

GET Connected



PITTCON
CONFERENCE & EXPO
ORLANDO • MARCH 11-15 2012

SPECIAL SHOW REVIEW BY PUBLISHER PARTNERS INTERNATIONAL LABMATE

By Heather Hobbs

The 63rd annual Pittsburgh Conference and Exhibition returned to the Orange County Convention Center in Orlando (March 11-15), where International Labmate, a Publisher Partner, was again on the spot to hear about the latest new products and business developments from US and International exhibitors. To find out about some of the latest trends in instruments, exhibitor views on the Pittcon experience, Award winners and news from the floor, read more and stay connected...

As well as playing welcoming hosts to Pittcon this year, Florida's Scientific Community played a major role during the course of the events with more than 72 select members of the County presenting at symposia; organised contributed oral and poster sessions; and workshops for the technical programme which was held alongside the exposition during 11-15 March. In sessions covering topics from life sciences, drug discovery, nanotechnology and biomedical sciences to environmental, homeland security, food science, forensics, agriculture, analytical chemistry and more, these presenters were amongst the 2,000 plus scientists, researchers and professionals introducing their research at Pittcon 2012, the world's largest annual conference and exposition for laboratory science. While opinion remained divided on Orlando as a venue for Pittcon as the area offers so many other attractions, the County is justifiably regarded as a new Hub for Life Sciences.

INCENTIVES TO JOIN PITTCON AT ORLANDO

The Pittcon Organising Committee pointed not only to the involvement of Orlando's Scientific community as described above, but also other incentives for considering the opportunity to participate in this region's event. Florida is home to more than 850 companies specialising in biotechnology, pharmaceutical and medical devices – which employ more than 26,000 life science professionals; It has world renowned research institutes and respected organisations; an expanding network of life science research parks; 11 centres of excellence at leading universities; one of the largest photonics clusters in the US with 270 companies focused on design development, manufacture, testing and integration of photonic systems; and world class industry research facilities including a centre for research and education in optics and lasers at University of Central Florida. Pittcon 2012 attracted a total of 15,754 attendees; 9,370 conferees and 6,384 exhibitor personnel compared to a total of 17,199 in 2011, (10,130 conferees and 7,069 exhibitor personnel respectively). Although down slightly in total numbers a healthy 29% of the conferees were from 89 countries outside of the United States, reflecting the strong global interest in this event. Statistics revealed that the top 10 countries by attendance were Canada, Japan, China, Brazil, Mexico, UK, Germany, Columbia, South Korea and France.

Pittcon 2012 President Jon Peace commented: "In a time where economic changes, increased mergers and acquisitions and rising travel costs have a substantial impact on conferences, attendees still consider Pittcon to be a most valuable educational and networking resource for the global scientific community." The exposition included 948 exhibiting companies occupying 1,854 booths; 191 exhibiting companies (20%) were from 28 countries outside of the United States. Pittcon also welcomed this year 119 first time exhibitors and recognised the following returning companies that participated at sponsorship level: AB Sciex, Jasco, Millipore, Sigma-Aldrich, Shimadzu and Thermo Fisher Scientific.

LECTURES PROVIDE IMPORTANT OPENING AND CLOSING SESSIONS

The opening Plenary lecture delivered by Graham Cooks on Sunday 11th 'Ambient Ionization and Mini Mass Spectrometers: In situ MS for Everyone.' attracted an audience of around 1,400 and got events truly underway; and new to Pittcon was the Capstone Lecture, delivered by Steven Benner on the Wednesday 14th 'Redesigning DNA: Fixing God's Mistakes' which attracted a 700 strong audience; this was followed by a mixer that acted to round off the Conference events at Pittcon 2012.

Marian Nardozi, Senior Marketing Communication Specialist on the organising team explained to *International Labmate* the reasoning behind the Capstone: "We wanted to explore the ramifications of having a second 'plenary-style' lecture for Pittcon. The organisation is so large, the attendees are so diverse, the meeting is but once a year, we felt that a single 'plenary-style' lecture might not be serving science and our attendees as well as we could. The plenary kicks off the meeting -- but there is not much in the way of a closing. We start off by bringing everyone together for a common discussion of science, why not end by again inviting everyone to a common discussion of science?"

"Adding a Capstone Lecture, near to the end of the meeting, featuring a speaker and topic akin to that of the Plenary Lecture is what we decided to try this year. We looked for a Capstone speaker who would be different to the plenary lecture, which would engage other constituents of our attendees, which would talk about science that we all should be able to appreciate. We also explored other speakers, non-scientist, but who had a compelling story to tell related to science. We are very happy with our choice of a life-science scientist from the Florida community. "In short, a Capstone Lecture is the second "bookend" to our Plenary Lecture - they bracket the start and end of the conferences. Having a Capstone also allowed us to have an end-of-the meeting mixer for all Pittcon Attendees, a chance for new friends and old friends to reflect on the conference itself and to 'reward' themselves for a hard week's worth of effort."

GETTING CONNECTED WITH SCIENCE

The strong theme running behind this year's event was once again about Getting Connected, Staying Connected and Pittcon 2012 made advances in this area which enabled easier access to knowledge through social networking.

How are you facilitating the Get Connected theme?

"Get Connected has been about maintaining connections and links on a social networking scale for all attendees both prior to, during Pittcon and throughout the year until the next event in 2013 and beyond. We are looking for open communications to bring people together - 'Get connected to innovators and colleagues around the world and get connected to Science' is the strong message behind Pittcon 2012. To facilitate this and with an estimated 40% of people having access to the use of smart phones, we introduced a new app at Pittcon 2012. This is available for use on iPhone, iPad, Android smartphones, Android tablets, and all other web enabled devices with access before, during, and after the Conference as a tool for event navigation and personal messaging."

What about access for scientists unable to attend the US-based Pittcon events?

"We are expanding our communications in other areas: we have seen an expansion in electronic posters and we have now taken the step to open up technical webcasts to everyone for access worldwide. We are also actively co-programming with scientific communities in Brazil, China and Japan. The conferee networking sessions or 'brainstormers' have also been increasing in size every year and we encouraging this information to be made available for open access to all. We also have the Park area, again located on the Expo floor, where an exhibitor/distributor network can operate – and also where company videos can be displayed on large monitors making the information readily available to a wider audience."

What was the main response to Pittcon 2012 in your opinion?

"The quality of leads was good in Orlando – the overall response from feedback was that it is a good show and the booth traffic was good. Looking forward to 2013 Philadelphia is a new city for Pittcon which is located in the pharma/bio cluster, so there is a large life science presence in the area. The convention centre has been newly remodelled so is now big enough to meet the requirements as a venue for Pittcon. Information on Pittcon 2013 is already on the website - this will become more active during May," Marian added.



Steven Benner



TWEET UPS GAIN MOMENTUM

Apart from helping to store and organise information gleaned from the sessions and exhibition booths what better use of Smartphones than for lively discussion and on the broader question of networking - *what happens when the science community gets social?*

"At Pittcon, it normally leads to a healthy exchange of ideas, some good laughs and a strengthened bond between attendees, exhibitors and friends," said Analtech's Ken Grant (@iChromatography), who has been actively involved in the organisation of Tweet-up sessions at Pittcon for a number of years.

"The first Pittcon Tweet Up was held in Chicago at Pittcon 2009 - at that time it seemed like there was about a dozen of us who were using twitter at Pittcon. We got together for breakfast, shared ideas, had some good laughs, and remained connected long after returning to our respective homes from Pittcon."

However it wasn't long before the concept of social networking became a popular way to make fast, easy, contact and maintain links with interested parties at the conference and expo.

"The good people at Pittcon saw the benefit of having these socially-connected companies and individuals engaged with each other and started helping with coordinating and spreading the word for the 2010, 2011, and 2012 tweet ups," Ken continued. "In 2010, we added the evening tweet up for two reasons - first, to have options for those who may be in meetings or sessions during the morning tweet up at Pittcon - second, providing a place for much more informal gatherings (no, we have not had people dancing on the tables yet).

"Each event has drawn a wide variety of people from industry, academia, media, and various support organisations. By nature of the connection, many of us start 'connecting' weeks before Pittcon begins and maintain contact long after we've returned home.

"It is at these gatherings that I gain useful insight into new tools to use to connect with our customers, suppliers, and more. One consistent discussion point is, "how do we explain to some in our company the benefits of using social media?"

One great observation from Pittcon 2012:

Many people are using social media, and our research shows that most of our customers are people.

I'm looking forward to making the Pittcon 2013 Tweetups special for two reasons - first, it will be the 5th year of Pittcon Tweetups - second, it's going to be in my 'backyard' of Philadelphia and I'm hoping to get several social media people from the region involved.

Bottom line - social media tools allow us to connect faster and better than ever before, we can use these tools to grow our businesses, grow our understanding, and grow our connections with others," Ken added.



Many visitors were alerted by Tweets to Analtech's Pi day celebrations held on Tuesday at Pittcon—highlighting the lighter moments of social connectivity and enjoyed by many.

"Then, the Pi Clock read 1:59 - and it was time to get started - first, we had a round of Pi Poetry readings:

"This was followed by several Pi Trivia questions - where winners were awarded with such items as Pi mugs, a Pi Pizza Cutter, a Pi Bottle Opener, a Pi Clock, and even a Pi Shower Curtain!"



