
# 2024 MABA SUMMER SYMPOSIUM PROGRAM

Mid-Atlantic Biosolids Association

**Don't miss the following**
**SPECIAL EVENTS!**

**3rd Annual Opening Reception**
Tuesday, July 9th
6:00 pm - 8:00 pm
Conference Area Atrium Balcony
*Sponsored by:*
Brown and Caldwell
MABA Young Professionals

**Evening Reception & Awards Ceremony**
Wednesday, July 10th
5:30 pm - 7:30 pm
James River Salon A/B
*Sponsored by:*
Casella Organics
McGill Environmental Systems

**Henrico Water Plant Tour**
Thursday, July 11th
7:30 am - 10:30 am
Henrico Water, Dept. of Utilities
9101 WRVA Rd.
Henrico, VA 23221

**QUESTIONS?**
Mary (Firestone) Baker
MABA Executive Director
845-901-7905
mfirestone@mabiosolids.org

# 2024 Mid-Atlantic Biosolids Association Symposium Program

**Wednesday**, July 10 **Day 1** - Morning Sessions

**Morning Moderator:** Howard Matteson

## 8:15 am Welcome and Symposium Overview — Anne Marek, *MABA President*

**Speaker Bio**: Anne has 19 years of industry experience on both the municipal side as well as the consulting design work arena, and currently works as a technical sales engineer with Kershner Environmental Technologies. Anne worked for the Philadelphia Water Department as a mechanical design specialist early in her career. In 2006, she joined Gannett Fleming in their Camp Hill, PA office as a process engineer where she obtained her P.E. license, became a LEED Green Associate, and pursued her Master of Science degree in Environmental Engineering from Penn State University while working on numerous BNR/ENR upgrade projects. Since leaving Gannett Fleming, she became a City of Harrisburg Planning Commissioner and transitioned to equipment sales with KET in 2016. For the past 6 years, Anne has served as a Mid-Atlantic Biosolids Association Board of Trustees member in various positions and is currently President of the organization.

## 8:30 am MABA Update — *MABA Committee Chairs*

Al Razik
Finance Chair

Howard Matteson
Programming Chair

Malcolm Taylor, Ph.D
PFAS Focus Group

John Uzupis
Reg/Leg Chair

John Leslie
Membership Chair

Danielle Sheahan
YP Chair

## 8:45 am MABA Region Regulatory Update — Lisa Ochsenshirt, *AquaLaw*

**Speaker Bio:** Lisa Ochsenhirt joined AquaLaw in June 2008. At AquaLaw, Lisa's practice covers a variety of clean water matters, including stormwater and wastewater discharge permitting and enforcement and policy matters such as Chesapeake Bay requirements and biosolids. Lisa has worked throughout EPA's Mid-Atlantic Region and beyond and routinely represents wastewater and stormwater utilities through the Maryland and Virginia Municipal Stormwater Associations (MAMSA and VAMSA) and Maryland and Virginia Associations of Municipal Wastewater Agencies (MAMWA and VAMWA).

Lisa earned her B.A. from the University of Virginia and her J.D. degree from the College of William & Mary. She is admitted to practice law in Maryland, Virginia, Pennsylvania, and the District of Columbia.

## 9:15 am Virginia Regulatory/Land App Update — *Kyle Shreve – Virginia Biosolids Council*

**Presentation Summary:** Virginia has a complex history when it comes to the regulation of biosolids. This presentation will give the history as well as current developments on the regulatory structure by Virginia's Department of Environmental Quality as well as recent legislative updates by our General Assembly.

**Speaker Bio:** Kyle Shreve currently serves as Director of Government Relations for Advantus Strategies, a leading government affairs firm in Richmond. Through his 15 years in government affairs, he has built a policy background in environmental, energy, health care, and business matters. Prior to joining Advantus, he served as Executive Director for the Virginia Agribusiness Council, where he represented the Council's diverse membership of businesses in both the agriculture and forestry industries. He holds over a decade of association experience including representing the International Dairy Foods Association, Virginia Retail Merchants Association, and the Virginia Association of Health Plans.

