Environmental Measurement Symposium

"Science and Innovation That Serve the Public Good"

Program of Events

Minneapolis, MN
July 31 – August 3, 2023

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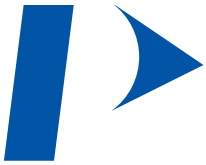

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Exhibition

Boundary Waters Foyer

Meet with instrument manufacturers, laboratory suppliers, LIMS providers, and other laboratory service providers. See the latest innovations in measurement technology, proficiency testing, sample preparation, and laboratory automation.

Exhibit Hours
Monday 5:30 pm to 7:00 pm
Tuesday 7:30 am to 5:00 pm
Wednesday 7:30 am to 3:30 pm

Welcome

Welcome to the Environmental Measurement Symposium

The 2023 Environmental Measurement Symposium is the combined meeting of The NELAC Institute's (TNI) Forum on Environmental Accreditation and the National Environmental Monitoring Conference (NEMC). Your attendance and participation are key elements to the Symposium's success. Look forward to a week of shared expert knowledge; energetic discussions of current issues and concerns affecting environmental monitoring and laboratories; exploration of products and services to support your endeavors; and invaluable networking with peers.

If this is your first time attending the Symposium, we hope you find it stimulating and beneficial. Our registration staff are available to assist you with any questions or to locate individuals you want to meet. Please let us know how we can help make your participation in the Symposium a success.

Have a great week!

Meals and Breaks

Continental breakfast is served daily from 7:00 – 8:00.

Mid–morning and mid–afternoon breaks are provided daily.

Monday's lunch is on your own.

Lunch is provided Tuesday and Thursday.

Wednesday's lunch is on your own, or you may attend a vendor sponsored lunch (pre–registration required). Refer to the detailed agenda on Wednesday for more information.

If you have special dietary needs, inform the registration staff.

Symposium Portal

For up–to–the–minute information about the Symposium, visit: https://portal.envirosymposium.group

- See the Daily Technical Program
- Watch recordings of presentations as they become available
- View the On-line Poster Exhibition

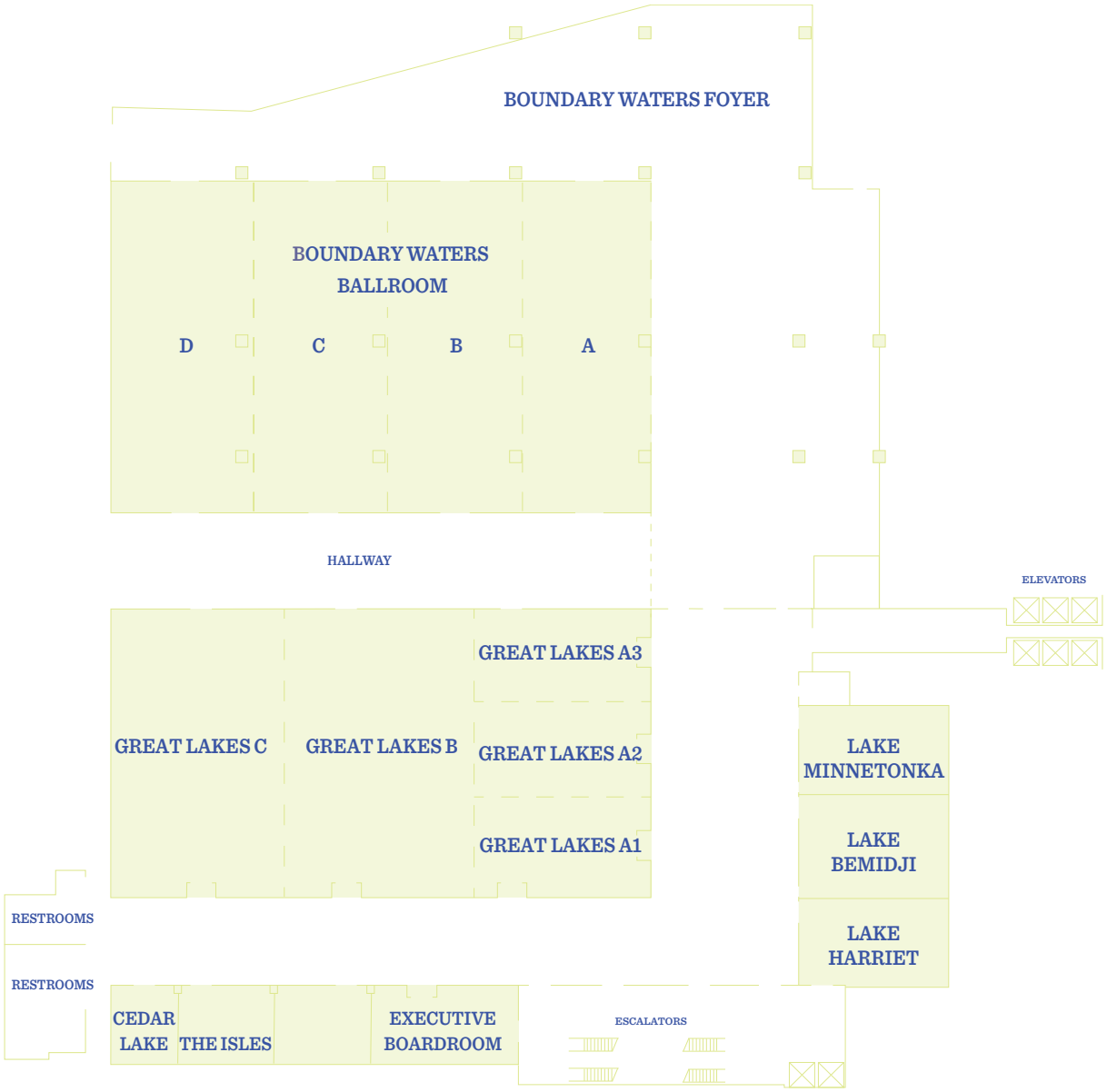
Presentations On-Line

You may preview each day's presentations by visiting

https://envirosymposium.group/2023/presentations

Recordings of sessions and meetings will be available on the Symposium Portal until October 31, 2023. Thereafter, presentations can be found on the Conference Proceedings for the respective conference.

Welcome



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Monday Technical Sessions

7:00 Continental Breakfast
Great Lakes Foyer

8:00 – 9:00 Keynote Address
Great Lakes BC

8:00 Welcome and Introduction: Lara Phelps, USEPA CEMM

9:15
Flush with Insight: The Future of Wastewater Surveillance
Adam Gushgari, Eurofins Pandemic Prevention Services

Dr. Gushgari's 10 years' experience in wastewater-based epidemiology has focused on leveraging his background in civil engineering, sustainability, and analytical chemistry to improve the efficacy and socioeconomic distribution of wastewater surveillance methods. Originally focusing on the quantification of opioid, narcotic, and pharmaceutical consumption surveillance, he has established projects at multiple levels of scale with partners in private industry and federal, state, and local governments. He developed the first US-based WBE project which provided a source of public-facing information to monitor opioid consumption in Tempe, Arizona. His novel contributions to the field have been leveraged in many high-profile projects including the first CDC SARS-CoV-2 National Wastewater Surveillance System (NWSS) program in 2021 where he served as the primary project manager and vendor principal investigator. Dr. Gushgari's education encompasses engineering and analytical chemistry, with experience including experimental design, analytical method development, project execution, and public interfacing for federal, state, and local projects at multiple levels of scale within municipal and private wastewater systems.

