

27

# 11th Annual Biosolids Management Conference

September 7-9, 2014 • Skamania Lodge • Stevenson, Washington



# LOST IN TRANSLATION

## Biosolids Demystified

[www.cm.wsu.edu/biosolids2014](http://www.cm.wsu.edu/biosolids2014)

# Welcome to the 27<sup>th</sup> Annual Biosolids Management Conference

Sponsored by the Northwest Biosolids Management Association.

Take a look at popular literature, and communication tools abound. You can go to Venus to learn about women and find out how to make friends and influence people. You can even use Google to speak Greek. Biosolids professionals have no such tools. Our 503s that make us feel safe and secure sound alarms to those not familiar with our work. Our nutrient-rich soil conditioner is often perceived as a toxic brew by fearful citizens. And then there is the question of pharmaceuticals... The theme of this year's Biofest is *Lost in Translation – Demystifying Biosolids*.

## Why Should I Attend?

Navigating the current research and real-life applications available on biosolids treatment methods and beneficial use can be overwhelming. Our conference will focus on distilling what these latest findings mean and how best to communicate this within your program and to your stakeholders. We'll also illuminate management considerations taken from years of experience and methods on how to integrate these into your programs.

## SUNDAY, SEPTEMBER 7

5:00 pm **REGISTRATION**

5:30 pm **NBMA ANNUAL BUSINESS MEETING**

The NBMA invites all conference attendees to come to the annual business meeting and participate in a round table discussion about biosolids projects and events. This meeting provides attendees with a wonderful opportunity to connect with members, subscriber companies, university researchers, committee chairs, board members and staff. Attendees will also learn the latest developments in our efforts to support Washington State's biosolids management program in the Southwest Washington biosolids ordinance case.

7:30 pm **SOCIAL HOUR:  
BEST IN PRIDE  
COMPETITION**

Come to the social hour to meet other conference attendees. Visit the vendor exposition to check out biosolids-related products and services. View the posters for current information on biosolids research, demonstration, and recycling efforts. Submit your entry for the **Best in Pride Competition** with winners to be announced at noon during the Tuesday lunch and raffle. Light hors d'oeuvres will be served.

# Monday

7:30 am	Breakfast
8:30 am	Opening Session: Welcome & Award Presentation
9:00 am	The Language of Impact: Using Words to Make the World a Better Place
9:30 am	Getting the Word Out: New Methods in Communicating
10:00 am	Break
10:15 am	Talking Dirt: How to Avoid Problems of Public Communication About Biosolids
10:45 am	Potential for Perfluoralkyl Acid Bioaccumulation in Food Crops
11:45 am	Lunch
12:15 pm	Methodology of Evaluation of Helminth Egg Viability in Land Applied Biosolids
12:40 pm	Persistence and Bioaccumulation of Triclocarban and Triclosan in Soils after Land Application of Municipal Biosolids
1:05 pm	Beyond the Soil Food Web: Managing Soil for Diverse Biological Functions
1:30 pm	Break
1:45 pm	Biosolids Business Model: TAGRO's Move to Become a Profit Center
2:05 pm	To Register or Not to Register: Lessons Learned in Pierce County, WA
2:30 pm	Break
2:30 pm	Demystifying Science Communication
4:15 pm	Adjourn Conference Sessions
4:30 pm	Fun Run/Walk Along Skamania's Forest Trail
5:30 pm	Social Hour in Ballroom
6:00 pm	Social Hour/Dinner in the Garden

# Tuesday

7:30 am	Breakfast
8:30 am	Lost in Translation: Demystifying Biosolids (Project Presentations)
9:30 am	Break
9:45 am	One Biosolids Coordinator's Perspective
10:05 am	An Oregon Regulator's Perspective
10:25 am	Regulator: Friend of Foe
10:45 am	Break
11:00 am	Agua Nueva   A New 21st Century Wastewater Treatment Plant: Efficacy of Nutrient and Virus Removal
11:20 am	Evaluating New Directions for the City of Lynnwood, WA
12:00 pm	Lunch
1:00 pm - 3:00 pm	Examples of Biosolids Technology Alternatives: Finding the Right Fit For Your Agency
1:00 pm	Sanford Biosolids Gasification System
1:30 pm	Different Strokes for Different Folks
2:00 pm	Now What Do I Do with the Stuff?
2:30 pm	Technology Tour
3:30 pm	Conference Adjourns