Kyle is originally from Pennsylvania and received a Bachelor of Arts degree in Political Science and History from Pennsylvania State University. He moved to Northern Virginia in 2008 to begin his six-year tenure at the International Dairy Foods Association, focusing on legislative affairs at the federal level. Soon after receiving his Master of Professional Studies in Political Management from George Washington University, he moved to Richmond to begin his tenure in state and local government affairs. Kyle lives in Midlothian with his wife Christie and their sons, Bennett and Connor.

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**Wednesday**, July 10 **Day 1** - Morning Sessions

**Morning Moderator:** Howard Matteson

**9:45 am - 10:15 am BREAK/Exhibits/Networking** **Atrium Balcony & Shenandoah Room**

## 10:15 Harnessing Biosolids to Reclaim Mine Lands: Case Studies from Appalachia

Ryan Cherwinski, *Denali*
Samuel Liebl, *Denali*

**Presentation Summary:** Over several decades, Denali has worked with landowners and mine operators to reclaim thousands of acres of mine lands in Appalachia using organic residuals. The residuals have primarily been biosolids sourced from large municipalities. This presentation will explore the factors behind this success and the potential for biosolids to improve water quality, establish vegetative cover, create and maintain wildlife habitat, and improve the economic value of hundreds of thousands of acres of mine lands in the Eastern United States.

**Speaker Bios:**

Sam Liebl is Director of Communications at Denali, the nation's leading full-service recycler of organics. Based in Colorado, he works closely with operations and compliance teams across the U.S. to communicate Denali's role in the circular economy. A former journalist, Sam holds a master's in environmental management from Western Colorado University.

Ryan Cherwinski is an Area Manager with Denali. He manages biosolids land application operations and compliance, and he also works with farmer partners to maintain Denali's land-based beneficial reuse in Pennsylvania. He received a Bachelor's degree in Environmental Sciences from Bloomsburg University. Prior to joining Denali in 2021, Ryan worked as an agricultural specialist for state and federal agencies in Pennsylvania.

## 10:45 am Improved Reclamation of Sand & Gravel Mined Lands via Deep Ripping and Biosolids Application

Lee Daniels, *Virginia Tech*

**Presentation Summary:** Biosolids have been used to enhance the final reclamation of sand & gravel mines in the mid-Atlantic for over 40 years. Our recent project with Chaney Sand & Gravel in Caroline County (VA) has demonstrated the importance of integrating the application of Class A and B materials with appropriate geomorphic construction and deep subsoil ripping practices to enhance infiltration and minimize runoff.

**Speaker Bio:** W. Lee Daniels is the Thomas B. Hutcheson Professor of Environmental Soil Science at Virginia Tech in Blacksburg, Virginia. He received his Ph.D. in Soil Science from VPI & SU in 1985. Dr. Daniels's areas of specialization include stabilization and restoration of disturbed lands including areas disturbed by mining, road building, waste disposal, urbanization, and erosion. He has worked extensively with the land application, geochemistry, and leaching potentials of coal combustion products and other industrial residuals. Full publications and details are available at: https://landrehab.org/.

## 11:15 am Next Generation Digestion for the Fugitive Methane Era

Christian Chiodo, *Brown & Caldwell*

**Presentation Summary:** This presentation will summarize digester design improvements for mitigating fugitive methane emissions and why utilities should care about fugitive methane emissions at their WWTPs. The presentation will dive into the details of describing fugitive methane emission pathways around solids handling processes, primarily anaerobic digestion, biogas handling, and digestate processing and storage; and how to update our designs and O&M practices to mitigate these emissions.