9:00 – 12:00 NEMC Laboratory Informatics
Boundary Waters B

Session Chair: Robert Benz, Clinisys, Inc.

9:00 PFAS, PFOS, PFOA, PTFE, and GenX Data: Requirements and Pitfalls for LIMS
Edward Askew, Askew Scientific Consulting LLC

9:30 End User Engagement as a Driver for the Development of an Enhanced Field Data Capture Product
Kevin Carter, Clinisys, Inc.

10:00 BREAK

10:30 Large-scale Data Integration and Harmonization to Accurately Predict Sites Facing Future Health-Based Drinking Water Crises
Jason Westra, Superior Statistical Research

11:00 Micro ELN©, an Innovative Data Management System for Automated Microbiological Analysis for Wastewater Treatment Plants
Devon Morgan, Clark County Water Reclamation District

11:30 The Key LIMS Capabilities You Need to Optimize Laboratory Operations and NELAP Compliance
Steve Wesson, Accelerated Technology Laboratories

Monday Technical Sessions

9:00 – 12:00 NEMC New Organic Monitoring Techniques (Session 1)

Boundary Waters C

Session Chairs: Charles Appleby, Retired and Richard Jack, Phenomenex

9:00 Determination of Polychlorinated Biphenyl Congeners (PCBs) and Organochlorine Pesticides (OCPs) in Fish by Two-Dimensional Gas Chromatography Micro-Electron Capture Detection
Ruud Addink, Fluid Management Systems

9:30 Development of a Semi-Volatile Column Optimized for the Analysis of Hazardous Waste
Chris English, Restek Corporation

10:00 BREAK

10:30 GC/MS/MS Determination of Semivolatiles (SVOCs) Using Nitrogen Alone as Carrier, Reagent and CID Gas
Douglas Stevens, Waters Corporation

11:00 Scaling Liquid-Liquid Sample Preparation: Moving from Separatory Funnels to a Vial-Based Extraction for Semivolatile Organics Analysis by GC-MS/MS
Ken Rosnack, Waters Corporation

11:30 Ultra-trace Level GC/MS/MS Analysis of Organochlorine Pesticides Using a Large Volume Injection with a Temperature Programmed Inlet
Alexis Willey, Agilent Technologies

9:00 – 12:00 NEMC Operational Issues Impacting the Environmental Laboratory Industry

Great Lakes A

Session Sponsored by

Session Chairs: Stacie Crandall, HRSD and Judy Morgan, Pace Analytical

9:00 Analytical Method Range – What Is It and How to Maximize It?
Ilkka Lahdesmaki, FIAlab Instruments, Inc.

9:30 How IDEXX Tecta Automated Microbial Testing System Can Support Various Laboratory Operations
Patsy Root, IDEXX Water

10:00 BREAK

10:30 Increasing Efficiency in BOD Analysis with Automated Sample Preparation and Measurement
Sarah McFaul, SEAL Analytical

11:00 Managing Doubly Charged Rare Earth Element Interferences in SQ & QQQ ICP-MS
Craig Jones, Agilent Technologies

11:30 Recent Advances in Discrete Analysis Technology for Automated Simultaneous Multi-Parameter Wet Chemistry Testing in Drinking Water, Wastewater, and Soil Samples
Carl Fisher, Thermo Fisher Scientific

Monday Technical Sessions

9:00 – 12:00 TNI Chemistry Expert Committee

Boundary Waters D

Committee Chair: Michelle Wade, Pace Analytical Services

The Chemistry Expert Committee is responsible for Module 4 of the TNI laboratory accreditation standard. This includes requirements for the calculation of limits of detection (LOD), limits of quantitation (LOQ), calibration curves, and other related values.

9:00 Committee Updates
- Review of Committee Activities
- Review or Standard Interpretation Requests

10:00 BREAK

10:30 Proposed Modifications to EL V1M4
- 1.4 /1.5 Method Selection and Method Validation
- 1.5 LOD/LOQ (Validation/Verification)
- 1.6 Demonstration of Capability
- 1.7.1 Calibration
- 1.7.2 Quality Control, 1.7.3 Data Acceptance, and 1.7.4 Sample Handling
- Open Discussion on V1M4 Changes

12:00 – 1:30 Lunch on Your Own

1:30 – 5:00 NEMC Air Monitoring, Methods, and Technology

Boundary Waters C

Session Chairs: Hanna Calder, Markes International, Jason Herrington, Restek Corporation and Jason Hoisington, Restek Corporation

1:30 Real-Time VOC Measurements in Ambient Air Using Thermal Desorption, Broadband Cavity Ring-Down Spectroscopy
Aurelie Marcotte. Entanglement Technologies, Inc

2:00 Ethylene Oxide: Techniques for Sample Collection and Overcoming the Challenges of the Analysis
Hannah Calder, Markes International

2:30 Dynamic Focusing: A New Technique for Focusing VVOC's and Managing Water in Automated Ambient Air Analysis Using TD-GCMS
Kurt Thaxton, GERSTEL GmbH

3:00 BREAK

3:15 Ambient and Indoor Air Sampling for Per- and Poly-fluorinated Alkyl Substances (PFAS)
Jason Hoisington, Restek Corporation

3:40 Online Monitoring of Particulate Matter (PM2.5) Using Thermal Desorption and GC–TOF MS
Nadin Boegelsack, SepSolve Analytical

4:05 Rapid and Automated Determination of EC and OC in Air Filter Samples
Jessica Gantt, Analytik Jena US LLC

4:30 Seasonal and Fractional Variability of Particle-bound PAHs in an Urban Environment
Inkyu Han, Temple University College of Public Health

Monday Technical Sessions

1:30 – 5:00 Environmental Forensics
Boundary Waters B

Session Chairs: Kitty Kong, Chevron and Kesavalu Bagawondoss, SGS

1:30 The Case for Hydrocarbon Forensics: The Best Methods for Your Site
Dave Gratson, Environmental Standards

2:00: Chemical and Isotopic Testing as Part of Colorado's Unique Approach to Monitoring Oil and Gas Development – What Have We Learned?
Patrick Travers, Environmental Standards, Inc.

2:30 Modified ASTM Method D7363 for the Bulk Measurement of Polar Petroleum Metabolites in Produced Waters and Petroleum Impacted Groundwater
Eric Litman, NewFields Environmental Forensics Practice LLC

3:00 BREAK

3:30 Mechanics of Data Acquisition for PFAS Forensics
Kesavalu Bagawandoss, SGS North America, Inc.

4:00 A Forensics Based Approach to Evaluating PFAS Contamination in the Environment
Charles Neslund, Eurofins Lancaster Laboratories Environment Testing

4:30 Soluble, Exchangeable, and Total Hexavalent Chromium Levels in Slag with Focus on US EPA Methods 3060A/7199 with XANES Comparison
David Gratson, Environmental Standards, Inc.

