NEWS RELEASE

Bruker Highlights Innovative Analytical Solutions and Systems at Pittcon

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ORLANDO, Fla., Feb. 26, 2018 /PRNewswire/ -- At Pittcon 2018, Bruker (NASDAQ: BRKR) this week will highlight various innovative analytical systems and new high-value solutions for food analysis, pharmaceutical, clinical research, and materials science applications. At Bruker's Pittcon press conference, Professor Jeremy Nicholson from Imperial College London, UK will discuss 'The Future of Molecular Phenomics in Precision Medicine'.

Frank H. Laukien, Ph.D., Bruker's President and CEO, commented: "Our new analytical instruments and solutions shown at Pittcon 2018 demonstrate our close collaborations with analytical and research customers, whom we endeavor to support with new enabling tools. Our focus at Pittcon 2018 is on applied, pharma, clinical phenomics and proteomics applications, as well as on materials research and nanotechnology markets, and on education."

Food Analysis Solutions

Our updated Beer Freshness solution is the result of a collaboration between Bruker and FlavorActiv (**www.flavoractiv.com**). It is the only method to measure how process design and operations can improve or deteriorate beer freshness throughout the production cycle. This allows brewers to optimize their production processes and take corrective action earlier, ensuring freshness and product stability. The Beer Freshness solution is now available on Bruker's benchtop microESR™, supported by applications training, customized reagents, GMP flavor standards and support. **More...**

The new, fast Edible Oil solution by microESR measures the oxidation profile of edible oils, and provides a prediction of shelf life before the product is packaged and distributed. The Edible Oil solution includes SOPs for sample preparation and analysis, and provides fast results for timely, informed process control decisions to reduce rancidity of edible oils. **More...**

Bruker is pleased to announce the first US installation of the NMR FoodScreener™, marking a milestone in the adoption of this unique high-throughput and high-content solution for food authenticity and fraud prevention. This enables North American honey producers to screen their samples for adulteration and authenticity, in order to ensure their brand's reputation and value amidst growing concerns over food quality and authenticity worldwide. **More...**

AOAC International has approved the MALDI Biotyper solution for two new Official Methods of Analysis (OMA) for the identification of pathogenic and non-pathogenic bacteria. The OMAs cover common food pathogens (Salmonella spp, Cronobacter spp, Listeria spp and Listeria monocytogenes), and identification of other bacteria, such as quality indicators, spoilers and technological species. This fast and cost-effective microbial identification solution is also available for food safety authorities, food industries, and other food and feed testing facilities. **More...**

Pharma & Quality Control

Bruker's new MPA II is the next generation of the successful MPA Multi Purpose Analyzer, which employs FT-NIR spectroscopy for quick and reliable quantitative pharmaceutical QC. The MPA II incorporates state-of-the-art optics for performance and stability, as well as advanced lasers and long-lifetime light sources to enhance robustness and reduce maintenance costs. **More ...**

Bruker has acquired IRM2, a developer of high-speed infrared (IR) microscopes based on quantum cascade laser (QCL) technology. Innovative, fast QCL microscopy expands Bruker's technology portfolio for IR microscopy, with applications in tissue analysis and materials science. The IRM2 QCL platform provides IR imaging with detector arrays at high speed. A proprietary coherence reduction technique delivers unprecedented image quality, so that large areas can be studied more rapidly and at high resolution. **More...**

The mass-spectrometry BioPharma Compass 3.0 solution now includes clone selection and MALDI release identity testing to enhance biopharmaceutical characterization. It supports both high-resolution ESI and MALDI MS for comprehensive characterization, supporting 21 CFR Part 11 compliance. New butterfly plots allow for sub-unit and intact mass analysis for batch-to-batch comparisons, or originator vs. biosimilars analysis. Regulated rapid release identity testing employs MALDI to support 'pack and fill' QC. Clone screening using intact Fc/2 glycan profiles is performed by MALDI in applications where speed is beneficial. **More ...**