**Speaker Bio:** Christian Chiodo has seven years of experience as a consultant in planning, design, and construction of wastewater treatment facilities. Christian has served as a process designer and project engineer on numerous wastewater treatment designs, in which he developed expertise in: rehabilitating aging infrastructure, laying out upgrades for ease of future expansion, minimizing cost, and enhancing process performance. He draws on this practical experience in his current role as a solids process engineer, focusing on anaerobic digestion and biogas utilization technologies.

# 2024 Mid-Atlantic Biosolids Association Symposium Program

**Wednesday**, July 10 **Day 1** - Morning Session

**Morning Moderator:** Howard Matteson

**11:45 am Technology Spotlight: Innovation and resurgence of sub and supercritical water oxidation processes for the destruction of contaminants of emerging concern.** — Sudhakar (Sunny) Viswanathan, *374 Water*

**Presentation Summary:** The study provides a comparative analysis of sub and supercritical thermal processes including Hydrothermal Carbonization (HTC), Hydrothermal Liquefaction (HTL), and Supercritical Water Oxidation (SCWO), and explores PFAS destruction efficacy for each. Highlights increasing concern about per- and polyfluoroalkyl substances (PFAS) contamination in the ecosystem, and the need to mitigate their persistence and environmental impact. Presents a comparative analysis of sub and supercritical thermal processes, exploring their operational mechanisms, and byproducts. Delves into the properties of sub and supercritical water, illustrating how density, dielectric constant, and solubility influence the efficacy of PFAS destruction.

**Speaker Bio:** Sudhakar (Sunny) Viswanathan is Vice President at 374Water, a global cleantech, social impact company based in Durham, NC. He has a bachelor's and a master's degree in environmental engineering, he is a Syracuse University alumnus with nearly 25 years of industry experience; He has authored over 35 technical papers and currently spearheads the commercialization and business development of the Supercritical Water Oxidation technology.

**12:00 pm to 1:15 pm LUNCH/Exhibits/Networking** **Atrium Balcony & Shenandoah Room**
**12:15 - Exhibitor Introductions**

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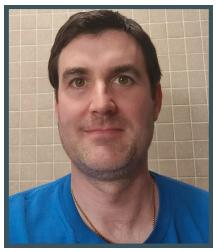
**Afternoon Moderator:** Stephanie Spalding **Day 1** - Afternoon Session

**1:15 pm Impact of Several Biosolids Stabilization Technologies on PFAS** — Todd Williams, *Jacobs*

**Presentation Summary:** This presentation will provide an update on the rapidly changing regulatory process at both the US EPA and State agency levels regarding PFAS. This presentation will also provide information regarding measured concentrations of PFAS in wastewater solids, dried biosolids, pyrolyzed biosolids, incinerator ash, and biosolids-based compost products. This information will help utility planners, operators, engineers, and administrators better understand the nature of the PFAS issue, how these compounds are introduced into biosolids, the rapidly changing regulatory landscape, and the effectiveness of various technologies to reduce or eliminate these compounds from wastewater biosolids products.

**Speaker Bio:** Mr. Williams has a 43-year career in environmental engineering with operating and design experience and a specific emphasis on residuals and biosolids management. Todd has supported dozens of biosolids and residuals management master plans in his career which include adaptive planning to manage emerging contaminants such as PFAS. Todd is an engineering graduate of Virginia Tech and previously served as the Chair of the Water Environment Federation's Residuals and Biosolids Committee. Todd works out of Jacobs Charlotte, North Carolina office where he serves as Jacob's Global Principal for Residuals Resource Recovery and Biosolids Management.

**1:45 pm An Experiment to Assess the Fate of PFAS from Land-Applied Biosolids** — Jay Slate, *City of Watertown, NY*



**Presentation Summary:** Since 2022, my facility has been investigating the potential effects of PFAS on the farmlands where our land-applied "Class B" biosolids were spread, using a controlled test. This controlled test is set up to imitate farmlands receiving our biosolids. After analyzing concentrations of PFAS in the water, soil, and vegetation growth, findings have shown considerable PFAS uptake in the vegetation growth (Bio-Accumulation Factor BAF). Even though Effective PFAS remediation is still a few years away, there are some promising prospects such as progressing to "Class A" biosolids.

