

# 2009 OREGON OPERATORS CONFERENCE

Nov. 2–4  
Spirit  
Mountain  
Casino



# FOR OPERATORS, BY OPERATORS

Presented by the Oregon Region,  
Pacific Northwest Clean Water Association



## A MESSAGE FROM THE REGIONAL DIRECTOR



Dear Colleagues:

On behalf of the Oregon Region Board of Directors, it is my pleasure to welcome you to our first ever Oregon Operators Conference. The conference theme, "For Operators, By Operators," addresses the many and varied challenges before us as water professionals. The issues we face today, and indeed, the issues of tomorrow, are unlike any we have seen since many of us entered the profession.

All of the Sections that comprise the Oregon Region have worked together and organized an outstanding conference with an exceptional technical program. Some conference highlights include:

- A one day Kubota MBR workshop
- A one day Siemens / Memcor filtration water treatment workshop
- The Operator's Toolbox by Brad Musick
- A Laboratory Track
- A Maintenance Track
- A manufacturers' exhibit hall full of products and new ideas

I encourage you to arrive early and stay late to enjoy the many recreational opportunities available at Spirit Mountain Casino and Lodge and the surrounding Central Oregon Coast area.

As you can see, the conference is more than an opportunity to reunite with old friends and make new ones. It is more than a means to get CEUs or PDHs. It is more than a chance for a get away to a beautiful and relaxed atmosphere. It is all of these and more. Primarily, and perhaps most importantly, it an opportunity to receive quality training and education that is needed to embrace the challenges of tomorrow.

Please enjoy the conference!

Sincerely,

Max Hildebrand  
Oregon Regional Director, PNCWA

## IN THE BEGINNING ...

The Oregon Region was founded in early 1980's with ten sections. To date, there are eight viable sections including: six operator, one maintenance, and one laboratory analyst section. They are all very active with training opportunities, plant profiles, and section meetings.

This is the first time that all sections have come together as a united group to organize and facilitate a training activity. The goal is to make this training as interactive and enjoyable as possible, with many of the classes being termed hands-on. We hope you enjoy the conference and please do not hesitate to bring up any questions or concerns you may have to any of the attending section leaders.

## Oregon Region Executive Board

### Region Director

Max Hildebrand  
Brown and Caldwell

### Secretary/Treasurer

Dan Laffitte  
Brown and Caldwell

### Lower Columbia Section Representative

Monica Anderson  
City of Wilsonville

### West Central Oregon Section Representative

Robert Jones  
Spirit Mountain Casino

### Southwest Oregon Section Representative

Bob Dillard  
City of North Bend

### Eastern Oregon Section Representative

Jessica Lindley  
City of LaGrande

### South Central Oregon Section Representative

Dan O'Malley  
City of Bend

### Umpqua Basin Operator's Representative

Steve Miles  
Orenco Systems

### Water Quality Laboratory Analyst Representative

Cory Fortez  
Veolia Environmental Services

### Maintenance Section Representative

Kevin Bruton  
CH2M Hill OMI

## KEYNOTE SPEAKERS



### Max Hildebrand

Max is an Operations Specialist in Brown and Caldwell's Portland office. He has 19 years of practical experience as a certified operator and environmental consultant. He is an Oregon Grade IV Operator and he has worked previously for the Cities of Albany, Salem, Eugene, and Corvallis. He has a BS degree in Management from Lindfield College. In 2002, Max was the Oregon Operator of the Year and, in 2006, received the Hatfield Award. He has participated in many training activities throughout the State of Oregon and he currently sits on the PNCWA Board of Directors as the Oregon Region Director.



### John Shawcroft

John Shawcroft is an Assistant Project Manager for Veolia Water North America and he works at the Caldwell Idaho Wastewater Treatment Plant. He has 31 years of practical experience as a certified operator, superintendent, and project manager. John is certified as a Level IV in Wastewater Treatment and Collection, and Level II in Water Distribution for the State of Idaho and has previously worked for the Cities of Meridian, Boise, and Idaho Falls. He has a BS in Environmental Health from Boise State University. John was the Idaho Operator of the Year in 1987, a 2003 Hatfield Award recipient for the PNCWA, and inducted into the Select Society of Sanitary Sludge Shovelers in 2003. He will be the PNCWA president as of September 16, 2009.