Now, it's time for us to do some Pi-lates...

Yes, we expect it to be a Pi-ous occasion at booth 3326 at #Pittcon at 1:59

We had a truly great time celebrating Pi Day at Pittcon!

Some say we're trying to act like the Pi-ed Piper at #Pittcon, we just enjoy Pi-ling on for Pi Day - booth 3326 at 1:59 today

We appreciate so much everyone who came out to celebrate Pi Day with us at Pittcon!

Pittcon 2013, will be held March 17 to March 21, 2013, at the Pennsylvania Convention Center, Philadelphia, PA, USA,

BUSINESS SPOTLIGHT

Pipetting Olympics proves a point

Popular at previous events, Artel's 'Pipetting Olympics' proved a draw at Pittcon. Running from Monday through Wednesday, show attendees and laboratory professionals were given the opportunity to test their pipetting skills against their peers. Gold, Silver and Bronze medals were awarded to those Olympians that most precisely dispensed a target volume of 20µL five times in a row.

With a leader board tracking who was in overall top spot each day the overall winner of the competition, announced on the last day of the show, won an Amazon Kindle Fire tablet. After an initial attempt, competitors were introduced to Artel's 10 tips to improve pipetting technique. They were then allowed a second attempt and the improvement seen in pipetting precision highlighted the huge impact technique had on liquid delivery. "Improper pipetting technique is a major source of error in laboratories," said George Rodrigues, PhD Senior Scientific Manager, Artel. "The Pipetting Olympics is a fun, hands-on event that helps laboratory workers improve their pipetting technique. It also demonstrates Artel's suite of training tools which have been designed to meet an increasing demand for pipette operator competence in laboratories.

"To everyone who participated in the Artel Pipetting Olympics: Thank you for joining us. We were impressed with your skill and enthusiasm, and we hope you found the Olympics enjoyable and worthwhile. If you did not capture a medal this year, don't worry — the Artel Pipetting Olympics will be back."



Business Spotlight



Metrohm celebrates its Oldest Titrator Contest with winners

During Pittcon Metrohm introduced and celebrated the winners of their Oldest Titrator Contest, an event created with a two-fold purpose: to help kick off the launch of Metrohm's newest (and smallest) Ti-Touch titrators, which each winner took home with them at the close of PITTCON; while also helping to celebrate Metrohm's 55+ year history in titration. "Metrohm is world-renown pioneers in titration," remarks George Porter, Product Manager for its flagship line, "and well respected in the industry as makers of a rugged, dependable instrument that stands the test of time. We couldn't think of a better way to acknowledge these qualities than running such a contest and finding out just how "old" some of our oldest working titrators are."

Even George wasn't prepared for the number of responses received — and certainly wasn't expecting to see the almost-60-yr-old titrator that potentiometric winner, Bill Georgian, continues to use in his lab every day. "Passed down from my father's lab, our Metrohm B274 thumbwheel titrator has been in daily use since the 50's" said Bill. The company's Karl Fischer winner, David Warren, brought along his only slightly younger model, his near-40-yr-old Automat; "Each and every week for the past 36 years our Automat E547 with two Dosimat E415's has been a workhorse," enthused David. As well as celebrating more than half a century in titration Metrohm was also celebrating 25 years since the launch of its first Ion Chromatograph, the 690 IC in 1987. Designed to be simple to use, robust and affordable, the 690 ICV was about half the cost of other instruments dedicated to ion chromatography as an analytical technique. The breakthrough for Metrohm came 1997 with its 761 Compact Ion Chromatograph, the first with all functional components contained in a single box, therefore requiring no user set-up; it particularly met a growing demand at the time for an affordable robust system for environmental analysis. The more recent instruments include compact ICs with modular systems and software that have lent logical decision to the instruments capability.

EXHIBITORS COMMENTS

Booth traffic - "The visitor numbers at the show has been declining over a number of years, however we had a reasonable number of visitors over the 4 days."

Lead quality/visitor profile - "Quality was good. Visitor profile consisted of a high percentage of business to business visitors, media representatives looking at new products and a limited number of end-user traffic."

Overall success - "Overall we have been very pleased with the reception of the new products that we launched at the show and there has been a lot of interest in these following our attendance. As this was the principle purpose of our attendance this year, we see this as a very positive result."

Future exhibition plans - "Extensive as we will be attending the Analytica 2012 in Munich, Achema 2012 in Frankfurt, Analytica China 2012 in Shanghai and MEDICA 2012 in Duesseldorf later this year."

Orlando as a venue - "We were pleased with the support given during the show, the facilities and the surrounding amenities. From our perspective the venue was very suitable from a practical point of view."

Other points - "Relative to other shows, we believe that the Pittcon at this moment in time is declining in importance for us. It still provides some benefit for business-to-business and as a venue for meeting our international customers. For the US domestic market, it has limited impact to reach end-users, and is not the prime focus of our strategy in this respect."

Nathan Hulme, Director, Starna

Reduced Volume TAN System Saves on Costs

GR Scientific has launched a new micro system for Total Acid Number (TAN) analysis of transformer oil samples. A micro combination pH electrode and optimised titration vessel have been developed specifically to address the reduction in organic solvent consumption. The system enables the user to save up to 75% of the volume and cost of organic solvent used in the analysis. The new system reduces the cost per test to around \$2 and greatly reduces the cost of waste solvent disposal. GR Scientific have worked closely with a UK sensor company to develop a micro combination electrode to use with the system.



The electrode offers excellent stability for non-aqueous titrations. It is an 'easy to clean' design which is an important feature for oil analysis instruments. The system is easy to use and has been developed specifically for the wide range of TAN values expected from Oil Industry samples.

GR Scientific's Applications Chemist Trevor Blows gave an oral presentation outlining the benefits of this system entitled 'New reduced volume TAN (Total Acid Number) system saves cost and use of organic solvents by 75%', during Session 2035 – Fuel Analysis: held on Wednesday 14th March at Pittcon. This immediately attracted attendees to the booth.

Circle no. 51

System for Direct Ionisation Analysis of Biological Samples

Combining proprietary Laser Ablation Electrospray Ionisation (LAESI) technology with a high performance and versatile XYZ platform, the LAESI DP-1000 system from **Protea Biosciences Inc** allows fast and accurate direct ionisation and mapping of biomolecules in biological samples and open well plates. Designed for 2D and 3D sample imaging, the LAESI DP-1000 enables mass spectrometric analysis of any sample containing water without the need for any additional sample preparation. In a two-stage process, ambient pressure laser ablation and subsequent electrospray ionisation allow mass spectrometric analysis of living cells and tissues, without the introduction of artifacts or sample degradation. Tissues are elegantly mapped in two and three dimensions, displaying the molecular profile across the sample, or profiling the spatial distribution of intracellular molecules throughout the tissue.

The LAESI DP-1000 facilitates the imaging of open well plates to enable high-throughput biological fluid analysis. Biological fluids can be directly analysed for compound detection or quantitative studies without any upstream sample preparation. Samples can be analysed in a variety of standard well plate sizes, with ultra-fast programmable stage movement to increase laboratory productivity and overall sample processing capabilities.

The LAESI DP-1000 conveniently integrates with different mass spectrometers, including single quad, triple quad, TOF and HDMS systems from several manufactures. This integration capitalises on high resolution, accurate mass and quantitative aspects of a coupled mass spec system. Fully adjustable vertical and horizontal articulations of the LAESI DP-1000 easily adjust the system to fit various bench heights and laboratory set-ups.



Circle no. 52

Person-Portable GC/MS for Rapid Analysis of Toxic Chemicals in the Field

The **Inficon HAPSITE® ER** is said to be the only person-portable GC/MS for immediate, on-site investigation and analysis of volatile organic compounds (VOCs) in air, water and soil at parts per trillion (ppt) for most analytes. This field-proven chemical identification system gives even faster results for rapid decision-making, providing highly accurate chemical separation and identification in less than ten minutes. Powered by intuitive, state-of-the-art software, HAPSITE ER combines new features, such as a shorter run time and low consumables usage, with easy-to-use-operation. Its bright, colour touch screen displays complete analysis results, including chromatograms, spectra, library search results and quantitative data – all clearly visible in daylight or darkness.

HAPSITE ER is specifically designed for on-site pollution investigations, site remediation studies or process monitoring and control, disaster scene investigation and mitigation, and security applications.



Circle no. 53

Sierra Expands Award-Winning Flow Meter Lineup

Sierra Instruments introduced the new SmartTrak® 100 High Pressure mass flow meter at the Pittcon Expo, the latest addition to Sierra's award-winning SmartTrak 100 and 50 Series of mass flow meters and controllers. "We've got the widest variety of options in the industry," said Matthew Olin, President. "If we don't have the ideal digital mass flow meter or controller for your application, it doesn't exist." "The result of over a decade of user feedback on earlier versions, our 100 Series mass flow meters and controllers deliver the kind of intelligent control, independence and flexibility that leading companies and growth enterprises will need to take advantage of the huge opportunities we see on the horizon," says Olin. "And our 50 Series is ideal for OEMs. They share the same advanced core sensor technology as the 100 Series, but they are now available at nearly half the price."