**Speaker Bio:** My name is Jay Slate and I am the Laboratory Technician and Quality Assurance Officer for the City of Watertown Pollution Control Facility (PCF), in Watertown, NY. I have been employed with the City of Watertown for almost 6 years. 2 years as a Wastewater Operator, I year as a Laboratory Assistant, I year as the Pretreatment Coordinator, and have spent the last 2 years as the Laboratory Technician.

# 2024 Mid-Atlantic Biosolids Association Symposium Program

**Wednesday**, July 10 **Day 1** - Afternoon Sessions

**Afternoon Moderator:** Stephanie Spalding

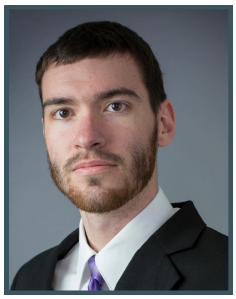
## 2:15 pm Considerations for Advanced Solids Processing Implementation — Matt Van Horne, *Hazen and Sawyer*

**Presentation Summary:** A primary challenge facing WRRFs in the implementation of advanced solids treatment is how to best incorporate these processes into their existing plant and also ensure that the solids fed to these processes meet the often specific requirements of these treatment approaches. This presentation will focus on the elements of solids handling "outside the box" of these processes that are applicable to a wide range of advanced solids technologies including thermal hydrolysis, thermal drying, pyrolysis, gasification, and supercritical water oxidation. The conversation around each element will include how it relates to different downstream processes, the impact on operations/maintenance efforts, and some practical implementation considerations for each.

**Speaker Bio:** Matt Van Horne is an Associate Vice President with Hazen and Sawyer in their Fairfax, VA office where he has been for the last 15 years of his 21-year career. He is a registered professional engineer in eight states and earned Bachelor and Master degrees in Civil and Environmental Engineering from the Massachusetts Institute of Technology. His areas of focus are biosolids management, energy optimization, and wastewater treatment.

## 2:45 pm - 3:15 pm BREAK/Exhibits/Networking — Atrium Balcony & Shenandoah Room

## 3:15 pm Gasification and Pyrolysis of Municipal Wastewater Biosolids - Designs, Operations, and Maintenance Considerations — John Harris, *GHD*



**Presentation Summary:** This presentation examines the design and operation of gasification and pyrolysis treatment processes utilizing municipal wastewater biosolids feedstock in terms of system sizing and throughput capacity, bioenergy recovery potential, biochar production and beneficial reuse options, and operations and maintenance considerations. The design of a complete gasification and pyrolysis system will be evaluated, including the selection and sizing of dewatering equipment, drying equipment, dried biosolids storage, pyrolysis reactor and heat recovery, biochar handling equipment, and air pollution control equipment.

**Speaker Bio:** John has been with GHD for 8 years and has 2 years of experience as an on-site field engineer and 6 years of experience as a process mechanical project engineer. John has assisted with the design and construction phases of multiple major projects involving solids handling upgrades, including the design of the dewatering system for a $16,000,000 new WWTP, the design phase of the solids handling system for the Ephrata WWTP #1, and the construction phase of a $31,000,000 WWTP. John has also been heavily involved during the construction of the solids handling upgrades at the Ephrata WWTP #1, one of the topics of today's presentation.

