INSPIRING INNOVATION
NORTH AMERICAN TOUR

PRELIMINARY AGENDA & ABSTRACTS

Seattle, Washington | May 3, 2012

Times	Environmental Track	Pharmaceutical & Food Track
8:30 AM	Registration / INnovation Hub	
9:00 AM	Welcome & Introductions: INnovation Hub	
9:30 AM	Trace Metals in Drinking Water: Skills and Techniques for Better Analysis Presenter: **Ewa Pruszkowski**	HPLC Fluorescence of Endophyte Alkaloids Guest Presenter: **Prof. A Morrie Craig**, College of Veterinary Medicine, Oregon State University
10:00 AM	New Atomic Spectroscopy Offerings That Lower Laboratory Costs While Increasing Productivity Presenter: **Mark Parman**	Advancements in Solid Phase Extraction for Sample Preparation in Analytical Analysis Presenter: **Craig Young**
10:30 AM	Break / INnovation Hub	
11:00 AM	Analysis of Low-Level Metals in Seawater by ICP-MS Guest Presenter: **Michelle Briscoe**, Brooks Rand Labs	Impurities in your samples? Quick and easy identification of unknowns by LC/MS with DSA Presenter: **Charlie Schmidt**
11:30 AM	Optimizing Laboratory Profits with EPA Methods using Innovative Injection Technology and a New, Most Sensitive GC/MS Presenter: **Tom Kwoka**	Advantages and Challenges of EPA Draft Method 6870: Arsenic Analysis in Fish and Seaweed by HPLC-ICP-MS Guest Presenter: **Joel Creswell**, Brooks Rand Labs
12:00-1:00 PM	Lunch / INnovation Hub	
1:00 PM	Air Toxic Monitoring using PKI ATD-GC-MS Guest Presenter: **Cameron Hilton**, Momentive Specialty Chemicals	Verifying Ingredient Identity and Purity by FT-IR Spectroscopy and SIMCA Presenter: **Sam White**
1:30 PM	Answers in Seconds: Analysis of Pesticides in Drinking Water Presenter: **Charlie Schmidt**	What is the Impact of USP 232? Being Prepared to Meet the New Trace Metals Regulation Presenter: **Ewa Pruszkowski**
2:00 PM	Break / INnovation Hub	
2:30 PM	Going Paperless: Learn About the Challenges with Paper, the Components of a Paperless Lab and How to Convert to a Paperless Operation Presenter: **Rudy Potenzone**	Determining Flavors and "Defects" in Beer by Headspace Trap/Gas Chromatography/Mass Spectrometry Presenter: **Tom Kwoka**
3:00 PM	Nanoparticles in the Environment: Opportunities for Testing by ICP-MS Presenter: **Mark Parman**	Method Optimization and Validation Requirements for Chromatography Methods Presenter: **Tony Pezzolo**
1:00-4:00pm	INnovation Hub	

Note: Presentation titles, time and presenters subject to change.

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Environmental Track

Analysis of Low-Level Metals in Seawater by ICP-MS
Guest Presenter: Michelle Briscoe, Brooks Rand Labs

Numerous sources contribute metals to estuarine and near shore seawater. Monitoring for changes in metals concentrations is critical to developing accurate environmental assessments or evaluating the effectiveness of various pollution controls and remediation projects. The ICP-MS is widely recognized as one of the most accurate and precise analytical instruments for the determination of many trace metals in environmental water samples. However, the sensitivity of the instrument can be severely compromised by the introduction of elemental and physical interferences, such as those commonly found in seawater samples. EPA Method 1640 was drafted in 1997 specifically for the analysis of low-level trace metals in seawaters. This performance-based method describes three different sample preparation techniques for the reduction or elimination of matrix interferences and the pre-concentration of the sample. This presentation describes the method options available for the analysis of seawater and compares the benefits and drawbacks of each technique.