Reliable, stable and smooth gas mass flow control is now within reach as a result of the proprietary Sierra Frictionless-Hovering Valve Technology™ inside every Smart-Trak® 100 and 50. Users can experience the most advanced direct-acting control valve available, and unlike other valves, it has shut-off capability. With Sierra's Smart-Trak® 100 series, you can independently adjust calibration in the field for any of the 10 pre-programmed Dial-A-Gas® gasses. The user-friendly Pilot Module control/readout interface lets you view and adjust critical control functions at any time. The performance/price advantage of the Sierra 50 Series was made possible by reducing the number of mass flow controller parts by almost 50% and automating calibration around slightly reduced accuracy. The modular design means you can add communications, displays or future functionality as you need it. Sierra has also been able to streamline delivery by stocking the seven most common flow ranges. OEM's that buy in volume will see deeper price reductions.



Circle no. 54

NuGenesis 8 Improves IT Connection

Featured at Pittcon the new Nugenesis 8 informatics system from **Waters** features Laboratory Execution (LE) Technologies, a comprehensive workflow and documentation solution that links organisation's analytical laboratory data systems to their business information technology systems.

"Perhaps the biggest informatics challenge our customers face is seamlessly linking analytical data to enterprise level information to facilitate business decisions," said Mary Ellen Goffredo, Senior Director of Systems Marketing, Waters Division. "There are software products for every analytical instrument, for laboratory workflow, results visualisation as well as general purpose spreadsheets and word processing software. We want to leverage the data from all these applications and integrate them with an enterprise level business system. However, with so many software applications and connection points, science-driven organisations lack the ability to collect, process, consolidate and distribute laboratory data freely and efficiently.

NuGenesis 8 enables global scientific organisations to stay informed, standardise processes and implement best practices across laboratories, across borders and continents. It means greater efficiency, easier compliance and better informed decisions."

Key to NuGenesis 8, LE Technology guides analysts through routine standard operating solutions with an electronic worksheet stepping them through the prescribed workflow and verifying input to established criteria. The completed task is submitted for approval and the results are automatically shared with business systems such as LIMS and ERP.

Information from disparate sources is automatically captured and catalogued and a suite of information tools enable sharing, reuse and sample management. By using NuGenesis Electronic Notebook, laboratories can track, assign and manage samples, tests and results.

Circle no. 55

Containers & Packaging to Suit All

Customers were winning with **Qorpak** at Pittcon 2012. A record number of customers stopped by the Qorpak booth at Pittcon this year to see their wide selection of stock closures, glass, plastic, and metal packaging. They were also able to register for their twice daily drawing for \$50 in cash drawn by 'Bottle Bob' and the winners were able to walk away with cash in their pockets. Customers were excited by the Company's new ValuLine Bottles with a low price guarantee.

Bottles come with Polypropylene F217 & PTFE lined caps and are an economical alternative to Thermoset & Phenolic PTFE lined caps. Supplied with caps attached for bottle cleanliness. They are ideal for general storage and environmental applications and come in convenient to use case pack quantities. Qorpak will beat any published price on our ValuLine Bottles.

Qorpak's mission in 2012 and beyond is to increase your net income by providing products and services to help you increase revenues, decrease costs, and improve your productivity. The Company are a Hybrid Packaging Supplier™ as they bring together the best of manufacturing, distribution, and value added service providers. The expertise they bring helps them to satisfy customers, small or large, in a variety of markets, and individual business applications. Qorpak wants to show you that their Anything is Possible™ culture can help you today.

Circle no. 56



New Twister for Wide Polarity Range

A new combined ethylene glycol (EG)-Silicone Twister enables efficient extraction of both non-polar and a range of polar compounds.

Stir Bar Sorptive Extraction (SBSE) using the patented **Gerstel Twister®** is an accepted and highly efficient extraction technique for the determination of organic compounds in aqueous and other samples. The new combined ethylene glycol (EG)-Silicone sorbent phase complements the standard PDMS phase, enabling extraction of a much wider range of compounds from aqueous samples. SBSE with the EG-Silicone Twister is performed just like any other SBSE extraction: Place the Twister in the sample and allow it to stir for 20 minutes to one hour. While stirring, the Twister extracts non-polar and a range of polar compounds and these are concentrated in the sorbent phase. The Twister is removed, rinsed with DI water, dabbed dry using lint-free paper tissue, and placed in a thermal desorption tube for desorption in a Gerstel Thermal Desorption System (TDS) or Thermal Desorption Unit (TDU). Analyte focusing, separation, and determination follows in the GC/MS system. The EG-Silicone Twister especially improves the extraction of phenols and other compounds that form hydrogen bonds as hydrogen donors.

Circle no. 57



Comprehensive Services and Products on Show

Thermo Fisher Scientific Inc introduced innovations across its three premier brands: Thermo Scientific®, Fisher Scientific® and Unity™ Lab Services where new offerings for chromatography, mass spectrometry, and trace elemental and molecular spectroscopy product lines were all displayed. Some featured offerings were Fisher Scientific's RESULTS™ program, which has been structured for easy purchasing of the products and supplies needed for an entire application; also the company's newest brand Unity Lab Services which combines product and operations support to create a single solution. For the first time at Pittcon, the combined Thermo Scientific and Dionex™ new instruments, consumables, columns and software were also showcased, including the Thermo Scientific Dionex ICS-4000 said to be the world's first commercially available integrated capillary high-pressure ion chromatography (HPIC™) system, targets analyses in industries such as environmental, food and beverage, pharmaceutical and biopharma.

The ICS-5000 is a modular system that offers high-pressure capabilities to bring near-UHPLC performance to IC. Making its Pittcon debut was the Thermo Scientific Q Exactive™ high-performance benchtop Orbitrap™ LC-MS/MS high-performance quadrupole MS particularly useful for protein identification, metabolism, forensic toxicology or food safety analyses with laboratories 'Quanfirmation™' making it possible to identify, quantify and confirm in one experiment, said the company. The Thermo Scientific NanoDrop® Lite instrument, a compact, personal microvolume UV-Vis spectrophotometer that complements full-featured NanoDrop instruments was also introduced, and places advanced analysis in the hands of every researcher.

Circle no. 58

Business Spotlight

50 Years of Netzsch-Gerätebau GmbH

Netzsch-Gerätebau GmbH, a leading producer of instruments for thermal characterisation of solids and liquids, is celebrating 50 years in 2012 since the company's prototype measuring systems were developed during the 1950's in a test area originally set up for the investigation of ceramic raw materials. By 1962, this department had grown to the point where it was finally established as an independent business unit within Netzsch.

Over the decades this family company based in northern Bavaria has forged a solid position for itself in the area of materials analysis. The portfolio today consists of measurement technology for the characterisation of polymers, foods and pharmaceuticals, as well as equipment for analysing metals or ceramic materials. Leading research centres and universities around the world count among the users of Netzsch instruments today, as do both large-scale enterprises and start-up businesses in all manner of next-generation technologies.

The technology, said the company, has contributed significantly to developments in materials that are more efficient, lighter and more durable, in industries air and space travel, wind energy to photovoltaics and energy storage to building insulation. Over the decades, intensive collaboration with research institutes and universities along with an innovative development team have built Netzsch into technological leader and one of the most quickly growing companies in the area of thermal analysis.

Providing a high level of support through its manufacturing units and subsidiaries Netzsch-Gerätebau GmbH today generates sales of over \$90 million and employs more than 360 people around the globe. The company operates production facilities in Germany and North America, with worldwide sales and service offices.

EXHIBITORS COMMENTS

"Pittcon 2012 was the first one under LDetek. However I went to this show for the last 8 years under another company name. This year was very quiet. Orlando is not the good place for this kind of show. Atlanta, New Orleans and Chicago was way better. Very quiet in terms of quantity.

However, I have to say that it has been good for us in terms of leads quality. Since it was our first time for LDetek we met new people for our products.

Furthermore, we had a new Detector for GC to promote at this show that shows good interest.

We plan to go In Philadelphia in 2013. But do not plan to go back in Orlando."

Louis Paradis, President, LDetek

"We enjoyed another successful show with leads up by 20% on last year. Although the show had reduced attendees, we still met with many potential new users with diverse applications interests. We will be back again in 2013."

Jeremy Warren, CEO, NanoSight

"For us - Pittcon 2012 was a great success - the booth traffic was great and we made several key contacts with various customers and distributors from around the world.

We are really looking forward to Pittcon 2013 in Philadelphia (just an hour's drive for us)."

Ken Grant, Analtech

Business Spotlight

A high-performance package of Nuclear Magnetic Resonance (NMR) and Time-of-Flight Mass Spectrometry (TOF-MS) systems from **Bruker** will strengthen the role of the National Polytechnic Institute (IPN) as a centre of excellence for Nanoscience and Micro-Nanotechnology research in Mexico. The instruments will be located in the Institute's new Centre for Nanoscience and Micro-and Nanotechnology (CNMN). With the AVANCE III 750, the Institute will host the highest field NMR spectrometer in Mexico.

All instruments will promote the Centre's mission in supporting scientific research and knowledge for eventual transfer of high-impact technical developments to the private and public sectors in Mexico and abroad.

