

AGENDA

10th International Workshop on Application of Field Programmable Gate Arrays in Nuclear Power Plants

December 4-6, 2017 in Gyeongju, Republic of Korea

| <i>Day 1 – Monday, 4 December 2017</i> | | |
|---|---|----------------------------------|
| Time | Event | Speaker |
| 8:00 – 09:00 | Registration | |
| Opening Session | | |
| 09:00 – 09:20 | Welcome, Introduction & Agenda | Mark Burzynski SunPort SA |
| 09:20 – 9:40 | Message from the Host Organization | Kookhun Kim, Doosan |
| 9:40 – 10:00 | IAEA Welcome | Janos Eiler IAEA |
| 10:00 – 10:30 | Keynote Presentation: FPGA Experience, Trends, and Opportunities | Mark Burzynski SunPort SA |
| 10:30 – 11:00 | Coffee Break | |
| Technical Session on Systems and Platform Technology | | Chair: Anton Andrashov |
| 11:00 – 11:30 | Presentation 1: Class 1E FPGA Based Logic Controller for Nuclear Power Plant | Jinyoung Lim, Doosan |
| 11:30 – 12:00 | Presentation 2: Class 1 FPGA Platform for the UK ABWR | Shohei Nakamura, Hitachi, Ltd |
| 12:00 – 12:30 | Group Photo | |
| 12:30 – 14:00 | Lunch Break | |
| Technical Session on Systems and Applications I | | Chair: Rossnyev Alvarado |
| 14:00 – 14:30 | Presentation 3: Recommended Application of FPGAs for I&C Systems in Nuclear Power Plant (CAP1400) | Jianping Chen, SNPAS |
| 14:30 – 15:00 | Presentation 4: AREVA NP FPGA Based Products | Pierre Bazot, AREVA NP |
| 15:00 – 15:30 | Presentation 5: An Improved Protection System for Zero SPV and CCF Elimination | Chaeho Nam, Doosan |
| 15:30 – 16:00 | Coffee Break | |
| 16:00 – 16:30 | Doosan's Demonstration | |
| 16:30 – 17:30 | Exhibit & Discussions | |

| <i>Day 2 – Tuesday, 5 December 2017</i> | | |
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| Time | Event | Speaker |
| Technical Session on Systems and Applications II | | Chair: Alain Ourghanlian |
| 09:00 – 9:30 | Presentation 6: Design and Implementation of Refueling Machine Simulator Control System Based on FPGA | Zhijun He, CNPE |
| 09:30 – 10:00 | Presentation 7: Configuration Method of Instrument and Control System Platform Based on FPGA | Qunxing Jiang, SNPAS |
| 10:00 – 10:30 | Coffee Break | |
| 10:30 – 12:00 | 1st Panel Discussion on Application Implementation and Technical Issues | Moderator: Sergio Russomanno |
| 12:00 – 13:30 | Lunch Break | |
| Technical Session on Platform Technology | | Chair: Mark Burzynski |
| 13:30 – 14:00 | Presentation 8: FPGA Applications in Life Extension Projects | Sergio Russomanno SunPort SA |
| 14:00 – 14:30 | Presentation 9: FPGA Controller Architecture with Message Based Redundancy | Jordan Mott, Doosan HF Controls |
| 14:30 – 15:00 | Coffee Break | |
| Korea Radioactivity Waste Agency Tour | | |
| 15:00 – 16:00 | Travel to Korea Radioactivity Waste Agency | |
| 16:00 – 17:30 | Technical Tour: Radioactive Waste Disposal Plant | |
| 17:30 – 18:30 | Return to Hilton Hotel-Gyeongju | |
| 18:30 - | Gala Dinner at Hilton-Gyeongju | |

| <i>Day 3 – Wednesday, 6 December 2017</i> | | |
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| Time | Event | Speaker |
| Technical Session on Design and Testing | | Chair: Gyula Mach |
| 09:00 – 9:30 | Presentation 10: Verification and Validation of FPGA-Based Logic Controller | Jangyeol Kim, KAERI |
| 09:30 – 10:00 | Presentation 11: Practical Applications of Formal Verification for NPP FPGA Development | Muhammad Haque, OneSpin Solutions |
| 10:00 – 10:30 | Presentation 12: Assessment Methodology for the Application of FPGA Based I&C systems in NPPs | Dr. Dagmar Sommer, GRS mbH |
| 10:30 – 11:00 | Coffee Break | |
| Technical Session on Certification, Qualification, and Standards | | Chair: Mark Burzynski |
| 11:00 – 11:30 | Presentation 13: Licensing of FPGA-based Safety Platform RadICS: Case Study | Anton Andrashov, Radiy |
| 11:30 – 12:00 | Presentation 14: FPGA-based Applications Reviewed by the U.S. NRC | Rossnyev Alvarado, USNRC |
| 12:00 – 12:30 | Presentation 15: Review Plan for FPGA-based Logic Controller Used in Safety System | Yongil Kwon, KINS |
| 12:30 – 14:00 | Lunch Break | |
| 14:00 – 15:00 | 2nd Panel Discussion on Standards, Qualification, and Assurance | Moderator: Sergio Russomanno |
| 15:00 – 15:30 | Coffee Break | |
| Technical Session on Cyber Security | | Chair: Mark Burzynski |
| 15:30 – 16:00 | Presentation 16: Providing Cyber Security for FPGA-Based Applications | Kostiantyn Leontiev, Radiy |
| 16:00 – 16:30 | Presentation 17: Reference Architecture for Cybersecurity in an FPGA-Based Control System | Mithil Parekh, AREVA GmbH |
| Closing | | |
| 16:30– 17:00 | Final Discussion on Recommendations and Future Activities | Mark Burzynski, SunPort SA |
| 17:00 – 17:10 | Closing the Meeting | Kookhun Kim, Doosan |