### Woodie Mark Muirhead

Woodie Muirhead is an Operations Specialist and Vice President in Brown and Caldwell's Honolulu office. He has 32 years of practical experience as a certified operator, plant manager, and environmental consultant. He is an Oregon Grade IV Operator, and worked previously for the Cities of Medford and Corvallis, Oregon, as well as the Unified Sewerage Agency (now Clean Water Services), Washington County, Oregon. Woodie has conducted training workshops nationwide that focus on improving the understanding of biological and chemical principles of wastewater treatment. He is the developer and author of the Lab Lessons and Fate of Pollutants series for WEF's Operations Forum.

## Accommodations:

Spirit Mountain Casino lies on the Grand Ronde Tribal reservation, amid the ruggedly beautiful Oregon Coast. Surrounded by the breathtaking Coastal Range and the Pacific Ocean, Grand Ronde is a land rich in culture and recreational possibilities. The rooms and suites at Spirit Mountain Lodge are well-appointed and ready to make your stay comfortable and enjoyable.

150 rooms have been blocked for the conference. Call the lodge and reserve your room, under the PNCWA name. Also, to get a better room rate, you may want to register as a Coyote Club member. This will save 36% on the cost of your room.

## Directions:

### From Portland, OR

Approximately 60+ miles

- I-5 South
- Highway OR-99W exit in Tigard
- Continue on OR-99W (~ 22 miles)
- Highway OR-18W (Ocean Beaches) exit
- Continue on Highway OR-18W (~31 miles)
- Casino on left 1/4 mile past Valley Junction on Highway 18W

### From I-5, Eugene, OR

Approximately 100 miles

- I-5 North towards Salem (55+ miles)
- Exit 249 to Commercial Street
- In Salem, OR-22 W & continue on OR-22 (25+ miles)
- Merge at Valley Junction onto OR-18 & continue (5+ miles)
- Casino on left

### From Lincoln City, OR

Approximately 25 miles

- From OR-101, east onto OR-18 E
- Casino on right

## SPIRIT MOUNTAIN CASINO AND LODGE

27100 S.W. Salmon River Highway  
Grand Ronde, Oregon 97347  
Phone: (800) 760-7977  
Fax: (503) 879-2486

[http://spiritmountain.com/  
directions-to-spirit-mountain-casino/](http://spiritmountain.com/directions-to-spirit-mountain-casino/)



## EXCURSIONS

# Lincoln City SBR WWTP

Wednesday, Nov. 4th  
1 - 5 p.m.

The City of Lincoln City has recently finished its Phase 1A upgrade. It was the first major upgrade since 1981.

Phase 1A improvements included:

- an influent screening area with two FSM ¼" perforated screens
- a Smith-Loveless Pista grit removal system
- four Aqua-Aerobics 1.1 MG Sequencing Batch Reactor tanks with fine bubble diffusers, floating mixers, and decanters.

The City proposes to proceed with Phase 1B in the very near future.

This will include:

- Filtration
- UV disinfection
- Digester/solids handling upgrades



The plant now operates on a time mode system to try to maintain a constant effluent flow without pre or post equalization.

Using screw pumps, the effluent from the SBR's is conveyed to secondary clarifiers and chlorination/de-chlorination system prior to the discharge to Schooner Creek.

**Wastewater Treatment Superintendent**

Joe Whisler

**Lead Operator**

John Creighton

**Operators**

Edward Hildebrand

Datle Rutledge

## CONFERENCE HIGHLIGHTS

Monday, Nov. 2nd  
9 a.m. - 5:20 p.m.

**Victor Santa Cruz** of Santa Cruz Production, a renowned laboratory and microbiological professional, will have an all day presentation covering a gamut of topics including:

- Protozoans/Metazoans in wastewater
- Nicordia, micorthrix
- Filamentous bacteria I and II
- Floc structure
- Alkalinity/volatile acids
- Immunological/generic arrays

Tuesday, Nov. 3rd  
8 a.m. - 5:20 p.m.

"Operations Toolbox" by **Brad Musick**, National Service Leader for Kennedy Jenks' Operations Services, presents an in-depth discussion of:

- Process Control Tools
- Information Management Tools
- Instrumentation and Testing Tools
- Maintenance Tools

Monday, Nov. 2nd  
9 a.m. - 5:20 p.m.

Professional staff from **Enviroquip** will hold an all day workshop on Membrane Bio-Reactor Operation which includes:

- An extensive classroom session on theory, operation and maintenance, and process control
- A tour of the Spirit Mountain wastewater MBR treatment plant process control testing and process adjustment.