1:30 – 5:00 Polyfluoroalkyl Substances (PFAS) in the Environment (Session 1)
Great Lakes A

Session Chairs: Mike Chang, Restek Corporation and Charles Neslund, Eurofins Lancaster Laboratories Environment Testing

1:30 Interlaboratory Validation of D8421, Standard Test Method for Determination of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Matrices by Co-solvation Followed by Liquid Chromatography Tandem Mass Spectrometry (LC/ MS/MS)
Larry Zintek, USEPA Region 5

2:00 A Comparison of the Results Generated from the Use of Two New EPA Draft Methods
Charles Neslund, Eurofins Lancaster Laboratories Environment Testing

2:30 Measurement of Volatile PFAS in Indoor Air Using TD-GC-MS: a Robust Analytical Method to Increase Understanding of a Less Explored Route of Exposure
Ericka Hachmeister, Markes International Ltd

3:00 BREAK

3:15 A Novel Approach to Total Organic Fluorine Analysis Using CIC
Jay Gandhi, Metrohm USA

3:40 Method Development for Ultrashort-Chain and Short-Chain PFAS Analysis in Potable and Non-Potable Waters
Shun-Hsin Liang, Restek Corporation

4:05 Optimizing Large Volume Injections to Achieve Ultra Low-Level Detection while Maintaining Method Robustness
Emily Parry, Agilent Technologies

4:30 Per- and Polyfluorinated Alkyl Compound (PFAS) Analysis in Cosmetics Using High Resolution Accurate Mass Spectrometry
Craig Butt, SCIEX

Monday Technical Sessions

1:30 – 5:00 TNI Quality Management Systems Expert Committee

Boundary Waters D

Committee Chair: Debbie Bond, Alabama Power

The Quality Management Systems Committee develops a standard for the quality systems in environmental laboratories. The elements of the quality system include organizational structure, responsibilities, procedures, processes, and resources (e.g., facilities, staff, equipment) for implementing quality management in testing operations.

- Update from QMS Committee and QMS Workgroups
- "Critical Supplies and Services" and 5.6.4

3:00 BREAK

- Valid / Non-Valid SIR Review (for updates to V1M2)
- Draft Volume 1 Module 2 Review

5:30 - 7:00 Opening Reception and Exhibition

Boundary Waters Foyer

Reception and Exhibition

Monday
5:30 pm to 7:00 pm
Boundary Waters Foyer

Join us to network with peers
and see the latest innovations for environmental laboratories.

Tuesday Technical Sessions

7:00 Continental Breakfast
Great Lakes Foyer

8:00 – 9:00 Keynote Address
Great Lakes BC

8:00 Welcome and Introduction: Jerry Parr, The NELAC Institute

8:15
Successes of the DOD Environmental Laboratory Accreditation Program
Jordan Adelson, US Navy

Dr. Jordan Adelson has a Ph.D. in environmental analytical chemistry, and currently serves as the Director of the Navy's Laboratory Quality and Accreditation Office (SEA 04Q(LQAO)) and as the Chair of the DoD Environmental Data Quality Workgroup (EDQW). The LQAO is part of the Naval Sea Systems Command Oversight and Assessment Division (04Q) and has oversight of the Naval Shipyard Material Testing Laboratories and administers a program overseeing quality systems implementation for all NAVSEA chemical, environmental and material testing laboratories. The EDQW includes representatives from all of the DoD Components and develops and recommends DoD policy with respect to environmental sampling and testing operations. The workgroup's primary goals are to: promote the generation of environmental data of known and documented quality; develop and recommend DoD policy affecting environmental sampling and testing operations; facilitate a coordinated response to legislative and regulatory issues; and coordinate the exchange of technology and best management practices within the DoD. Dr. Adelson has been working with the Navy since 2000. Prior to working with the Navy, Dr. Adelson worked for the New York City Department of Environmental Protection.

9:00 – 12:00 NEMC Analyzing Microplastics in the Environment
Boundary Waters B

Session Chairs: Tarun Anumol, Agilent and Shelly Walther, Los Angeles County Sanitation Districts

9:00 Automatic Sample Preparation Device for Monitoring Microplastics in Water
Ruth Marfil-Vega, Shimadzu Scientific Instruments

9:20 Automated Analysis of Microplastics Using a Laser-Based Analyzer
Louis Tisinger, Agilent Technologies

9:40 Determination of Microplastics in Water and Wastewater Using IR Spectroscopy
William Lipps, Shimadzu Scientific Instruments

10:00 BREAK

10:30 Microplastics Analysis Using Accelerated Solvent Extraction (ASE) and Pyrolysis Gas Chromatography / Mass Spectrometry (Pyr-GC/MS)
Chris Shevlin, Thermo Fisher Scientific

11:00 Microplastics in Minnesota Lakes: Adventures in Sampling and Analysis of Environmental Samples
Elizabeth Minor, University of Minnesota Duluth

11:30 Determination of Tire Additive Transformation Products in Environmental Samples by LC-MS/MS
Agustin Pierri, Weck Laboratories

Tuesday Technical Sessions

9:00 – 12:00 NEMC Best Management Practices for Environmental Laboratories
Boundary Waters C

Session Chairs: Andrea Teal, Eurofins and Elizabeth Turner, Pace Analytical

9:00 Hot Topics for Newly TNI Accredited Laboratories
Charles Newton, NSF Laboratories, and Mitzi Miller. MQC, LLC

9:30 Quality Assurance and Compliance Best Practices and Trends
Michael Perry, Las Vegas Valley Water District

10:00 BREAK

10:30 Adventures at the Frankenstein Factory
Jerry Parr, The NELAC Institute

11:00 Continuous Improvement Within Environmental Testing Laboratories
Scott Siders, Illinois Environmental Testing Laboratory Association

11:30 Have You Defined a Fence Line for Your Quality Management System?
Elizabeth Turner, Pace Analytical Services, LLC

9:00 - 12:00 NEMC Ensuring Reliable Data
Boundary Waters D

Session Chairs: Jerry Parr, The NELAC Institute and Michelle Wade, Pace Analytical Services

9:00 Ensuring Reliable Data: An Overview
Patsy Root, IDEXX Water

9:20 Sufficient Documentation to Reconstruct the Results is a Key Component of Reliable Data
Robert Wyeth, The NELAC Institute

9:40 Reliable Data Must Ensure Results Are Reported Correctly
Maria Friedman, California ELAP

10:00 BREAK

10:30 The Competency of Analysts is a Key Component of Reliable Data
Jessica Jensen, KC Water

11:00 Traceability of Samples, Reference Materials, Reference Standards, and Reagents is a Key Component of Reliable Data
Michelle Wade, Pace Analytical Services

11:30 Meeting Daubert Standards for Data Admissibility is a Key Component of Reliable Data
Jerry Parr, The NELAC Institute

Tuesday Technical Sessions

9:00 – 12:00 TNI Assessment Forum "25 Years of Assessing Laboratories"

Great Lakes A

Session Moderator: Judy Morgan, Pace Analytical

- Twenty-five year anniversary of the standard (1997 was first standard).
- Where we came from, where we are, and why? History of TNI and why it came about.
- Who, what, when, where, whys of the most misunderstood parts of the standard… not only knowing the words of the standard, but the real reason the requirement was made and why it matters.