# MONDAY, SEPTEMBER 8

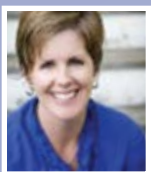
7:30 am **BREAKFAST**

8:30 am **OPENING SESSION:  
WELCOME & AWARD PRESENTATION**

MODERATED BY SALLY BROWN, UNIVERSITY OF WASHINGTON

9:00 am **THE LANGUAGE OF IMPACT:  
USING WORDS TO MAKE THE WORLD  
A BETTER PLACE**

If you are going to raise more money, engage more volunteers, serve more clients and increase your impact, every single person involved in your program—managers, staff, board members, finance team, project leads, etc.—needs to know how to talk about your program in a way that is consistent and compelling. This means investing in your words. This isn't about spending more money on doing something new. It's about doing something you're already doing in a new (and extremely effective) way. Erica Mills has taught thousands of organizations how to use language to make the world a better place. She'll inspire you with her practical suggestions for increasing your impact by investing in your words.



**ERICA MILLS** heads up Claxon, where those responsible for getting their good work noticed have the tools, training and resources they need to do so with confidence. Prior to Claxon, Mills ran Mills Communications Group, a full service marketing firm for those doing good. Mills has guest lectured at University of Chicago and Seattle University, and given dozens of workshops and presentations on how to make marketing a mission-critical part of all organizations.

9:30 am **GETTING THE WORD OUT:  
NEW METHODS IN COMMUNICATING**

For decades biosolids managers have been communicating the science, risk, and safety of land application. Despite efforts to explain the scientific literature to the public, most people do not know what biosolids are, and misinformation and fears about safety run rampant and disrupt programs. Over the past four years King County, WA has developed new communication strategies for its biosolids program including creating short videos designed to be watched on the web. This talk will discuss the strategies King County used to create the new videos and other recent communication pieces.



**KATE KURTZ** is a biosolids project manager for King County, WA. She is the communications project manager in addition to managing the county's compost contract with GroCo, Inc. She has a bachelor's degree from Barnard College of Columbia University and a master's degree in forest soils from University of Washington. Her research at UW focused on the long-term benefits of organic soil amendments, with an emphasis on soil carbon storage. Kate became interested in organic residuals as a tool for sustainable soil management, erosion control, and LID while working at Soil Control Lab in Watsonville, CA.

10:00 am

## BREAK

MODERATED BY SALLY BROWN, UNIVERSITY OF WASHINGTON

10:15 am

## TALKING DIRT: HOW TO AVOID PROBLEMS OF PUBLIC COMMUNICATION ABOUT BIOSOLIDS

"Translating" is often used to describe the ways scientists "transfer" knowledge from the technical sphere to the broader public. However, this is a misnomer. It can also be a problematic conception of science communication that perpetuates problems for public understanding of science. This presentation will borrow from the long-standing tradition of persuasive theory located in the discipline of communication studies to argue that "connecting" is a better verb for conveying technical knowledge to non-experts. The verb of translating implies that failures of the public to understand scientific findings are due to the speaker not being "clear enough." This assumes a kind of "this is how it is" attitude. Connecting, on the other hand, implies concern for cultural values, prejudices, histories, and traditions. Speaking "clearer," in other words is not a function of choosing the right words, but rather a matter of appealing to the conventions, norms, and belief structures of a public. We will illustrate useful strategies for navigating the space between expert and lay understandings of biosolids. To do this we will draw examples from both the technical and public spheres (journal articles, websites, newspapers, and blogs) to suggest best practices. The discussion will culminate in a workshop where participants will be asked to put these practices to work in real-world scenarios.



**MILES COLEMAN** is a PhD student, researcher, and instructor at the University of Washington. He comes to Seattle from California's Sacramento Valley, where he earned his Master of Communication Studies from California State University, Sacramento. He studies rhetorics of scientific controversy and ethics.