Included in the package is the AVANCE III 750 with magnet technology based on Bruker's latest Ascend™ magnet technology. Ascend magnets feature advanced superconductors and proprietary magnet technology resulting in smaller physical size and lower weight for easier installation in customer laboratories. The system includes a cryogenically cooled probe, ideal for detecting small amounts of sample and suited to many of IPN's research strengths, including nanotechnology, biotechnology, medicine and materials.

Dr Gerardo Cabañas Moreno, Director of the CNMN of IPN, stated: "We are very pleased with our decision to select Bruker's NMR and mass spectrometry instrumentation to equip our new Centre. These advanced, new platforms will have an immediate and significant impact in a broad range of experiments, focused on nanotechnology, biotechnology, life sciences and several engineering fields. This shows again the clear commitment from IPN's General Director, Dr Yoloxóchitl Bustamante Díez, to improve the standing of our Institution at the national and international level."

Dr Werner Maas, President of Bruker BioSpin, added: "Bruker is honoured to support the growing science community in Mexico. The establishment of the CNMN exemplifies the commitment of the Instituto Politécnico Nacional to increasing the quality of research and establishing an international presence with the addition of these state-of-the-art NMR and MS instruments."

Cleaner Cones and Ion Lenses

VHG Labs has assembled an ICP-MS Maintenance Kit designed to provide the ICP-MS analyst with the right tools for the job of cleaning and restoring cones to their 'as new' performance. The kit includes: abrasive paste compound, diamond abrasive lapping paper: coarse and fine, abrasive powder: coarse and fine, Lint-free 'clean room' quality polyester cloths, polishing felt (3/8"), wood-stick cotton swabs, pointed-tip plastic foam swabs, magnifier lens, instruction guide.

ICP-MS cones bear the brunt of all sample by-products and also experience high temperature which leads to the build-up of residue. Ion lenses experience similar issues with build-up of residue; the components in the kit are useful in cleaning those too! If you have never used proper polishing felt or cloth, the right swab, or diamond paste, then you will be in for a pleasant experience. The maintenance kit is designed for any brand or type of ICP-MS cone. Reduce the time you spend cleaning cones and ion lenses, improve analytical performance, and extend the life of your cones and ion lenses with this unique all-in-one kit.



Circle no. 59

HT Centrifuge Models Boost Lab Performance

The Allegra X-14, a new three-litre benchtop centrifuge from **Beckman Coulter Life Sciences** accepts a variety of tubes and adapters to provide reliable performance in a range of applications. Refrigerated and constant-temperature models are offered individually or in pre-bundled packages that provide everything needed for quick set-up in the laboratory. With speeds of up to 10,200 rpm for a fixed angle rotor and 4,300 rpm for swinging bucket rotors, and rcf of 4,300 X, a wide selection of tubes, bottles and plates can accommodate a range of sample types and volumes. Depending on rotor and labware, the Allegra X-14 can process as many as 148 tubes per cycle.

The refrigerated model offers a temperature range of 2 to 40°C, and features a robust cooling system that brings samples from room temperature to 4°C in less than four minutes, reducing wait time and enabling runs to be processed efficiently. The constant-temperature model is pre-set to 20°C. Allegra X-14 series units can be equipped with exclusive ARIES Smart Balance rotor technology, which automatically detects and corrects sample-load imbalances of up to 50 grams. This saves time by easing sample prep requirements, eliminating mid-run interruptions and reducing wear by correcting imbalances before damage can occur.



Circle no. 60

EXHIBITORS COMMENTS

"I would say the booth traffic was quite decent for us as was the quality of leads. Seems like total attendance was down (again), as Orlando was not an ideal location (minimal industry nearby). Pittcon remains the major analytical instrument show for North America, and we look forward to exhibiting in Philadelphia- hopefully a more auspicious location."

**Leandro Berry, Media and Events Coordinator
ACD Labs**

"Shimadzu had a very successful Pittcon 2012 with excellent booth traffic and the highest number of leads in a number of years. It's a little too early to gauge the quality of the leads but, at initial glance, a majority have been rated highly and we expect these results, among other initiatives, to be a springboard to a very successful year. Shimadzu will exhibit at Pittcon 2013 in Philadelphia. While this year's show was a success, Orlando is typically a poor location for Pittcon and we're excited about the new venue/location. We think Philadelphia will be a good litmus test for whether Pittcon can maintain its footing as the leading scientific instruments tradeshow in the US."

**Kevin McLaughlin,
Sr. MarComm Coordinator,
Shimadzu Scientific Instruments**

Verifier Brings Change to In-Process Testing

Mustard Tree Instruments has added to its toolset for pharmaceutical and chemical applications. Agile, sensitive chemical identification and composition testing of raw and blended materials can now be done online with the brand-new Verifier Process System 1000 (VPS-1000). Tough and powerful, yet about the size of laptop, the VPS-1000 is specifically designed to fit in the most compact processing locations for real-time testing of liquids, powders, solids, gels, suspensions and emulsions in a variety of harsh conditions and hygienic environments.

"We set out to make a very advanced, highly sensitive fit-to-purpose process instrument radically different from other products," said Stan Ayers, Engineering Manager for the VPS-1000. Our whole criteria across the board was to make it really tough, hence its rugged waterproof enclosure housing the instrument's sensitive Raman spectrometer usable for qualitative and quantitative testing," he explained.

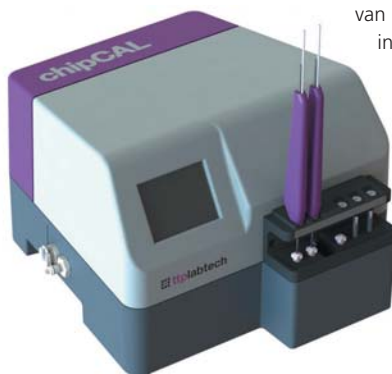
The VPS-1000 simplifies complex decision making processes similar to Mustard Tree Instruments® VTT-1000 at-line material verification testing tool for benign environments. Both instruments are in the same class of pricing and pay for themselves quickly with low implementation costs, forming a unique, essential toolset to help drug manufacturers solve specific quality and business problems such as reducing manufacturing lead time, increasing yield, and decreasing sample analysis cost.

"With the VTT-1000 and now the VPS-1000, Mustard Tree Instruments® has closed the gap in testing tools needed to assure quality products being made with fewer recalls," said Chief Technical Officer Brian Garrett.

Circle no. 61

Microlitre Flow Calorimeter

Enhance enzyme discovery and optimisation with the new chipCAL, a low cost, low volume flow calorimeter from **TTP Labtech**. Its fast throughput enables characterisation of enzyme activity to be achieved within 2-10 minutes per sample, thus opening the door to high-throughput enzyme screening, said the company. In addition, chipCAL is suitable for monitoring a range of processes in the biopharma, food and fermentation industries. ChipCAL's technology employs a flow principle, whereby enzyme and substrate are passed through a thermodynamic cell simultaneously. This allows chipCAL to detect thermodynamic changes using volumes as low as 15µL, minimising the amount of valuable sample used per analysis. chipCAL's microliter flow calorimetry also provides the additional benefit of non-contact, label-free sample monitoring. Dr Marcel van Tilborg, Corporate Scientist, DSM Biotechnology Centre, who has been closely involved in pilot studies using chipCAL said "finally it is possible to achieve fast, label-free and absolute activity measurements - a breakthrough for everyone using enzymes who need speed, accuracy and low cost in biological assays."



Easy to use chipCAL has a wide working temperature range of between 15°C-60°C, allowing a broad variety of biological activities to be analysed. Following analysis, samples are simply passed through to a waste unit and a new sample can be loaded, without the need for a laborious wash stage. This technology has the potential to significantly enhance high-throughput enzyme screening, being capable of analysing up to 60 samples in an 8 hour working day.

Circle no. 62

Radboud University Applies Nanoparticle Tracking Analysis to Study Molecular Machines

In exciting new studies involving structured nano-engines for transporting drug packages around the human body, researchers at Radboud University, Nijmegen, the oldest city in The Netherlands, turned to NanoSight's nanoparticle tracking analysis in order to trace movement of these sub-micron rockets. Dr Daniela A Wilson, from the Institute for Molecules and Materials (IMM), described the work of the group. "Making a nanomotor has been a dream of many researchers in nanotechnology. From molecular machines to micron size self-propelling rods, our team has used a combination of bottom-up or top-down approaches taking years off synthetic work. We applied self-assembly as a tool just like the pieces of a puzzle. The only difference is that we allowed the building blocks make itself to form 350nm sized motors. The next step was to prove the concept. Having constructed these sub-micron sized nanomotors, we could not use conventional microscopies to visualise them. For 350nm size particles, we required a special technique and this is how we have come to be users of the **NanoSight** technique of nanoparticle tracking analysis, (NTA). This tracks the motors one by one (in effect, particle-by-particle). We could even analyse their movement after the addition of their fuel (hydrogen peroxide)."

Dr Wilson continued: "Knowing the particle size was very important to establish the size distribution of our self-assembled nanomotors as well the entrapment of the catalytic particles inside the bowl shape structures. However, even more important for us was the ability to track the movement of the motors in the presence of the fuel. This provided the definitive proof of directed motion resulting from the fast discharge of oxygen." NanoSight uses real-time tracking and scattering information to provide the size of the particles as well as giving information about the purity of its components. Different refractive indexes materials within the same colloidal distribution will give different scattering and therefore the group is able to use that information to assess the purity and distribution of complex mixtures.