9:00 Evolution of the TNI Laboratory Accreditation Standard
Judy Morgan, Pace Analytical and Jerry Parr, The NELAC Institute

10:00 BREAK

10:30 Morphology of Assessments - How Assessments Have Changed
Mitzi Miller, Miller Quality Consulting

11:15 Experimenting with Quality
Dorothy Love, Eurofins Lancaster Environmental

12:00 – 1:00 Lunch Provided

Great Lakes BC

1:00 – 3:00 NEMC Crafting Consensus Methods for Environmental Sampling and Measurement

Boundary Waters B

Session Chairs: Raul Dominguez, South Coast AQMD and William Lipps, Shimadzu Scientific Instruments

1:00 ASTM International and the Building of Consensus Standards Supporting Environmental and Analytic Laboratories
Raul Dominguez, South Coast AQMD

1:30 ASTM D19 Method Development and Validation Process for Inorganic and Organic Methods Intended for EPA Compliance
William Lipps, Shimadzu Scientific Instruments

2:00 Validation of ASTM D7968, Standard Test Method for Determination of Per- and Polyfluoroalkyl Substances (PFAS) in Soil, for the Complete Analyte List in ASTM D8421
Lawrence Zintek, US EPA

2:30 New Method for Safe Flashpoint Testing of Wastewater
Juan Ayala, Analytical Instruments, Inc.

Tuesday Technical Sessions

1:00 – 3:00 NEMC Emerging Environmental Applications High Resolution Mass Spectrometry

Boundary Waters C

Session Chair: Paul Winkler, Retired

1:00 Accurate Mass Library for PFAS Analysis in Environmental Samples Using High Resolution GC/Q-TOF
Tarun Anumol, Agilent Technologies

1:30 Novel PFAS Analysis Using High Resolution Accurate Mass Spectrometry
Craig Butt, SCIEX

2:00 Monitoring of PFAS by LC-QTOF: Streamlined Workflow for the Non-research Environmental Laboratories
Ruth Marfil-Vega, Shimadzu Scientific Instruments

2:30 FluoroMatch Flow: An Open Source HRMS PFAS Annotation Tool
Tarun Anumol, Agilent Technologies

1:00 – 3:00 Environmental Monitoring Coalition (EMC)

Boundary Waters D

Coalition Chair: Jerry Parr

The EMC develops consensus recommendations and provides advice to federal and state agencies and stakeholder groups that will reflect the opinions and positions of its constituents on issues that include but are not limited to:

- Validating and implementing methods for environmental sample collection and analysis;
- Encouraging the method performance approach in environmental monitoring and regulatory programs;
- Employing a quality systems approach that ensures that environmental monitoring data are of reliable;
- Facilitating the operation and expansion of a national environmental accreditation program; and
- Providing input on specific method implementation and monitoring issues.

1:00 Update on 2023 Activities

1:30 Open Forum: The Open Forum will allow attendees to bring issues to the Coalition that need to be addressed.

1:00 – 3:00 TNI Microbiology Expert Committee

Great Lakes A

Committee Chair: Cody Danielson, Oklahoma DEQ

The Microbiology Expert Committee is responsible for Module 5 of the TNI laboratory accreditation standard.

Update and Discussion Regarding Response to Comments to the V1M5 Draft Standard
Update on Understanding Microbiology 5 Part Series
Implementation Guidance/Best Practices: Work on guidance for temperature distribution studies

Afternoon Break Sponsor

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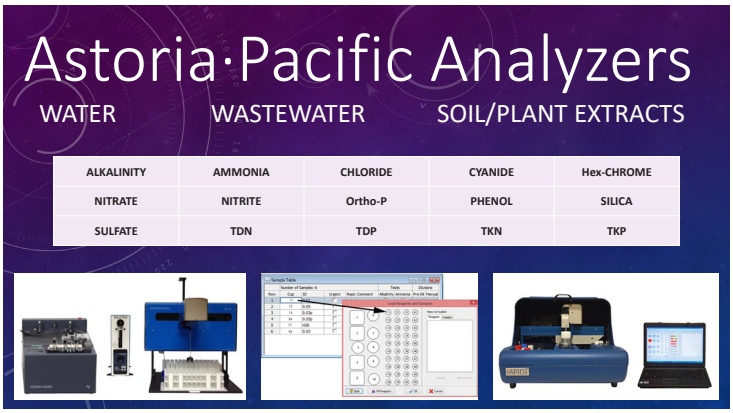
Thank You!



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New Technology Showcase

Tuesday, 3:30 – 5:00
Great Lakes Promenade

The Innovative New Technology Showcase features a five-minute oral presentation for each new technology followed by a networking session.

Bruker Optics
Scanning Infrared Gas Imaging System (SIGIS 2) and Open Path Spectrometer (OPS)
The SIGIS 2 system utilizes infrared light naturally emitted from the environment (i.e., a passive system) to create a spectrum containing information on the types of gases in the surrounding area in real-time. This spectral data is collected for each pixel on a live feed of the scan area, and identified chemicals are overlaid on the image to isolate the source of chemical emissions. The OPS is a remote sensing option which has its own infrared source and reflecting mirror (i.e., an active system). This permits the OPS to achieve lower detection limits (ppb) and offer better quantification of chemical species than the SIGIS 2, while sacrificing the ability to image the scan area.

CEM Corporation
BLADE, The Future of Microwave Digestion
Speed, simplicity, flexibility, and performance come into the laboratory with BLADE. From the single vessel and snap-on cap design, to the integrated camera, to the high performance single mode focused cavity, BLADE is bringing the future of microwave digestion to you. Routine to extreme, digestions are complete in mere minutes. The system automatically loads samples into the cavity for complete control over every digestion while leaving operators free to perform other tasks or pause and add rush samples, as needed. A simple integrated interface with a 10" touchscreen makes programming, monitoring, and data recall a breeze.

Entanglement Technologies, Inc.
AROMA Analyzer
Entanglement Technologies' AROMA analysis platform is a thermal desorption, broadband cavity ring-down (TD-CRDS) spectroscopy system capable of part-per-trillion (ppt) speciated volatile organic compound (VOC) measurements in near real-time. Coupling gas chromatographic separations with broadband (> 100 nm wavelength ranges) CRDS enables the sensitive and selective detection of volatile compounds that can be challenging to detect by other analytical methods. AROMA has been developed, validated, and deployed in the field to measure a range of VOCs in liquid and vapor matrices including ambient air, stack emissions, drinking water, sanitary sewer headspace, wastewater and oilfield produced fluid.

Glass Expansion, Inc.
IsoMist-MS with Jet Vortex Interface (JVI)
Glass Expansion's newly-developed IsoMist-MS and patented "Jet Vortex Interface" (JVI) grants the ICP-MS user access to new levels of instrument performance. The IsoMist-MS, fully compatible with the Agilent® 7850/7900/8900 and Thermo Fisher Scientific Q/RQ/TQ, is a plug-and-play upgrade to the standard spray chamber, which results in the highest throughput with the lowest carryover, even for the most troublesome "sticky" elements, including Hg—a boon for any environmental lab concerned with the integrity of their analyses.

Markes International Ltd.
Centri 90
Centri 90 is an automated sample concentration instrument for the GC–MS analysis of VOCs /SVOCs in solids, liquids and gases. Centri 90 delivers outstanding sensitivity and enhanced productivity for routine static headspace, SPME and SPME Arrow applications. With its small footprint, Centri 90 integrates seamlessly with all major brands of GC, and it is easy to upgrade existing robotics (CTC PAL3) and bring new life to GC(–MS) workflows, to obtain superior-quality data and make better-informed decisions, while retaining automated sample preparation and GC injection. Centri 90 can be further upgraded as necessary with a multi-tube autosampler for sample analysis by thermal desorption and high-capacity sorptive extraction.

New Technology Showcase

NECi
What's New in Biotechnology Chemists Can Use!
A new method for orthophosphate, based on an enzyme called PNP, is a one-step reaction with detection at 360nm and has been validated for water and soils. An established medical research assay for enzyme-based nitrate method with detection by fluorescence was modified for environmental applications, increasing sensitivity by ten-fold or more into the low ppb range. A dual enzyme system that removes oxygen from liquids or air can be applied to calibration of DO probes, or ease of working with anaerobic microbes.