Some current projects he is working on involve the use of biological metaphors to enhance discussions of technologies and their imposition upon peoples' abilities to make choices, and what might constitute an ethical character for scientists talking about evolution and creationism.

10:45 am

## POTENTIAL FOR PERFLUORALKYL ACID BIOACCUMULATION IN FOOD CROPS

Perfluoroalkyl acids (PFAAs) are persistent, bioaccumulative, and potentially toxic compounds. Due to their use as stain-repellants and in food packaging, municipal wastewater biosolids can accumulate significant quantities of PFAAs. In this study, lettuce, tomato, snap pea, radish, and celery were grown in biosolids-amended soils. The levels of PFAAs were measured in edible and non-edible plant parts. Strong carbon chain-length trends were observed; short-chain PFAAs accumulated more than long-chain PFAAs. Given the longevity of PFAAs and the shift toward greater use of short-chain PFAAs, it is important to recognize the potential for PFAA entry into the terrestrial food chain via plants.



**CHRIS HIGGINS** is an environmental chemist examining the fate of environmental contaminants in aquatic and terrestrial systems. Dr. Higgins' received his A.B. in Chemistry and Chemical Biology from Harvard University, and his M.S. and Ph.D. in Civil and Environmental Engineering from Stanford University. Prior

to his graduate work, Dr. Higgins worked for the Cadmus Group, Inc., providing policy and regulatory support to the U.S. Environmental Protection Agency. Upon finishing his Ph.D. at Stanford in 2006, Dr. Higgins became a postdoctoral fellow at the Johns Hopkins Bloomberg School of Public Health. He joined faculty at the Colorado School of Mines in 2009, and was promoted to Associate Professor in 2014. His research focuses on the movement of contaminants in the environment. In particular, he studies chemical fate and transport in natural and engineered systems as well as bioaccumulation in plants and animals. Contaminants under study in his lab include perfluorochemicals used in stain-repellent fabrics and fire-fighting foams, nanoparticles, wastewater-derived pharmaceuticals and personal care products, and trace metals.

11:15 am

## LUNCH

MODERATED BY ROBERTA KING, KING COUNTY

12:15 pm

### METHODOLOGY OF EVALUATION OF HELMINTH EGG VIABILITY IN LAND APPLIED BIOSOLIDS

*Ascaris* spp. are helminthes that are parasitic nematodes that can infect a variety of hosts including humans. Helminths are rarely found in Class B biosolids in the US, but have been reported as being able to remain viable within land applied biosolids for up to two years. The duration of their viability exceeds all other microbial pathogens, and drives the duration of EPA site restrictions. However, the microscopic methodology utilized to evaluate helminth egg viability is less than perfect. In this presentation we will show you the limitations of the EPA approved standard method.



**IAN PEPPER** is currently a Professor at the University of Arizona. He is also the Director of the Environmental Research Lab and the National Science Foundation Water and Environmental Technology Center, both at the UA. Dr. Pepper is an environmental microbiologist whose research has focused on the fate and transport of pathogens in air, water, soils and municipal wastes. More recently he has investigated the potential for real-time detection of contaminants in water distribution systems. He also teaches a graduate level laboratory class on Environmental Microbiology, and an undergraduate class on Pollution Science. His expertise has been recognized by membership on six National Academy of Sciences Committees.

12:40 pm

### PERSISTENCE AND BIOACCUMULATION OF TRICLOCARBAN AND TRICLOSAN IN SOILS AFTER LAND APPLICATION OF MUNICIPAL BIOSOLIDS

The presence of the antimicrobial chemicals triclosan (TCS) and triclocarban (TCC) in municipal biosolids has raised concerns about their potential impacts on soil ecosystems. The persistence of TCC and TCS in two biosolids-amended fields receiving yearly applications of biosolids at six loading rates was investigated. Soil and biosolids samples were collected and analyzed for TCC and TCS. In addition, the bioaccumulation of TCC and TCS from these soils was assessed



in the earthworm *Eisenia foetida*. While TCS did not appear to bioaccumulate, TCC showed measureable bioaccumulation. These findings suggest TCC is more persistent and bioaccumulative in soils than TCS. Presented by **CHRIS HIGGINS**.

