Sunday 15 September 2024
Full Day Workshops

Time: 9:00 AM – 5:00 PM
Venue: Adelaide Convention Centre
Registration Fees: $620 inclusive GST
(The workshop is fully catered and will be provided with morning, afternoon tea and lunch)

Delegates are requested to bring their laptops to do the exercises and access the resources during the workshop

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Workshop -1

Advances in PFAS Analytical Chemistry, Data Interpretation, and Effective Management of PFAS in Groundwater

About this workshop

This full day workshop is divided into two sessions. The morning session will focus on recent advances in the analytical methods for detecting per- and polyfluoroalkyl substances (PFAS) and will provide a framework for assessing PFAS data when developing conceptual site models (CSMs). Current analytical methods allow an understanding of the potentially 1,000's of PFAS present at a given site. However, without a framework to make sense of these complicated data, it can be difficult to assess how the analytical results relate to the CSM.

In the afternoon session, presenters will focus on how PFAS pose an emerging challenge in groundwater remediation, potentially exceeding the impact of hydrocarbon and chlorinated solvent plumes. Unlike traditional contaminants, PFAS differ in source, chemistry, fate, transport, and toxicology, necessitating distinct management strategies in groundwater remediation. The unique properties of PFAAs greatly limit the available in-situ soil and groundwater remediation options.

Why Attend?

This workshop has been developed in response to the critical need for regulators and practitioners to share experiences to create standard practices and address knowledge gaps, in advances in PFAS analytical chemistry, effective management of PFAS in groundwater, fate and transport, modelling and remediation alternatives. As well as offering technical lessons from the study of past projects, the course offers semi-structured discussions, problem-solving and personal interactions that give participants deep insight into PFAS Advanced.

The workshop will offer invaluable networking opportunities for practitioners, regulators and researchers. Delegates will get the opportunity to build connections with instructors as well as with their fellow delegates.

This workshop will provide an opportunity to put your organisation at the forefront of best practices in dealing with PFAS.

Workshop attendees will receive:

- 6.0 hrs of CPD point
- Link to the workshop paper
- Presentation slides (in secured PDF)
- a downloadable online resource folder link.

Program

Day Program -

Morning Session: (3 Hrs)	
9:00 – 10:00 AM	Workshop Start
10:00 – 10:30 AM	Morning Tea
10:30 – 12:30 PM	The workshop continue
12:30 – 1:30 PM	Lunch Break
Afternoon Session: (3 Hrs)	
1:30 – 3:00 PM	Workshop Continue
3:00 – 3:30 PM	Afternoon Tea
3:30 – 5:00 PM	The workshop continues incl. Q&A and wrap-up

Morning Session (9:00 AM – 12:30 PM)

Advances in PFAS Analytical Chemistry and Data Interpretation

- *Definition and Description of PFAS Analytical Methods*
- *Current Strengths/Weaknesses of Targeted PFAS Analytical Methods*
- *Potential Expansion/Refinement of Targeted PFAS Analytical Methods*
- *Current Non-Target and PFAS Suspect Screening Approaches*
- *Ongoing Research for Continued Expansion of PFAS Analytical Capabilities Understanding*
- *PFAS Data Using a Family Tree Approach*
- *Calculated PFAS Ratios and Metrics for Refining Conceptual Site Models*
- *PFAS Graphing and Data Visualization Approaches*
- *Case Studies for Identifying Source Zones*
- *Assessment of PFAS "Background" Sources*

Afternoon Session (1:30 PM – 5:00 PM)

Effective Management of PFAS in Groundwater: Exploring Fate, Transport, Modelling and Remediation Alternatives

- *The PFAS Problem*
- *Remediation Drivers*
- *PFAS Data Analysis Framework*
- *PFAS Conceptual Models*
- *PFAS Emerging Concerns (concrete and stormwater)*
- *PFAS Fate and Transport in Soil and Groundwater*
- *Modelling PFAS in the Subsurface*
- *PFAS Remediation Strategies*
- *Groundwater Pump and Treat Systems*
- *PFAS Monitored Retention*
- *PFAS Enhanced Retention*
- *General PFAS Remediation Framework*

