IEEE Nuclear and Plasma Sciences Society

Nuclear Science Symposium and Medical Imaging Conference
Workshop on Room-Temperature Semiconductor Detectors

EXHIBITION GUIDE AND EXHIBITOR PRESENTATIONS

INDUSTRIAL EXHIBITION

25th-27th October 2011

Valencia Conference Center, Valencia, Spain

Conference web site: www.nss-mic.org/2011

2011 NSS-MIC Valencia

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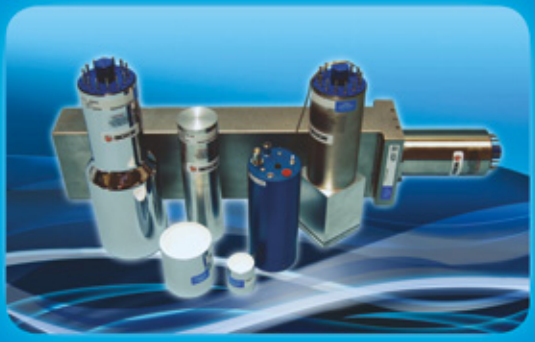

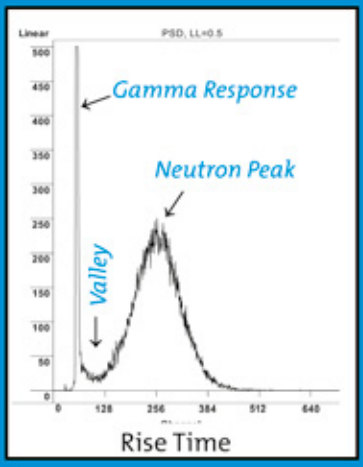

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2011 IEEE-NSS-MIC-RTSD Exhibition Guide

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2011 IEEE-NSS-MIC-RTSD Nuclear Science Symposium, Medical Imaging Conference and Room Temperature Semiconductor Detectors

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Valencia Convention Centre

Exhibition Hours

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Exhibition Open for Attendees: 12:00 to 21:00
Exhibitor Reception Starting at 19:00

Wednesday, 26 October
Exhibition Open for Attendees: 9:00 to 18:00
Exhibition Open during the Conference Reception

Thursday, 27 October
Exhibition Open for Attendees: 9:00 to 16:00
Exhibition Closes at 16:30

2011 IEEE NSS-MIC Exhibitors

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XIA LLC	#38
X-Ray Imaging Europe GmbH	#47

Exhibitor Presentation Schedule

All Exhibitor Presentations will take place in Rooms 1 and 2, Valencia Convention Center at the following times:

- Tuesday, 25 from 1:30 pm to 5:30 pm.
- Wednesday, 26 from 10:00 am to 5:00 pm.
- Thursday, 27 from 10:00 am to 1:00 pm.

COMPANY	TITLE OF PRESENTATION	TIME SCHEDULE
Tokuyama Corp.	*Scintillation Properties of LiCAF for Neutron Detection*	Tuesday 1.30 p.m.
AGILENT Technologies S.A.	*Agilent's high-speed digitizer's technology for multichannel acquisition system and OEM products*	Tuesday 2.30 p.m.
KROMEK Ltd.	*Product Developments within gamma ray spectrometry, multispectral X-Ray Imaging and ASICs*	Tuesday 3.30 p.m.
SEMIKON Detector GmbH	*Planar HPGE- and Si(Li)-detectors – Custom-made and Tailored for a great variety of Physics-applications*	Tuesday 4.30 pm
Saint-Gobain Crystals	*Developments in Neutron Detection Solutions*	Wednesday 10.00 a.m.
Hamamatsu Photonics Europe	*Latest Development for Vacuum Photodetector*	Wednesday 11.00 a.m.
ORTEC	*Technical Advances in Radiation Detection Systems*	Wednesday 2.00 p.m.
Hilger Crystals	*Development of Dual Mode gamma and neutron scintillation crystals*	Wednesday 3.00 p.m.
Philips Digital Photon Counting	*Fully Integrated Arrays of Digital Silicon Photomultipliers (dSiPM's) - The way towards industrial Application*	Wednesday 4.00 p.m.
CAEN SpA	*Digital Pulse Processing in Homeland Security and Medical Imaging Applications*	Thursday 10.00 a.m.
Alibava Systems, S.L.	*Flexible readout system for microstrip particle detectors*	Thursday 11.00 a.m.
Symetrica Security Ltd.	*New capabilities for Radiation Portal Monitors*	Thursday 12.00 a.m.

Exhibitors

Acrorad Co., Ltd.

Booth #19

13-23 Suzaki Uruma-shi
Okinawa, 105-0013, Japan
Phone: 81 98 934 8960
Fax: 81 98 934 8961
Web: www.acrorad.jp

Acrorad is a company manufacturing CdTe single crystals, CdTe detectors, and devices consistently. Though CdTe has been recognized for its outstanding characteristics as a radiation detector for over 30 years, it was very difficult to manufacture high quality CdTe crystals and detectors for stable supply. After more than 15 years of research activity, Acrorad has successfully developed our own technology to realize 4-inch diameter single crystal by Traveling Heater Method (THM) which enables us to produce the highest quality CdTe radiation detectors in large volume. We exhibit not only the CdTe single crystal itself but also applied products based on this technology such as X-ray and Gammaray imagers or energy spectrum detectors and so on.