Tuesday, Nov. 3rd  
8 a.m. - 5:20 p.m.

**Siemens / Memcor** representatives will hold an all day workshop which includes:

- A classroom session on theory, equipment components, operation and maintenance, and process control
- Hands-on operation and training at the Spirit Mountain water plant with water sampling and process adjustment.



# CONFERENCE TRAINING SCHEDULE & EVENTS

## DAY 1 – Monday, Nov. 2

WORKSHOP TRACK
Wastewater
Technical
Collections /Basics
Lab
WORKSHOP TRACK

8:00 -8:30	Welcome – Opening Session			
8:30 -9:00	Keynote Speaker			
9:00 -9:50	Kubota MBR Workshop <b>Enviroquip</b>	Sludge Thickening Jar Testing <b>Joe Randolph</b>	Environmental Cleanup <b>Frank Spieler</b>	Protozoans/Metazoans in Wastewater <b>Victor Santa Cruz</b>
9:50 -10:10	Break			
10:10 -11:00	Kubota MBR Workshop <b>Enviroquip</b>	BOD Analysis <b>Keith Chapman</b>	Pump Rebuilds <b>TBA</b>	Nocardia <b>Victor Santa Cruz</b>
11:00 -11:50	Kubota MBR Workshop <b>Enviroquip</b>	Pump Controls <b>Ty Collins</b>	Pipe Line Inspection, No-dig Rehabilitation Services <b>Darren Barnes</b>	Microthrix <b>Victor Santa Cruz</b>
11:50 -12:50	Lunch			
12:50 -1:40	Kubota MBR Workshop <b>Enviroquip</b>	Newberg's Class A Biosolids <b>Dan Eichel</b>	Linko Data Systems – FOG <b>Skip Feeney</b>	Filamentious Bacteria I <b>Victor Santa Cruz</b>
1:40 -2:30	Kubota MBR workshop <b>Enviroquip</b>	Biosolids Spill Response <b>Harry Bludworth</b>	Wireless Remote Data Aquisition Systems <b>Ken Navidi</b>	Filamentious Bacteria II <b>Victor Santa Cruz</b>
2:30 -2:50	Break			
2:50 -3:40	Kubota MBR Workshop <b>Enviroquip</b>	History of Co-generation <b>Mike Myer</b>	CMOM: Past, Present, and Future <b>Tim Keegan</b>	Floc Structure <b>Victor Santa Cruz</b>
3:40 -4:30	Kubota MBR Workshop <b>Enviroquip</b>	The Regulatory Environment for Co-gen <b>Mike Myer</b>	Intro to AC Power and AC Motors <b>Joe Evans</b>	Alkalinity/Volatile Acids <b>Victor Santa Cruz</b>
4:30 -5:20	Kubota MBR Workshop <b>Enviroquip</b>	Wastewater 101 <b>Eric Wahlberg</b>	Intro to AC Power and AC Motors <b>Joe Evans</b>	Immunological/Genetic Arrays <b>Victor Santa Cruz</b>
7:00	Tailgate party (BBQ Dinner) with Monday Night Football			



