# AIPG Michigan Section
## 8th Annual
### Environmental Risk Management Workshop
#### Emerging Contaminants & Pathways: A New Paradigm

**TUESDAY - JUNE 12, 2018**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session A</th>
<th>Session B</th>
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<tbody>
<tr>
<td>8:00 AM</td>
<td>Workshop Registration</td>
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<tr>
<td>9:30 AM</td>
<td>Opening Remarks &amp; Keynote Speaker Introduction</td>
<td>Remediation Strategies Focused on Indoor Air Protection from Chlorinated Compounds and Associated CSM</td>
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<tr>
<td>9:40 AM</td>
<td>Keynote - <strong>Aaron Johnson, Ph.D., AIPG National Executive Director</strong></td>
<td>Changes Affected by Active Sub-slab Depressurization</td>
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<tr>
<td>12:00 PM</td>
<td>Lunch - Sponsored by <strong>Dakota Technologies</strong></td>
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<td>1:00 PM</td>
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<td>Michigan &amp; Superior Level Sponsor Introductions</td>
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<tr>
<td>1:30 PM</td>
<td><strong>PFAS: Global Perspective New Remediation Technologies for Emerging Challenges</strong></td>
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<td>2:10 PM</td>
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<td><strong>Allan Horrman, Ph.D. - Arcadis</strong></td>
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<td>2:30 PM</td>
<td><strong>PFAS Management Considerations for Reducing Liabilities</strong></td>
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<td></td>
<td><strong>Jay Mullet, PE, Saamih Bashir, PE, PMP - Wood, PLC</strong></td>
<td><strong>Remediation Strategies Focused on Indoor Air Protection</strong></td>
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<td>from Chlorinated Compounds and Associated CSM</td>
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<td><strong>Changes Affected by Active Sub-slab Depressurization</strong></td>
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<td><strong>Richard Raetz</strong> - Global Remediation Technologies &amp; Ray Spaulding - MDEQ Remediation and redevelopment Division</td>
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<td>3:10 PM</td>
<td><strong>Risk Assessment - Challenges and Opportunities, using PFAS Exposure Assessment as an Example</strong></td>
<td><strong>New Tools for More Cost-Effective Vapor Intrusion</strong></td>
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<td><strong>Todd McAlary, Ph.D., PE, PG - Geosyntec Consultants</strong></td>
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<td>3:50 PM</td>
<td><strong>Physical-Chemical Properties of PFAS: Implications for Understanding and Modeling of Fate and Transport</strong></td>
<td><strong>The Part 201 MIOSHA Alternate: A Worker Protection Approach to VIAP</strong></td>
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<td><strong>Emily Bertolini - MDEQ Remediation &amp; Redevelopment Division</strong></td>
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<td>4:40 PM</td>
<td>Closing Remarks</td>
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<td>5:15 PM</td>
<td>Break - Hotel Check-in - (Shuttle back to RAM from hotels available)</td>
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<td>5:15 PM</td>
<td>Dinner - Sponsored by <strong>PeroxyChem</strong></td>
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<td>6:30 PM</td>
<td><strong>Field Demonstrations</strong> - MDEQ - HVSR Passive Seismic, Limnotech - Continuous Sensors for Contaminant Tracking, Wood PLC - Sampling for Emerging Contaminants, Cascade Technical Services - Mobil Laboratory, Mateco Drilling - Sampling Equipment, Triton - Polyurea Application</td>
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<td>8:00 PM</td>
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<td>8:00 PM</td>
<td><strong>Social Event</strong></td>
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<td><strong>Live Music by</strong> <strong>Waynesboro</strong></td>
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<td><strong>Bonfires &amp; Open Bar</strong></td>
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<td><strong>Sponsor(s) - Job Site Services, EDR, FRx, CN Railroad</strong></td>
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<td><strong>Shuttle Transportation to and from Hotels in Houghton Lake</strong></td>
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<td>Time</td>
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<td>7:15 AM</td>
<td>Breakfast - Sponsored by <strong>Pace Analytical Laboratories</strong></td>
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<td>8:00 AM</td>
<td><strong>Session A</strong> - 1,4-Dioxane Remediation &amp; Characterization</td>
<td><strong>Session B</strong> - PFAS - Emerging Contaminant Properties</td>
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<td></td>
<td>Evaluation and Enhancement of Intrinsic 1,4-Dioxane Biodegradation</td>
<td>PFAS in Groundwater: Fate, Transport, and Treatment</td>