AdvanSiD SRL - Advanced Silicon Detectors

Booth #1

Via Sommarive 18
I-38123 Povo, Trento, Italy
Phone: +39-0461-314489
Fax: +39-0461-314492
Web: http://www.advansid.com

AdvanSiD is a new privately held company incorporated in June 2010, and based in Trento, Italy. Investment partners include the Bruno Kessler Foundation (FBK), Diatec and Optoi. Collectively, the new AdvanSiD team offers superior silicon detector device R&D, QA, Fabrication, Packaging and Worldwide Sales, Distribution and Technical Support services. The main device AdvanSiD is offering today is its custom manufactured shallow-junction silicon photomultiplier. Finished products are available in various forms: bare silicon die, mounted either on standard metallic package or on a board to form large arrays with read-out connections on the rear side. AdvanSiD is ready to provide you a customized solution for your application.

AGILENT Technologies

Booth #51

Ch. des Aulx 12
CH-1228 Plan-les-Ouates, Switzerland
Phone: +41 (0) 22 884 32 68
Fax: +41 (0) 22 884 32 99
Web: www.agilent.com

Agilent Technologies (NYSE: A) is the world's premier measurement company and a technology leader in chemical analysis, life sciences, electronics and communications. The company's 18,500 employees serve customers in more than 100 countries.
Agilent offers modular products, which includes CompactPCI, PCI, PXI, VXI, VME and AXIe digitizers, time-to-digital converters and signal analyzers with high resolution and high-speed performance. Our high-speed digitizers have been designed to provide superior measurement fidelity, minimum power consumption, reduced size and maximum data throughput. Our technology spans a range of features and performance points that can be tuned to meet challenging measurement needs in commercial, industrial, aerospace and defense applications. Examples include medical imaging, ultrasound, radar, lidar, time-of-flight (TOF) imaging, high energy physics, non-destructive testing and environmental monitoring. For more information on high-speed digitizers, please visit <www.agilent.com/find/embedded-digitizers>.

Alibava Systems, S. L.

Booth #36

UAB Research Park, Edificio Eureka.
Campus UAB, E08193 Bellaterra, Barcelona, Spain.
Phone: +34 93 594 77 00
Web: www.alibavasystems.com

The Alibava System is a user-friendly fully integrated Data Acquisition (DAQ) system for characterizing semiconductor detectors measuring ionizing radiation. It comprises a Daughter Board (DB) equipped with 2 ASICs can readout 128 channels each and a Mother Board (MB) and the related connections between them and to the readout PC. It is a low noise system that is particularly suitable for the study of the relatively small signal coming from silicon microstrip sensors even after sLHC irradiation doses ($2.2\times10^{16}\,n_{eq}\,cm^{-2}$, or ~ 1 GRad).

Alpha Spectra, Inc.

Booth #11

715 Arrowest Court,
Grand Junction, CO 8150, USA
Phone: 970-243-4477
Fax: 970-244-6947
Web: www.alphaspectra.com

Alpha Spectra has manufactured over 100,000 detectors in becoming the world's second largest producer of NaI(Tl) scintillation crystals. ASI manufactures scintillation detectors for homeland security, health physics, academic, industrial, medical and oil and gas exploration applications from several different scintillation materials. ASI has its own purification and growth processes. Our manufacturing process begins with exceptionally clean starting material. Contact Alpha Spectra, Inc. for your scintillation detector requirements and be assured that you will receive personal attention.

AMPTEK Inc.

Booth #50

14 DeAngelo Drive,
Bedford, MA 01730, USA
Phone: 781-275-2242
Web:www.amptek.com

Featuring thermoelectrically cooled Super SDD, Si-PIN, and CdTe XRF Detectors with their Preamplifiers and DPPs. Simple to use, low-cost systems for laboratory and field use and for OEMs developing table-top or hand-held XRF analyzers. The GAMMA-RAD5 complete, integrated gamma-ray spectrometer includes scintillator and PMT, DPP, controls, communication, and power supplies.

Baltic Scientific Instruments, Ltd.

Booth #32

Ganibu dambis 26. P.O. Box 33,LV-1005
Riga, Latvia.
Phone: +371 67383947
Fax: +371 67382620
Web: www.bsi.lv

Baltic Scientific Instruments specializes in the development and production of the spectrometric devices based on high purity germanium, silicon and cadmium-zinc-tellurium detectors. Our products are applied in nuclear energetic and ecology, geology and mineral resource industry, medicine and research activities, customs control and other spheres.

Berkeley Nucleonics

Booth #16

2955 Kerner Blvd.,
San Rafael, CA 94901, USA
Phone: 415-453-9955
Fax: 415-453-9956
Web: www.berkeleynucleonics.com

Berkeley Nucleonics Corporation (BNC) has manufactured precision electronic instrumentation for test, measurement and nuclear research since 1963. BNC's family of digital delay generators can be used to sync, trigger, gate and delay multiple events with precision. Our radiological security products are essential in environmental monitoring, emergency response, radiation protection and counter-terrorism.

CAEN SpA

Booths #24, 25

Via Vetraia 11
Viareggio, LU,55049, Italy
Phone:+39-058-438-8398
Fax:+39-058-438-8959
Web: www.caentechnologies.com

CAEN is leader in the design and manufacture of sophisticated electronic instrumentation for Subnuclear, Nuclear, and Astroparticle Physics: Low Voltage & High Voltage Power Supply Systems, Signal Conditioning, Front- End, Trigger, Data Acquisition Electronics (VME, NIM, CAMAC standard, USB Desktop, PCIe) and Powered Crates. CAEN activities are at the forefront of technology also thanks to years of intensive collaborations with the major Research Centers and Universities in the world. CAEN is also proud of its extensive collaboration with the most important HEP experiments world-wide: almost 40% of our production is custom designed.

Canberra Industries

Booth #40

800 Research Parkway Meriden
CT 06450 USA
Phone: 800-243-4422
Fax: 203-235-1347
Web: www.canberra.com

Canberra is the leading supplier of innovative and cost-effective nuclear measurement solutions and services used to maintain safety of personnel, assess the health of nuclear facilities and safeguard the public and the environment. Applications for Canberra offerings include health physics, nuclear power operations, Radiation Monitoring Systems (RMS), nuclear safeguards, nuclear waste management, environmental radiochemistry and other areas.