Circle no. 63



New SFA and Discrete Instrumentation

The AA1 nutrient analyser and AQ1 discrete analyser were showcased by **Seal Analytical**. The AA1 segmented flow analysis (SFA) nutrient analyser consists of an autosampler, a peristaltic pump, a chemistry manifold, a detector and data acquisition software. Sample and reagents are pumped continuously through the chemistry manifold. Air bubbles are introduced at regular intervals forming unique reaction segments which are mixed using glass coils. Glass is ideal, as it is inert, stays clean and enables easy visual checks. In SFA, all reactions run to completion. The ratio of sample to reagents in the detector reaches a constant maximum value - the steady-state condition - for maximum sensitivity resulting in low detection limits and high reproducibility. Instrument control and data acquisition is carried out through the intuitive, easy to use AACE lite software package. The AQ1 discrete analyser employs a robust robotic sampling arm working in conjunction with a stepper motor-driven syringe for aspirating, dispensing and mixing precise quantities of sample and reagent into miniaturised test tubes, or reaction wells. The sample and reagents are incubated in the reaction wells for a pre-programmed time and a single aliquot is then transferred into the stop/flow Optical Quality Glass Cuvette. The absorbance of the reaction is read using a stationary optical bench for best possible signal to noise ratio. The reaction times are user programmable from seconds to minutes. The company has optimised Seal AQ1 Methods to ensure that the chemical reaction is brought to full completion and steady state which emulates both the manual and the segmented flow Methods.

Circle no. 64



Breakthrough in High Sensitivity Raman Instruments

Enwave Optronics, Inc announces a new EZRaman system which offers 10 – 20 times higher sensitivity compared to any Raman spectrometer systems under US\$35K currently on the market. This marked improvement is attributed to an innovative detector design, as well as strong Rayleigh rejection filtering. In turn, the sample requires much lower laser power to obtain good Raman spectra. Similarly higher quality Raman spectra may be collected with much shorter laser exposure times; this preserves the sample.

Circle no. 65

Advanced Biochemistry Analyser Speeds Analysis

YSI, a Xylem brand, has enhanced its popular 2300 and 2700 instruments with the release of the new YSI 2900 advanced biochemistry analyser. Featuring clean lines and smaller footprint the instrument combines YSI's enzyme electrode technology with ease of use from connectivity and communication to sample handling; the YSI 2900 analyser exceeds expectations in every category and is a 'must have' for anyone in bioprocess analysis or bacterial fermentation control, said the company. Able to handle the widest range of sample containers, up to and including a 96 well plate, the YSI 2900 produces a result in approximately 60 seconds for glucose, lactate, ethanol and 12 other important bioprocess parameters with accuracy comparable to HPLC. The icon driven user interface and built in training videos make operation simple, while the up-to-date hardware ensures a rapid, highly accurate result with robust sampling of viscous samples or high cell counts. The system's built-in sample handling capability eliminates the need for a separate autosampler and enhanced connectivity options including USB and Ethernet, ensure fast and straightforward data downloads.

Largely interference-free due to the specificity of YSI's proprietary enzyme technology, the YSI 2900 furthers the company's legacy of expertise in the following application areas: critical bioprocess monitoring, biofuel production and research, clinical blood chemistry and food and beverage processing.

Circle no. 66



Business Spotlight

Researchers use Zetasizer Nano to predict protein aggregation



Researchers at the Georgia Institute of Technology School of Chemical & Biomolecular Engineering (Georgia, US) are using Malvern Instruments Zetasizer Nano to predict aggregation behaviours in proteins.

Associate Professor Sven Holger Behrens said, "We use the **Malvern Zetasizer DLS** option in two ways in our protein studies. The first is a common approach and records the change in hydrodynamic radius [particle size] that occurs as proteins aggregate. Our second, more novel technique, is to look at non-aggregating protein solutions with the same types of salt-ions but much lower salt concentrations. These low salt solutions remain stable for as long as we look at them and we have found that protein interactions in these solutions, visible in DLS as a change in diffusivity [or apparent particle size] with protein concentration, correlate strongly with aggregation stability at much higher concentrations and can therefore predict ion-specific aggregation trends in proteins."

"What makes the Malvern Zetasizer nice is its user friendliness – it takes my students little time to familiarise themselves with this instrument. The fact that you can make these measurements in relatively small sample volumes, facilitated by cuvettes also supplied by Malvern, is also very helpful, as is the instrument's convenient temperature control."

With co-authors Professor Andreas Bommarius and graduate students Jonathan Rubin and Adriana San Miguel, Professor Behrens published the results of his study titled 'Correlating Aggregation Kinetics and Stationary Diffusion in Protein-Sodium Salt Systems Observed with Dynamic Light Scattering' in the Journal of Physical Chemistry B [2010, 114, 4383–4387].

EXHIBITORS COMMENTS

"This year, a record number of attendees stopped by the Qorpak booth. Pittcon has played a crucial role in our business for more than 20 years by providing the venue for us to network with customers and suppliers from around the world. We had visitors from 27 different countries including buyers, scientists, researchers and lab managers from a broad spectrum of industries and educational institutions. Pittcon also provides the opportunity for Qorpak to showcase new products and allow customers to examine existing products. This hands-on experience allows customers make connections to their processes and needs."

Jennifer Elliott, Business Development Analyst, Qorpak

"Pittcon remains the premier instrumentation show in the USA with many of the key decision makers attending. We have been delighted at the response to the launch of our new AffirmoEX™ benchtop EMR system."

John Paul Cerroti, Product Marketing Manager, Oxford Instruments

Business Spotlight

Oxford Instruments Magnetic Resonance and Active Spectrum, a California-based technology company located in Foster City, have entered an agreement to develop and manufacture Electron Magnetic Resonance (EMR) products that will be sold worldwide by Oxford Instruments. The agreement will enable Oxford Instruments to expand their range of benchtop QA products through the offering of Active Spectrum's innovative micro-EMR technology. With applications in the foods sector, it is a natural complement to Oxford Instruments' established MQC nuclear magnetic resonance systems. The collaboration will also provide a new, practical and affordable way to reinvigorate the teaching of EMR in universities and colleges.

Electron Magnetic Resonance (EMR), also known as electron paramagnetic resonance (EPR), and as electron spin resonance (ESR), was developed simultaneously but independently in Kazan, Russia, and Oxford, England, more than 60 years ago. The technique measures unpaired electrons in a sample and is applicable for investigations involving free radical chemistries and transition metal oxidation states. The first fruit of the partnership, the AffirmoEX benchtop EMR instrument, will make its debut at the Pittsburgh Conference and Exhibition in Orlando, March 11-16. The AffirmoEX is an affordable system occupying minimal bench space and does not require the large magnets and cooling systems needed by older style systems. It will be offered with a curriculum package for teaching professionals to bring the technique back into the laboratories of the 21st century with a modular program backed with online and written documentation.

speaking about this collaboration, Oxford Instruments' Product Marketing Manager, John Paul Cerroti, describes a perfect fit for the two companies and their complementary technology. "Oxford Instruments has a strategy of developing by organic growth, partnering, and acquisition. The collaboration with Active Spectrum falls right in the middle of this strategy." Continuing, he said "EMR is a perfect pairing with our existing NMR products. The technologies lie in the same field, but the applications are complementary, and bring real value to our customers."

Active Spectrum CEO, James White, echoed this opinion. "Oxford Instruments offers a great distribution and sales channel and our product is a good fit with their existing NMR product lines. We look forward to significant growth in our business through this partnership."

EXHIBITORS COMMENTS

"This year's Pipetting Olympics was a great success and we had a record number of booth visitors stopping by to put their pipetting skills to the test. What was most gratifying was the importance the attendees placed on improving the quality of their pipetting and how much people improved after being trained at the booth. The attendees were very upbeat about the economic environment and this is leading to increased interest in data quality and the productivity gains that result. Artel has developed training seminars and webinars to assist its customers during their quest for quality-driven company growth."

George Rodrigues PhD, Artel's Senior Scientific Manager

"This is the 53rd year for Waters at Pittcon. It is still the signature event of the year for Waters and for our industry. No other event can compare to it in terms of the scale of innovation one sees on the exposition floor and in terms of the opportunity to interact with customers and educate new generations of scientists in the art and science of analytical chemistry. The launch of UPC², NuGenesis 8 and our new line of analytical standards and reagents make this year's Pittcon one of the most exciting in years for us."

Art Caputo, President of the Waters Division

Direct Detect Provides Spot and Check Results

Merck Millipore, the Life Science division of Merck KGaA of Darmstadt, Germany, launched the Direct Detect™ system for rapid, simplified protein quantitation. Exploiting the company's membrane expertise it enables IR measurement of amide bonds in protein chains, an intrinsic component of every protein, without relying on amino acid composition, dye-binding properties, or redox potential. "In addition to its analytical powers, the Direct Detect™ system provides a groundbreaking departure from traditional sample prep requirements typical of biomolecular quantitation. After samples are spotted on assay cards, they can be stored in ambient conditions without appreciable change in readout," describes John Sweeney, Head of Life Science Business Field, Merck Millipore. "Another important advantage over conventional assays is that the Direct Detect™ calibration standard curve requires generation once, which provides additional time savings and ease of use."

