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PNCWA 2015

Building Professional Excellence in Water Quality™



Kennedy/Jenks Consultants

7:00 - 5:30 8:00 - 10:00 10:00 - 10:30 10:00 - 3:00 10:30 - 11:15	Registration Opening Session Break & Operations Challenge Viewing Til 4-Person Operations Challenge Session 1A Treatment Process Sidestream Growth of Nitrifying and	Session 2A Regulations	Const Ct				
10:00 - 10:30 10:00 - 3:00	Break & Operations Challenge Viewing Tii 4-Person Operations Challenge Session 1A Treatment Process Sidestream Growth of Nitrifying and	Session 2A	Carrie Ot				
10:00 - 3:00	4-Person Operations Challenge Session 1A Treatment Process Sidestream Growth of Nitrifying and	Session 2A	0				
	Session 1A Treatment Process Sidestream Growth of Nitrifying and		Orași Ot				
10:30 - 11:15	Treatment Process Sidestream Growth of Nitrifying and		0: 04				
10:30 - 11:15	Sidestream Growth of Nitrifying and	Regulations	Session 3A	Session 4A	Session 5A	Session 6A	Session 7A
10:30 - 11:15		rogulations	Planning	Digestion / Energy Recovery	Collection Systems	Stormwater / Combined Sewer Overflow	Laboratory
	Nitrifying-Denitrifying Granular Sludge for Use in Mainstream Nitrification Bioaugmentation Bryce Figdore, University of Washington	Evaluating a Water Quality Trading Program for Your Facility Kaola Swanson, Freshwater Trust; Mollie Manoerich, City of Meridian	Tailoring Alternative Delivery to Meet Your Needs: Chambers Creek Regional Wastewater Treatment Plant (CCRWMTP) Chris Cleveland, Brown and Caldwell; Rvan Dooley, Pierce County	A Comparison of WAS-Only Versus Primary+WAS Thermal Hydrolysis Pre- treatment to Mesophilic Anaerobic Digestion Drury Whitlock, CH2M	Proactive, Condition-Centric Force Main Management – Mitigating Risks Logan Fesenmair, Pure Technologies	To Separate or Not to Separate – That Is the Question for Today's Wastewater Utilities with Combined Sewer Systems Craig Close, HDR Engineering	The Puzzle of Developing Special Lab Methods Wayne Heinemann, CH2M
11:15 - 12:00	Evaluating Nitrogen Side Stream Treatment for Centrate at the Meridian, ID Wastewater Treatment Plant Zach Dobroth, Brown and Caldwell	Creative and Common-Sense Approaches to Temperature Compliance in Idaho Jason Smesrud, CH2M	Discovery Clean Water Alliance – Collaborative Capital Planning for a New Regional Agency John M. Peterson, Clark Regional Wastewater District, Michelle Burkhart, CH2M	The Quest for Renewable Natural Gas: Portland's Progress on Biogas to RNG Muriel Gueissaz-Teufel, City of Portland; Jeremy Holland, HDR Engineering	Pierce County Wins a 35-Year Battle with RDII Robin Ordonez, Predl Systems; Kip Julin, Pierce County	Seattle Public Utilities' CSO Reduction Program – Continuing the Legacy of Improving Water Quality Jennifer Price, CH2M: Ben Marré, Seattle Public Utilities	The Unintended Consequences of New Low Numeric Mercury Permit Limits Kathryn Harris, City of Boise
Ionday Aftern	noon - October 26		GITZIVI				
12:00 - 1:15	Networking Lunch						
1:15 - 2:00	Optimizing Vertical Flow Wetland Distribution and Operation for Anammox Potential	Toxics – What Levels Are in the Environment and Our Wastewater?	Enhancing Value with Alternative Project Delivery	Co-Digestion of High Strength Wastes: Need for a Holistic Approach	Sewer Force Mains: Making Cost- Effective Risk-Based Decisions about Condition Assessment vs. Replacement	Reliability and Redundancy in Equipment Evaluation for CSO Facilities	Mad as a Hatter about Mercury Local Limits
	Leila Barker, Clean Water Services	Lynn Williams, Brown and Caldwell	Corey Maxfield, MWH Constructors	Ganesh Rajagopalan, Kennedy/Jenks Consultants	Colleen Petilla, HDR Engineering; Alexander Mockos, Seattle Public Utilities	Jeffrey Lundt, King County	Terry Alber, City of Boise