CRC Press-Taylor & Francis Group LLC

Booth #31

6000 Broken Sound Parkway NW, Suite 300
Boca Raton, FL 33487, USA
Phone: 561 994 0555
Fax: 561 361 6018
Web: www.crcpress.com

CRC Press - Taylor and Francis is a premier publisher of scientific publications in nuclear science and medical imaging. Visit our booth to peruse new and recent publications. Journal samples will be available free of charge. Take this opportunity to purchase our products with the show discount - ranging from 15 - 25% off the list price during exhibit hours.

Creative Electron, Inc.

Booth #20

253 Pawnee Street
San Marcos, CA 92008, USA
Phone: 760-752-1192
Fax: 760-752-1196
Web: www.creativeelectron.com

Creative Electron, Inc. is an agile high-tech firm located in Southern California, USA. We solve our customers' problems with our innovative technology and engineering. Creative Electron's scientific staff are leading experts in innovative Cadmium Zinc Telluride (CZT) packaging solutions, radiation detection using CZT crystals, signal processing, thermal management solutions (conductive adhesives), and x-ray inspection systems used for counterfeit component detection, failure analysis, quality assurance, and PCB inspection.

Eljen Technology

Booth #12

1300 W. Broadway,
Sweetwater, TX 79556, USA
Phone: 325 235 4276
Fax: 325 235 0701
Web: www.eljentechnology.com

Eljen Technology is one of the world leaders in the development and manufacture of organic plastic scintillation material encompassing cast plastic scintillators, liquid scintillators, neutron detectors, as well as reflective paints and glues. We have been providing scintillators and detector assemblies to research and commercial customers worldwide since 1997.

ENVINET a.s.

Booth #27

Modřínová 1094
674 01 Třebíč, Czech Republic
Phone: 00420 568 409 811
Fax: 00420 568 409 875
Web: www.envinet.cz

SS ACTIVITIES:
· Projects, engineering, supplies and services for nuclear power.
· Measuring systems development, supply of equipment and services for ionizing radiation monitoring.
· Production and maintenance of ionizing radiation detectors.
· Laboratory systems and technologies.
· Industrial automation and mechanical production.
· Development and implementation of software.

ET Enterprises Ltd.

Booth #2

45 Riverside Way, Uxbridge
UB8 2YF, UK
Phone: 00 44 (0) 1895 200880
Fax: 00 44 (0) 1895 270873
Web: www.et-enterprises.com

ET Enterprises Limited, which started in 2007, took over the photomultiplier tubes and accessories business of Electron Tubes Limited and continues to manufacture, supply and develop the Electron Tubes brand product range.
A subsidiary of Ludlum Measurements Inc., ET Enterprises has the benefit of the additional production facilities of ADIT, a US based producer of photomultipliers. Similarly, ADIT has access to ET Enterprises' development resources and experience in many different photomultiplier applications worldwide.

Products: ET Enterprises manufactures photomultipliers and signal processing electronics for low level light detection applications.

FLIR Radiation GmbH

Booths #5, 6

Piepersberg 12, 42653
Solingen, Germany
Phone: +49 212 22209-0
Fax: +49 212 201045
Web: www.flir.com

FLIR Radiation GmbH, formerly ICx Technologies GmbH, is a manufacturer and global provider of radiation detection systems. After more than 20 years of continuous growth, FLIR Radiation GmbH is worldwide-known for developing solutions in the field of nuclear electronics, covering a wide range of applications in security, science and industry.

Furukawa Co., Ltd.

Booth #46

1-24-13, Kannondai
Tsukuba-city, Ibaraki, 305-0856, Japan
Phone: 81-29-839-2151
Fax: 81-29-839-2152
Web: www.furukawakk.co.jp

Furukawa has been developing Pr:LuAG single crystal scintillators and their applications. The energy resolution of Pr:LuAG is about 4.2%@662keV at room temperature. The luminescence decay time is as fast as 23ns by γ-ray excitation. By using Pr:LuAG scintillators, we demonstrated positron emission mammography (PEM) system. We will exhibit Pr:LuAG single crystals, scintillator arrays for PEM system and 12x12 APD arrays for the Pr:LuAG scintillator.
Recently, we discovered novel scintillator materials of Ce:$Gd_3(Ga,Al)_5O_{12}$ (Ce:GGAG) single crystals. The light yield of Ce:GGAG is estimated around 46,000photon/MeV under 662keV γ-ray excitation. The emission wavelength, the decay time and the energy resolution are 530nm, 88ns and 4.9%@662keV, respectively. We will show Ce:GGAG single crystal scintillators.

GE Energy

Booth #17

8499 Darrow Road
Twinsburg, OH 44087 USA
Phone: (330)425.3755
Fax**:** (330)425.4045
Web**:** rsweb@ge.com

GE has more than 50 years of industry experience delivering product innovation, exceptional service and cutting-edge technology for nuclear materials management and power generation. By leveraging our industrial expertise and vast resources, we can deliver customized Reuter Stokes radiation detection systems, sensors and electronics packages to meet expanding industry and customer needs.

Hamamatsu Photonics Europe GmbH

Booths #15, 18

Arzbergerstr. 10
82211 Herrsching, Germany
Phone: +49 8152 375 0
Fax +49 8152 2658
Web: www.hamamatsu.eu

Hamamatsu Photonics is a leading manufacturer of devices for the generation and measurement of infrared, visible, and ultraviolet light. These devices include photodiodes, photomultiplier tubes, scientific light sources, infrared detectors, photoconductive cells and image sensors. Hamamatsu Photonics are dedicated to the advancement of photonics through extensive research. This corporate philosophy results in state-of-the-art products which are used throughout the world in scientific, industrial and commercial applications.