## 3:45 pm Updates from Ecoremedy Fluid Lift Gasification Projects in PA and WA — Michael Nicholson, *EcoRemedy, LLC*

**Speaker Bio:** Michael Nicholson, a 33-year veteran of the U.S. water and wastewater industry specializing in biosolids and organic residuals management, is the Vice President of Sales and Business Development at Ecoremedy LLC® Ecoremedy, LLC designs complete biosolid drying and gasification facilities for wastewater treatment and other challenging organic wastes. Nicholson has helped to develop three significant biosolids processes during his career: N-Viro Soil Process, an advanced alkaline process for the treatment of biosolids used by more than 100 municipalities worldwide; BioDry, a biosolids mechanical drying treatment for alkaline treated biosolids; and BioBlend, an advanced composting process utilizing lime-treated biosolids. He is a member of the Water Environment Federation, the U.S. Composting Council, and multiple regional associations in wastewater, biosolids, and recycling. Nicholson has a B.S. in Business Administration from the University of Dayton and resides in the Toledo, Ohio, Area (Maumee).

# 2024 Mid-Atlantic Biosolids Association Symposium Program

**Wednesday**, July 10 **Day 1** - Afternoon Sessions

**Afternoon Moderator:** Stephanie Spalding

## 4:15 pm Ultra-High Temperature Gasification for Biosolids Treatment, PFAS Destruction, & Hydrogen Production

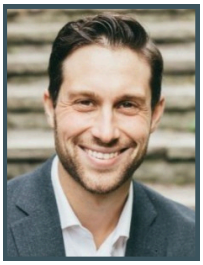
Jim Henderson, *Heartland*

**Presentation Summary:** Heartland's Biosolids Conversion Service, brings together next-generation low-temperature conductive drying (LTC Dry) with a plasma-based ultra-high-temperature ionic gasification (HelioStorm). This comprehensive solution provides up to 95% mass reduction (90% carbon conversion) with assured PFAS destruction, all at the lowest total cost of operation through a non-capital investment model. The presentation will discuss results from commercial scale testing including mass balance, carbon conversation rates, and resulting syngas production.

**Speaker Bio:** Jim Henderson is Director of Business Development for Heartland, spearheading Heartland's advancements in the biosolids and residuals market. Drawing on his robust, diverse 30-year background in the municipal and industrial wastewater sector, Jim is now at the forefront of integrating gasification technology to revolutionize waste management solutions. Jim is a native of South Carolina and earned a Bachelor of Science from Clemson University and now resides with his family in the Hampton Roads area of Virginia.

## 4:45 pm Eliminate PFAS from Biosolids Using High-Temperature Pyrolysis (HTP)

Andrew Friedenthal, *CHAR Technologies*



**Presentation Summary:** CHAR Tech's High-Temperature Pyrolysis (HTP) process offers an innovative solution for eliminating PFAS contaminants from biosolids by converting it into a higher value biochar and generating energy to sustain and fuel additional processes. Validation through bench-scale and pilot-scale tests have underscored its efficacy, and CHAR's partnership with Synagro will demonstrate HTP's applicability and scalability at wastewater treatment facilities to manage biosolids and help decarbonize operations.

**Speaker Bio:** Andrew is the Director of Business Development for CHAR Tech. He has an arts degree from McGill University and is proficient in Mandarin with his HSK-5 certification. He has international experience initiating breakthrough circular economy projects in China, the US, and Canada while working across different sectors including technology, plastics, and organics to achieve innovative solutions for multinational organizations. Andrew is incredibly passionate about the environment and promoting sustainable growth through innovation, determination, and collaboration.

## EVENING RECEPTION/AWARDS CEREMONY

***James River Salon A/B***

5:30 pm to 7:30 pm

Networking Reception/2nd Annual MABA Recognition Awards Ceremony

EVERYONE IS WELCOME - PLEASE JOIN US!

## THANK YOU TO OUR EVENING RECEPTION/AWARDS CEREMONY SPONSORS

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**Thursday**, July 11 **Day 2** - Morning Sessions

## 8:00 am - 9:30 am Henrico Water, Department of Public Utilities Plant Tour

### Plant Tour: Henrico Water

Host: James Grandstaff

Henrico County

Department of Public Utilities

9101 WRVA Rd, Henrico, VA 23221

(Must use the address above, NOT Google's!)
All participants will need to arrange private transportation.
Those interested should give their contact information
to Mary (Firestone) Baker.