# CONFERENCE TRAINING SCHEDULE & EVENTS

DAY 2 – Tuesday, Nov. 3

WORKSHOP TRACK

WORKSHOP TRACK

## Wastewater

## Technical

## Collections /Basics

## Water

8:00 -8:30	Operator's Toolbox <b>Brad Musick</b>	Instrumentation Maint. & Care <b>Garrett Lawson</b>	Pump Curves 101 <b>Jon Simmons</b>	Microfiltration Systems <b>Seimens Memcor</b>
8:30 -9:00	Operator's Toolbox <b>Brad Musick</b>	Instrumentation Maint. & Care <b>Garrett Lawson</b>	Pump Curves 101 <b>Jon Simmons</b>	Microfiltration Systems <b>Seimens Memcor</b>
9:00 -9:50	Operator's Toolbox <b>Brad Musick</b>	Lab Process Optimization – Using Online Instrumentation <b>Garrett Lawson</b>	Submersible Pumps <b>Dave Olsen</b>	Microfiltration Systems <b>Seimens Memcor</b>
9:50 -10:10	<i>Break</i>			
10:10 -11:00	Operator's Toolbox <b>Brad Musick</b>	Safety at Heights <b>Greg McDonald</b>	Sample Collection <b>Rory White</b>	Microfiltration Systems <b>Seimens Memcor</b>
11:00 -11:50	Operator's Toolbox <b>Brad Musick</b>	Controls <b>Branom Instruments</b>	Interpreting Lab Results <b>John Neilson</b>	Microfiltration Systems <b>Seimens Memcor</b>
11:50 -12:50	<i>Lunch</i>			
12:50 -1:40	Struvite Presentation <b>Rob Baur</b>	Wind Power Generation <b>Greg Price</b>	Basic Math Review <b>Scott Nebecker</b>	Microfiltration Systems <b>Seimens Memcor</b>
1:40 -2:30	Optimizing Biological Dentrification <b>Woodie Muirhead</b>	Chemical Feed Control <b>Greg Brown</b>	Basic Math Review <b>Scott Nebecker</b>	Microfiltration Systems <b>Seimens Memcor</b>
2:30 -2:50	<i>Break</i>			
2:50 -3:40	SRT & OUR: Simplicity with Meaning <b>Lance Mason</b>	Chemical Feed Control Troubleshoot <b>Greg Brown</b>	Laser Profiing of Pipes <b>Kevin Clinger</b>	Microfiltration Systems <b>Seimens Memcor</b>
3:40 -4:30	Recycled Water Update <b>Dan Hawthorn</b>	UV Doctor - UV Disinfection <b>Todd Schweitzer</b>	Basic Equipment Repair & Troubleshooting <b>Kevin Clinger</b>	Microfiltration Systems <b>Seimens Memcor</b>
4:30 -5:20	Electronic O&M Manuals <b>Ed Griffenberg</b>	UV Doctor - UV Disinfection <b>Todd Schweitzer</b>	Digester & Lagoon Cleaning <b>JR Hindman</b>	Microfiltration Systems <b>Seimens Memcor</b>
6:00	<b>Oregon Regional Conference Banquet</b>			

# CONFERENCE TRAINING SCHEDULE & EVENTS

DAY 3 – Wednesday, Nov. 4

**WORKSHOP TRACK**

**WORKSHOP TRACK**

## Wastewater

## Collections /Basics

## Maintenance

8:00 -8:30	BC-State Point Analysis for Secondary Clarifiers <b>Henryk Melcer</b>	Wastewater Screening <b>Dale Richwine</b>	Centrifuge Maintenance <b>Clean Water Services</b>
8:30 -9:00	BC-State Point Analysis for Secondary Clarifiers <b>Henryk Melcer</b>	Wastewater Screening <b>Dale Richwine</b>	Centrifuge Maintenance <b>Clean Water Services</b>
9:00 -9:50	The Cannibal Process <b>Steve Riley</b>	SolarBee / Solar Mixing <b>Joe Ellers</b>	Developing a Managed Maintenance Program <b>Roy Brandon</b>
9:50 -10:10	<i>Break</i>		
10:10 -11:00	Optimization of Belt Press Performance <b>Kelly Brown</b>	Lift Station SOP <b>Jonathan Gasik</b>	Predictive Maintenance Approach <b>Mark Libby</b>
11:00 -11:50	Optimization of Belt Press Performance <b>Kelly Brown</b>	Wasterwater Disinfection <b>Dale Richwine</b>	Correct Equipment: Control Panels <b>Howard Taub</b>
11:50 -12:50	<i>Lunch</i>		
12:50 -1:40	SBR: Good Fit for a Coastal Community <b>Ken Conduit</b>	WWTP Energy Efficiency <b>Walt Mintkeski</b>	Facility Condition Assessment <b>Roy Brandon</b>
1:40 -2:30	Shuttle to Lincoln City Plant Tour <b>Lincoln City</b>	Equipment Selection From an Operator's Perspective <b>Sue Lawrence</b>	Vibration Analysis <b>Roy Loop</b>
2:30 -2:50	<i>Break</i>		
2:50 -3:40	Plant Tour <b>Lincoln City</b>	QA / QC Lab Results <b>Jonathan Gasik</b>	Electric Motors and Drives <b>Ben Ewing</b>
3:40 -4:30	Plant Tour <b>Lincoln City</b>	TSS Analysis <b>Cindy Covey</b>	Wireless Condition Monitoring Technology <b>Scott Denning</b>
4:30 -5:20	Plant Tour <b>Lincoln City</b>	How to Deal with Your City Council <b>Scott Nebaker</b>	Wireless Condition Monitoring Technology <b>Scott Denning</b>