Hilger Crystals

Booth #34

UNIT R1 Westood Estate
MARGATE KENT CT9 4JL UK
Phone: 44 (0) 1843 231166
Fax: 44 (0) 1843 290310
Web: www.hilger-crystals.co.uk

Hilger Crystals are a manufacture synthetic crystals for X- and gamma ray as well as neutron detection Custom designs and short lead times are standard. As a Dynasil group company the company has extensive knowledge of novel scintillation materials.

RMD RESEARCH
A Dynasil Company

& Hilger Crystals
A Dynasil Company

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With references already at Neutron Sources like ISIS (UK) and ILL (France), laboratories like CERN and other scientific institutions, Scientifica International aims to be the preferred partner for world's most competitive and challenging Scientific Facilities, Laboratories, Research Institutions and Universities for their instrumentation needs.

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KROMEK Ltd.

Booths #3, 4

NETPark, Thomas Wright Way, Sedgefield
County Durham, TS21 3FD, UK
Phone: 44 1740 626 060
Fax: 44 1740 626 061
Web: www.kromek.com

Kromek is pioneering digital colour imaging for X-rays and has brought ground-breaking innovation to materials technology and advanced imaging for the security, medical, non destructive testing and defense sectors. Kromek specialises in the production of single crystal material within the Cadmium Telluride family, using novel vapour phase growth technique, and offers a full suite of mixed-signal ASICs and customized detector modules.

Micron Semiconductor

Booth #49

1 Royal Building, Marlborough Road
Lancing, Sussex, BN15 8SJ, UK
Phone: 44 1903 755 252
Fax: 44 1903 754 155
Web: www.micronsemiconductor.co.uk

Micron Semiconductor Limited specialises in double sided silicon microstrips in both N and P type technology in both 4 inch and 6 inch silicon technology. Custom designs are a specialty for NASA, ESA and JAXA space projects with depletion depth of only 5 microns up to 2,500 microns with all flight qualified detectors fully depleting with extended overvoltage for telescope stacking and single voltage operation for a specified thickness. Launches with Micron's detectors on-board have taken place this year in Japan and USA. Custom package designs in both PCB and Ceramic are a specialty for operating from -50 degree C to + 60 degree C. New Products include both Duolateral PSD's and Tetralateral PSD's with excellent linearity. The company was selected for LHC-b upgrade at CERN for P-Type silicon 2,000 channel microstrip detectors requiring survivability beyond 10.15 p/cm2 and for the manufacture of dedicated fan-ins to integrate the detectors with ASIC electronics. Off-axis ion detectors to minimise channelling are also a specialty for new projects at GANIL utilising NTD silicon for single detector particle discrimination.

MULTIPURPOSE ROOM 1

MULTIPURPOSE ROOM 2

ACCESS BY ELEVATORS

ACCESS BY STAIRWAYS

Nucare Medical Systems, Inc.

Booth #21

404 Jinri-Kwan, College of Health Science,
Korea University Jeongneung 3-dong,
Seoungbuk-gu, Seoul, Korea. 136-703
Phone: 82-2-3292-1594
Fax: 82-2-3292-1593
Web: www.nucaremed.com

NuCare Medical Systems, Inc. provides products in the field of radiation monitoring and nuclear medicine. Especially, Nucare medical system has its core confidences in various types of NaI(Tl)+PMT based gamma radiation detection/monitoring system. The products of NuCare are featured with innovative design and concepts that offer superior quality while maintaing favorable price.
Nucare's products include digital MCA, thyroid uptake system, well counter, spectroscopic area monitor, TLC scanner, radiation portal monitor, food radiation scanner and more.

ORTEC

Booths #22, 23

801 S. Illinois Ave.,
Oak Ridge, TN 37831, USA
Phone: 865-482-4411
Fax: 865-483-0396
Web: www.ortec-online.com

For more than a half-century, ORTEC has been at the forefront in the design and manufacture of precision gamma-ray and alpha particle detectors, signal processing electronics, software, and systems for industry and government requirements. The ORTEC brand name is synonymous with quality and innovation in nuclear instrumentation. The 1600-strong product line includes instruments and systems for research in nuclear physics, nuclear medicine, nuclear power plant, nuclear forensics, government nuclear facility operations, special nuclear material safeguards, search and identification of radioactive materials, and chemical weapons detection. There can be scarcely any physics research laboratory in the world which is not a user of ORTEC NIM instruments. ORTEC also manufactures a line of liquid-nitrogen free, high-purity germanium (HPGe) detection systems, for both portable and fixed applications. A recent ORTEC innovation which will be on display is the DSPEC-50 the latest ORTEC digital Gamma Spectrometer for use with HPGe detector systems.

ENVINET a.s.

ENVINET a.s. is a Czech engineering and supplying company providing complex solutions and services in the field of nuclear power, radiation protection, manufacture of ionizing radiation detectors and radiometric systems, radioactive waste characterization, chemical and radiochemical measurement, laboratory technologies, industrial automation and software development.

THE SCOPE OF ENVINET a.s.

ENVINET a.s. is certified in accordance with the international standards ISO 9001, ISO 14001, ISO 27001, ISO 20000-1 and OHSAS 18001. The Company has been operating on the Czech and international markets since 1995. We have our subsidiary companies in Prague (Czech National Personnel Dosimetry Service Ltd.), the Slovak Republic (ENVINET Slovensko, s.r.o.) and Canada (Pico Envirotec Inc.).