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<td>Timothy Richards - Golder, et al.</td>
<td>Adam Janzen - BARR Engineering</td>
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<td>8:40 AM</td>
<td><strong>Utilizing Co-Metabolic Biodegradation and Hydrogeologic Enhancements to</strong></td>
<td>Procedural Challenges with Collection &amp; Analysis of Groundwater Samples for Per-and Polyo-fluoralkyl Substances (PFAS) and Other Emerging Contaminants</td>
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<td>Remediate 1,4-Dioxane in a Complex Hydrogeological Setting</td>
<td>Jim Brode - Fleis &amp; VandenBrink &amp; Nathan Eklund - Pace Analytical Laboratories</td>
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<td>Jackie Saling, Patrick Curry - ARCADIS &amp; David Favero - RACER Trust</td>
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<td>9:30 AM</td>
<td><strong>Session A</strong> - PFAS - Remediation Alternatives</td>
<td><strong>Session B</strong> - Emerging Contaminants Pathways and Treatment</td>
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<td>9:50 AM</td>
<td><strong>Advanced Oxidation Process Pilot Evaluation and Final Design for</strong></td>
<td><strong>The Analysis of Polyfluorinated Alkyl Substances (PFAS) Including the TOP Assay</strong></td>
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<td>1,4-Dioxane Removal from Groundwater</td>
<td>Karla Buechler - TestAmerica Laboratories, Inc.</td>
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<td>Katie Wolohan - BARR Engineering</td>
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<td>10:30 AM</td>
<td><strong>Prediction of 1,4-Dioxane Migration Through Glacial Sediments using</strong></td>
<td><strong>PFAS: Smart Characterization for an Emerging Contaminant</strong></td>
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<td>Integrated Deterministic Models and Stochastic Methods</td>
<td>Patrick Curry - Arcadis and Michael Rossi - Cascade Technical Services</td>
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<td>Lawrence Lemke, Ph.D - Central Michigan University</td>
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<td>11:20 AM</td>
<td><strong>Emergent Contaminants Poly- and Perfluoroalkyl Substances (PFAS) at</strong></td>
<td><strong>Applying Proven In-situ Remedies like Bioavailable Absorbent Media to Emerging Contaminants</strong></td>
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<td>Wurtsmith Air Force Base, Oscoda MI A Review of Investigation, Remedial Activities, and Risk Management</td>
<td>Larry Kinsman - ORIN Remediation Technologies</td>
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<td>Dale Corsi, Scott Park - DLZ Corporation</td>
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<td>12:00 PM</td>
<td>Lunch - Sponsored by <strong>Environmental Resources Group, LLC</strong></td>
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<td>1:00 PM</td>
<td><strong>Is Phytoremediation of Perfluoroalkyl Acids (PFAAs) Possible?</strong></td>
<td>Evaluation of Bioavailability of Arsenic from Contaminated Soil Case Study for a Site in Southeast Michigan MDEQ Remediation &amp; Redevelopment Division</td>
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<td>Barry Harding - AECOM</td>
<td>Vince Buening - TRC Environmental Corp. &amp; Divinia Ries, MPH, MS, Ph.D. - MDEQ Remediation &amp; Redevelopment Division</td>
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<td>1:40 PM</td>
<td><strong>Recent Developments in Alternatives for PFAS Groundwater Treatment</strong></td>
<td>Combined Remedies for the Treatment of Soil &amp; Groundwater Contaminated with Emerging Contaminants Daniel Cassidy, Ph.D. - Western Michigan University</td>
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<td>including an Emerging On-site Destruction Technology</td>
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<td>Justin Gal - Wood, PLC</td>
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<td>2:10 PM</td>
<td><strong>Key Factors Influencing PFASs Fate/Transport and Impacts on PFAS</strong></td>
<td>An Integrated Approach to Assessing Preferential Flow Pathways in Fractured Siliciclastic Aquifer Systems Using Geochemical, Microbiological, and Geomechanical Methods</td>
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<td>Remediation Strategies</td>
<td>Christopher Gellasch, Ph.D. - Eastern Michigan University</td>
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<td>Dave Woodward - Wood, PLC</td>
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<td>3:00 PM</td>
<td>Networking Break - Ice Cream Social - Sponsored by <strong>Vista Analytical Laboratories</strong></td>
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<td>3:30 PM</td>
<td><strong>Hidden Danger! Are You Corrupting Your PFAS Data?</strong></td>
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<td>John Cuthbertson - AECOM</td>
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<td>4:00 PM</td>
<td>Taking Action on PFAS</td>
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<td>4:45 PM</td>
<td>Closing Remarks &amp; Raffle Drawing</td>
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