Air Toxic Monitoring using PerkinElmer ATD-GC-MS
Guest Presenter: Cameron Hilton, Research & Development, Momentive Specialty Chemicals

Methods utilizing thermal desorption for the analysis of volatile organic compounds arising from various wood species will be discussed. Sample collection, introduction, identification and quantification will be described.
This presentation demonstrates how enhancing GC/MS sensitivity can reduce laboratory costs by enabling the collection of smaller sample volumes and still be able to meet and/or exceed EPA criteria. If a significantly smaller sample size is being used, less extraction solvent will be used and less storage space is needed for the same number of samples. In most instances, the concentration step can be avoided, providing additional cost savings for the laboratory.

Trace Metals in Drinking Water: Skills and Techniques for Better Analysis
Author & Presenter: Ewa Pruszkowski, Sr. Applications Scientist (ICP-MS), PerkinElmer

Drinking water safety is one of the most important issues in the today's world. The NexION 300 ICP-MS system is well-equipped to handle the demands of U.S. EPA Method 200.8 for the analysis of drinking water samples. It has the flexibility to use the standard or collision/reaction modes to remove spectral interferences, while the method IDLs and MDLs can be met with ease. The analytical accuracy analyzing certified reference standards is excellent and long term stability is superb.

Answers in Seconds: Analysis of pesticides in Drinking Water
Author: Hayley Crowe, Product Specialist (Mass Spectrometry Detection), PerkinElmer
Presenter: Charlie Schmidt, LC/MS Lead, PerkinElmer

Direct Sample Analysis (DSA) time of flight (TOF) system enables an alternative workflow for analyzing water for pesticides, personal care products and other environmental compounds. This new technology provides results in seconds with no chromatography, sample preparation, or method development. You will learn about DSA, TOF, and how the integration of both technologies provides a more productive and easy workflow in any laboratory.

Going Paperless: Learn About the Challenges with Paper, the Components of a Paperless Lab and How to Convert to a Paperless Operation
Presenter: Rudy Potezone, Executive Director, Global Informatics, PerkinElmer

This session will focus on how to overcome paper-based obstacles and delays in the laboratory by way of an ELN. Explore how environmental labs can improve efficiency while simultaneously reducing errors with the right software. In addition, we'll discover why an ELN should not be considered a stand-a-lone system, and why integrating your lab is of high value.

Environmental Track

Nanoparticles in the Environment: Opportunities for Testing by ICP-MS?

Author: Chady Stephan, Product Specialist (Atomic Spectroscopy), PerkinElmer

Presenter: Mark Parman, Sr. Product Specialist (Atomic Spectroscopy), PerkinElmer

Engineered Nanomaterials (ENMs) are synthesized by a manufacturing process that produces and controls ENMs to have at least one dimension in the range of 1 to 100nm in size. ENMs often possess different properties than bulk materials of the same composition, making them of great interest to a broad spectrum of industrial and commercial applications. The widespread use and application of ENMs will inevitably lead to their release into the environment, which raises concern about their potential adverse effects on the ecosystems and, subsequently, human health.

This work describes the versatility of ICP-MS in analyzing Engineered Nanomaterials in the environment. In Standard Mode, an ICP-MS provides accurate composition and concentration measurements. In Single Particle Mode (SP-ICP-MS), it allows the differentiation between ionic and particulate signals, measures particle sizes (if shape is known), and explores agglomeration and size distribution. Coupled with a size separation technique, some information about the surface charge and functionality could be investigated.

Pharmaceutical & Food Track

HPLC Fluorescence of Endophyte Alkaloids

Guest Presenter: A Morrie Craig, Oregon State University

The presentation will provide an overview of an animal health problem in the US associated with ingestion of forage infected by fungal endopyte. Fungal plant endophytes contain one of the most toxic alkaloids that effect animal health. The HPLC Flourescence assay is the major tool used to rule in/rule out these alkaloids as a cause of clinical disease as it quantitates the endophyte alkaloids in ppb.

An Ag Fiber Industry has been created with the residues from the Pacific Northwest's grass seed industry. It is currently a $350 M industry with much of its profits coming from exported forage; 33,000 containers of grass straw and hay are shipped from the NW ports annually. To insure safe feed the Oregon State University Endophyte Testing Laboratory offers endophyte analysis of forage samples to insure safe feed.

