INTERNATIONAL CLEANUP CONFERENCE ADELAIDE 2026

Workshop- 3

Title	**Advanced Geological Methods for Predicting Contamination Flowpaths**
Date and time	Sunday, 13 September 2026, 9:00 AM – 12:30 PM
Duration	Half Day
Venue	Adelaide Convention Centre*
Presenter	Dr Junaid Sadeque, AECOM USA
Registration Fees	$ 375 incl GST (The workshop attendees will be provided with a morning tea)

About this workshop

This half-day short course explores why many contamination investigations and remediation programs fall short—and how a **geology-first workflow** can dramatically improve predictions of subsurface flowpaths. Through focused examples, hands-on exercises, and real case studies, participants will learn how stratigraphy and depositional architecture control groundwater movement and contaminant behavior. The course delivers **practical, immediately applicable tools** for building more accurate, defensible conceptual site models in complex settings. The course blends **real-world case studies, guided hands-on exercises, and applied interpretation techniques** to show how geological thinking transforms site understanding. Whether you work on PFAS, chlorinated solvents, or complex legacy sites, this workshop equips you with practical tools you can apply immediately to your projects.

Why Attend?

If you are working on complex sites and feel constrained by oversimplified models, this workshop is designed for you. Participants will learn how to:

- **Map subsurface heterogeneity with confidence** using facies analysis and sequence stratigraphy, not just lithologic logs
- **Break free from misleading "layer-cake" models** that obscure true flowpaths and drive poor remedial decisions
- **Identify stratigraphic flux zones** that control PFAS and contaminant transport, persistence, and back-diffusion
- **Integrate geology, hydrogeology, and chemistry** into coherent, defensible conceptual site models
- **Reduce lifecycle costs** through smarter placement, targeted investigations, and more effective remedial design

Workshop attendees will receive:

- 3.0 hrs of CPD point
- Presentation slides (as secured PDF) on USB
- A downloadable online resource folder on USB

Workshop Program

Time	Session – Key Topics and Activities
9:00 – 9:10 AM (10 minutes)	Introductions Welcome, course objectives, and participant introductions
9:10 – 9:30 AM (20 minutes)	Lecture -1: Background Geological context and pitfalls of lithostratigraphy • *Exercise 1*
9:30 – 10:00 AM (30 minutes)	Lecture 2: Facies Concepts Facies analysis, Walther's Law, and accommodation vs. sediment supply
10:00 – 10:15 AM	**Morning Tea Break**
10:15 – 10:45 AM (30 minutes)	Lecture 2 Cont.**:** Facies Concepts Facies models and implications for flowpaths
10:45 – 11:15 AM (30 minutes)	Lecture 3: Sequence Stratigraphy in Practice Applying core sequence stratigraphy principles • *Exercises 2 & 3*
11:15 – 12:15 PM (60 minutes)	Lecture 4: Predicting Preferential Pathways PFAS and recalcitrant contaminant flowpaths in alluvial, fluvial, and marine environments • *Exercises 4 & 5* • Case studies
12:15 – 12:30 PM (15 minutes)	Key Takeaways & Discussion Integrated synthesis, practical takeaways, and extended Q&A

Presenter

Dr. Junaid Sadeque
Senior Geologist,
AECOM (USA)

Dr. Junaid Sadeque is a Senior Geologist with AECOM (USA) with specialist expertise in sequence stratigraphy, sedimentology, and environmental geology, applied to complex contaminated-site investigations. He has delivered numerous continuing professional development (CPD) training courses and short courses in the United States and internationally for environmental practitioners, focusing on geology-led approaches to site characterisation, conceptual site models (CSMs), and contaminant transport.

He holds a Doctorate in Sequence Stratigraphy from the University of Texas at Dallas and a Master of Science in Petroleum Geology from the University of Bergen, Norway. With over 20 years of professional experience across petroleum geology and contaminated-site remediation, he applies geology-first workflows to resolve subsurface heterogeneity and predict contaminant pathways.

At AECOM, he leads the application of advanced stratigraphic, depositional, and structural geological methods to identify subsurface flow units, resolve heterogeneity, and predict contaminant migration pathways at complex soil- and groundwater-impacted sites. His work directly supports investigation design, remedial strategy development, and long-term site management.

Dr. Sadeque is co-editor of the World Scientific Series on Environmental Remediation and has authored several peer-reviewed studies on the application of sequence stratigraphy and facies-based analysis to understanding contaminant distribution, plume persistence, and remediation performance.

Notes:

(*) Workshop room details will be advised closer to the event date.
(+) Time slots suggested in the program are indicative and may vary slightly based on the final program.
- Delegates are required to bring their laptop to complete hands-on exercises and access workshop resources.