SEE MAPLD 2021

30th Edition COMBINED WORKSHOP

August 31 - September 2

Get to Know Our 2021 Supporters and Exhibitors

Supporters	
3D plus a HEICO company	CAES PIONEERING ADVANCED ELECTRONICS
EMPC	NEPP NASA Electronic Parts and Packaging Program
RENESAS BIG IDEAS FOR EVERY SPACE	TopLine®
VORAGO TECHNOLOGIES Opening up new possibilities	Northwestern Medicine® Proton Center

Exhibitors		
ALLIED SCIENTIFIC PRO™	APOGEE SEMICONDUCTOR™	avalanchetechnology
Brookhaven National Laboratory	CROCKER NUCLEAR LABORATORY UCDAVIS CYCLOTRON SERVICES	flexlogix Technologies, Inc.
GSI TECHNOLOGY	Mobile Semiconductor	TRIAD SEMICONDUCTOR
ULTRA TEC MANUFACTURING, INC.		ProNova

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3D-PLUS USA

3D PLUS is a world leading supplier of advanced high-density 3D microelectronic products and die level stacking technology meeting the demand for high reliability, high performance and very small size of todays and tomorrow's electronics required for embedded space electronic systems. Our products, with their small dimensions, adjustable reliability and radiation performance, fit to perfection the challenging requirements associated with commercial, military, science, large spacecrafts, small satellites and CubeSat designs. New products on display will be our complete DDR4 solutions (module, RIMC and DDR4 termination regulator), Hi-Rel Switch, and FLASH NOR TMR 256 Mbits.

POC: Timothee Dargnies

info@3D-plususa.com

www.3d-plus.com

CAES

CAES is a leading developer of mission-critical technologies for commercial, civil, military and intelligence community spacecraft. CAES capabilities include radiation-hardened, radiation tolerant and high-reliability microelectronics, applications-specific integrated circuits, advanced packaging solutions, antennas and apertures, RF, microwave and millimeter wave microelectronics, power solutions, microprocessors and IP cores.

POC: Tony Jordan

Tony.jordan@caes.com

https://caes.com/markets/space

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EMPC

NOVICE Software is the leader in space systems radiation effects analysis (Monte Carlo, Adjoint ('reverse) Monte Carlo, ray-trace, and more) and 3D modeling. Maximizing performance and lifespan, NOVICE is trusted on the GPS constellation, Hubble and James Webb Telescopes, Juno, New Horizons, and hundreds more commercial and defense missions.

POC: Larisa Milic

lmilic@empc.com

www.empc.com

NASA NEPP

The NASA Electronic Parts and Packaging (NEPP) Program provides NASA's leadership in the development and maintenance of guidance to support the reliable use of electrical, electronic, electromechanical, and electro-optical (EEEE) parts through characterization, lot acceptance, screening, and qualification testing in collaboration with academia, industry, international partners, and other government agencies.

POC: Jonathan Pellish

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https://nepp.nasa.gov

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Renesas

Renesas is a global semiconductor company delivering trusted design innovation with complete semiconductor solutions that enable billions of connected, intelligent devices to enhance the way people work and live. Since the 1950's, Renesas has focused on supporting extreme temperatures and no-down time environments with its Intersil family of space products.

POC: Kiran Bernard

kiran.bernard.jy@gr.renesas.com

https://www.renesas.com/eu/en/products/space-harsh-environment

TopLine

Welcome to TopLine's 2021 SEE/MAPLD Exhibit! Let's talk about our CCGAs and Daisy Chains! Learn about how our FPGA rework, repair and solder column attachment services. TopLine - assisting engineers and researchers to solve problems, explore a hunch and obtain knowledge. Advancing the frontiers of all that is possible.

POC: Marty Hart

Hart@Topline.tv

www.topline.tv

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Northwestern Medicine Proton Center

Northwestern Medicine is a national leader in healthcare and is proud to offer the same quality and excellence to the aerospace industry. Conveniently located less than 35 miles from two international airports and downtown Chicago, the Northwestern Medicine Proton Center provides high energy protons and a customizable environment for radiation effects testing. With over six years of experience and a user-oriented philosophy, our department is well-equipped to help you with your testing needs.

POC: Steve Laub

steven.laub@nm.org

https://www.protoncenter.nm.org

Vorago Technologies

Vorago Technologies is a privately held, high-tech company based out of Austin, TX, with over 15 years of experience providing radiation-hardened and extreme-environments solutions for the Hi-Rel marketplace. Their patented technology leverages cost-effective, high-volume manufacturing techniques to harden commercially designed semiconductor componentry for Aerospace, Defense, and Industrial applications.

POC: Jen Quinonez

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www.voragotech.com

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Allied Scientific Pro

Allied Scientific Pro (ASP) has developed and manufactured a laser SEE testing system. Offering full control over a wide range of parameters allows for precise testing. With a long legacy of expertise in laser nano and micromachining processes, ASP is capable of offering a commercial SEE system to address the needs of the semiconductor market. Our laser system is compact, robust and has a long lifetime with low or no maintenance for years. We are using the latest laser and scanner technology to offer high-quality performance and speed of testing. ASP laser laboratory services can assist scientists by establishing optimal parameters from samples provided if required.
We offer custom SEE laser testing solutions:

- Single-photon (SPA) 1030nm
- Two photons (TPA) 1260nm or 1240nm, or 1340nm
- Wide bandgap for SiC and GaN 700-800nm Femtosecond laser
- Dual Mode available
- Selection of Pico and Femtosecond lasers
- Shortwave 900 nm to 1700nm and Visible imaging system, VGA or HD
- Microscope objective choices; 200X, 100X, 50X 20X
- Custom configuration to meet all budgets
- Optional: Wafer station