2:00 - 2:45	Fernhill Natural Treatment System: Using Vertical Flow Wetlands to Target Ammonia Removal Michael Humm, Kennedy/Jenks Consultants	Outfall Mixing Studies as a Tool to Address Emerging Aquatic Life & Human Health Water Quality Criteria David Wilson, CH2M	A Tale of Two Projects: Recent Experience Using CMGC Project Delivery John Dummer, Clean Water Services	Startup of a FOG Feed System to Anaerobic Digesters Peter Schauer, Clean Water Services	Do You Smell Stormwater? Dennis Galinato, Murray, Smith & Associates; Clint Dolsby, City of Meridian	Reliability Centered Design for King County's New Georgetown Wet Weather Treatment Station Tina Hastings, CH2M; Alden Wyma, King County	Discharge Compliance for Phosphorus and Trace Metals Karen McHale, Blue Water Technologies
2:45 - 3:00	Break						
	Session 1B	Session 2B	Session 3B	Session 4B	Session 5B	Session 6B	Session 7B
	Treatment Process	Regulations	Management	Digestion / Energy Recovery	Collection Systems	Water Reuse	Laboratory
3:00 - 3:45	A Critical Summary Review of Phytoremediation and Bionemediation of Polychlorinated Biphenyls (PCBs) Pete Stayton, J-U-B Engineers	Understanding Revised Federal Ammonia Criteria, Impacts on Treatment Requirements, and Strategies for Imolementation in State Rulemakina David Clark, HDR Engineering	What to Do about Privately Owned Water Quality Facilities Tony Gilbertson, Clean Water Services	0	Making Sense of Collection System Temperature Data Simon Smith, University of Idaho	Recharging Groundwater with Reclaimed Water: A Valuable Water Rights Mitigation Strategy in Action Jeff Hansen, HDR Engineering; Teri O'Neal, City of Lacey; Donna Buxton, City of Olympia	Alternative Method to Replace Total Kjeldahl Nitrogen Procedure for NPDES Stormwater and Wastewater Nitrogen Reporting Matthew Boyles, City of Tacoma Center for Urban Waters
3:45 - 4:30	PNCWA Student Design Competition: Nitrification Upgrade for Municipal Water Resource Recovery, Colfax, WA Eric Hughes, Ben Carleton, Sharon Strom and Derek Probst, University of	US EPA's Updated Ammonia Standards Are Coming: What It May Mean for Your Wastewater Treatment Plant Henryk Melcer, Brown and Caldwell	Applying the 80/20 Rule to Asset Management Robin Krause, Clark Regional Wastewater District	Conversion of WWTP Digester Gas into Compressed Natural Gas Vehicle Fuel Robert Bowers, Cornerstone Environmental Group	How to Spend \$100,000,000 - City of Bend Collection System Planning David Stangel, Murray, Smith & Associates: Tom Hickmann, City of Bend	Interactive, Graphical Model Simplifies Prioritization of Recycled Water Projects Steve Kebbe, Clean Water Services; Bob Eimstad, Carollo Engineers	Clean Hands/Dirty Hands Sampling Technique for Trace Metals Sampling of Wastewater Effluents and Receiving Waters Kathryn Harris, City of Boise
4:30 - 5:15	Idaho Investigation of Sidestream Polyhydroxyalkanoate (PHA) Production within a Novel Enhanced Biological Phosphorus Removal (EBPR) System Performing Nitritation and Post-Anoxic Denitritation Derek Probst & Erik Coats, University of	Clarkston WWTP – Evaluation of Treatment Alternatives to Meet Ammonia Limits Larry Rupp, Keller Associates	What Got Us Here Won't Get Them There: Finding and Growing Our Future Leaders Phyllis Brunner, Brown and Caldwell:	Start Up and Performance of the Durham AWWTF Brown Grease Receiving and Cogeneration Facilities Lynne Chicoine, CH2M: Randy Naef,	Energy Savings in Water and Wastewater Transmission Systems Through the Use of Appropriate Air Valves Kim Sorensen, ARI USA	Permitting the Obvious? A Recycled Water Success Story in Hermiston, Oregon Mark Cullington, Kennedy/Jenks	Underused Laboratory Methods Ted Holt, Hach
	Idaho Exhibitors Reception—Exhibit Hall	Larry Nupp, Nellet Associates	Michael Fuss, City of Nampa	Clean Water Services	MIII SUIDIISHII, ARI USA	Consultants	rou rioil, fidur
5:00 - 7:00							
5:00 - 7:00 7:00 - 8:00	Monday Night Dinner						