1:05 pm

## BEYOND THE SOIL FOOD WEB: MANAGING SOIL FOR DIVERSE BIOLOGICAL FUNCTIONS

Soil ecosystem engineers, litter shredders, and decomposers shape soil structure and drive nutrient availability. The structure of the soil food web can also be a valuable indicator for soil quality. This presentation will focus on groups of organisms and how management practices influence their activity.



**DOUG COLLINS** is an Extension Faculty with WSU's Small Farms Program. His extension programs and research focus on soil quality and fruit and vegetable production for small farms. Doug has a Ph.D. in soil science from Washington State University, an M.S. in Plant Pathology from Montana State University, and serves on the board of directors of Tilth Producers of Washington.

1:30 pm

## BREAK

MODERATED BY GREG MOEN, HDR ENGINEERING

1:45 pm

## BIOSOLIDS BUSINESS MODEL: TAGRO'S MOVE TO BECOME A PROFIT CENTER

The City of Tacoma recently moved their TAGRO Program to a new division call Business Operations. While still under the umbrella of Environmental Services, this new structure is a unique new business model... biosolid products as a profit center. This is the story on how we have managed to turn a waste stream into cash. This was accomplished through innovative thinking and diversity of products.



**DAN EBERHARDT** has worked for the City of Tacoma since 1985 and has been involved with TAGRO since 1990. He has been involved in all aspects of the program from manufacturing, distribution, bagging and marketing. Currently he has risen to the rank of Biosolids Supervisor (cream always rises to the top but so does scum you get to choose). For the last 10 years he has been on the NBMA Annual Planning Committee.

2:05 pm

## TO REGISTER OR NOT TO REGISTER: LESSONS LEARNED IN PIERCE COUNTY, WA

Many local jurisdictions produce marketable “Class A” biosolids products, but very few formally register them as fertilizers. What does it entail? Is it worth it? Would it work at your facility? This presentation will highlight lessons learned from Pierce County, WA, where Chambers Creek Regional Wastewater Treatment Plant biosolids have been sold as “SoundGRO” fertilizer since 2006. Discussion topics will include the registration process, benefits and challenges, marketing, customer evolution and other related issues.



**MELISSA NEWELL** is the lead sales and marketing planner for the Pierce County Sewer Division's SoundGRO fertilizer program and the strategic biosolids management plan project manager. She has over nine years experience working on local environmental issues, including wastewater, stormwater, air quality and watershed restoration. Melissa earned her M.E.S. at The Evergreen State College and currently lives and plays in Tacoma.

2:30 pm

## BREAK

MODERATED BY SALLY BROWN, UNIVERSITY OF WASHINGTON

2:45 pm

## DEMYSTIFYING SCIENCE COMMUNICATION

This interactive workshop will challenge participants to transform science speak into plain speak, phrases contributed by Chris Higgins (Colorado School of Mines). Through this exercise, participants will apply ‘connecting’ communication techniques and gain a better understanding of how science can often be misunderstood. A recent biosolids research paper will be used as an example to wrap our heads around the reality of miscommunication and how to demystify science communication. Coordinated by Miles Coleman and Dylan Medina.



**DYLAN MEDINA** is a PhD student in Language and Rhetoric in the English department at the University of Washington. His research focuses on public rhetoric, environmental communication, and writing studies. He is particularly interested in how language can be used to create connections between communities and help people affect positive change on the world. In addition to his research, Dylan has developed and teaches a transition workshop for service members to facilitate their transition from military to civilian life.

- 4:15 pm**    **ADJOURN CONFERENCE SESSIONS**
- 4:30 pm**    **FUN RUN/WALK SKAMANIA FOREST TRAIL**
- 5:30 pm**    **SOCIAL HOUR IN BALLROOM**
- 6:00 pm**    **SOCIAL HOUR/DINNER IN THE GARDEN**



# TUESDAY, SEPTEMBER 9

## 7:30 am BREAKFAST

MODERATED BY REBECCA SINGER, WASHINGTON STATE DEPARTMENT OF ECOLOGY

## 8:30 am LOST IN TRANSLATION: DEMYSTIFYING BIOSOLIDS (PROJECT PRESENTATIONS)

Learn about biosolids program initiatives and research projects during this information filled session. *Preference is given to student projects for presentation during this session.*