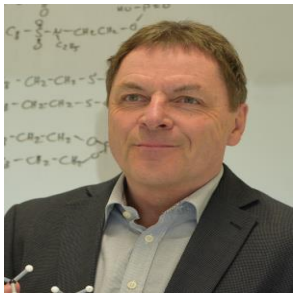
Presenters

Jeff Gamlin,
GSI Environmental Inc, Lakewood, Colorado, USA

Jeff Gamlin is a Principal Hydrogeologist with GSI Environmental Inc. and has more than 20 years of experience evaluating, designing, and optimizing hazardous waste investigation and remediation approaches at military, municipal, industrial, and commercial facilities in North America, South America, Europe, Asia, and Australia. Jeff has evaluated PFAS data from 65 individual sites. Through this work, patterns observed for certain PFASs have supported development of a data evaluation framework for refining PFAS conceptual site models. He and his colleagues recently submitted a manuscript on this topic that defines a tiered approach to PFAS data interpretation, including assessment of preferential adsorption and precursor transformation. His current focus areas are PFAS research and development, forensics for source identification and background assessment, conceptual site model refinement, and litigation support.

Jens Blotevogel, **PhD,**
CSIRO, Urrbrae, South Australia, Australia

Dr. Jens Blotevogel is a Principal Research Scientist in CSIRO with 20 years of experience in groundwater and soil remediation as well as water and wastewater treatment. Dr Blotevogel's research revolves around the fate of environmental organic contaminants, conducting laboratory- and field-scale investigations to elucidate their degradation in both natural and engineered systems. He has developed innovative water treatment technologies, quantum chemical models for contaminant degradation, as well as various advanced analytical techniques with focus on non-targeted (ultra)high-resolution mass spectrometry. He is currently working on solutions for managing PFAS, 1,4-dioxane, pesticides, nitroaromatic compounds, and oil & gas produced water. Prior to joining CSIRO, Dr Blotevogel served as Research Assistant Professor in the Department of Civil & Environmental Engineering at Colorado State University, where he still holds an affiliate faculty position.



Christian Zwiener ,PhD,
University of Tuebingen, Germany

Dr. Christian Zwiener is Head of the Environmental Analytical Chemistry Group in the Department of Geosciences at the Eberhard Karls Universität Tübingen. His research focuses on the analysis, occurrence, and fate of organic micropollutants in the environment and in water treatment (e.g., disinfection byproducts, pharmaceuticals, personal care products, pesticides, poly- and perfluorinated compounds). This includes the development of analytical approaches for non-target and suspect screening by LC-high-resolution mass spectrometry, field investigations and lab-scale experiments for photochemistry, biodegradation, and electrochemical oxidation to identify transformation products. During the last 6 years he developed screening approaches for PFAS and transformation products in the environment and in consumer products.

Chuck Newell, PE; PhD,
GSI Environmental Inc., USA

Dr. Charles (Chuck) Newell is a Vice President of GSI Environmental Inc. in Houston, Texas, USA. He is a member of the American Academy of Environmental Engineers and Scientists, a NGWA Certified Ground Water Professional, and an Adjunct Professor at Rice University. He has co-authored 12 technical articles on PFAS fate & transport and remediation and is now leading or has led multiple PFAS research projects funded by the U.S. Dept. of Defense. He was awarded the Hanson Excellence of Presentation Award by the American Association of Petroleum Geologists, the Outstanding Presentation Award by the American Institute of Chemical Engineers, the Strategic Research and Development Program (SERDP) 2014 Project of the Year as a Co-PI, the ITRC Environmental Excellence Award in 2016, the 2020 Foundation Achievement Award presented by the Association for Environmental Health and Science, and the 2024 Gordon Maskew Fair Award presented by the American Academy of Environmental Engineers and Scientists.