CORE BUSINESS ACTIVITIES

ENVINET a.s. supplies high quality equipment, provides innovative solutions and complex services including:

- Equipment and software for chemical and radiological monitoring (measuring instruments and routes, instruments for manual and continuous airborne/terrain gamma spectrometry monitoring at the sites of potential contamination).
- Ionizing radiation detectors manufacturing and service (plastic scintillators, NaI(Tl) scintillation crystals, scintillation detector assemblies).
- Design and supply of technologies for PET (Positron emission tomography) centres.
- Complex development, production and supply of laboratory instruments, technologies and furniture.
- Development and implementation of information systems and software for nuclear power and industry, including LIMS software for laboratories.
- Radioactive waste measuring equipment (characterization, free release measurement) and customized evaluation software.
- Characterization of the nuclear equipment, components and buildings before decommissioning.
- Development, production, supply and service of measuring and analytical systems for nuclear power plants.
- Industrial automation systems (3D design, production, installation and service), complex intelligent production lines, data collection and analysis.
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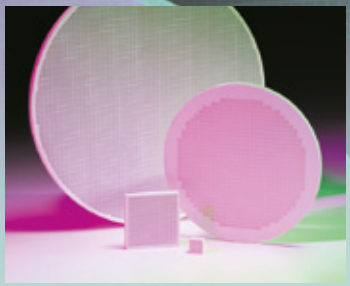
ENVINET a.s. Modřínová 1094, 674 01 Třebíč, Czech Republic
Tel.: 00420 568 409 811, Fax: 00420 568 409 875
www.envinet.cz

Crystal Solutions

Hilger + RMD: Unleashing the Future of Radiation Detection



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RMD RESEARCH

A Dynasil Company

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Hilger Crystals

A Dynasil Company

email: sales@hilger-crystals.co.uk

www.hilger-crystals.co.uk

www.dynasilcorp.com

Philips Digital Photon Counting

Booth #43

Weisshausstrasse 2
52066 Aachen, Germany
Phone: 49-241-6003-613
Fax: 49-241-6003-442
Web: www.philips.com/digitalphotoncounting

Philips Digital Photon Counting is dedicated to designing and developing innovative digital detector solutions to revolutionize single photon counting in a broad range of applications such as medical imaging, high energy physics and analytical instrumentation. Based in Aachen, Germany, Philips Digital Photon Counting is part of Philips Corporate Technologies.

Saint-Gobain Crystals

Booths #44, 45

17900 Great Lakes Parkway,
Hiram, OH 44234, USA
Phone: 440-834-5600
Fax: 440-834-7680
Web: www.detectors.saint-gobain.com

Saint-Gobain Crystals provides radiation detection solutions for a variety of applications including the Security, Industrial, Physics and Medical markets. Products include Inorganic and Organic scintillators, Scintillating fibers, Proportional counters and recent innovative solutions for Neutron and Gamma detection. Notable brands include Bicron, Gamma Labs and our BrilLanCe™ and PreLude420™ scintillators. Please stop by our booth to discuss your application.

Scientifica Internacional, S.L.

Booth #42

Xixilion 2, Pabellon 10.
20870 Elgoibar, Spain
Phone: 0034 943 127285
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Web: www.scientifica.es

Scientifica International aims to be the preferred partner for world's most competitive and challenging Scientific Facilities, Laboratories, Research Institutions and Universities for the fields of precision mechatronics, electronics and composite materials.
It's activity is focused in two main product lines:
• Particle detectors: Scientifica Internacional is the first Spanish commercial company to develop neutron detectors, for neutron sources. Custom design of detector for research institutions is provided.
• Nano precision Positioning solutions. Scientifica can provide world leading nanopositioning solutions for science and industry. Enabling nanopositioning in standard atmosphere, vacuum and radiation. From single axis stages, to robotic tripod and hexapods. From linear motor to piezoceramic motors.

ScintiTech/AMCRYS

Booth #37

1000 Mt. Laurel Circle, Shirley
MA 01464, USA
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Fax: +1-(978) 425-0822
Web: www.scintitech.com

From crystal growth to complete nuclear electronic system package manufacturing makes ScintiTech/Amcrys a unique supplier on today's market. Vast variety of NaI(Tl), CsI(Tl) and CsI(Na) and other scintillation materials and detectors with integrated readout units are in production line for fast delivery as well as customized products according individual specifications.

Scionix Holland

Booth #13

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3981 LA Bunnik, Netherlands
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Web: www.scionix.nl/

Scionix produces custom made detectors employing scintillation crystals and materials. Our key themes are a quick interaction on the scientific developments regarding materials and detection techniques with a close collaboration with the end-users.

Schroff GmbH

Booth #14

Langenalber Str. 96-100, GER-75334
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Schroff, located in Straubenhardt, Germany is part of the Pentair Technical Products group and recognized as a global leader in electronic packaging components and systems. With the multifunctional cabinet and cooling platforms combined with xTCA systems Schroff offers what you have come to expect – a total solution tailored to suit your individual requirements. Also discover the new NOVASTAR cabinet platform – especially for laboratory, test & measurement and broadcasting applications!

SEMIKON Detector GmbH

Booth #33

Karl-Heinz-Beckurts-Strasse 13,
52428 Juelich, Germany
Phone: +49 (0)2461 9952025
Fax: +49 (0)2461 9952027
Web: http://www.semikon-detector.de

SEMIKON Detector GmbH - a spin-off of the Research Centre Juelich (FZJ) - develops and produces customized planar Si(Li)- and HPGe-detectors. These detectors could be either single- or double-sided structured. At the moment the maximum size of the detectors is 4" in diameter and up to 20 mm thickness for HPGe- and 15 mm for Si(Li)-detectors. The position-sensitive structure applied to the detector contacts can have (nearly) any shape, e.g. pads, strips, pixels, spirals, ... and a pitch size down to about 50 *mm*. – But also complete detector systems - consisting of the detector (or detectors), cryostat, preamplifier electronics, … - are available on request. Applications for our detectors are e.g. Astrophysics, Atomic and Nuclear physics, Imaging (Compton Imaging), Compton-Polarimetry, Synchrotron Radiation, …

SensL Technologies Ltd.