7:00 - 5:30	ring - October 27 Registration							_		
7:00 - 5:30	10.00									
7.00 - 6.00	Session 8	Session 9	Session 10	Session 11	Session 12	Session 13	Session 14			
	Nutrient Removal	Planning / Management	Energy Efficiency	Stormwater / Wet Weather Treatment	Treatment Process	Sustainability / Integrated Watershed Management	Collection Systems			
8:00 - 8:45	Demonstration for Selecting Instrumentation for Monitoring and Control of Biological Nutrient Removal Process at the Budd Inlet Treatment Plant	Benefits of Turning Big, Expensive Infrastructure Decisions Over to Citizens	No Small Potatoes! Saving Energy in Idaho Wastewater Facilities	Piloting Real Time Control Retrofits of Stormwater Facilities: Two Oregon Case Studies	Optimization of High Rate Clarification	Identifying Needs for Integrated Water Management	Expanded Rehabilitation Program (ExRP) – Pipe Rehabilitation Technology Selection Guidelines	te 8:00 - 9:30		
	Ali Polda, Brown and Caldwell	Tom Hickmann, City of Bend; Sharon Smith, Bryant Lovlien & Jarvis	Layne McWilliams, Cascade Energy; Chellie Jensen, Idaho Power	Richard Boyle, Clean Water Services	Peter Schauer, Clean Water Services	Lynn Williams, Brown and Caldwell	Joshua Simpson, HDR Engineering; Maria Stevens, Seattle Public Utilities	×chanc		
8:45 - 9:30	Instrumentation and Control for Improved Biological Phosphorus Removal Stability	Idaho, Oregon, Washington WARN Overview (Water/Wastewater Agency Response Network)	Taking the Mystery Out of Power Factor	"Honey, I put a stormwater facility in the front yard": Efforts and Strategies to Encourage and Incentivize Stormwater Treatment on Private Property and in the	Sand Filtration for Algae Removal - A Unique Case Study	Integrated Watershed Management for Effluent Treatment in a Small Watershed	In House Asset Management for Oak Lodge Sanitary District's Collection System	HALL Section Exchange		
	Adrienne Menniti, Clean Water Services	Shelley Roberts, Idaho Rural Water and / ID WARN	Joe Evans, PumpTech	Public-Riaht-of-Wav Jo Sullivan, King County	Skyler Allen, Keller Associates	Mark Madison, CH2M; Ron Thames, RUSA	Rich Ludlow, Oak Lodge Sanitary District	EXHIBIT		
9:30 - 10:30	Break - Exhibit Hall									
10:30 - 11:15	Activated Primary Fermentation for Enhanced Biological Phosphorus Removal (EBPR): Design and Operation	Let's Get There Fast! Multiparty Management of Construction Schedule – West Boise Phosphorus Removal Project	Gresham's Energy Net-Zero Journey	First Flush: Optimizing Wastewater Assets for Urban Stormwater Pollution Management	Using CFD and Cost/Benefit Analysis for Selection of Improvments to Secondary Clarifiers at the Rock Creek AWWTF	Is Development and Watershed Restoration Compatible?	Renton CCTV Inspection Improvements, Useful for More than the Morning Announcements			
	Eric Hughes, University of Idaho	Gregg Thompson, CH2M; Bill Benko, City of Boise; Zeke Johnson, RSCI Group	Jeff McCormick, Carollo Engineers; Jeff Maag, City of Gresham	Jeffrey Schmidt, MWH	Rick Kelly, Brown and Caldwell; Peter Schauer, Clean Water Services	Ken Nilsen, PACE Engineers	Shengkun Yang, Carollo Engineers			
11:15 - 12:00	The Dixie Drain Phosphorus Removal Facility Pilot: Design, Implementation, and Conclusions	Making Your Work Management System Work for You: The City of Bend Water Reclamation Facility Expansion Story	Best Practices – An Alternative to Benchmarking that Encourages Collaboration for Improved Wastewater Treatment and Energy Sustainability	Performance of a Wet Weather Step Feed Process Using SRT Control	Case Histories of Innovations in Secondary Treatment – Weighing Out Risk vs Opportunity	Derry Dell Creek Improvement Project	Wastewater Conveyance – New Force Main Replacing an Old Siphon, Similar Design Challenges			
12:00 - 1:15	Don Bloomquist, Brown and Caldwell PNCWA Annual Business Luncheon	Kurt Vause, StreamlineAM; Scott Thompson, City of Bend	Allen de Steiguer, Jacobs	Lynne Chicoine, CH2M	John Harrison, R.M. Towill	Jadene Stensland, Clean Water Services; Eirik Schultz, ESA	John Crippen, CDM Smith			

