IWCR 2019 Technical Program

Monday, July 29, 2019

9:00 Welcome and workshop introduction

9:10 – 10:10 Session 1: Reliability

9:10 Lorena Anghel, TIMA Grenoble, "Managing Aging Induced Reliability at Run-time"

9:40 Hussam Amrouch, Victor van Santen, Martin Rapp, Jörg Henkel, KIT, "Reliability Challenges in Negative Capacitance Transistors"

10:10 Coffee break

10:30 – 12:00 Session 2: Resilient Self-aware Systems

10:30 Nikil Dutt, UC Irvine, "Self-awareness enhances cross-layer resilience"

11:00 Artur Jutman, Testonica Tallinn, "A Systematic Bottom Up Approach to Self-Health Awareness"

11:30 Thawra Kadeed, Rolf Ernst, University of Braunschweig "Self-aware safety-critical systems-on-chip through an online system controller approach"

12:00 – 13:30 Lunch

13:30 – 15:00 Session 3: Resilience Aspects of Automotive Systems

13:30 Christoph Schorn, Bosch Research, "Resilience Analysis and Optimization Techniques for Efficient and Fault-tolerant Neural Networks on Hardware"

14:00 Adnan Mustapha, Ulrich Gücker, Knorr-Bremse, "Level 3+ system for commercial vehicles, concept and challenges in functional safety"

14:30 Daniel Tille, Infineon Technologies München, "Functional Safety from DFT Point of View -- An Introduction, Challenges and Solutions"

~ 16:30 meeting for departure to social event (brewery tour in Böblingen; transfer from the conference location by the S-Bahn train, 14 minutes travel time + ~ 15 minutes walk to the brewery in Böblingen. The tour will start at 18:00, followed by a dinner).

Tuesday, July 30, 2019

9:00 – 10:30 Session 4: Architecture-level Resilience

9:00 Frank Gürkaynak, ETH Zurich, "Hype vs reality, what can RISC-V do for research in safety, reliability and security"

9:30 Hidetoshi Onodera, Kyoto University, "Reconfigurable Architectures for Dependability and Energy Efficiency"

10:00 Francesco Regazzoni, ALARI Lugano, "Resilient Cyber-Physical Systems"

10:30 Coffee break

11:00 – 12:00 Session 5: Formal Techniques for Resilience Verification

11:00 Erika Abraham, RWTH Aachen, "Formal Verification of Automotive Simulink Controller Models: Empirical Technical Challenges, Evaluation and Recommendations"

11:30 Sven Reimer, OneSpin, Munich, "Certified IC Integrity: Thriving Towards Correct, Safe, Secure, and Trusted Circuits"

12:00 Fadi Kurdahi, Minjun Seo, Center for Embedded & Cyber-physical Systems, UC Irvine, US, "Hardware-supported monitoring and runtime verification for safety-critical computing platforms"

12:30 – 14:00 Lunch

14:00 – 15:30 Session 6: Resilient Software-Hardware Systems

14:00 Krishnendu Chakrabarty, Duke University, "Predictive Analytics for Anomaly Detection and Failure Prediction in Complex Core Routers"

14:30 Stefan Wagner, University of Stuttgart, "Testing and Analysis for Reliable and Safe Software/Hardware Systems"

15:00 Michael Hübner, BTU Cottbus, "Run-time adaptivity for self-repairing and fault tolerant embedded systems"

15:30 Workshop wrap-up