**Morning Moderator:** Nick Bonkoski

## 10:30 am Falling Creek WWTP Digester Improvements

David Nixson, *WRA, LLC.*
Ed Edmondson, *Chesterfield County, Virginia*

**Presentation Summary:** By implementing a problem-solving algorithm, the project identified several improvements to the Falling Creek WWTP anaerobic digestion system. After design and construction, the improvements are now providing for a 45% increase in digester gas. Improvements included a new digester mixing system, digester gas collection replacement, simplifying pumping and piping, and converting a secondary digester to a primary digester.

**Speaker Bios:**

David Nixson is an Associate Vice President at Whitman Requardt and Associates with over 30 years of engineering experience. David holds a bachelor's in chemical engineering from Clarkson University and an MBA from Loyola University Maryland. He has extensive experience in a wide range of wastewater treatment and biosolids projects for large and small clients throughout the Mid-Atlantic states and Texas.

Edwin Edmondson is the wastewater plants manager for the Chesterfield County, VA, Falling Creek, and Proctor's Creek wastewater treatment plants. He has more than 25 years of experience in industrial and municipal water treatment operations. He has found a fulfilling vocation in which to practice biology, chemistry, plumbing, and engineering experience.

## 11:00 am Bench-scale Pilot Testing to Evaluate Conventional MAD and TPAD for Lynchburg Regional WRRF

Emma Guertin, *Brown and Caldwell*

**Presentation Summary:** This presentation will review the results from a bench-scale pilot performed at Bucknell University comparing conventional MAD and TPAD for Lynchburg Regional WRRF. Dewaterability performance, foaming potential and sludge rheology impacts in addition to typical process performance parameters will be compared between TPAD and MAD. The goal is to contribute to the industry's understanding of the varying impacts of MAD and TPAD to aid in future digestion applications as utilities look to diversify biosolids management.

**Speaker Bio:** Emma Guertin is a process mechanic engineer at Brown and Caldwell, focusing on solids and energy projects ranging from industry research and pilot studies to design to construction. Her introduction to the industry was through her master's thesis at NCSU which studied the impacts of various food waste types on the process performance of anaerobic co-digestion.

**Thursday**, July 11 **Day 2** - Morning Session

## 11:30 am Construction Update from Back River WWTP - Rehabilitation of the Anaerobic Digestion System

Maia Tatinclaux, RK&K
Jordan Wolfe, RK&K
Allyson Myers, Ulliman Schutte

**Presentation Summary:** The Back River Wastewater Treatment Plant in Baltimore, MD has used anaerobic digestion for solids processing and destruction for the last 100 years. Construction on the Egg-Shaped Digester Rehabilitation and Improvements project, valued at $90 million, has been underway since August, 2023 and has a four-year construction duration. This project includes the complete rehabilitation of the Egg-Shaped Digesters (ESDs) along with upstream improvements to sludge treatment, pumping, acid phase digestion, and downstream mixing improvements to the high rate digesters. This presentation will provide an update on construction progress, challenges encountered in the field, and upcoming project milestones.

**Speaker Bios:**

Ms. Tatinclaux is a Project Delivery Leader with RK&K specializing in wastewater treatment design. Ms. Tatinclaux has worked on a variety of treatment projects in the mid-Atlantic area with a focus on rehabilitation projects. She has an extensive background in biosolids treatment having previously worked as the Process Engineer for the anaerobic digestion system at the Back River WWTP. Ms. Tatinclaux also serves on the Short-Course Committee and teaches biosolids related coursework.