The system employs a hydrophilic polytetrafluoroethylene (PTFE) membrane designed to be transparent in most of the infrared spectral region and enables application of biomolecule solutions directly onto the membrane.

Because the system relies on IR-based detection of biomolecules, users can obtain accurate and reproducible protein quantitation in presence of reducing agents and detergents. As a result, the Direct Detect™ system can measure protein concentrations from 0.2mg/mL to 5mg/mL within seconds, without any bio- or immunochemical staining, directly from samples, including buffered solutions. The Direct Detect™ system can also be used to provide information on non-protein sample components, such as lipids and nucleic acids.

Circle no. 67

GC Detection with SCION Range

The SCION SQ™ GC-MS single quadrupole and SCION TQ™ GC-MS triple quadrupole systems from Bruker provide analysts with a GC-MS platform especially designed for the Gas Chromatographer. The SCION GC-MS Series sets a new industry standard for GC-MS. The SCION series is designed to be simple to use, incredibly sensitive, and deliver robust and reliable performance. All this comes complete in a space saving package that makes upgrading to new level of performance a simple and cost-effective process.

The SCION SQ and TQ detectors come with an MRM Method Builder – designed by Chromatographers. You do not need to know the MRM transition of an analyte, the software auto-fills this for you. Simply drag in the name of your compound from the factory installed compound library, that contains over 2500 MRM transitions, and the software sets up the method and manages the duty cycle.

SCION SQ and SCION TQ can set new standards of performance in food analysis and testing; environmental analysis; forensics/toxicology; sportsmedicine/dopingcontrol; petrol, fuels and hydrocarbon analysis.

Both the SCION SQ and SCION TQ are available with the new, compact 436 Gas Chromatograph. For those requiring more GC flexibility, the 455 Laboratory GC is also available. The 436 and 455 are designed to provide complete sample integrity with fast oven performance, flexible inlet / detector options, and a wide variety of automations / sample handling capabilities.



Circle no. 68

nXDS Dry Scroll Vacuum Pumps Previewed

Edwards, a global leader of vacuum and abatement technology gave a preview of its new nXDS range of dry scroll vacuum pumps and also displayed the T-station 75 turbo pumping cart and nEXT turbomolecular pumps. The nXDS is an oil-free vacuum pump that has no lubricants in the vacuum space. With improved tip seal and bearing life users will benefit from its low maintenance requirements. The nXDS is fully serviceable in the field, resulting in low downtime and an overall low cost of ownership. With intelligent drive electronics the nXDS has reduced power consumption and delivers exceptional low acoustic noise levels, making it an ideal 'fit and forget' pump for the laboratory. Edwards' nEXT turbomolecular pumps providing high vacuum performance in a compact size are modular design for rapid customisation.

The compact entry level T-station 75 turbopumping cart, the smallest in Edwards' range of pumping stations can pump a chamber at high speed due to higher capacity backing pumps. It provides reliable high performance and is an excellent 'plug and play' solution. "The new generation of dry scroll pumps is a major step forward for vacuum pumping in scientific markets," said David Steele, Market Sector Manager, Edwards. "There are four pumps in the range, which have excellent pumping speeds with class leading ultimate vacuum levels. They provide high performance with increased reliability and less maintenance than alternative pumps, which results in less downtime and low cost of ownership."

Circle no. 69

Explorer® Series Acts Smart

Ohaus Corporation introduced its all-new Explorer series of analytical and precision balances marking the Company's most advanced new product in more than a decade. Using newly developed SmarText™ 2.0 software platform, the Ohaus Explorer provides easy-to-use graphical software featuring 14 applications (apps) and can deliver accurate results within seconds. Optimised vibration filtering provides balance stability in unstable environments.

The Explorer's redesigned draftshield provides ample access and visibility to the weighing chamber and features antistatic coated glass. This frameless, flip-top design provides unobstructed access to the weighing chamber. The expansive side-entry access offers 6.3 x 9.4 in (160mm x 240mm), allowing use of large weigh boats in the weighing chamber. The side doors seamlessly glide on top-mounted bearings, helping to prevent any potential bind up when the balance is left unclean and the glass panels can easily be installed and removed.

Explorer features four 'touchless' sensors for hands-free operation of print, calibration, tare, and other selectable functions. With two sensors on the base of the balance, and two on the display, they can be set up individually to allow for remote operations. Featuring leveling assistance and instructional messaging for quick setup and use it also has an easy-to-view illuminated level indicator placed at the front of the balance, as well as adjustable thumbwheels that effortlessly level the balance.



Circle no. 70

Addressing Challenges of “At Risk” Samples



Hamilton Storage Technologies introduces BiOS – the company's third-generation automated system designed for ultra-low temperature storage of sensitive biological samples. This flexible, scalable system ensures the integrity of 250,000 to more than 10 million sample tubes at temperatures down to -85°C. Hamilton has already received a number of BiOS orders and is working on projects with the Netherlands Forensic Institute for crime scene trace sample storage; LifeLines, a population-based study of three generations in northern provinces of The Netherlands; and a diabetes-focused biobank initiative in Saudi Arabia.

Market reports indicate that a high percentage of currently stored biological samples are at risk. “In conventional biological storage there are warming events affecting the sample integrity,” explains Matt Hamilton, Vice President for Hamilton Storage Technologies. Removing the uncertainty about storage conditions and chain-of-custody ensures that data derived from sample testing will be accurate and reliable. “All samples within the BiOS are stored in -85°C chest freezer compartments to maintain temperature stability. All internal workflows, including sample picking, are optimised to keep samples at ultra-low temperatures at all times. System parts are easily accessible for service and maintenance. One- and two-dimension barcode reading and sample tracking produce complete chain-of-custody documentation, with software tools to support 21 CFR Part 11 compliance. Multiple redundant back-up systems ensure the samples stay at -85°C, even in emergencies. The BiOS can store and process multiple labware types in the same system.

Circle no. 71

Introducing the World’s Smallest Footprint EMR System

Oxford Instruments Magnetic Resonance launched an important addition to its range of benchtop instrumentation at Pittcon 2012 in Orlando. With applications in the foods sector, the AffirmoEX is a natural complement to Oxford Instruments' well-established MQC nuclear magnetic resonance systems. It could provide a solution to the academic market place where the EMR technique has become under-used due to the obsolescence of existing instrumentation and the previously prohibitively high cost of buying a new instrument. Occupying minimal bench space AffirmoEX does not require the large magnets and cooling systems needed by older style systems. It will be offered with a curriculum package for teaching professionals to bring the technique back into the laboratories of the 21st century with a modular program backed with online and written documentation.

Electron Magnetic Resonance (EMR), also known as electron paramagnetic resonance (EPR), and as electron spin resonance (ESR), was first introduced more than sixty years ago, developed simultaneously but independently in Kazan, Russia and Oxford, England. Capable of measuring unpaired electrons which are characteristic of free radicals and of complexes containing transition metal ions in a sample, EMR offers a highly selective technique for free radical and transition metal oxidation state investigations. Applications include oxidation, free radical polymerisation and a wide range of biochemical processes. Similarly, understanding the oxidation state of inorganic transition metal complexes gives vital information to the analysis of processes such as those associated with catalysis. Oxford Instruments' Product Marketing Manager, John Paul Cerroti, says “AffirmoEX is a perfect pairing with our existing NMR products. The technologies lie in the same field, but the applications are complementary, and bring real value to our customers both in academia and industry.” Talking about the principal markets for the product, he continued “Our key markets for the AffirmoEX will initially be academia, both for teaching and research, the food industry and the transport and engineering industries. However, as EMR has such a wide range of potential applications, we expect to be discussing the value of EMR with many other industries very quickly.”



Circle no. 72

Low Volume Applications Just Got Easier

The new **Starna** Demountable Micro-Volume (DMV) Bio Cell uses advanced precision micro-machining techniques and materials to produce a patented high energy throughput, ultra low volume (<2.5µl), direct sampling solution for life science samples. By providing minimal energy reduction the new DMV-Bio Cell design ensures that sufficient optical energy is available to measure low volume samples accurately across a wide absorbance range. This is an important benefit to scientists who require accuracy and precision. Incorporating this simple optical transmission path allows the DMV-Bio Cell to be used in most UV-Visible spectrophotometers without compromise for the determination of nucleic acids or proteins. The Starna DMV-Bio Cell utilises a magnetic closure mechanism which facilitates rapid filling/emptying plus easy cleaning of the cell, to prevent carryover and for ultimate convenience.

Available in 0.5, 0.2 and 0.125mm path lengths, the accuracy of the DMV-Bio Cell may be validated using a specially formulated variant of the Starna Green Certified Reference Material (CRM). In addition, for technicians working with DNA materials and who require confidence in their analysis, Starna offer the DNACON 260/280 CRM which is formulated to match the capabilities of the DMV-Bio Cell. The new Starna DMV-Bio Cell with its range of path lengths provides accurate and reproducible measurements on existing spectrophotometers, using sample volumes down to 0.6µl across a wide range of concentrations.