Preconference Workshops, Sunday Oct. 25

Taking Activated Sludge Operations to the Next and Necessary Level

Sunday October 25 10:00 am – 5:00 pm Speaker:

 ${\it Eric\,Wahlberg,WasteWater\,Technology\,Trainers}$

Technically Based Local Limits— Development, Special Problems, and Long Term Planning

Sunday October 25 10:00 am – 5:00 pm Speaker:

Wayne W. Heinemann, CH2M

Find the Leader within You

 $Sunday\ October\ 25 \quad 10:00\ am-5:00\ pm$

Facilitators: Mark Poling and Jadene Stensland, Clean Water Services; Tom Hastings, Veolia

Speakers:

Doug Berschauer, Past PNCWA President, CH2M Project Manager Jim Clark, Senior Vice President, Black & Veatch, Past President of WEF

Nicki Pozos, Oregon Water Marketing Manager, HDR Engineering

Cheaper, Smarter, Cleaner— Integrated Watershed Management and Sustainability Practice

Sunday October 25 10:00 am - 5:00 pm

Moderator:

Cyndy Bratz, Bratz Environmental Engineering

Speakers:

Bob Baumgartner, Clean Water Services Marti Bridges, Idaho DEQ, State Office Kevin Buckley, Seattle Public Utilities Steve Burgos, City of Boise Bobby Cochran, Willamette Partnership Alex Johnson, The Freshwater Trust Layne McWilliams, Cascade Energy, Inc. Todd Miller, Eugene/Springfield MWMC Mark Poling, Clean Water Services Jennifer Price, CH2M Chris Randolph, Idaho Power Darrin Sharp, OSU Mike Taylor, City of Spokane Ron Thames, RUSA