Shimadzu Scientific Instruments
Infinite Possibilities with Shimadzu's AA-7800
Atomic adsorption has been serving the public good for decades; however, there has been limited innovation focused on this key instrument for environmental monitoring in the past years. Until the development of Shimadzu's AA-7800. The world's smallest and dual atomizer AA opens infinite possibilities for environmental applications. Join us to discover how the AA-7800 can help enhance the analysis of metals in your lab, at broad ranges of concentrations and even in organic solvents.

TELLUS Networked Sensor Solutions, Inc.
AirView
AirView™ is a software platform that includes interactive dashboards and maps to display air quality data in an easy-to-understand manner for the community. This platform is powered by TELLUS CoreDI™, which is the outcome of more than 15 years of rigorous multidisciplinary research, developed at the University of Utah. The CoreDI technology is focused on offering high spatial resolution air quality monitoring. CoreDI is a sophisticated, multi-tiered hardware-software ecosystem that guarantees the most accurate data collection and representation.

ThermoFisher Scientific
New ICP-MS solutions
With its high sensitivity, wide dynamic range, and fast multi-element analysis, Inductively Coupled Plasma Mass Spectrometry (ICP-MS) has become one of the most relevant techniques for environmental analysis. Increased detection of trace elements in high matrix samples, such as sea water, brackish water, sludges, and solid wastes, led to the increased demand for more robust yet sensitive and easy to use instrumentation.

TOFWERK
ecTOF
The ecTOF simultaneously analyzes samples with electron and chemical ionization MS detection. Various combined modes of EI and CI operation enable multidimensional analysis for target, suspect, and non-targeted applications. The ecTOF splits the GC effluent into two equal parts for introduction into the electron ionization (EI) and the chemical ionization (CI) chambers. The instrument rapidly switches between the ion beams, yielding structural and molecular information with a single GC run. TOFWERK's Helical Resonator Plasma (HRP) CI source offers unmatched sensitivity for GC and preservation of chromatographic performance for the whole GC spectrum.

TOFWERK
Vocus CI-TOF
A chemical ionization mass spectrometer delivering sub-ppt limits of detection for the measurement of VOCs and VICs, optimized for use in laboratories, industrial sites, and mobile applications. The Vocus CI-TOF reports concentrations of volatile organic and inorganic compounds (VOCs and VICs) with part-per trillion (ppt) limits of detection. Vocus limits fragmentation so that molecular ions can be observed in real-time at high-resolution, allowing for the characterization of complex mixtures without traditional chromatography methods.

Waters | ERA
PFAS PT, CRM and QR Product Portfolio
Per- and Polyfluoroalkyl Substances (PFAS) are widely used in industrial and consumer products. They have increasingly become of concern for health reasons, therefore leading to calls for more stringent regulations and monitoring. As a result, environmental testing laboratories are being asked to analyze for more species of PFAS at lower concentrations. At Waters ERA, we continue to streamline our PFAS product line to keep pace with your needs and evolving analytical methods.

Wednesday Plenary Session

7:30 Continental Breakfast
Boundary Waters Foyer

8:15 – 12:00 PLENARY SESSION: Science and Innovation that Serve the Public Good
Great Lakes BC

8:00 Welcome
Earl Hansen, The NELAC Institute

8:15 Introduction to Session
Lara Phelps, USEPA ORD, CEMM

8:30
A Full-CERCLE Approach: Community-Engaged Research Collaborative for Learning and Excellence
Alexa Dietrich, US EPA

Dr. Alexa S. Dietrich is the Senior Scientist for Community Participatory Research with the Center for Environmental Solutions and Emergency Response (CESER) at ORD. She recently joined the EPA from the Social Science Research Council, where she directed programs on sustainable and equitable research collaborations. She is trained in medical anthropology and epidemiology, earning both a PhD and MPH from Emory University conducting community action research in the northern pharmaceutical corridor of Puerto Rico. Her book The Drug Company Next Door: Pollution, Jobs, and Community Health in Puerto Rico (NYU Press, 2013), won the Julian Steward Award for the best book in environmental anthropology in 2015. Her recent publications focus on environmental health vulnerabilities, preparedness, and decision-making in New York City and Puerto Rico, as well as the ethical practice of community-engaged collaborative research. She was also a founding board member of La Colmena, Staten Island's community jobs and immigration resource center.

9:15
Building Trust: Bridging the Gap Between Citizens and Government
Lily Tsai, Massachusetts Institute of Technology

Lily L. Tsai is the Ford Professor of Political Science at the Massachusetts Institute of Technology (MIT), the Director and founder of the MIT Governance Lab, as well as the current Chair of the MIT Faculty. Her research focuses on accountability, governance, and political participation in developing contexts, particularly in Asia and Africa. In 2014, she founded MIT GOV/LAB, a group of social and behavioral scientists and design researchers who develop and test innovations in citizen engagement and government responsiveness. By focusing on how and why citizens become active in engaging their governments, Tsai aims to bridge researcher and practitioner communities by developing learning collaborations that can respond to governance challenges using empirical evidence in real time. Tsai has written two books, When People Want Punishment: Retributive Justice and the Puzzle of Authoritarian Popularity, and Accountability Without Democracy: Solidarity Groups and Public Goods Provision in Rural China, as well as articles in The American Political Science Review, The Journal of Politics, Comparative Political Studies, Political Behavior, Comparative Politics, and World Development.

Wednesday Plenary Session

10:30

Public and Stakeholder Engagement in Environmental Policy and Decision Making

Mahmud Farooque, Consortium for Science, Policy, and Outcomes - ASU Washington Center

Mahmud's work at ASU's Washington Center focuses on linking science policy to better societal outcomes. He co-leads CSPO's long-term efforts to build a community of practice among innovative R&D program managers in the government, non-government and private sectors. These include convening informal and formal knowledge exchanges between program managers about the challenges and opportunities for innovating in path dependent institutions. Mahmud is the principal coordinator of Expert and Citizen Assessment of Science and Technology (ECAST) – a distributive institutional network that brings together research centers, informal science education centers, citizen science programs and non-partisan policy think tanks to engage citizens on decision-making related to science and technology policy. He led large-scale public participation projects on biodiversity, space, climate, and energy to support policy and decision-making at the national and global levels.