Circle no. 73

Enwave Optronics had a fantastic show at PittCon this year, gathering many leads and prospects! We had quite a few prospects visiting our booth for live demonstrations and tests of their samples. The great test results sparked further interest in our instruments. Our new ASSU Handheld Raman Analyzer especially grabbed a lot of attention. The ASSU is specifically designed for pharmaceutical applications such as incoming raw material identification and verification. The new ASSU brings convenience, mobility, and is easy to use, making it the ideal choice for quick and seamless integration into the busy work flow of any work setting. Our MicroSense Raman Microscopy Systems also spurred a lot of interest. These affordable Raman systems are dual-use. The accompanying Raman spectrometer and the Leica DM300 microscope may be used independently or be coupled. For more information, please contact the Enwave Optronics sales team at sales@enwaveopt.com

Business Spotlight

Shimadzu Corporation named Shuzo Maruyama President of Shimadzu Scientific Instruments (SSI), effective since December 19, 2011. Maruyama will oversee overall sales and management functions for SSI, the American subsidiary of Shimadzu Corporation (Kyoto, Japan). He replaces Takeshi Kawami, who served as President at SSI since April 2007.

Maruyama has served Shimadzu Corporation for 29 years in various roles that have prepared him with the experience and knowledge necessary to oversee SSI. He first joined Shimadzu's research and development department for ultra sonic diagnostic equipment, and then for liquid chromatography. Maruyama worked on many development projects including the LC-6A and LC-10A series, and managed the development of the Prominence HPLC series. Most recently he was the General Manager of the LC business unit.

Maruyama graduated from Osaka University with a degree in biophysical engineering.



Shuzo Maruyama

EXHIBITORS COMMENTS

Has Pittcon gone to the well once too often in selecting Orlando as the show site in 2012?

“While Orlando remains a popular destination for attendees, you know that you (as an exhibitor) are competing with area attractions on warm, sunny afternoons. Initial traffic was great but tapered off by Wednesday and Thursday. We are definitely in favour of moving the show around to attract different attendees. We found the 2011 Atlanta show to be an excellent opportunity. Our team is enthusiastic about the prospect of the 2013 show in Philadelphia. It will provide many chemists who live in the Northeast the opportunity to attend. We hope that 2013 will be a great success, and encourage show management to consider a western US host city in the future.

The quality of the attendees we meet at Pittcon remains high. The show continues to attract many chemists from the international community. VHG Labs was pleased to present a paper on the requirements and value of participation in an ISO/IEC 17043-compliant proficiency testing program. 17043 is not as well known as other ISO standards. The presentation elicited excellent questions and boosted our booth traffic. We were delighted with the level of interest in our new 17043-compliant product PTP 17043 which allows participants to run a sample, enter their values online, and receive a detailed report that evaluates their data using error, normalised (En). We believe that Pittcon attendees remain an excellent audience for analytical innovation.”

Mike Travers, VP Marketing & Sales, VHG Labs

“Pittcon was a great show for Protea. Booth traffic was similar to previous years, but the quality and number of interested customers was outstanding. Our announcement of a co-marketing agreement with Waters Corporation for the LAESI DP-1000 system, as well as the expansion of our bioanalytical service business into a new, state-of-the-art facility brought many interested customers and business partners to our booth. The LAESI DP-1000 system was our featured platform, and it created quite a buzz, as it won the Pittcon Editors' Bronze Award for one of this year's top new products,” said

Haddon Goodman, LAESI Platform Marketing Manager.

Business Spotlight



Global Water Instrumentation (GWI), a Xylem brand, has teamed up with the Alabama Cooperative Extension Service, Auburn University School of Architecture, Planning, and Landscape Architecture and the Auburn University Department of Biosystems Engineering to study hydraulic, hydrologic, and water quality changes during the transition of forested land to a residential Low Impact Development (LID) subdivision. This research was being conducted to measure the effectiveness of LID best management practices (BMP's) ability to mimic pre-existing hydrologic conditions. Furthermore, these studies were designed to evaluate the collective pollutant removal efficiency of the development to determine the practicability of attaining local Total Maximum Daily Load (TMDL) established nutrient criteria.

Researchers designed a monitoring plan to study pre-existing, active-development, and post-construction stormwater runoff volume and quality. Water quality samples were to be obtained during qualifying events of 0.75" rainfall/24 hour. A combination 45° v-notch weir was installed to obtain precise discharge measurements. The research team worked with GWI's Storm Water Kits in conjunction with WS700 Samplers at both a location onsite and a control location in a nearby conventional residential subdivision. The RG333 auto drain rain gauge and rain sensor triggered the sampler when a specific amount of rainfall had accumulated. A GWI model WL900 Radar Level Sensor and GL500 7-2 Data Logger provided water flow readings during a rain or storm event. The combination of the instruments which were shown at Pittcon, assisted the project with easy and reliable sample collection.

Restek Celebrates 3 Years of Employee Ownership

Restek Corporation has celebrated three years of 100% employee ownership since purchasing all outstanding corporate shares in 1908 under an Employee Stock Ownership Program (ESOP) structure.

The transition to 100% employee ownership was made to ensure both long-term stability and the continuation of the company's customer-centric culture would flourish. In the years since the company has continued to introduce innovative new products—such as its Alumina BOND/MAPD PLOT columns, the USLC™ method development toolbox, and Sky™ Inlet Liners—while increasing in-house technical expertise and taking every opportunity to live up to a reputation as the company chromatographers can rely on.

Reporting results that mirror Restek's own beliefs and experience, the 2010 General Social Survey showed that employees in the US who had employee stock ownership were four times less likely to be laid off during the Great Recession than employees who did not. The survey also stated that only 13% of the employees with employee stock ownership intended to leave their companies in the coming months, compared with a rate of 24% for those lacking employee ownership.

The company has remained committed to employee retention and professional growth during the ongoing economic turmoil and many employee-owners have largely chosen to remain. "We understand the importance of delivering high-quality products on a schedule that meets customers' needs because they, in turn, want accurate, timely, problem-free analyses.

Meeting and exceeding expectations for quality and on-time delivery provide a decided advantage for our customers. Our recent success in achieving ISO Guide 34 and 17025 accreditations is one more way for Restek's employee-owners to showcase our excellent quality and performance," a spokesperson said.

Person Portable Gas Chromatograph

Torion Technologies Inc displayed the new TRIDION™-9, reportedly the world's fastest and most portable capillary gas chromatograph – toroidal ion trap mass spectrometer (GC-TMS). Features include a low thermal mass capillary gas chromatograph (GC) with high speed temperature programming (>2 °C/sec) and a miniature toroidal ion trap mass spectrometer (TMS) with a nominal unit mass resolution over a mass range of 50 to 500 Daltons.

The self-contained system weighs less than 32 pounds with all accessories, is battery (24 V) operated, has an on-board helium GC carrier gas supply cartridge (2500 psig, 90cc), and is person portable. The TRIDION-9 GC-TMS features electronic pressure control (EPC) of the helium GC carrier gas and an on-board rechargeable battery system for renewable power.

With samples introduced using Torion's CUSTODION®SPME syringes, targets analytes in air, headspace, liquid or dissolved solid samples are rapidly trapped on the active coated surface of the SPME fibre, which is mounted in an easy-to-operate injection moulded syringe. Step-by-step sample injection instructions are provided via the system's 7" LCD colour touchscreen and graphical user interface (GUI).

The TRIDION-9's on-board firmware controls all GC and TMS system operations automatically without user intervention.

Torion's PC-based operating CHROMION™ software enables the user to edit the GCTMS method parameters, calibrate the instrument, and develop target analyte libraries for automated detection and identification of targeted chemical compounds based on their characteristic retention times and mass spectra.



Circle no. 74

Malvern Demonstrated Ease of Use of Mastersizer 3000 at Pittcon 2012

Raising particle sizing to a smarter level, the new Mastersizer 3000 from **Malvern Instruments** delivers unique performance and productivity advantages, wrapped in a stylish, compact and practical instrument design. Now anyone can make good measurements and get exactly the data they need quickly and easily. With an extended dynamic range that spans 0.01 to 3500 microns, the Mastersizer 3000 laser diffraction particle size analyser delivers precise, robust wet and dry measurements right across the milli-, micro- and nano-meter size ranges. Smart design of the new optical core packs this high performance into a small footprint system that boasts equally well-engineered sample dispersion accessories, including an entirely novel dry powder dispersion unit. Such flexibility makes the system ideal for the multitude of particle sizing applications for which laser diffraction is now the technique of choice.

Friendly and intuitive software drives every Mastersizer 3000 measurement, bringing operator-independent analysis and offering data generation tailored to individual customer needs, with presentation options as diverse as the industries it serves.

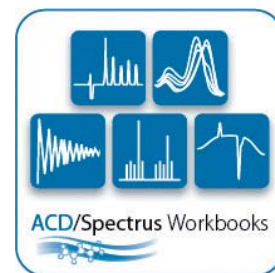


The process of method development has been streamlined, with access to Malvern's extensive know-how provided when and where it is needed. This is all backed by gold standard applications support from Malvern teams around the world, whose collective experience is second to none. "So at Pittcon 2012 we introduced Malvern Instruments brand new Mastersizer 3000, a laser diffraction particle size analyser. It replaces the familiar Malvern's Mastersizer 2000 and the video shot at Pittcon 2012 introduces the new features and operation of the Mastersizer 3000, Comments Julie Chen, Technical Specialist from the Particle Characterization division of Malvern Instruments, Inc. New features include dry powder and wet suspension dispersers, easier maintenance with newly designed cassettes and an upgraded software interface. The particle range is 10nm to 3.5mm, with a smaller footprint and quieter operation."