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12:00 - 1:15	PNCWA Annual Business Luncheon						
	Session 15	Session 16	Session 17	Session 18	Session 19	Session 20	Session 21
	Operations	Public Involvement / Management	Resource Recovery	Water Reuse	Treatment Process	Sustainability / Integrated Watershed Management	Collection Systems
1:15 - 2:00	Applying Quantitative Polymerase Chain Reaction (qPCR) to Characterize Your MLSS and Enhance Your Process Knowledge	Public Education and Outreach:Thinking Outside the Box	Profitable Recovery of Ammonia from Anaerobic Digestate	Aquifer Injection of High Quality Reclaimed Water: A CEC Case Study	Coupled Treatment Process	PNCWA Climate Change Position Paper	Identifying and Addressing Various Types of Odor Issues Along a 20 Mile-Long Interceptor in Phoenix, Arizona
	Erik Coats, University of Idaho	Cheryl Jenkins, City of Nampa	Dennis Burke, Environmental Energy & Engineering Co	Brad Jeppson, Carollo Engineers	Dan Hanthom, ZAPS	Cyndy Bratz, Bratz Environmental; John Phillips, King County	Mark Smith, Brown and Caldwell
2:00 - 2:45	Smart Biomass Control Saves Energy While Maintaining Treatment Objectives	Juggling Fire While the Audience Heckles: Communicating Asset Management for Grey, Green, and Blue Infrastructure	Industry Update for WASSTRIP on WRRF Nutrient Flows, Digestion and Dewatering of Bio-P Sludge	Water Reuse through the Quincy Integrated Utility Management	Magnetite Ballast Technologies: A Review of Challenges, Design and Performance	Sustainability at Coca Cola	Pump Station Evaluations Using EPASWMM
	Bulbul Ahmed, XYLEM	Jennifer Belknap Williamson, City of Portland	Nathan Turner, Ostara Nutrient Recovery Technologies	Jonathan Turk, Brown and Caldwell	Nathan Antonneau, Evoqua Water Technologies	Paul Bowen, The Coca-Cola Company	Shad Roundy, Murray, Smith & Associates
2:45 - 3:00							
3:00 - 3:45	How to Maximize the Value of Polymers for Improved Sludge Dewatering	Leading People and Managing Assets for a Sustainable Future	Resource Recovery at Central Kitsap Treatment Plant	Auger Falls Heritage ParkA City Legacy in the Making	BPR and BNR – Enhancing High Performance with Flow Equalization	Climate-Driven Drought Outlooks in the Pacific Northwest and Water Resources Management: Challenges and	Vibration – A Pump's Worst Enemy
3.00 - 3.43	Yong Kim, UGSI Chemical Feed	James Courchaine, Tata and Howard	Eron Jacobson, Brown and Caldwell	Mark Holtzen, J-U-B Engineers	Michael Conn, J-U-B Engineers	Opportunities Dr. Jay Ryu, University of Idaho	John Koch, HDR Engineering
3:45- 4:30	Using Bench-Scale Dewatering Testing to Identify Causes of Excessive Polymer Consumption Pat Roe, HDR Engineering; Larry Ekstrom, Pierce County	3rd Party Lawsuits, EPA Enforcement, and Other Things That Go "Bummer" in the Night Steve James, J-U-B Engineers	Generating Class A Struvite at the West Boise WWTP Jordi Figueras, Pharmer Engineering	UV Facility Audits of Reuse Applications Traci Brooks, Carollo Engineers	Design and Start-up of a Unified Fermentation and Thickening (UFAT) Process Christopher Maher, Clean Water Services	Collective Impact in Washington County, Oregon – An Integrated Watershed Management Approach Carol Murdock, Clean Water Services	Fast and Furious Design and Construction of the South Magnolia CSO Storage Tank Kevin Dour, Tetra Tech; Shahrzad Namini, King County
4:30 - 5:15	Flushables: the New "F" Word	Designing a Comprehensive Asset Management Plan: Lessons learned, resources, and recommendations from the first year	From Wasted to Wanted: Maximizing Waste Carbon Resource Recovery for Bioplastic Production	IP IPA: Starting a Conversation about Water One Pint at a Time	Mitigation of a Large Decrease in BOD to Enhanced Biological Phosphorus Removal Wastewater Treatment Process	Integrating Sustainability into Decision Making for the City of Grants Pass	Consequence of Failure Scenarios and Costs for Large Diameter Pipelines in the Validation and the Alternative Analysis of Structural Rehabilitation Options
	Jeff Coyne, MWH	Michael Comeskey, City of Boise	Ben Carleton, University of Idaho	Sheri Wantland, Clean Water Services	Craig Anderson, Murray, Smith & Associates	Bhargavi Maremanda, Carollo Engineers	Tammy Cleys, City of Portland
5:15 - 7:00	Exhibit Hall Closing Reception						