11:15

Water AND Heat: Using Community Science to Address Hazard Bias

Janice Barnes, Climate Adaptation Partners

Dr. Janice Barnes, founder of Climate Adaptation Partners, a NYC and Asheville WBE, focuses on planning, advocacy, and partnership-building for climate adaptation. With technical training in architecture and organizational behavior, she helps clients to critically evaluate their risk tolerances and possible adaptation pathways given current and expected exposures and link these to appropriate design and financing or funding options. Working from the intersection of climate change and public health, Janice links environmental, social, and economic indicators to advance resilience principles and connect knowledge across communities. Janice has a Ph.D. and a Master of Science from the University of Michigan, a Master of Architecture from Tulane University, a B.A. from the University of Tennessee, and a certificate in Municipal Finance from the University of Chicago. She values teams' collective contributions to broaden transdisciplinary practices. Her message settles on a shared truth about the responsibilities to act on climate change as its implications are increasingly understood: #WeCantUnknowThis

Wednesday Technical Sessions

12:00 – 1:30 Lunch on Your Own or Attend a Free Lunch Seminar with

Agilent Technologies

Stay Ahead with Comprehensive Workflows for Analysis of PFAS

Boundary Waters B

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Lake of the Isles

Considerations for PFAS Analysis from Multiple Matrices

Lake Nokomis

Pure Chromatography

Analytical Challenges and Progresses in PFAS Analysis

Lake Bemidji

Excellence in Science

Newest Solutions to Serve the Public Good

Lake Harriett

Part 1: Microplastics Analysis via FTIR Microscopy; Part 2: Pyrolysis-GC-MS: A Powerful Approach for Microplastics Determination; Part 3: Unlock your Laboratories' Potential for PFAS Testing Solutions, Ed George

Boundary Waters C

THE SCIENCE OF WHAT'S POSSIBLE.™

Navigating Peaks and Pitfalls of PFAS Method Validation

Boundary Waters D

Wednesday Technical Session

1:30 - 5:00 NEMC Collaborative Efforts to Improve Environmental Monitoring
Boundary Waters C

Session Chairs: William Lipps, Shimadzu Scientific Instruments and Lem Walker, USEPA OST

1:30 Evaluation of Biopsy Plug Samples Versus Homogenized Fillets for Monitoring Mercury and Selenium in Fish Tissue
Harry McCarty, General Dynamics Information Technology

2:00 Analysis of SVOCs with GC-MS/MS
Yoshiro Hiramatsu, Shimadzu Scientific Instruments

2:30 Development of the ASTM Standard Practice for Estimating pH to Verify Status of Laboratory Samples D8294-21
Christian Prokisch, MACHEREY-NAGEL

3:00 BREAK

3:30 Optimization of Total Nitrogen (TN) and Total Organic Carbon (TOC) Analysis using Combustion Methodology
Ashley Roberts, Hampton Roads Sanitation District (HRSD)

4:00 Online Analyzer Technology Use for Regulatory Compliance
Stacie Crandall, Hampton Roads Sanitation District (HRSD)

4:30 An Overview of the Standard Methods Organization and How You Can Participate
William Lipps, Shimadzu Scientific Instruments

1:30 - 5:00 NEMC New Organic Monitoring Techniques (Session 2)
Boundary Waters B

Session Chairs: Charles Appleby, Retired and Richard Jack, Phenomenex

1:30 Analysis of VOCs by EPA 524.3 with Nitrogen as Purge and Carrier Gas
Ruth Marfil-Vega – Shimadzu Scientific Instruments

2:00 Versatile Options for Extending Range and Sensitivity for Monitoring Volatile Organic Compounds (VOCs) in Water and Soil by Automated, Cryogen-free Headspace– and SPME–trap with GC–MS
Ericka Hachmeister, Markes International

2:30 A Novel SPE Disk that Combines the Advantages of SPE Cartridges and Conventional 47-mm Disks While Overcoming their Challenges
Ian Wan, PromoChrom Technologies

3:00 BREAK

3:30 High-throughput Characterization of Petroleum Hydrocarbons in the Environment
Nadin Boegelsack, SepSolve Analytical

4:00 Improved Automated Sample Preparation for Persistent Organic Pollutants using Parallel Gas Assisted Accelerated Solvent Extraction and Automated Solvent Concentration
Chris Shevlin, Thermo Fisher Scientific

Afternoon Break Sponsor

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Wednesday Technical Sessions

1:30 – 5:00 TNI Mentor Session: "Building Success as a Quality Manager in Four Easy Concepts"

Great Lakes A

Session Moderator: Dorothy Love, Eurofins Lancaster Environmental

1:30 BINGO Time - Traits and Skills of a Quality Manager – Where Do You Stand?
2:00 Building Leadership and Communication Skills
Calista Daigle, Pace Analytical Services
2:30 Building as a Researcher/Teacher
Michelle Wade, Pace Analytical Services

3:00 BREAK

3:30 Building and Identifying Your Team's Skills
Valerie Slavin, Pace Analytical Services
4:00 Building Effective AB-Laboratory Relationships
Dorothy Love, Eurofins Lancaster Environmental
4:45 Open Forum

1:30 – 3:00 TNI Proficiency Testing Program Executive Committee

Boundary Waters D

Committee Chair: Stacie Crandall, HRSD

The purpose of the Proficiency Testing (PT) Program Executive Committee is to establish and maintain a national PT program to support a national environmental accreditation program including establishing Fields of Proficiency Testing (FoPT).

- Proficiency Testing Provider Accreditor Annual Reports
  - A2LA - Nick Slawson
  - ANAB - Patrick Selig
- Recent Accomplishments
- Subcommittee Updates
  - SOP, WET FoPT, Chemistry FoPT
- 2023 and Long-Term Goals and Recent Accomplishments
- Open Discussion and Other Items (time permitting)
  - What would you like to Know About the PT Program?

3:00 BREAK

3:30 – 5:00 TNI Proficiency Testing Expert Committee

Boundary Waters D

Committee Chair: Kirstin Daigle, Pace Analytical Services

The Proficiency Testing Expert Committee develops and maintains consensus standards for proficiency testing that support TNI programs.

- Review of Committee Activities
- V1M4 Revision – Work group Summaries
  - EL V1M1
  - EL V2M2
  - EL V3
  - EL V4
- Open Discussion on Potential changes to Proficiency Testing requirements of Standards and/or Modules.

Thank You!

Thursday Technical Sessions

7:00 Continental Breakfast
Great Lakes Promenader

8:00 Welcome: Jerry Parr, The NELAC Institute

8:30 – 10:00 Current and Planned Activities Dealing with Methods and Monitoring from EPA's Safe Drinking Water, Solid & Hazardous Waste, and Clean Water Programs
Great Lakes A

Session Moderator: Lara Phelps, USEPA ORD CEMM

8:30 SW-846 Methods 2023 Updates
Troy Strock, Office of Resource Conservation and Recovery

9:00 EPA Clean Water Act (CWA) Methods Activities
Adrian Hanley, EPA Office of Science and Technology

9:30 Overview and Updates of the Federal Drinking Water Program
Dan Hautman, EPA Office of Groundwater and Drinking Water

10:30 – 12:00 NEMC Advances in Sensor Technologies in Environmental Monitoring
Great Lakes A

Session Chair: Jay Gandhi, Metrohm USA

10:30 Rapid Simple Analysis of Harmful Algae Bloom Toxins Via Waveguide Enabled ELISA
Dan Kroll, Hach

11:00 Cost-Effective Sensor Networks for Modeled, Highly Accurate Air Quality Monitoring
Tom Becnel, Tellus Networked Sensor Solutions

11:30 A New Generation of Sensors for Mercury-Free Analysis of Heavy Metals
Kia Williams, Metrohm USA

10:30 – 12:00 NEMC Drinking Water (Session 1)
Boundary Waters B

Session Chairs: Bruce Li, Eurofins Eaton Analytical and Ken Rosnack, Waters Corporation

10:30 Seasonal Analysis of PFAS in Groundwater Wells
Yongtao Li, Eurofins Eaton Analytical, LLC

11:00 LC/MS/MS Analysis of Benthic Cyanobacterial Blooms in Stormwater and Retention Ponds
Stuart Oehrle, Waters Lab at Northern Kentucky University

11:30 Pushing PFAS Possibilities: The Hunt for Ultra Sensitivity to Reach ppq EPA Health Advisory Levels
Kari Organtini, Waters Corporation

10:30 – 12:00 TNI Laboratory Accreditation Body Committee
Boundary Waters D

Committee Chair: Aaren Alger, Alger Consulting and Training

The Laboratory Accreditation Body Committee develops the standard for operation of laboratory accreditation bodies.