Jordan Wolfe with RK&K is a Construction Manager / Project Manager on various water and wastewater design and construction projects. With 18+ years of experience in the consulting industry he has touched on various projects and disciplines including architectural, mechanical, electrical, and controls. Jordan is presently performing the contract management / administration for RK&K / GHD Joint Venture Engineering of the rehabilitation of the egg-shaped digesters at the Back River WWTP to facilitate the coordination of this multidisciplinary engineering effort. Jordan is a licensed CCM and is studying for his P.E.

Allyson Myers is a Project Manager at Ulliman Schutte Construction. With 10+ years of experience in the water/wastewater construction industry, Allyson has led numerous project teams throughout the Baltimore and DC Metro area. Allyson is currently stationed at the Back River WWTP in Baltimore, Maryland where she and the rest of the project team are rehabilitating the egg-shaped digesters and other sludge digestion facilities. Allyson is a licensed Professional Engineer and an Associate Design-Build Professional, and she obtained her BS in Civil and Environmental Engineering from the University of Pittsburgh.

## 12:00 pm to 1:15 pm LUNCH/Exhibits/Networking — Atrium Balcony & Shenandoah Room

**Afternoon Moderator:** Terry Goss **Day 2** - Afternoon Session

## 1:15 pm Challenges and Benefits of Co-Digestion Program: Case Studies

Ganesh Rajagopalan, *AECOM*

**Presentation Summary:** Water resource recovery facilities (WRRFs) have been exploring opportunities to enhance digester gas production through the addition of high-strength organic wastes (HSWs) such as food wastes, restaurant fats, oils, and grease (FOG), brewery, creamery, and poultry wastes. However, several challenges still exist for implementing the co-digestion program. These include the cost of waste pre-processing, digester stability and capacity, operational issues, treatment impacts, and permitting. This presentation will share experiences gained from planning and implementation of a co-digestion program at two wastewater treatment facilities.

**Speaker Bio:** Dr. Ganesh Rajagopalan is the National Resource Recovery Practice lead for AECOM. He has nearly 25 years of experience in wastewater and biosolids treatment and research. He has performed several client and research projects to holistically evaluate the co-digestion of organic wastes to enhance biogas production and to beneficially use biogas to produce electricity, vehicle fuel, or renewable natural gas (RNG).

## 1:45 pm An Innovative Technology for Increased Biogas Generation and Reduced Solids Production: Case Study at Goleta Sanitary District

Jim Dunbar, *Lystek*

**Presentation Summary:** A description of the use of low-temperature-thermal hydrolysis as a pre-digestion enhancement for improved anaerobic digester performance. Quantitative results to be presented include increased biogas generation and lower overall solids requiring off-site management.

**Speaker Bio:** JAMES DUNBAR, P.E. is the General Manager for Lystek International (US). Jim is a graduate of the University of Notre Dame (Civil & Environmental Engineering) and St. Xavier University (MBA) and a Professional Engineer with more than 25 years' experience in the management of solid waste and treatment of liquid wastes in the US and Europe. Jim is responsible for the management of Lystek's business, engineering, and operations in the US. Jim is also the current Board President of the Northwest Biosolids Association.

## 2:15 pm Nitrate Pathway Leads to Cleaner Digestion and More Biogas

Matthew Williams, *Thermal Process*

**Presentation Summary:** By borrowing from established techniques in nutrient removal and odor control and applying them to anaerobic digesters, the process becomes more efficient. The Nitrate pathway creates conditions that reduce H2S production, chemical usage & struvite while stabilizing pH, increasing VS destruction, and generating more & richer biogas.

**Speaker Bio:** Matt Williams is a Regional Sales Manager and Anaerobic Product Manager at Thermal Process Systems and has been fascinated with digestion, biogas & biosolids ever since an absurdly theoretical waste-to-energy project at Cornell. An avid birdwatcher & Nordic ski dad, he currently lives in the mountains of Utah with his wife, 4 kids, a couple dozen chickens, some honeybees, and more rabbits than anticipated.