## 9:30 am BREAK

MODERATED BY REBECCA SINGER, WASHINGTON STATE DEPARTMENT OF ECOLOGY

## 9:45 am A BIOSOLIDS COORDINATOR'S PERSPECTIVE

The Northwest region of Washington State has seen a growing number of citizen groups aimed at stopping the biosolids program. Whether a facility sends their biosolids for land application or composts to make a class A product, the public has many misconception about what biosolids are, their classifications and how they are regulated. However, there are also misconceptions about how the regulator links the public and the facilities they regulate. Developing a working relationship with your regulator will help bridge the gap with the public by creating transparency between biosolids management and the regulations that govern them.



**REBECCA SINGER** is the Northwest Regional Biosolids Coordinator for the Washington State Department of Ecology. Rebecca received her Masters Degree from the University of Washington, studying under the direction of Dr. Sally Brown. Her masters thesis evaluated the use of reclaimed water for groundwater recharge. While at the University, she also participated in biosolids research projects that included developing stormwater bioretention systems, evaluating biosolids for douglas fir trees and switchgrass.

10:05 am

## AN OREGON REGULATOR'S PERSPECTIVE

The goal of establishing a sound biosolids program must be shared by all stakeholders. With most of my work centered on land application of Class B biosolids (which is still prevalent in Oregon), one stakeholder, the public, stands apart from the public we associate with Class A biosolids, and has even driven permitted facilities to explore and/or switch to producing Class A biosolids. But with an approved biosolids management plan, sufficient acreage of authorized sites and well-documented operations, a permitted facility's public relations can become more workable and its day-to-day program operations less encumbered by all the 'reg' tape.



**CONNIE SCHRANDT** has worked as the Regional Biosolids and Water Reuse Coordinator for the Oregon DEQ's Northwest Region since 2009. She has over 30 years of experience in environmental protection, including 16 years with DEQ and, prior to that, involvement with water quality and biosolids programs for a consortium of Indian tribes in New Mexico and with municipal and industrial wastewater irrigation to agricultural crops in southwest Kansas. Connie holds a BS degree from New Mexico State University and a MS degree from Louisiana State University, both in Agronomy with emphasis in soil chemistry and soil/water relations.

10:25 am

## SUCCESSFUL COLLABORATION TO ADVANCE BIOSOLIDS BENEFICIAL USE IN ALBERTA

In recent years, Alberta biosolids generators have expressed an interest in investigating new management options to diversify and build capacity within their programs. An initial challenge to investigating new options was that the provincial guidelines were developed specifically for biosolids applications to agricultural land. Understanding the departure of these options from the provincial guidelines, the generators took a proactive engagement approach by presenting the opportunities to their regulators to gauge interest in establishing a series of demonstrations to provide regional "proof-of-concept" of the options, which include biosolids use in mine reclamation, marginal land improvement and woody biomass production. The municipalities solicited input from their regulators, which was used to design demonstrations that would address knowledge gaps in biosolids management in Alberta, and generate information that could be used to support future biosolids guideline

amendment or development. The completion or ongoing evaluation of nine demonstrations throughout the province, supported by intensive research, ongoing communication and knowledge transfer, provides the blueprint for a proven process for advancing biosolids management.



**MIKE VAN HAM** is a Professional Agrologist, a Registered Professional Biologist, and a Registered Professional Forester. He studied forestry and soil science at the University of Alberta in Edmonton, Alberta and the University of British Columbia in Vancouver, British Columbia. Since founding SYLVIS over 25 years ago, Mike has been involved in all aspects of residuals management—from research and policy development to operational implementation and senior technical review. He has participated in residuals and solid waste management activities throughout the world including Australia, the People's Republic of China, the Maldives and the United States.