POC: Karim Yousfi
sales@alliedscientificpro.com
www.alliedscientificpro.com

Apogee Semiconductor

Apogee Semiconductor provides products and technologies for space and other extreme environments. We are focused on making the frontier of space more accessible by bridging the technology gap between commercial and high-reliability technologies at a lower cost. We provide optimized products and infrastructure that give you the best in reliability and value. Our products and services are targeted towards enabling small-satellites and large constellations that require high performance, a small form factor and radiation resilience at a lower cost. Working in partnership with state-of-the art semiconductor foundries, Apogee Semiconductor develops radiation hardened processes and components that serve as the foundation for our cutting-edge integrated circuits and IP blocks.

POC: Anton Quiro
Anton@apogeesemi.com
www.apogeesemi.com

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Avalanche Technology

Avalanche is the world leader in Spin Transfer Torque Magnetic RAM (STT-MRAM) non-volatile memory leveraging perpendicular magnetic tunnel junction (pMTJ) cell structure manufactured on 300mm standard CMOS process.

POC: Paul Armijo
parmijo@avalanche-technology.com
https://www.avalanche-technology.com/products/discrete-mram/aerospace/

Brookhaven National Laboratory

Brookhaven National Laboratory has been a world leader in the design, construction, operation, and application of particle accelerators for over 70 years. BNL utilizes these tools in a broad range of disciplines spanning both basic and applied research. Since the early 1980s, applied use experimenters, including NSA, NRL, and NASA, have used heavy ions at Brookhaven's Tandem van de Graaff facility. Currently, the NASA Space Radiation Laboratory (NSRL) uses beams of heavy ions extracted from Brookhaven's Booster accelerator to simulate the cosmic rays found in space, and preliminary studies are underway to construct a high energy, dedicated electronics testing facility to operate from Brookhaven's Alternating Gradient Synchrotron. BNL is managed and operated by Brookhaven Science Associates under DOE contract.

POC: Kevin Brown
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Crocker Nuclear Laboratory

Crocker Nuclear Laboratory provides variable energy proton, deuteron and alpha beams up to a maximum energy of 64 MeV for protons, for use in radiation effects studies or other research, in a highly configurable environment. Extensive user support is also provided, including physics consultation and a full-service machine shop.

POC: Eric Prebys
eprebys@ucdavis.edu
http://crocker.ucdavis.edu

Flex Logix

Flex Logix, a 100% US base company, specializing in radiation hardened eFPGA and AI solutions for aero, space, defense, and other high reliable systems. We are the #1 eFPGA company in the world and leveraging that expertise for AI solutions. Our portfolio includes RadHard designs in 180nm and 12nm as well as standard products from 65nm down to 7nm and beyond.

POC: Andy Jaros

andy@flex-logix.com
https://flex-logix.com/management-board/

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GSI Technology

GSI Technology is an established semiconductor manufacturer with state-of-the-art memory design capability headquartered in Sunnyvale, California. The company is the name behind the unique Gemini AI processor, which is ideal for very large database applications requiring a smaller footprint and lower power consumption, where real-time, accurate responses are critical. Recognized for in-flight and edge applications; including face and object recognition, Elasticsearch, SAR, and anomaly detection; the Gemini APU brings datacenter capabilities to in-field missions. In addition, GSI Technology has the fastest and densest line of rugged SRAMs, including Rad-Hard and Rad-Tolerant parts.

POC: Neil Sampson
nsampson@gsitechnology.com
www.gsitechnology.com

Mobile Semiconductor

Mobile Semiconductor offers SRAM, ROM and Register File memory compilers for applications requiring small area, ultra-low power, ultra-low leakage, and ultra-high performance. Several compilers are RHBD (Rad Hard by Design). We are 100% U.S. based.

POC: Mike Phipps
Michael.phipps@mobile-semi.com
http://www.mobile-semiconductor.com

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ProNova Solutions

ProNova Solutions Radiation Effects Testing at Provision CARES Proton Therapy Knoxville offers a dedicated beam line for proton testing. Provision CARES Proton Therapy Knoxville is centrally located and easily accessible to researchers from industry, government agencies, and academic institutions. ProNova's dedicated beam line makes it convenient for researchers to use the testing facility without worrying about scheduling around patient treatment times.

POC: Jewell Overton
Jewell.overton@pronovasolutions.com
https://provisionhealthcare.com/locations-2/knoxville/rad-effects/

Triad Semiconductor

Please visit Triad to learn about their Satellite market expansion and new defense/aerospace technology to drive analog and mixed signal radiation hardened (RH) integrated circuits. RH FPGAs and microprocessors can satisfy most of the digital requirements, but analog must use either common-off-the-shelf (COTS) or develop a custom solution. RH analog/mixed-signal (A/MS) custom ASIC design cycles are often more than two years and qualification generally requires an additional 6 to 18 months—RH A/MS ASICs are costly and time consuming.

POC: Jim Kemerling
jkemerling@triadsemiconductor.com
www.triadsemi.com

ULTRA TEC

ULTRA TEC is a designer, manufacturer and supplier of surface and sample preparation equipment. Our ASAP-1 product line has become the de-facto standard for selected area preparation, backside thinning and precision decap applications. ASAP-1 products span the applications gamut from low-cost mechanical tools up to the Industry's highest specification digital units for ULTRATHINNING, RADIATION Testing, and other leading-edge high precision applications.

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