## 2:45 pm - 3:15 pm BREAK/Exhibits/Networking

**Atrium Balcony & Shenandoah Room**

## 3:15 pm Biogas to Commercial Quality RNG: The first biogas to pipeline project in Virginia

Paul Bassette, *Carollo*
Asmita Deshmukh, *RK&K*

**Presentation Summary:** This presentation documents the design, construction, startup, and operation of the biogas to RNG project at the Western Virginia Water Authority's (WVWA) Regional Water Pollution Control Plant which includes a digester gas conditioning system and interconnect facility. The facility is owned and operated by Roanoke Gas Company, who inject the RNG into their natural gas pipeline for downstream use as transportation fuel, which allows Roanoke Gas to capitalize on revenues from EPA's Renewable Fuels Program.

**Speaker Bio:** Paul Bassette has more than 35 years of experience managing water and wastewater supply, treatment, and conveyance projects and programs, from the study phase through the startup of the facilities. He has experience in the preparation of energy audits and studies and the design of wastewater system improvements that reduce energy and improve process performance. His projects include the treatment of biogas for pipeline injection and utilization for on-site combined heat and power use.

Asmita is a water/ wastewater engineer who has experience in regional water and wastewater treatment facilities projects. She specializes in the process mechanical and biosolids areas of wastewater treatment as well as the design, condition assessment, and rehabilitation of sewer conveyance systems. Asmita is also experienced in sanitary sewer system evaluation, cost estimating, and construction administration.

## 3:45 pm Thermal Dryer Test: Findings and Spontaneous Self-Heating of Dried Biosolids

Natalie Switala, *Material Matters*

**Presentation Summary:** The Moccasin Bend Wastewater Treatment Plant operates a 50 MGD facility in Chattanooga Tennessee. When seeking alternative processing options to improve biosolids quality, the WWTP identified a mobile thermal drying unit that had previously been used in asphalt drying applications. Material Matters conducted a batch test using unstabilized WWTP solids in the mobile thermal dryer. The resulting granule material satisfied all requirements for exceptional quality biosolids, however, spontaneous reheating occurred in the granule material shortly after drying. This presentation highlights the methodology and findings of the batch test and discusses the suspected causes of spontaneous reheating observed in the dried biosolids.

**Speaker Bio:** Natalie is a Senior Wastewater Scientist at Material Matters. She has a wastewater operators license in Connecticut and Pennsylvania and a degree in Civil Engineering from Central Connecticut State University.

## 4:15 pm Issues, Concerns, and Solutions for Drying Undigested Primary Sludge

Chip Pless, *LCI Corporation*

**Presentation Summary:** Many facilities are investigating the drying of undigested sludges, which comes with its own set of unique challenges. This presentation will investigate why drying undigested sludge is necessary and examine these challenges, including real-world solutions that enable efficient and effective drying of undigested sludge.

**Speaker Bio:** Chip Pless has worked in the biosolids industry for over 10 years with experience in sludge screening, thickening, dewatering, and drying. He has authored various papers including papers for Residuals and Biosolids Conference and been part of the WEF Dryer Task Force. Chip has a Bachelor of Science degree in Mechanical Engineering from North Carolina State University and currently works as the Sales Manager for Sludge Dryers at LCI Corporation in Charlotte, NC.

## 4:45 pm Summary and Closing Remarks

Mary (Firestone) Baker, *MABA Executive Director*

**Speaker Bio:** Mary (Firestone) Baker is the Executive Director of the Mid-Atlantic Biosolids Association (MABA). Previously, Mary worked with several statewide member associations including the Pennsylvania Funeral Directors Association, the Pennsylvania Newsmedia Association, and the Pennsylvania Chiropractic Association. In addition, Mary is a violist and composer, active in the string ensemble Sempre Dolce, and she instructs private lessons on violin and viola. Mary resides in the Harrisburg, Pennsylvania area with her husband, and her two children, and two wily cats.

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