10:45 am

## BREAK

MODERATED BY GIL BRIDGES, MUKILTEO WATER & WASTEWATER DISTRICT

11:00 am

## AGUA NUEVA | A NEW 21ST CENTURY WASTEWATER TREATMENT PLANT: EFFICACY OF NUTRIENT AND VIRUS REMOVAL

In January 2014 a new wastewater treatment plant (WWTP) – Agua Nueva was commissioned in Tucson Arizona. This WWTP is unique within the U.S. that it has: i) dissolved air flotation instead of conventional primary sedimentation; and ii) a 5 stage Bardenpho process for nutrient removal. In this presentation we show the efficacy of this 21st Century WWTP plant for removal of nitrogen and phosphate, and for the removal of 9 model viruses. For the viruses, data from the new WWTP will be compared to similar data obtained in 2013 from a conventional WWTP. Presented by **IAN PEPPER**.

11:20 am

## EVALUATING NEW DIRECTIONS FOR THE CITY OF LYNNWOOD, WA

The City of Lynnwood is currently facing a critical decision with their WWTP process. Currently the City is using two centrifuges which are beyond their expected service life and were originally looking at replacement. Then Les Rubstello, Operations and Maintenance Manager, was approached by Trane,



an Energy Services Company, regarding the Energy Savings Performance Contract Program (ESPC) through the State. This allowed a broader view of the plant to identify opportunities for energy and O&M savings. It was decided the City should move away from the centrifuges and accomplish dewatering with a screw press to enable energy efficiency improvements while achieving the necessary dryness. The result was a packaged energy conservation project involving the entire treatment process, particularly the evaluation of incineration drying and digestion.

The City will talk through key factors associated with aeration, dewatering and incineration, and how they evaluated current process against alternatives that will save capital dollars and O&M costs.



**ANGIE ESTEY** is involved in Trane US Inc's energy services business development in the Pacific Northwest. Angie's project experience ranges from large, complex facilities to small commercial buildings. Angie's diverse knowledge in the fields of energy efficiency, green power, and alternative-financing helps organizations to see the broader possibilities available to them. She is actively involved in NAIOP, Seattle 2030 District, PNWCA/WEF, APPA, Climate Solutions, and is a member of the Innovators Network for Cancer research.



**LES RUBSTELLO** is currently the Deputy Public Works Director for the City of Lynnwood, has over 30 years' experience in the industry. Among his responsibilities, Les was assigned the Water & Sewer Utility Maintenance crews, which included six sewer lift stations and a 4 MGD wastewater treatment plant. In 2012, Lynnwood replaced its obsolete SCADA system with a PLC and Ethernet based system utilizing much of the existing fiber optic cable installed by the Traffic Signal System. Current projects include rebuilding three sewer lift stations and building one new station and two new force mains, plus many upgrades at the Treatment Plant. Mr. Rubstello has a Bachelor of Science degree in civil engineering/transportation from Oregon State University and a Masters in CE/transportation planning and operations from the University of Washington.

12:00 pm

## LUNCH

MODERATED BY CHRIS MCCALIB, LAKEHAVEN UTILITY DISTRICT

1:00 pm - 3:30 pm

## **EXAMPLES OF BIOSOLIDS TECHNOLOGY ALTERNATIVES: FINDING THE RIGHT FIT FOR YOUR AGENCY**

A comprehensive compilation of speakers highlighting various biosolids treatment technologies at the facility level. Real market uses of biosolids products and their associated market place hurdles.

The workshop will include presentations on gasification, composting and an example of criteria used to determine what type of biosolids is the right fit. A technology showcase will also be featured that allows conference attendees the opportunity to interact with manufacturers and representatives from the actual technology companies and organizations. This includes an interactive quiz and raffle!

1:00 pm

## **BIOSOLIDS GASIFICATION SYSTEM**

The process of gasification has been used in the municipal solid waste and industrial waste industries for many years. There is currently one gasification facility in operational in Sanford, FL and many municipalities are considering its application for their biosolids throughout the US. The technology is capable of utilizing embedded in biosolids as a source of renewable energy to dry biosolids, replacing the use of natural gas and producing ash as a byproduct. There are many things to consider when evaluating this technology. This presentation will provide a description of the technology, and some of the environmental and economic factors associated with the technology.