- Status of the Revised Draft Standard V2M1
- Discussion of Revising the Evaluation Process
- Open Forum

Thursday Technical Sessions

10:30 – 12:00 TNI Special Session on Field Sampling and Measurement
Boundary Waters D

Session Moderator: Tracy Szerszen, Perry Johnson Laboratory Accreditation

The National Environmental Field Activities Program (NEFAP) Executive Committee and the Field Activities Committee hold a joint session on future efforts related to the accreditation of Field Sampling and Measurement Organizations (FSMOs).

- Review of Changes to FSMO NEFAP Volume 1 and 2 Standards
- 2023 and 2024 Sampling Conclaves
- Future Sampling Workshops
- Current and Future Training Events

12:00 – 1:00 Lunch Provided
Great Lakes BC

1:00 – 5:00 NEMC Drinking Water (Session 2)
Boundary Waters B

Session Chairs: Bruce Li, Eurofins Eaton Analytical and Ken Rosnack, Waters Corporation

1:00 Advanced LC/MS/MS Methods for CECs in Waters
Yongtao Li, Eurofins Eaton Analytical, LLC

1:30 Applying New Ion Chromatography Technology to Enable Faster Determinations of Inorganic Anions and Disinfection Byproducts in Drinking Water
Carl Fisher, Thermo Fisher Scientific

2:00 Creating Customer Confidence – Minneapolis' Voluntary Customer Lead-testing Program
Matthew Sullivan, Minneapolis Water Works Department

2:30 Analysis of VOCs in Drinking Water with Headspace GC/MS Using Hydrogen Carrier Gas and a Hydrogen Optimized Source
Alexis Willey, Agilent Technologies

3:00 BREAK

3:30 Evaluation of SPE Formats for Improved Extraction and Quantification of Diquat and Paraquat in Drinking Water
Evan Walters, Biotage, LLC

4:00 A New Light into the Characterization of Organic Matter.
Ruth Marfil-Vega, Shimadzu Scientific Instruments

1:00 – 5:00 NEMC Polyfluoroalkyl Substances (PFAS) in the Environment (Session 2)
Great Lakes A

Session Chairs: Mike Chang, Restek Corporation and Charles Neslund Eurofins Lancaster Laboratories Environmental

1:00 A Probability-Based National Assessment of Contaminants in Fish from U.S. Rivers
Harry (Chip) McCarty, General Dynamics Information Technology

1:30 To Isolation and Beyond: A New Mixed Mode Column Approach for PFAS Chromatography
Kari Organtini, Waters Corporation

2:00 Determination of Extractable Organically Bound Fluorine (EOF) in Surface Water With Molecular Absorption Spectrometry
Jessica Gantt, Analytik Jena US LLC

2:30 Method Performance Using Dual WAX/GCB and GCB/WAX SPE Formats for Draft EPA Method 1633
Richard Jack, Phenomenex

3:00 BREAK

3:30 ASTM D8421 PFAS in Water Samples: A Single Laboratory Verification
William Lipps, Shimadzu Scientific Instruments

4:00 High-Resolution Data-Dependent Mass Spectrometry Guided by Real-Time Library Search for the Detection and Characterization of PFAS
Brandon Bills, Thermo Fisher Scientific

4:30 An Investigation of Contamination and Recovery of PFAS in Analytical Methods that Require Filter Membranes
Lindsay Lozeau, MilliporeSigma

Thursday Technical Sessions

1:00 – 3:00 TNI NELAP Accreditation Council

Boundary Waters C

Council Chair: Kristin Brown, Utah DOH

The purpose of this program is to establish and implement a program for the accreditation of environmental laboratories.

Changes to NELAP Accreditation Body Activities, if any
- Implementation Status for the 2016 Standard
- Operational Status
- Implementation of the 2021 Method Update Rule

Discussion of Possible Ways to Revise the AB Evaluation Process
Open Discussion

3:15 – 4:00 TNI Laboratory Accreditation System Executive Committee (LASEC)

Boundary Waters C

Committee Chair: Maria Friedman, California ELAP

The mission of the Executive Committee is to manage TNI's efforts in supporting a national program for the accreditation of environmental laboratories. Activities of the Committee include developing and establishing policies and procedures, interpretations, guidance documents, and any related tools used by accreditation bodies to implement NELAP.

- Recent LASEC Activities
- Standard Interpretation Request Update
- Participant Feedback – are there additional issues that LASEC can productively address?
- Discussion and Participant Questions

1:00 – 3:00 TNI Training Committee

Boundary Waters D

Committee Chair: Calista Daigle, Pace Analytical

The Training Committee develops and maintains a comprehensive training plan for TNI.

- Training Courses Offered
- Training Courses in Development
- TNI Linked-In Page
- Training Course Catalogue
- SOP on Examination Questions

Thursday Technical Sessions

3:15 – 4:00 TNI Credentials Committee

Boundary Waters D

Committee Chair: Ken Brown, City of Escondido

- From TNI Competency Task Force to TNI Credentials Committee
- Credentials Committee Charter, membership needs/recruitment
- Update on Digital Badges Option for Quality Management System Professional
- Update on Exam Option for Quality Management Systems Professional
- TNI Certified Professional Handbook
- Upcoming Competency Professionals

4:15 – 5:00 TNI Committee Reports

Boundary Waters A

Session Moderator: Alfredo Sotomayor, Milwaukee Metropolitan Sewerage District

Each TNI Committee Chair will report on their activities during the week.

The Charlie Carter Award

Dr. Charles (Charlie) William Carter dedicated over 30 years to the environmental laboratory business and community. Considered a highly respected environmental testing genius by everyone fortunate enough to know him, he was brilliant and had relentless energy, work ethic, and passion for advancing the environmental testing industry by providing critical scientific expertise and support. Charlie was deeply involved in many environmental organizations and a frequent speaker at conferences, forums, and meetings. He was a leader in the industry and one you could count on always pushing the envelope to help the environmental measurement, monitoring, and laboratory community excel in meeting the highest levels of integrity and quality.

This award has been established to recognize a technically competent individual and leader in the environmental measurement, monitoring, or laboratory industry, embodying Charlie's strengths in scientific expertise, communication, and mentoring. One recipient is selected annually and recognized at the Environmental Measurement Symposium (Symposium). The recipient provides a Keynote Address at the Symposium, receives free registration for the full Symposium, and is presented with the award.

Nominations will open for the 2024 Symposium on Monday, July 31, 2023 and close on January 31, 2024.

Previous Award Recipients

2016	**Richard Burrows**
2017	**Andy Eaton**
2018	**Marlene Moore**
2019	**Judy Morgan**
2022	**Ray Frederici**

Poster Presentations

Monday, 5:00 pm – Wednesday, 3:30 pm
Great Lakes Foyer

Air Monitoring, Methods, and Technology

P1 Is Tyre Wear an Underestimated Source of Air Pollution? Comprehensive Analysis of Tyre Emissions by Thermal Desorption (TD) and GC-MS
Hannah Calder, Markes International

Analyzing Microplastics in the Environment

P2 Automated Microplastics Analysis with Simultaneous IR Raman Microscopy with Optional Co-Located Fluoresence Pre-Screening
Jay Anderson, Photothermal Spectroscopy Corp.