Without knowledge of alkaloid levels in feed, animal health is at risk. As an example, in the past, these endophyte alkaloid toxins were associated with 600 cattle deaths as well as 42 deaths out of a herd of 300 in Oregon. The forage market is expanding to the Middle East to feed their camels, goats, and sheep. Major abortions have been reported from one farm attributed to imported feed; affecting 97 camels out of a herd of 310.

Advantages and Challenges of EPA Draft Method 6870: Arsenic Analysis in Fish and Seaweed by HPLC-ICP-MS

Guest Presenter: Joel Creswell, Research Scientist, Brooks Rand Labs

Arsenic is a naturally-occurring element, the toxicity of which is heavily dependent on its chemical form. It is often present at relatively high concentrations in seafood, making speciation analysis critical to determining the safety of these products. EPA Draft Method 6870 is a new method for Arsenic Speciation Analysis by Ion Chromatography-Inductively Coupled Plasma Mass Spectrometry. It uses a single digestion step, followed by analysis by both cation and anion chromatography to determine a wide range of arsenic species in biological samples. Brooks Rand Labs participated in the validation study for this new method and will share our experiences, results, and assessment of this powerful analytical tool.

Pharmaceutical & Food Track

Advancements in Solid Phase Extraction for Sample Preparation in Analytical Analysis

Author: Mike DiVito, Director, Sample Preparation & Separations, PerkinElmer

Presenter: Craig Young, Product Specialist (Liquid Chromatography), PerkinElmer

Sample preparation is arguably the most critical step within the analytical process, impacting the quality of the analysis and often representing up to 60 % of a laboratory technicians timetable. A variety of proven techniques, such as filtration, dialysis, liquid/liquid extraction and Solid Phase Extraction (SPE), are routinely adopted in today's analytical laboratories to resolve the vast array of sample preparation demands. This session will focus on the use of Solid Phase Extraction (SPE) for effective, efficient sample concentration and purification.

Verifying Ingredient Identity and Purity by FT-IR Spectroscopy and SIMCA

Author: Ben Perston, Applications Scientist (Molecular Spectroscopy) PerkinElmer

Presenter: Sam White, Sr. Product Specialist (Molecular Spectroscopy) PerkinElmer

Glycerin – Purity and safety of an important ingredient. You can use FT-IR to verify that incoming glycerin is really glycerin and not contaminated with other glycols. AssureID software offers an untargeted screening approach that provides good sensitivity for contaminants even in the presence of natural variability in the raw material.

Impurities in your samples? Quick and Easy Identification of Unknowns

Author: Hayley Crowe, Product Specialist (Mass Spectrometry Detection), PerkinElmer

Presenter: Charlie Schmidt, LC/MS Lead, PerkinElmer

Have you ever had an unknown peak or impurity in your sample and needed to figure out what it is? In this session we will provide an easy workflow using LC-TOF in the identification of unknowns. You will learn about time of flight mass spectrometry and how it is commonly used to provide elemental composition for unknowns.

Method Optimization and Validation Requirements for Chromatography Methods

Author & Presenter: Tony Pezzolo, Validation Specialist, PerkinElmer

A typical chromatography method will likely require changes, adjustments, and optimizations throughout the duration of its lifecycle. Unbeknownst to many, the existing guidance does allow for some method optimizations, without necessitating full method re-validation. The following talk serves as a primer for method validation, and will explore which parameters can be adjusted, and to what extent, without requiring the need for method re-validation.

What is the Impact of USP 232? Being Prepared to Meet the New Trace Metals Regulation

Author: Lee Davidowski, Sr. Product Specialist (Atomic Spectroscopy), PerkinElmer

Presenter: Ewa Pruszkowski, Sr. Applications Scientist (ICP-MS), PerkinElmer

This talk will cover the new proposed heavy metals methods, and discuss the requirements for laboratories to meet these regulations. Emphasis will be given to plasma based technology as it is most closely aligned with proposed metals limits and detection capabilities.