Clinical Phenomics and Proteomics

Bruker's established IVDr-by-NMRsolution for phenomics research is now also being offered for biobanking

applications to assess sample quality with rigorous SOPs. It can provide reliable, quantitative data on 150 metabolic biomarkers in urine in a single experiment under full automation, with high throughput and at low cost per sample. **More...**

Flow Injection Analysis - Magnetic Resonance Mass Spectrometry (FIA-MRMS) is a powerful new workflow for phenomics research and validation, where MS is complementary to NMR. FIA-MRMS can generate molecular formulae for >1,000 medium level metabolites, and reveals new metabolites not seen in LC-MS, e.g. polar compounds. With MetaboScape™ software, high confidence metabolite annotation is based on MRMS extreme mass resolution >1 million and mass accuracy ~0.2 ppm. High throughput, LC-free FIA measures >200 samples/day, enabling large cohorts and longitudinal studies in phenomics.

Bruker's revolutionary timsTOF Pro mass spectrometer for high sensitivity proteomics can now be integrated with the Evosep ONE (**www.evosep.com**) separation device for high-throughput clinical proteomics. The Evosep One is a novel chromatography system for large cohort proteomics, optimized for >200 samples/day and > 90% MS utilization. Its LC peak widths of ~2 seconds for ~5 minute gradients have been combined with the PASEF method on the timsTOF Pro with MS/MS rates >150 Hz. This novel combination delivers superb sensitivity (50ng HeLa) and high throughput for LFQ of ~1,200 proteins in ~5 minutes. For large sample cohorts, this enables biomarker research and validation on >200 samples per day - a breakthrough for future clinical proteomics.

Materials Science and Nanoanalysis

The new UMT TriboLab™ Brake Material Screening module delivers cost-effective development of friction materials by reducing the total characterization time from days to hours. The new module offers an industry-first benchtop test that simulates the standard SAE J2522 (AK Master) test and correlates well to dynamometer tests. Researchers and formulators can significantly accelerate brake pad development by screening for top performing materials before complete dynamometer testing, saving significant cost for automotive manufacturers and getting products to market faster. **More...**

Expanding the capabilities of the Dimension FastScan® and Icon® AFM systems, the new NanoMechanics Lab™ offers the most accurate and user-friendly AFM-based nanomechanical characterization. The NanoMechanics Lab is a suite of force-mapping modes that perform quantitative nanoscale investigation, extending from soft hydrogels and polymers to stiff metals and ceramics. Utilizing advanced algorithms and exclusive AFM probe manufacturing methods, these modes deliver the most repeatable and accurate high-volume quantitative measurements, adding in data cubes for multi-dimensional nanoscale analysis of materials. **More...**

In 2017, Bruker has acquired Luxendo, a spin-off of the European Molecular Biology Laboratory (EMBL) that

develops proprietary light-sheet fluorescence microscopy instruments. The Luxendo's single plane illumination microscopy (SPIM) technique significantly reduces sampling times over conventional laser scanning confocal microscopes, while reducing phototoxicity and damaging side effects on living specimens. The SPIM microscopes now significantly enhance Bruker's existing portfolio, enabling new research advances in small organism embryology, live-cell imaging, brain development and cleared brain tissue, and optogenetics applications.

Education

The microESR Education Package brings applied electron spin resonance (ESR) to undergraduate chemistry departments with all the tools needed to teach ESR in the classroom: spectrometer, user manuals, lab accessory kit, seven experiments and instructor's guide. Through the experiments provided, students will be exposed to the wide range of applications ESR is used for and gain practical, hands-on experience using a compact, benchtop ESR system. This affordable package is an excellent investment in tomorrow's scientists. **More...**

Please join us at Bruker's Pittcon booth #2719 throughout the conference, and at our press conference on Tuesday, February 27, 2018, at 11:45 am to 1:00 pm EST at the Orange County Conference Center, Room W209C. For more information on Bruker at Pittcon 2018: **https://www.bruker.com/events/pittcon/press-conference**

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