P3 Dual Microscopy Technique for the Analysis of Microplastics
Ruth Marfil-Vega, Shimadzu Scientific Instruments

Community Based Monitoring & Environmental Justice

P4 Enzymes as Picobots: Quality Data for Citizen/Community Science
Ellen R. Campbell, NECi

Crafting Consensus Methods for Environmental Sampling and Measurement

P5 What's new in Biotechnology Chemists Can Use
Ellen R. Campbell, NECi

Drinking Water

P6 An Optimized Solid Phase Extraction Procedure for EPA Method 8081 and 8082 Analytes in Water
Abderrahim, Abdelkaoui, United Chemical Technologies Inc

P7 Automated Solid Phase Extraction of Pharmaceuticals and Personal Care Products from Water Samples Using a Novel Robotic Autosampler
Kurt Thaxton, GERSTEL, Inc.

P8 Shortening Run Times for Perchlorate Determination in Drinking Water Using Refinements in Ion Chromatography
Carl Fisher, Thermo Fisher Scientific

Emerging Environmental Applications for High Resolution Mass Spectrometry

P9 Enhanced Structural Elucidation of Microcystins by Electron Activated Dissociation (EAD)
Kendra Adams, SCIEX

New Organic Monitoring Techniques

P10 Analysis of Volatile Organic Compounds in Seawater by Purge and Trap (P&T) Concentration and Detection by Gas Chromatography/Mass Spectrometry (GC/MS)
Cynthia Elmore, OI Analytical Xylem

P11 Method Validation of Automated Workflows for Persistent Organic Pollutants (POPs) Analysis in Environmental and Food Matrices
Tom Hall, Fluid Management Systems

P12 Reducing Sample Volume Extractions for US EPA Method 608.3
Deanna Bissonnette, Biotage

Poster Presentations

Monday, 5:00 pm – Wednesday, 3:30 pm
Great Lakes Foyer

Operational Issues Impacting the Environmental Laboratory Industry

P13 Automated Analysis of Heavy Metals (Total and Speciation) in Environmental Samples
Nick Bohlim, Elemental Scientific

P14 GC/MS and GC/MS/MS Analysis of PAHs Using the Hydroinert Source in Challenging Soil Matrix
Samuel Haddad, Agilent Technologies

P15 Strategies to Contend with Helium Supply Shortages Including a Survey of Semi-volatile Analyses (EPA 8270E) with Helium, Hydrogen and Nitrogen Carrier Gasses by GC/MS and GC/MS/MS
Eric Fausett, Agilent Technologies

P16 Unlock your ICP-MS's Potential: A New High Throughout, High Performance Configuration
Justin Masone, Glass Expansion, Inc.

Polyfluoroalkyl Substances (PFAS) in the Environment

P17 A Comprehensive Workflow Approach for the Determination of PFAS in Wastewater
Ruoji Luo, Agilent Technologies

P18 An Integrated Molecular Networking Based Non-targeted PFAS Analysis Workflow by High-Resolution Mass Spectrometry (HRMS)
Ed George, Thermo Fisher Scientific

P19 An Integrated Solution for Over 100 PFAS Compounds in Drinking and Surface Water by Triple Quadrupole LC/MS
Aimee Zou, Agilent Technologies

P20 Analysis of Per- and Polyfluoroalkyl Substances in Water and Soil Samples Using Draft EPA Method 1633 with Automated and Semi-Automated Solid Phase Extraction
Ruud Addink, Fluid Management Systems

P21 Analysis of Per-and Polyfluoroalkyl Substances (PFASs) in Soil and Tissue Using Weak-Anion Exchange SPE and LC-MS/MS Analysis According to EPA Method 1633
Abderrahim Abdelkaoui, United Chemical Technologies Inc

P22 Comparing Methods Utilized to Test for PFAS in Aqueous Samples: EPA 537.1, EPA 533, ISO 21675
Evan Walters, Biotage, LLC

P23 Detection of 40+ Per- and Polyfluoroalkyl Substances (PFAS) in Non-potable Waters Using Liquid Chromatography Tandem Mass Spectrometry (LC-MS/MS).
Amanda Belunis, University of Maryland Baltimore County

P24 EPA Draft Method 1633 – Performance Demonstration for Enhanced Workflows.
Ruth Marfil-Vega, Shimadzu Scientific Instruments

P25 Evaluation of New Anion Exchange and Synthetic Carbon Sorbents for the Determination of PFAS in Solid Samples Following EPA Method 1633
Matthew Giardina, Agilent Technologies

P26 Monitoring Produced Gases from PFAS Removal Technologies
Hannah Calder, Markes International

P27 Rapid, Efficient and High-Throughput Extraction Method of PFAS from Tissue and Soil
Alicia Stell, CEM Corporation

P28 Results and Learnings from Automating the SPE Procedure of EPA Method 1633
Ian Wan, PromoChrom Technologies

P29 The Changing PFAS Landscape and EPA Method 162
Jay Gandhi, Metrohm USA

Shale Oil & Gas

P30 Fast Semi-Automated Total Petroleum Hydrocarbons Cleanup and Analysis
Tom Hall, Fluid Management Systems

Wastewater Surveillance - State of the Science

P31 Cartridge Based qPCR. The New Gold Standard for Wastewater Epidemiology.
Jim Harbridge, Hach

P32 Detection of COVID-19 Viral RNA in Wastewater as a Simple and Sensitive Method of Outbreak Detection in Large Populations
Jessica Gantt, Analytik Jena US LLC

Thank You
to all the volunteers who donate their time to make the Symposium a success!

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Acronyms

AB	Accreditation Body
AC	NELAP Accreditation Council
CSDP	Consensus Standards Development Program
CSD EC	Consensus Standards Development Executive Committee
DW	Drinking Water
ESTCP	Environmental Security Technology Certification Program
FAC	Field Activities Expert Committee
FoPT	Field of Proficiency Testing
FSEA	Florida Society of Environmental Analysts
FSMO	Field Sampling and Measurement Organization
IEC	International Electrochemical Commission
IS	Interim Standard
ISO	International Standards Organization
LAB	Laboratory Accreditation Body Expert Committee
LASEC	Laboratory Accreditation System Executive Committee
NEFAP	National Environmental Field Activities Program
NEFAP EC	National Environmental Field Activities Program Executive Committee
NELAP	National Environmental Laboratory Accreditation Program
NGAB	Non–Governmental Accreditation Body
PT	Proficiency Testing
PTP	Proficiency Testing Program
PTPEC	Proficiency Testing Program Executive Committee
QS	Quality System
SERDP	Strategic Environmental Research and Development Program
SETAC	Society for Environmental Toxicology and Analytical Chemistry
SIR	Standard Interpretation Request
SOP	Standard Operating Procedure
SSAS	Stationary Source Audit Sample
TNI	The NELAC Institute*
VDS	Voting Draft Standard
WDS	Working Draft Standard
WET	Whole Effluent Toxicity

*NELAC is not an acronym.

2024 Meetings

THE NELAC INSTITUTE

https://nelac-institute.org

Forum on Environmental Accreditation

January 22 – 24, 2024

Columbus, Ohio

NEMC

https://envirosymposium.group

Environmental Measurement Symposium

August 5 – 9, 2024

Garden Grove, California