

May 31 — June 3, 2022



Organized and sponsored by

ARQUIMEA

esa

umec

Tue, 31 May

Wednesday, 1 June

Thursday, 2 June

Friday, 3 June

Session 1. Chair: Boris Glass

09:15 **Opening**

10:00 **Radiation Hardened Versatile 14-bit SAR ADC** (L. Berti)

10:30 **Rad-Hard Mixed-Signal IP-cores in a Fully Depleted Silicon-On-Insulator 22nm Technology** (J. Lopez-Soto)

11:00 **Coffee Break**

Session 2. Chair: Jesús López-Soto

11:30 **Invited Talk**
The Tick "Tick-Tock" Model: Ecliptic's Space Camera Approach (Rouben Sahakian)

12:30 **A Signal Processing ASIC for Synthetic Aperture Based EO Instruments** (V. Paukstaitis)

13:00 **GaN half-bridge integrated circuits for power converters** (M. Fossion)

13:30 **Lunch Break.** Sponsored by:



Session 3. Chair: Richard Jansen

15:00 **NIRCA MkII - IR Image Sensor Readout and Controller ASIC** (T. Oestmoe)

15:30 **Bringing Proven PoC to Space Grade Ka Band Capable Improved Sampler for Direct Microwave Sampling in Software Defined Radio Context** (O. Legendre)

16:00 **Radiation Hardened by Design SONOS embedded Non-Volatile Memory in 180nm** (Y. Gubin)

16:30 **TAS Belgium RadHard ASICs (DPC and HSC): Space applications - Maturity and Innovation** (A. Van Esbeen)

20:00 - 23:00 **Welcome Reception**

Session 4. Chair: Agustín Fernández-León

09:00 **Accomplishing PROMISE, PROgrammable Mixed Signal ASIC Electronics Framework** (L. Berrojo)

09:30 **SAMRH707 Unique Radiation-hardened MCU including a TID robust non-volatile memory** (S. Furic)

10:00 **Radiation Hardened DDR3 Physical Interface (PHY and IOs) in Flip-Chip C65SPACE Process** (D. Baramilis)

10:30 **First Silicon Enabling Rad-Hard Non-Volatile Memory in 22 nm Technology for Space Applications** (M. Kakoulin)

11:00 **Coffee Break**

Session 5. Chair: Geert Thys

11:30 **Performance of LIROC with SiPM: a Rad-Hard Front-End ASIC for Space LIDAR** (M. Morenas)

12:00 **100/1000Mbps Space-Qualified PHY for TTEthernet Data Network in Gateway** (N. Ganry, T. Lampl)

12:30 **A Mixed-Signal, SEU Tolerant Analog Front-End IC for Redundant Electromechanical Actuator Apps** (S. Spanoche)

13:00 **Flexible Test System for SEE Characterization of Digital and Mixed-Signal ICs** (L. Carranza-Gonzalez)

13:30 **Lunch Break.** Sponsored by:



Session 6. Chair: Marc Fossion

15:00 **Validation, Characterization and Irradiation Testing of the DARE65T Platform** (M. van de Burgwal)

15:30 **Detailed SET Ionized Charge and Pulse Duration Measurement of a 65nm CMOS technology** (Z. Li)

16:00 **Round Table: Discussion**
"Current challenges of mixed-signal microelectronics in Space"

18:30 - 21:00 **Wine & Gourmet Tapas Tour**

Session 7. Chair: Daniel González

9:00 **Invited Talk**
ESD reliability design and verification flow elements for mixed signal space applications (Vesselin Vassilev)

10:00 **SMILE: a radhard, clockless, I2C slave for space applications** (C. Derrien, S. Extier)

10:30 **Implementation and Evaluation of Sum-Int ADC IP-core on NanoXplore FPGA** (P. Pisa)

11:00 **Coffee Break**

Session 8. Chair: Isabel Hidalgo

11:30 **DARE22 Test Vehicle Design for a 22nm FDSOI process** (L. Berti)

12:00 **New ECSS standards for ASIC engineering and product quality assurance** (A. Fernandez-Leon)

12:30 **Standards Development - Keeping up with advances in A/MS and other microelectronics** (S. Agarwal)

13:00 **ESA Mission Classification and project adoption of new microelectronics development** (F. Martinez)

13:30 **Lunch Break**

Session 9. Chair: Francisco Gutiérrez

15:00 **Rad-hard Microcontroller with Open Access ISA for Space Applications** (F. Kuentzer)

15:30 **Radiation Hardened 6.25 Gbps Ser-Des IP in 65 nm Technology** (J. López-Soto)

16:00 **Closing and Farewell**

14:00 - 18:30
Social Event and Welcome Drink

- Analogue Intellectual property and re-usability of analogue circuits in space
- Custom cell-, circuit- and system design of ICs for space applications
- Radiation-hardened technologies for analogue ICs

- Implementation of Radiation Hardening on analogue circuits
- Space Applications for analogue and mixed-signal ICs
- Radiation tests of analogue and mixed-signal ICs

- Round Table
- Development Standards for analogue and mixed-signal ICs
- Invited Talks
- Others