framework Based on the IEEE Std 1012 and IEC 62566	Jang Yeol Kim KAERI
14:30 – 15:00	Presentation 3: Regulatory Experience in Using International Standards for Reviewing FPGA Systems	Yongil Kwon KINS
15:00 – 15:30	Presentation 4: Using IEEE 1012 for Reviews of FPGA-Based Equipment	Richard Stattel U.S. Nuclear Regulatory Commission
15:30 – 16:00	Coffee Break	
16:00 – 16:30	Presentation 5: Lessons Learned Applying Model Based Engineering to Safety Critical FPGA Designs	Dr. Carl Elks Rick Hite Virginia Commonwealth University
16:30 – 17:00	Presentation 6: Using IEEE 1012 for V&V of FPGA-Based Digital Platforms	Mark Burzynski SunPort SA
17:00 – 18:30	Exhibits, RadICS Demonstration, and Discussions	
19:00 – 21:00	Group Dinner at Hotel	

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Day 2 – Tuesday, 9 October 2018

Time	Event	Speaker
8:45 - 9:00	Welcome, Introduction & Agenda	Mark Burzynski SunPort SA
Technical Session on V&V Best Practices (continued)		
9:00 – 9:45	Invited Presentation 3: Formal Verification for Safety-Critical Applications of FPGAs	David Landoll OneSpin
9:45 – 10:30	Invited Presentation 4: Verification and Validation of FPGA-Based Systems	Dr. Andrew White United Kingdom - Office for Nuclear Regulation
10:30 – 11:00	Coffee Break	
11:00 – 11:45	Presentation 7: Recent Developments in IEC Standards and the Use of FPGAs at EdF	Alexander Wigg EdF
11:45 – 12:30	Presentation 8: Radiy experience with RadICS Platform SIL 3 certification: adaptation of FPGA V-model to IEC 61508 requirements and using FIT to validate FMEDA results	Kostiantyn Leontiiev RPC Radiy
12:30 – 14:00	Lunch Break	
14:00 – 15:30	**Workshop Discussion on V&V Best Practices**	**Moderator:** **Mark Burzynski**
15:30 – 16:00	Coffee Break	
Technical Session on Practical Experiences from FPGA Projects		
16:00 – 16:30	Presentation 9: NNR Regulatory Position on FPGA Based Digital I&C Systems	Gerard Lekhema National Nuclear Regulator of South Africa
16:30 – 17:00	Presentation 10: Application and Research of FPGA for Nuclear I&C Products	Hu Yiwu CNCS
17:00 – 17:30	Presentation 11: Cyber Security of the HFC-FPGA Platform	Yin Guo Doosan HF Controls
17:30 – 18:00	Break	
18:00 – TBD	Individual Period for Local Attractions and Dinner	

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Day 3 – Wednesday, 10 October 2018

Time	Event	Speaker
8:45 - 9:00	Welcome, Introduction & Agenda	Mark Burzynski SunPort SA
9:00 – 9:45	Invited Presentation 5: Breaking Down Regulatory and Implementation Barriers to the Application of Digital Control and Safety Systems	Jason Remer NEI
Technical Session on Practical Experiences from FPGA Projects (continued)		
9:45 – 10:30	Presentation 12: Use of FPGAs for Real-Time Nuclear Power Display and Monitoring Applications	Chad Williams NuScale Power Martin Harrison Ultra Electronics
10:30 – 11:00	Coffee Break	
11:00 – 11:45	Presentation 13: Introduction of Class 1 FPGA Platform for the UK ABWR	Toru Motoya Junichi Kumagai Hitachi
11:45 – 12:30	Presentation 14: Scalability of the Highly Integrated Protection System Platform	Gregg Clarkson Rock Creek Innovations
12:30 – 14:00	Lunch Break	
14:00 – 14:30	Presentation 15: HFC-FPGA System Equipment Qualification and Lessons Learned	Eugene O'Donnell Doosan HF Controls
14:30 – 15:00	Presentation 16: RadICS System EQ Testing: Results and Lessons Learned	Anton Andrashov Radics LLC
15:00 – 15:30	Presentation 17: Design of Mutually Independent Controller Based Protection System considering CCF, SPV, and Full On-line Surveillance Testing	Chae Ho Nam Doosan Heavy Industry & Construction
15:30 – 16:00	Coffee Break	
Technical Session on Practical Experiences from FPGA Projects (continued)		
16:00 – 17:15	**Workshop Discussion on Practical Experiences from FPGA Projects**	**Moderator:** **Sean Kelley**
17:15 – 17:30	Group Photo	
17:30 – 18:00	Break	
18:00 – TBD	Individual Period for Local Attractions and Dinner	

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Day 4 – Thursday, 11 October 2018		
Time	**Event**	**Speaker**
8:45 - 9:00	Welcome, Introduction & Agenda	Mark Burzynski SunPort SA
Technical Session on Use of Diversity in FPGA-Based Systems		
9:00 – 9:45	Presentation 18: Diversity within the Highly Integrated Protection System	Jason Pottorf Rock Creek Innovations
9:45 - 10:30	Presentation 19: SymPLe: Design and Development of Verifiable FPGA-based PLC Architecture for Safety Critical Nuclear Power Applications	Matt Gibson Electric Power Research Institute
10:30 – 11:00	Coffee Break	
11:00 – 11:45	Presentation 20: Using NUREG/CR-7007 to Assess the Internal Diversity of an FPGA-Based Platform	Sean Kelley SunPort SA
11:45 – 12:30	**Workshop Discussion on Use of Diversity in FPGA-Based Systems**	**Moderator:** **Mark Burzynski**
12:30– 13:00	Final Discussion on Recommendations, Future Activities, and Closing the Meeting	Mark Burzynski SunPort SA
13:00 - TBD	Individual Period for Local Attractions and Meals	

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