Booths #28, 29

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Web: www.sensl.com

SensL offers a family of Silicon Photomultipliers, Measurement Instruments, and Photon Counting Detectors. The heart of the product line is comprised of a just released "SL" series of 1mm and 3mm low light SPM sensors. The "SL" sensors are offered in a wide range of package options from single pixel detectors to large format 144 pixel products, providing a solid-state alternative to large and Position sensitive PMT.

Shangai SICCAS Crystal

Booth #48

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Shanghai SICCAS High Technology Corp. is engaged in the marketing and sales of the advanced inorganic and non-metallic materials made by Shanghai Institute of Ceramics, Chinese Academy of Sciences (SICCAS). In the past 20 years, we have supplied tons of scintillation crystals for research and other industries. SICCAS grows BGO, Csl(Tl), Csl(Na), PbWO4, Nal(Tl), and BaF2 scintillation crystals with a total annual output of over 30 tons in weight. Thanks to SICCAS' unique modified Bridgman crystal growth method, we are able to share this costeffective production advantage with you.

Shizuoka University / ANSeeN Inc.

Booth #7

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SINTEF

Booth #10

Gaustadalleen 23, P.O. Box 124 Blindern,
N-0314 Oslo, Norway
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Fax: 47-22067321
Web: www.sintef.no/microsystems

SINTEF is a leading supplier of advanced silicon radiation detectors for applications in industry, space, medical imaging,and high energy and nuclear physics. SINTEF provides design, prototyping and production of single and double sided strip detectors, pixel detectors and silicon drift chambers, with detector thickness ranging from 0,01 to 2 mm.

Symetrica Security Ltd.

Booth #35

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Chilworth, Southampton, SO16 7NS, UK
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Web: www.symetrica.com

Symetrica specializes in the detection and identification of radioisotopes for security applications. We work with prime contractors and government agencies to design, develop, test and deploy equipment for use by law enforcement personnel, customs officers, the emergency services, the military and first responders. Our systems rely on patented, proprietary detection technology to deliver unrivalled performance. Our solutions include a new scalable He-3 free neutron detection system and Discovery Technology™, an isotope detection and identification system at the heart of the Radseeker from Smiths Detection.

Tokuyama Corporation

Booth #41

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Yamaguchi 745-0024, Japan
Phone: 81-(0)834-34-2716
Web: www.tokuyama.co.jp

Tokuyama provides a novel scintillator "LiCAF" for neutron detection. LiCAF is a 6-Li based scintillation crystal which has specific advantages of n/gamma discrimination ability, non-hygroscopicity, fast response and compatibility with the large area detectors. Large crystal of LiCAF is readily available owing to our original crystal growth technology. Tokuyama also exhibits newly-developed neutron scintillators which came out from our on-demand material research system.

U. S. Naval Research Laboratory

Booth #30

4555 Overlook Ave., SW
Washington DC. 20375, USA
Phone: 202-767-3200
Web: www.nrl.navy.mil

The Naval Research Laboratory (NRL) operates as the Navy's full-spectrum corporate laboratory, conducting a broadly based multidisciplinary program of scientific research and advanced technological development directed toward maritime applications of new and improved materials, techniques, equipment, systems and ocean, atmospheric, space sciences and related technologies. The Laboratory, with a total complement of nearly 2,500 personnel, is located in southwest Washington, DC, with other major sites at the Stennis Space Center, MS; and Monterey, CA.

VTT Technical Research Centre of Finland

Booth #39

Tierotic 3. Espoo
P.O. Box 1000, FI-02044 VTT, Finland
Phone: 358 50 353 2405
Web: http://www.vtt.fi/

VTT Technical Research Centre of Finland is a globally networked multitechnological contract research organization. We offer access to the cross-disciplinary expertise of 2,900 professionals, unique research infrastructure and comprehensive partnership networks. VTT is active in applied materials, biotechnology, chemistry, energy, information and communication technologies, electronics, micro technologies and industrial systems management. VTT has two decades of experience is the design, production, hybridization and product development of silicon radiation detectors. We have been a significant supplier of radiation detectors in world-wide research projects in space technology and high-energy physics, some of which are ESA, NASA, CERN and Fermilab. Presently our solid state detector development activity includes advanced X-ray photo diodes, thin and thick silicon strip detectors, active-edge silicon strip and pixel detectors, and patterned CdTe detectors. VTT has developed technology and provides services for the through silicon interconnection and hybridization of fine pitch pixel detectors used in e.g. high energy physics, space missions, industrial inspection and medical applications.

Wiener, Plein & Baus, Ltd.

Booths #8, 9

300 E. Auburn Ave.,
Springfield, OH 45505, USA
Phone: 937-324-2420
Fax: 937-324-2425
Web: www.wiener-us.com

High performance electronic instrumentation and data acquisition products for scientific research and industry.- ISEG: High voltage modules and systems [www.iseg-hv.de] - HYTEC: VME and IP modules [www.hytec-electronics.co.uk]- MESYTEC: detector read-out electronics [www.mesytec.com]- WIENER, low voltage power supplies, crate controllers, powered chassis for VME/VME64x, VXI, VXS [www.wienerd.com].

XGLab SRL

Booth #26

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Phone: +39 02 49660460
Fax: +39 02 49660460
Web: www.xglab.it

XGLab, spin-off of Politecnico di Milano, specializes in radiation detection and related electronics. The company offers four different product lines: X ray Detection Solutions, X and Gamma ray Electronics, Synchrotron and Custom Applications, Gamma Detection and Medical Imaging. Constant commitment in research and development has led XGLab to offer new products which will be presenting at the conference. The unique combination of analytical solutions allowed the company to hold reliability and a leadership position within the field.