1:30 pm

## **DIFFERENT STROKES FOR DIFFERENT FOLKS**

This presentation discusses several different composting operations with biosolids coming from different WWTP's plants. The WWTP treatment process design (primary, secondary, waste activated, aerobic and anaerobic digestion), chemical addition, climate and structure material will determine the initial mixed material and could impact the compost process positively or negatively in regards to the energy available for the composting process. We looked at several reference facilities, in which the biosolids feedstock material varied and the examined the composting process and final product quality.

**BRIAN FUCHS**, Gore Cover System, is the North American representative at W. L. Gore & Associates for GORE® Cover System technology and has been serving the environmental field for 20 years. Brian's experience includes project management, contracting, regulatory affairs and field testing, including pilot studies and full scale facility operations. Before joining Gore, Brian spent his time as a chemical application specialist in the drinking water and wastewater treatment industry.

2:00 pm

## NOW WHAT DO I DO WITH THE STUFF?

You've selected the treatment technology that seemed best, but are now faced with the end product. This presentation will showcase an evaluation model to assist you when considering what type of treatment method, product and footprint is the right fit for your agency. Including applications of the various Class A and B biosolids products produced.

**MARK CULLINGTON**, Kennedy/Jenks Consultants, is a Principal scientist at Kennedy/Jenks Consultants in Portland, OR. Mark is their Operations Manager for their Oregon practice and works on biosolids and recycled water projects throughout the US. He has been involved in the planning and design of dozens of Class A and B biosolids projects for over 15 years.

2:30 pm

## TECHNOLOGY SHOWCASE

Tour our technology, equipment, and biosolids management service vendors.

3:30 pm

## CONFERENCE ADJOURNS

# Conference Planning Committee

## CO-CHAIRS

Sally Brown  
*University of Washington*

Mark Cullington  
*Kennedy/Jenks Consultants*

## COMMITTEE MEMBERS

Gil Bridges  
*Mukilteo Water & Wastewater District*

Peggy Leonard  
*King County*

Tom Chapman  
*Brown & Caldwell*

Maile Lono-Batura  
*NW Biosolids Management Association*

Craig Cogger  
*Washington State University-Puyallup*

Chris McCalib  
*Lakehaven Utility District*

Tim Cooper  
*City of Yakima*

Janet McLoughlin  
*Washington State University  
Conference Management*

Dana Devin-Clarke  
*Brown & Caldwell*

Greg Moen  
*HDR Engineering*

Dan Eberhardt  
*City of Tacoma*

Peter Severtson  
*Washington State Department of Ecology*

Roberta King  
*King County*

Rebecca Singer  
*Washington State Department of Ecology*

Kate Kurtz  
*King County*

## Lodging

RESERVATION DEADLINE AUGUST 7

### Skamania Lodge

1131 SW Skamania Lodge Way  
Stevenson WA 98648  
(800) 553-8225

Lodging is separate from your conference registration fee. Room rates at Skamania range from **\$139 to \$179**. Call the hotel directly at **(800) 221-7117** to make your room reservation. Rooms must be reserved by **August 7** to receive the Annual Biosolids Management Conference group rate. It is recommended that you make your reservation early, as rooms fill quickly for this conference. When making your reservation, be sure to request the **NW Biosolids Conference** rate.

A deposit equal to the room rate and tax for the first night for each reservation is required when making reservations. This is refundable if the hotel receives a cancellation notice at least seven days prior to the scheduled arrival.

## What to Wear

The Annual Biosolids Management Conference maintains a relaxed atmosphere. September weather in the Pacific Northwest is often warm and sunny, with the occasional cold rainy day. We suggest you pack casual, comfortable, versatile clothing. Don't forget appropriate clothing and shoes for the Fun Run/Walk.

## 2014 Excellence in Biosolids Management Award

NOMINATION DEADLINE AUGUST 1

This award will recognize significant contributions in the development and implementation of cost-effective and environmentally beneficial biosolids management programs and practices. Nominations may be submitted by anyone, including the nominee, municipalities, consultants, researchers or other interested parties.

Interested applicants can access details and a nomination form at [www.nwbiosolids.org/membership.htm](http://www.nwbiosolids.org/membership.htm). This award is sponsored by the NBMA, the Oregon Association of Clean Water Agencies, and the Pacific Northwest Clean Water Association.

