

# AMICS A 2021


25-28 May 2021

Organised by 


 Modelling and Simulation of Radiation Effects

 In-orbit Experiences and flight heritage of analogue and mixed-signal ICs

 Radiation-hardened technologies for analogue ICs

 Analogue Intellectual property and re-usability of analogue circuits in space

 Custom cell-, circuit- and system design of ICs for space applications

 Space Applications for analogue and mixed-signal ICs

 Evaluation of analogue and mixed-signal ICs

 Packages, Assembly and Supply Chain

## Tuesday, 25 May

**Session 1.** Chair: Boris Glass

13:30 **Welcome and Introduction (B. Glass)**

14:00 13:55 **A simulation and evaluation scheme for Single Event Effects in VLSI (Y. Lu)**

14:20 **DPC micro-controller reaches TRL9 (A. Van Esbeen) Moved to Wed. 17:20**

14:40 **Coffee Break**

15:00 **Session 2.** Chair: Juergen Beister

15:00 **ESCC Capability Approval of a Mixed-Signal ASIC Supply Chain (J. Steinkamp)**

15:25 **Applicability of FinFET Technologies for Space Applications (D. Alexandrescu)**

16:00 15:50 **Integrated supply chain for Power IC in BCD6s SOI for ASIC and ASSP (T. Brunet)**

16:10 **Coffee Break**

**Session 3.** Chair: David Levacq

16:30 **ATMX150RHA: MICROCHIP Qualified Radiation-hardened technology for analogue and mixed-signal ICs (P. Charpentier)**

17:00 16:55 **ATMX150RHA Building Blocks -Block Presentation and Measurement Results (J. Fleury)**

17:20 **Validation of an Analog Mixed-Signal Library (K. Makris)**

## Wednesday, 26 May

**Session 4.** Chair: David Levacq

13:30 **PROMISE, PROgrammable Mixed Signal ASIC Electronics Framework (L. Berrojo)**

13:55 **Integration of two High-Performance Mixed-Signal Data Conversion IPs (G. Leger)**

14:20 **Functional Validation and Evaluation of the MAS-FE testchip (L. Veljovic)**

14:40 **Coffee Break**

**Session 5.** Chair: Richard Jansen

15:00 **Single chip dc-dc controller with high volume input (M. Fossion)**

15:25 **Research on ADC Architectures Suitable for Space Applications and Technology Scaling (E. Pun-García)**

15:50 **Single chip GaN half-bridge with integrated drivers (M. Fossion)**

16:10 **Coffee Break**

**Session 6.** Chair: Boris Glass

16:30 **DARE65 Phase-Locked Loop Design (S.N. Kim)**

16:55 **MICROCHIP Radiation-hardened mixed-signal ARM Cortex M7 MCU - a key step for autonomous non-volatile system control (Y. Bricard)**

17:20 **DPC micro-controller reaches TRL9 (A. Van Esbeen)**

## Thursday, 27 May

**Session 7.** Chair: Agustin Fernandez-Leon

13:30 **LIROC: a Novative RadHard Front-End ASIC for Space Lidar (J. Fleury)**

13:55 **Concept Design and Realization of the Next Generation Magnetometer Front-End ASIC (M. Scherzer)**

14:20 **APOCAT - PMT and SiPM Readout ASIC for High-Rate X-ray Spectroscopy in Space (D. Meier)**

14:40 **Coffee Break**

**Session 8.** Chair: Roland Weigand

15:00 **Voltage Clamp IC for Protection, Regulation and Mitigation of Failure Propagation (V. Burkhay)**

15:25 **GR716 Rad-Hard Microcontroller For Space Applications (F. Johansson)**

15:50 **Small Hybrid DC/DC Converter Controller Based on Innovative Rad-Hard PWM IC (V. Burkhay)**

16:10 **Coffee Break**

**Session 9.** Chair: Richard Jansen

16:30 **A cost and Size Optimized Motor Control Solution using Radiation Hardened AFE + Microprocessor Circuits (S. Spanoche)**

16:55 **LUCA: a Dynamic Latch-Up Current Protector ASIC (T. Delmot)**

17:20 **Update on the Development of the Rad-Hard TM/TC MS-ASIC (E. Pun-García)**

## Friday, 28 May

**Session 10.** Chair: Boris Glass

13:30 **Single-Event Transient Ionized Charge and Pulse Duration Characterization in a Commercial 65nm CMOS Technology (Z. Li)**

13:55 **Electrical and Radiation Test Results of Pulse Width Modulator in CMOS-SOI (K. Makris)**

14:20 **Radiation Characterisation of the GNSS Front-end SY1009 (A. Consoli)**

14:40 **Coffee Break**

**Session 11.** Chair: Karin Lundmark

15:00 **Radiation Test for the Evaluation of the Static Non-Linearity Parameters of the COTs 16-bit SAR ADC LTC2387 from Linear Technology (A. Jalón-Victori)**

15:25 **IM485A Mixed-Signal Analog/Digital ASIC design Development & Qualification based on IDAMOS rad-hard XH035 library (C. Rosenberger)**

15:50 **European Supply Chain For Plastic Encapsulated Microcircuits for Space Applications (M. Booker)**

16:15 **Summary and Farewell**