XIA LLC

Booth #38

31057 Genstar Rd.,
Hayward, CA 94544, USA
Phone: 510-401-5760
Fax: 510-401-5761
Web: www.xia.com

XIA LLC (formerly X-ray Instrumentation Associates) develops and sells advanced X-ray and gamma ray detectors and related instruments, including OEM, for applications in research, industry, and homeland security. Our core technology is high-performance digital pulse processors, available in both flexible stand-alone and dedicated embedded configurations. From low-power, handheld spectrometry through extremely high count rate applications to integrated multielement systems, XIA provides solutions that advance the state of the art yet are affordably priced.

X-ray Imaging Europe GmbH

Booth #47

Stefan-Meier-Strasse 21,
D-79104 Freiburg, Germany
Phone: +49 761 50391713
Fax: +49 761 551877
Web: xi-europe.de

The company X-ray lmaging Europe XIE GmbH is developing X- and Gamma-radiation detectors and related electronics. The business of XIE GmbH is the development and manufacture of sensors for efficient detection of radiation for medical applications, security monitoring and non-destructive testing. XIE produces pixel detectors systems using the Medipix2 and Timepix Photon Counting chip. These pixel detector systems have a physical resolution of 55 microns, 110 microns and 165 microns. The detectors offer very high spatial resolution in addition to high efficiency and energy resolution measurements. The Medipix2 Photon Counting chip was developed at CERN in Medipix2 collaboration and is distributed by X-ray Imaging Europe.

Exhibitor presentations

Tuesday, October 25, 2011

1:30 p.m. TOKUYAMA

Scintillation properties of LiCAF for neutron detection

Tokuyama provides a novel scintillator "LiCAF" for neutron detection. LiCAF is a 6-Li based scintillation crystal which has specific advantages of n/gamma discrimination ability, non-hygroscopicity, fast response and compatibility with the large area detectors. Large crystal of LiCAF is readily available owing to our original crystal growth technology. Tokuyama will also exhibits newly-developed neutron scintillators which came out from our on-demand material research system. In the technical session, Scintillation properties and application examples of LiCAF will be presented.

2:30 p.m. AGILENT TECHNOLOGIES

Agilent's high-speed digitizer's technology for multichannel acquisition system and OEM products

Presenter: Jean-Luc Salin

Agilent Technologies is known for test and measurement equipment that offers industry leading performance, accuracy and reliability. Those same attributes are built into Agilent Acqiris high-speed digitizers that can be designed into your end-user products and into your multichannel acquisition system. Whether you choose to do the integration on your own or with our help, we can help you create a cost-effective solution that minimizes project risk and accelerates your time-to-market. Work with us—and leverage the genius embedded inside our products. Whether you're the product architect or project manager, our technology can enhance the products or systems you're creating.

Our technology spans a range of features and performance points that can be tuned to meet challenging measurement needs in commercial, industrial, aerospace and defense applications. Examples include medical imaging, ultrasound, radar, lidar, time-of-flight (TOF) imaging, high energy physics, non-destructive testing and environmental monitoring. Available technologies from Agilent high speed digitizers will be reviewed including the next generation in AXIe format.

3:30 p.m. **KROMEK**

Product developments within gamma ray spectrometry, multispectral x-ray imaging and ASICs

Presenter: Ian Radley

4:30 p.m. SEMIKON Detector GmbH

Planar HPGE- and Si(Li)-detectors – custom-made and tailored for a great variety of physics-applications

Presenter: Thomas Krings

SEMIKON Detector GmbH develops and produces customized planar Si(Li)- and HPGe-detectors. Most of the customers are either Research Institutes or Universities from all over the world.

All our detectors are prototypes and manufactured according to the needs of the respective customer. The majority of these detectors are single- or double-sided structured and the position-sensitive structure applied to the detector-contacts can have (nearly) any shape, e.g. pads, strips, pixels, spirals, …. Even the pitch-size of the position-elements can vary between some mm down to 50 mm. The maximum size of the detectors is 4" in diameter. The maximum thickness is up to 20 mm for HPGe- and 15 mm for Si(Li)-detectors.

In this presentation we will give an overview about some of our custom-made detectors and detector systems, which we have realized for various applications in the field of Astrophysics, Atomic and Nuclear physics, Imaging (Compton Imaging) and Compton-Polarimetry.

Wednesday, 26 October

10:00 a.m. SAINT GOBAIN

Developments in neutron detection solutions

Saint-Gobain Crystals will present recent developments in gamma and neutron detection solutions. The discussion will include details on the scintillators and detectors recently developed to replace Helium 3 neutron detection technology for Security, Medical and Physics needs. Design concepts and recent performance results will be part of the discussion. The talk will also cover the tools and capabilities of Saint-Gobain Crystals to support development and provide detection solutions for customers.

11:00 a.m. HAMMAMATSU

Latest development for vacuum photodetector

Electron Tube Division (ETD) from Hamamatsu Photonics presents the latest development for vacuum photodetectors at the technical session. As a leader of Photonics field, Hamamatsu Photonics has been making the effort to improve the performance of vacuum photodetectors such as photomultiplier tubes.
We'd like to introduce latest development of vacuum detectors for TOF PET, various high energy physics projects including large format PMT for neutrino experiment, low temperature detectors for dark mater experiment, etc. It involves latest photocathode and construction development.
Also, we'd like to present brief introduction ETD products for X-ray and gamma ray application.