## Continuing Education Units

Continuing Education Units (CEUs) will be offered for both wastewater and health certification. If you plan to earn CEU's collect your CEU card(s) at the registration desk when you arrive. You must attend a full session block (AM or PM) to obtain credit and must get your card stamped at the registration desk following each session. CEUs will be applied for through Washington and Oregon award agencies. Contact the Northwest Biosolids Management Association at **(206) 477-5565** for more information about academic credit.

## Vendor & Agency Exhibits

REGISTRATION DEADLINE AUGUST 26

Vendor and agency exhibits will be featured at the Vendor Exposition on Sunday and Monday evenings and will remain on display throughout the conference in the Centennial Ballroom. Member and subscriber members of the NBMA may display products and equipment at a reduced rate of \$60 (person staffing the exhibits must still pay for their conference registrations). Each non-member will be charged an exhibitor fee of \$450 in addition to the conference registration fees. If you are not yet a member and would like to become one and display at a reduced rate, please visit [www.nwbiosolids.org/membership.htm](http://www.nwbiosolids.org/membership.htm) to apply for membership.

Anyone interested in displaying products or equipment at the conference must complete the Vendor Exhibit Registration Form available at [www.cm.wsu.edu/biosolids2014](http://www.cm.wsu.edu/biosolids2014). You

may also call the WSU Conference Management (Puyallup Office) at **(253) 445-4629** to register your exhibit.

Exhibit space will be assigned on a first-come, first-served basis. NBMA member agencies and subscriber companies will be given first preference.

## Poster Session

**SUBMITTAL DEADLINE JULY 18**

Posters will be on display during refreshment breaks, breakfasts, and the evening social hours on Sunday and Monday. Poster topics may include, but are not limited to, biosolids-related scientific studies and informational and educational subjects from large and small municipalities, consultants, and university students and faculty. Posters must be no larger than six feet by four feet and able to be free standing on an easel. Reserve your poster spot by sending: Name(s) – presenter and authors, poster title and short description, and contact information to **ddclarke@brwncaid.com**.

Space is limited! Presentation slots during the on Tuesday morning session will give preference to student projects in an effort to welcome new biosolids professionals, preference will be given to student projects for actual presentation on Tuesday morning. All posters submissions will be displayed during the conference.

## Scholarships

**APPLICATION DEADLINE AUGUST 8**

NBMA scholarships covering the conference registration fee are available to biosolids professionals, students, regulators, and others requiring assistance. To apply, please visit the conference website at [www.cm.wsu.edu/biosolids2014](http://www.cm.wsu.edu/biosolids2014) for an online application form.

## Registration

**EARLY REGISTRATION ENDS AUGUST 22\***

*\*Registrations must be postmarked, or received by phone, fax, e-mail or online. Registrations postmarked or received after that date will be charged the late price.*

To enroll, complete and send this form to:

**WSU Conference  
Management/Biosolids**

2606 West Pioneer  
Puyallup, WA 98371-4998

Phone: (253) 445-4629

Fax: (253) 445-4633

E-mail: [janet.mcloughlin@wsu.edu](mailto:janet.mcloughlin@wsu.edu)

[www.cm.wsu.edu/biosolids2014](http://www.cm.wsu.edu/biosolids2014)

Make your check, money order, or purchase order payable in U.S. funds drawn on a U.S. bank to: **Washington State University.**

### PACKAGE A FULL CONFERENCE

\$455 (\$415 early)\*

Includes full conference registration fee & social hour on Sunday. Breakfast, lunch, social hour, dinner and breaks on Monday. Breakfast, lunch and breaks on Tuesday.

### PACKAGE B/C SINGLE DAY

\$320 (\$295 early)\*

Includes registration fee, lunch and breaks for one day only. Register for **Monday (Package B)** or **Tuesday (Package C)**.

### PACKAGE D STUDENT

\$320 (\$295 early)\*

Same as **Package A**. Attendee *must* be enrolled as a full-time student at a high school or an accredited college or university.

*\*Lodging not included. Special conference rate available.*



# Northwest Biosolids Management Association

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# 27<sup>th</sup> Annual Biosolids Management Conference

September 7-9, 2014 • Skamania Lodge • Stevenson, Washington