Circle no. 75

Tailoring Software for Performance

Advanced Chemistry Development Inc announced the impending release of the initial lineup of ACD/Spectrus Workbooks, the next element of the integrated analytical and chemical knowledge management platform. Workbooks encapsulate the scientific insight gained from two decades of experience developing software for analytical chemists, the integrative flexibility demanded by modern informatics architecture, and the continued commitment to extract and retain the chemical context of analytical data. A portfolio of technique-specific software for spectroscopists, spectrometrists, and separations scientists, Spectrus Workbooks provide advanced data processing and interpretation conveniently to the scientist's desktop. Continuing collaborations with major instrument vendors enable the support of most instrument vendor file formats across analytical techniques.



During last year ACD/Spectrus developed software for Leco Corporation's high resolution TOFMS (HRT) Instrumentation. This provided acquisition speeds of up to 200 spectra/second, mass resolution up to 1000,000 FWHM and mass accuracy less than 1ppm. Available in LC and GC configurations, the HRT systems feature Leco's ChromaTOF software for seamless data handling.

This HRT technology was recognised earlier in 2011 with the Pittcon Editor's Gold Award. "While some systems on the market offer their users a choice between acquisition speed, mass accuracy or resolution, Leco's HRT systems offer all three with no compromise," Jeffrey S. Patrick, PhD, of Leco's Life Science and Chemical Analysis Centre recently commented.

The new line-up of ACD/Spectrus' individual Workbooks will be released throughout 2012.

Circle no. 76

Pittcon Awards

The Editors Choice Awards is selected by a panel of editors registered at Pittcon and honours the most significant and important technological advancement introduced at the exhibition. The Award, which is presented to the best new products in Gold, Silver and Bronze categories, has become an important feature of the exhibition and provides those awarded with a distinguishable platform to market and further develop their products.

Waters ACQUITY UPC² Takes Pittcon Editors' Gold Award



Marcus Pattison Director of Publications, International Labmate (pictured 2nd right), congratulates Water's on receiving the Pittcon Editors' Gold Award for Best New Product. pictured (left to right) John Van Antwerp, Americas Business Manager for Quadrupole Products and Supercritical Fluid Technologies, Waters Division; David DePasquale, Senior Product Manager, ACQUITY UPC² System, Waters Division; and Andy Aubin, Principal Application Chemist, Waters Division.

Waters Corporation was awarded the prestigious 2012 Pittcon Editors' Gold Award for the new Waters® ACQUITY UPC²™ System as the best new product at the 2012 Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy.

Employing the principle of UltraPerformance Convergence Chromatography™ (UPC²), ACQUITY UPC² System expands the boundaries of reverse phase liquid chromatography and of gas chromatography separations, offering a replacement option for normal phase chromatography. It provides scientists with a new tool for tackling tough-to-analyse compounds including hydrophobic and chiral compounds, lipids, thermally-labile samples and polymers across a wide range of applications.

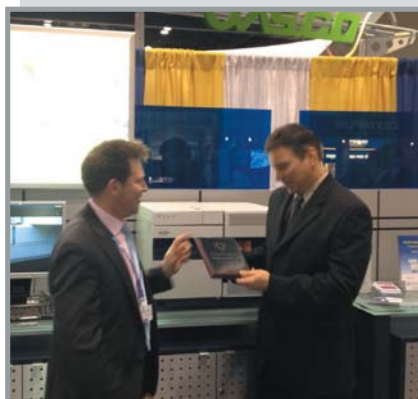
"On behalf of all Waters employees worldwide, we graciously thank the Pittcon Editors for recognising the new ACQUITY UPC² System and its promise as a new category of separation science," said Art Caputo, President of the Waters Division. "Since its founding 61 years ago, Pittcon has been one of the most important annual conferences where scientists can learn about the newest developments in laboratory science that can help them speed discovery, uncover new truths, and further the advancement of science. In 2004, the Pittcon Editors selected the ACQUITY UltraPerformance LC® (UPLC®) to receive the gold award for best in show. Since then, thousands of ACQUITY UPLC systems have been adopted by leading laboratories around the world changing the landscape and impact of chromatography. We believe that ACQUITY UltraPerformance Convergence Chromatography holds that same potential by bridging the gap between LC and GC technologies -- apparently leading scientific editors agree."

Along with industry leading sub two-micron particle column chemistries, ACQUITY UPC² System gives scientists the ability to precisely vary mobile phase strength, pressure, and temperature. With this ability to fine-tune the resolving power and selectivity of the system, scientists can exercise better control over the retention of analytes for separating, detecting and quantifying structural analogues, isomers, and enantiomeric and diastereomeric mixtures – all compounds that are often difficult to separate by any other means. A key benefit of the ACQUITY UPC² System is the use of inexpensive and non-toxic compressed CO₂ as a primary mobile phase that can take the place of toxic and volatile organic solvents that are extremely expensive to purchase and dispose of.



Double Award Win for Bruker at Pittcon 2012

The new GC-MS platform from Bruker Chemical and Applied Markets (CAM) Division – SCION TQ™ – picked up two prestigious awards at last week's Pittcon in Orlando, Florida. SCION TQ was the recipient of the 2012 Pittcon Editors' Choice Silver Award, given for the best new products at the 2012 Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy. Established in 1996, these independent awards, which represent the results of a poll of leading editors, have become an important feature of the world's largest trade show for the laboratory equipment industry.



Marcus Pattison congratulates David Brokaw, Sales Manager, Bruker, on winning the Pittcon Editor's Silver Award for the Scion TQ GC-MS platform.

The instrument also received the 4th Annual Reader's Choice Award for Gas Chromatography Products, sponsored by Laboratory Equipment Magazine.

Dr Rohan Thakur, Vice President of Bruker's Chemical and Applied Markets (CAM) Division commented: "It is very gratifying to get this positive market response. In addition to the commercial success we are already seeing, this recognition from both laboratory professionals and the industry tells me that we are on the right path in our product development. The SCION TQ and SCION SQ were developed with the gas chromatographer in mind – we wanted to enable users to reach lower detection limits, achieve better precision and higher productivity by removing the complexity and fragility of other instrument designs."

The SCION TQ and SCION SQ represent the first new-generation GC-MS products following Bruker's acquisition in 2010 of the Varian Lab GC, GC-MS quadrupole, and ICP-MS products. Design innovations such as Axial-Flow ion source, heated auto-focusing q0 ion optics, and EDR off-axis detector ensure the lowest possible detection limits and longest operation times. The ultra-fast 180° curved collision cell of SCION TQ delivers a space-saving design, which reduces instrument foot-print, thereby allowing laboratories to adopt triple quadrupole technology without sacrificing precious bench space.

Introduced in July 2011, the SCION TQ and SQ have already seen great acceptance in markets around the world. "SCION TQ was initially focused on high-growth application areas such as pesticide residue analysis and the food testing markets. But adoption has quickly spread to other segments: environmental and product safety, for example", said Meredith Conoley, Director of Marketing for Bruker's GC and GC-MS product line. "Importantly, key design innovations such as Compound Based Scanning (CBS) software, Axial Flow Source and Lens-Free Optical Ion Path, also apply to SCION SQ as well. So, the innovations that these prestigious awards recognise are there for single quad users too."

Protea's LAESI DP-1000 Takes Bronze

The LAESI DP-1000 System for direct ionisation analysis of biological samples received the Pittcon Editor's Bronze Award. Combining proprietary Laser Ablation Electrospray Ionisation (LAESI) technology with a high performance and versatile XYZ platform, the LAESI DP-1000 system allows fast and accurate direct ionization and mapping of biomolecules in biological samples and open well plates. With little or no sample preparation, biomolecules such as metabolites, lipids, peptides and proteins in native biological samples including tissue, blood, urine, live cells and colonies, can be quickly ionised and accurately mapped to specific cellular structures or tissue locations under ambient conditions. When coupled to high resolution mass spectrometers, the LAESI DP-1000 is capable of quantifying biomolecules as well.

"The entire team of Protea, is honoured to have received this award for the LAESI DP-1000 system," said Alessandro Baldi, Vice President and General Manager at Protea Biosciences. "We consider the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy as one of the industry's leading opportunities to present new and innovative products and we thank the Editors' Committee for this recognition. It is truly humbling to have the LAESI DP-1000 selected by the Pittcon editors as one of this year's top platforms. This award inspires us to continue developing new products to better serve the bio-analytical market with innovative solutions."

Waters and Protea Biosciences Group, Inc have announced a co-marketing agreement enabling customers of Waters® SYNAPT® G2 & G2-S HDMS systems to take advantage of Protea's LAESI DP-1000. The combination of the technologies enables laboratories to perform fast and direct analyses of biological samples.



Chris Jarvis, Sales and Marketing Manager, International Labmate (pictured right) congratulates Haddon Goodman, Protea BioSciences on winning the Pittcon Editor's Bronze Award for the LAESI DP-1000 System

**Pittcon 2013, will be held
March 17 to March 21, 2013,
at the Pennsylvania Convention
Center, Philadelphia, PA, USA,**