Schedule Highlights

Sunday: 4 Preconference Workshops, Operations Challenge Day 1, Meet and Greets

Monday: Opening Session, Tech Sessions, Operations Challenge Day 2, Plant Tour, Exhibit Floor Opening Reception

Tuesday: Operators Breakfast, Section Exchange, Exhibit Hall, Tech Sessions, Plant Tour, Micro-Brew Tasting, Awards Banquet

Wednesday: Plant Tour, Tech Sessions

Deadlines:

Conference registration early bird rates through Sept. 12 Preregistration ends Oct. 15

Monday Night Social — Open to All!

The Young Professionals group would like to invite all conference attendees to this event hosted at Beside Bardenay starting at 8:00 pm!

Facility Tours — *no preregistration required*

West Boise Water Resource Recovery Facility

Mon. Oct. 26 1:15 pm-3:45 pm

Meridian Water Resource Recovery Facility

Tues. Oct. 27 1:15 pm-3:45 pm

Lander Street Water Resource Recovery Facility

Wed. Oct. 28 8:00 am-10:30 am

Earn up to 2.3 to 2.4 CEUs (requested) for Sun. through Wed.

Wednesday M	orning, October 28									
7:00 - 1:00										
	Session 22	Session 23A	Session 24	Session 25	Session 26	Session 27	Session 28			
	Nutrient Removal	Project Delivery / Construction	Stormwater	Disinfection	Planning	Plant Optimization / Treatment	Solids and Residuals			
8:00 - 8:45	New Hypertrophic Biological Treatment Technology Provides Single-Stage BOD and Nutrient Removal and Recovery for High-Strength Waste Streams Jon Liberzon, Algal Scientific	Technology Driven Design-Build Teams: What Is the Engineer's Role? Terry Stulc, Trindera Engineering	Landscape Architecture Plays an Important Role in Development of Successful Stormwater Design Scott Radford, MWH Constructors	Retrofitting Next Generation Ultraviolet Light Technology for the City of Grants Pass Water Restoration Plant Gary Brelinski, City of Grants Pass;	Improving Team Performance Using Innovative Project Delivery Approaches – When It's Okay for Public Works Professionals to Scrum Mark Liebe, City of Portland	Gasification a Path to Energy Neutrality for Wastewater Treatment Jeff Snyder, PHG Energy	Feasibility and Economics of Producing High Value Bioplastic from Methane Gas – Another Resource That Can Be Recovered from Wastewater Megan Plumlee, Kennedy/Jenks			
8:45 - 9:30	Corporation; David Keil, SPF Water Incorporating Next Level of Treatment (NLT) in Spokane's Integrated Clean Water Plan Mark Esvelt, Esvelt Engineering; Lars Hendron, City of Spokane	Public Agency Contractor Prequalification, does it work? Ken Windram, Hayden Area Regional Sewer Board	Solids Management at Georgetown Wet Weather Treatment Station Miaomiao Zhang, CH2M; Pat Burke, King County	Bhargavi Maremanda, Carollo Engineers Non-Contact UV Disinfection; an Introduction and Comparison to Conventional Quartz Based Contact UV Systems Alexander Reynolds, Enaqua; Skyler Allen, Keller Associates	Design-Build Approach Saves Time and Minimizes Public Disruption for Trenchless Sewer Rehab in Vancouver, BC Daniel Buonadonna, CH2M	Advanced Corrosion Monitoring Tools Dan Ayers, J-U-B Engineers	Consultants Sludge Treatment Optimization and Phosphorus Removal by MAP-Crystallization for Biological P-removal Plants Gerhard Forstner, CNP - Technology Water and Biosolids Corp	Tour, 8:00 - 10:30		