2:00 p.m. ORTEC

Technical advances in radiation detection systems

Presenter: Caroline Tipton

Over the last decade, the demand to quickly and accurately locate and identify radioactive sources has increased dramatically. A significant amount of this demand has been generated from the threat of radiological weapons and nuclear accidents such as in Fukushima, Japan. ORTEC has responded to this increasing demand with new instruments with HPGe as well as electromechanical cooling. These instruments have been used in a wide array of systems for both stationary and mobile monitoring applications. In this session, a system description, architecture, and performance data will be presented.
Additionally, new software packages have been introduced to aid counting labs in system and data management, automation, customized reporting, as well as efficiency calibrations for multiple geometries. Demonstrations of these software packages and how they can be used to optimize efficiency in a lab will be given.

3:00 p.m. HILGER CRYSTALS

Development of dual mode gamma and neutron scintillation crystals

Hilger Crystals are currently developing a range of novel scintillation crystals for neutron and gamma detection. This is the outcome of the partnering with RMD research to develop and commercialise novel materials. Discussion will cover current materials and limitations as well as recent developments in their improvement. Also covered will be new materials along with technical capabilities and performance.

Hilger Crystals and RMD Research are both part of the Dynasil group.

4:00 p.m. PHILIPS Digital Photon Counting

Fully integrated arrays of digital silicon photomultipliers (dSiPM's). The way towards industrial application

Presenters: Y. Haemisch, C. Degenhardt, B. Zwaans, O. Muelhens, A. Schmitz and T. Frach

Solid state light detectors have significant advantages over the so far dominating technology of photomultiplier tubes (PMT's). These include their ruggedness, compactness and insensitivity to magnetic fields, but also low operating voltage, low power consumption and large scale fabrication possibilities using well established technologies and processes such as CMOS.

Recently, the Silicon Photomultiplier (SiPM) gained interest as a potential candidate to replace PMT's in particular applications requiring good timing and/or low level light detection. One of the challenges to overcome in such a replacement process is the transition from the proof-of-concept or prototype to a widespread application in sometimes hostile (temperature, moisture, radiation) environments. Technology history shows that in most cases early digitization and integration were the key elements to not only replacement of older technologies but also in expansion of reach of new technologies in areas not accessible before (e.g. PET/MR in case of the PMT).

Today, the early SiPM's still operate in an analog manner. The outputs of the passively quenched Geiger-mode cells of the SiPM are connected in parallel, resulting in an analog charge pulse proportional to the number of detected photons. However, this analog summation does not take full advantage of the otherwise good intrinsic performance of the single-photon avalanche photodiode (SPAD) that is used in the Geiger-mode cells. In addition, such analog SiPM's require dedicated low-noise mixedsignal ASICs to facilitate data readout in systems with many channels. The analog operation, higher power consumption and dependency on factors like gain and amplification make them vulnerable to environmental changes and thus more difficult to implement into industrial products.

The digital Silicon Photomultiplier (dSiPM) developed by PDPC overcomes those limitations by integrating the readout electronics close to the SPADs and digitizing the large voltage swing at the anode of the SPAD instead of

measuring the charge flowing through the SPAD. This results in high noise immunity and more direct control of performance-sensitive parameters of the sensor. Additionally, system integration is greatly simplified as the sensor output is already a digital data stream.
We report on the different integration steps of digital SIPM's from single pixels to dies (2x2 pixels) over arrays (tiles, 8x8 pixels) and first applications in detector modules.
Initial performance results will be shown and discussed in comparison to analog devices.

Thursday, 27 October

10:00 a.m. CAEN

Digital pulse processing in homeland security and medical imaging applications

Presenter: Guiliano Mini

Nowadays, many applications in the field of nuclear physics and related fields are making large use of data acquisition systems based on waveform digitizers (flash ADC) in which the A/D conversion is performed directly at the output of the detector or preamplifier and the digital data are managed by FPGAs able to do on-line data processing to extract the parameters of interest, typically energy, timing, pulse shape, etc. Applications in homeland security such as the identification of radioactive and special nuclear materials inside the containers (port security) or baggage scanning for the detection of explosives, narcotics and chemical materials based on the Digital Pulse Processing will be discussed. Test results of high resolution spectroscopy with HPGe detectors as well as neutron-gamma discrimination with liquid scintillators, both acquired with a Digital MCA, will be also presented.

11:00 a.m. ALIBAVA SYSTEMS SL

Flexible readout system for microstrip particle detectors

The Alibava System is a user-friendly fully integrated Data Acquisition (DAQ) system for characterizing semiconductor detectors measuring ionizing radiation. It comprises a Daughter Board (DB) equipped with 2 ASICs can readout 128 channels each and a Mother Board (MB) and the related connections between them and to the readout PC. It is a low noise system that is particularly suitable for the study of the relatively small signal coming from silicon microstrip sensors even after sLHC irradiation doses (2.2×10^{16} n_{eq} cm^{-2}, or ~ 1 GRad). In this talk we will present the system and the future developments.

12:00 a.m. SYMETRICA

New capabilities for radiation portal monitors

Symetrica specializes in the detection and identification of radioisotopes for Security Applications and has developed a range of detection sub-systems for Radiation Portal Monitors (RPMs). These include a family of commercially available He-3 free neutron detectors for use in primary and secondary portals, large volume spectroscopic-PVT detectors with Naturally Occurring Radioactive Material (NORM) classification for primary cargo portals and fully stabilised crystal spectrometers with isotope identification for a new generation of passenger, baggage and cargo screening equipment. This presentation will introduce these three RPM detection systems and provide an indication of the new capabilities that they would provide.

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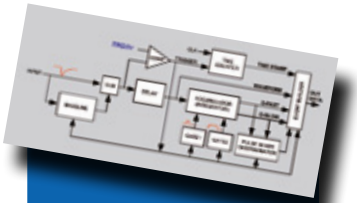

DPP-PSD
Digital Pulse Processing for Pulse Shape Discrimination

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