9:30 - 10:15	Using Microbial Carbon Storage Polymers to Drive Post-Anoxic Denitrification in an EBPR Process Jason Mellin, University of Idaho	American Iron and Steel Requirements for SRF Funded Projects David Dunn, WA ECY; Angela Parker, OR DEQ; Tim Wendland, ID DEQ	International Stormwater BMP Database: Updated Findings and Use for Watershed and Integrated Planning and Pollutant Trading Eric Strecker, GeoSyntec Consultants	Ultraviolet Disinfection for Water Reclamation: Upgrade and Expansion for Better Reliability and Reduced Maintenance at Lahaina, County of Maui, Hawaii David Murray, Brown and Caldwell	City of The Dalles Progressive Design Build Delivery of WWTP Improvements Tom Paul, Mortenson Construction; Preston Van Meter, Kennedy/Jenks Consultants	Using Hydraulic Modeling to Identify Flow Restrictions and Increase Treatment Plant Hydraulic Capacity Edward Wicklein, Carollo Engineers	The Solution to Soaked Sludge: Solids Thickening in the Pacific Northwest Luke Werner, Kennedy/Jenks Consultants	City of Boise's Lander Street WRRF Tour, 8:00		
10:15 - 10:30	Break				Consultants			f Boi		
		Session 23B Water Reuse						City o		
10:30 - 11:15	Pulling Double Duty: Setting up Denitrification in Tertiary Treatment Filters	Cascadia WWTP – Design for Community Water Reuse	Strategic Approaches for Stormwater Management	Use of Peracetic Acid as a Wastewater Disinfectant to Eliminate the Formation of Chlorinated Disinfection By-products and Inhibit the Activity of Endocrine Disrupting Compounds	SECURE in the Cloud	Construction, Startup, and Operation of the Integrated Fixed-Film Activated Sludge System at the Twin Falls, WWTP	Dewatering Optimization – 25% Cake and 95% Capture, or Lowest Total Cost?			
	David Kopchynski, Parametrix	Christopher Stoll, Kennedy/Jenks Consultants	Carrie Pak; Clean Water Services	Philip Block, PeroxyChem	Rick Patton, Advanced Control Systems	Ana Arango, CH2M	Christopher Maher, Clean Water Services			
11:15 - 12:00	Primary Effluent Filtration for Carbon Diversion to Achieve Energy Savings and Increase Plant Capacity	Effluent for the Affluent	Seattle Public Utilities Programmatic Approach to Reducing SSOs	Design, Testing and Operation Considerations for PAA Disinfection Systems	Business Performance Management for Utilities of the Future: Creating a Robust Framework to Guide Direction and Decision-Making at All Levels of an	Innovative Integrated Fixed-Film Activated Sludge (IFAS) Oxidation Ditch Conversion for Total Nitrogen Control	Prediction of Full-Scale Dewatering of Sewage Sludges			
	Onder Caliskaner, Kennedy/Jenks Consultants	Robyn Mattison, City of Ketchum; Pat McMahon, Sun Valley Water & Sewer	Jeff Lykken, HDR Engineering; Steven Drangsholt, Seattle Public Utilities	Kati Bell, CDM Smith	Organization Elizabeth Lowell, HDR Engineering	Renzun Zhao, Entex Technologies	Phani Pedd, Andritz Separation			

Conference Headquarters Hotel

Grove Hotel (same block as the conference site) 245 S. Capitol Blvd.

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See www.pncwa.org/lodging for

- lodging details
- · group rate names
- · links to book online

Conference & Exhibition

October 25-28

Boise Centre

Boise, ID

Beaver Equipment
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