



2016

**PACIFIC NORTHWEST
SNOWFIGHTERS
CONFERENCE**

**JUNE 7 - 8, 2016
PORTLAND, OREGON**

TABLE OF CONTENTS

WELCOME TO OREGON/KEYNOTE SPEAKER 1

GENERAL INFORMATION 2

OUR SPONSORS 3

CONFERENCE AGENDA 4-5

SESSIONS DESCRIPTIONS 6-13

FLOOR PLAN 14

EXHIBITOR LIST 15

WELCOME TO OREGON

The Pacific Northwest Snowfighters and the Oregon Department of Transportation would like to welcome you to Portland, Oregon: The Rose City and home of the National Championship soccer team – Portland Timbers! This year's conference focuses on bringing professionals from across North America to participate in two full days of technical breakout sessions, exhibitor showcases and networking opportunities.

KEYNOTE SPEAKER

WILFRED NIXON , PH.D.
VICE PRESIDENT FOR SCIENCE & THE ENVIRONMENT, SALT INSTITUTE

Winter Operations: Technology Today, Tomorrow & In 5 Years

There is no doubt that technology is advancing very rapidly, and many new methods are being introduced into the field of winter maintenance enabled by this new technology. In addition, those same technological advances are changing the very nature of transportation itself, and that in turn changes the service that winter maintenance must provide. So how do we decide which technology will enable our winter maintenance activities to excel going forward? And how do we decide which technologies sound wonderful, but will not in fact help us that much? Finally, every solution gives birth to new problems. What new problems can we expect from the new technologies that we embrace?



GENERAL INFORMATION

CONFERENCE REGISTRATION

Conference registration is located in the Grand Ballroom.

Tuesday, June 7 7:00 am - 4:30 pm

Wednesday, June 8 7:00 am - 2:00 pm

NAME BADGES

Your name badge provides you entry to all sessions, the opening reception, all meal functions, plus unlimited access to the Trade Show. Please wear it at all times.

TRADESHOW HOURS

Tuesday, June 7 7:00 am - 6:30 pm

Wednesday, June 8 7:00 am - 2:00 pm

Outdoor Equipment Showcase is in South Parking Lot.

ASSISTANCE

You will find conference organizers located at the registration desk during registration hours. If you are in need of assistance, please find someone in a green shirt to help you.

TOURIST INFORMATION

Hotel Restaurants:

Jantzen Beach Bar & Grill

JB's Nightclub & Lounge

Restaurants Within Walking Distance:

Fast Food Restaurants

Boardwalk

Burger King

Jersey Mikes's

Jimmy John's

Marketplace

McDonald's

Original Joe's

Panera Bread

Safeway

Starbuck's Coffee

Subway Sandwich Shop

Taco Bell

Full Service Restaurants

BJ's Pizza and Grill

Denny's

Hidden Bay Cafe

Hooters

Island Cafe

Norma's Kitchen

Stanford's

Local Shopping:

Best Buy

Burlington Coat

Factory

Carter's

GNC

Lane Bryant

Michael's Arts &

Crafts

Office Depot

Old Navy

Petco

Pier 1 Imports

Ross

Sports Authority

Staples

Target

The Home Depot

TJ Maxx

Ulta Beauty

West Marine

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BRONZE



CONFERENCE AGENDA

TUESDAY, JUNE 7

7:00am-4:30pm	CONFERENCE CHECK-IN Grand Ballroom	
7:00am-8:15am	BREAKFAST WITH EXHIBITORS Grand Ballroom	
7:00am-6:30pm	TRADESHOW Grand Ballroom	
8:30am-10:00am	OPENING GENERAL SESSION Welcome To Oregon Matthew Garrett, Director, Oregon Dept of Transportation KEYNOTE - WILFRED NIXON, PH.D., SALT INSTITUTE Winter Operations: Technology Today, Tomorrow & In 5 Years Mount Saint Helen's Ballroom	
10:00am-10:30am	BREAK WITH EXHIBITORS Grand Ballroom	
10:30am-11:30am	BREAKOUT SESSIONS	ROOM
	T1: Evolution of Salt Brine & Liquids	Timberline
	T2: Chemical Characteristics of Deicers	Multnomah
	T3: Dalton Highway Flood	Clackamas
	Snow Plow Training/Simulator	South Parking Lot (Outside)
11:30am-12:30pm	LUNCH WITH EXHIBITORS Grand Ballroom	
12:30pm-1:30pm	BREAKOUT SESSIONS	ROOM
	T4: Salt BMP's Does Not Stand For: Salt – Buy More Product	Timberline
	T5: Data Collection/AVL	Multnomah
	T6: Maintenance Contracting In British Columbia	Clackamas
	Snow Plow Training/Simulator	South Parking Lot (Outside)
1:30pm-2:00pm	BREAK WITH EXHIBITORS Grand Ballroom	
2:00pm-3:00pm	BREAKOUT SESSIONS	ROOM
	T7: Utilization of Technology in Winter Maintenance	Timberline
	T8: A Review Of WSDOT's Snow & Ice Equipment	Multnomah
	T9: Lighting Snow Plow Operations	Clackamas
	Snow Plow Training/Simulator	South Parking Lot (Outside)
3:00pm-3:30pm	BREAK WITH EXHIBITORS Grand Ballroom	
3:30pm-4:30pm	BREAKOUT SESSIONS	ROOM
	T10: Chloride Sampling in Bridge Decks	Timberline
	T11: Avalanche Control	Multnomah
	T12: Central Maintenance/UDOT Weather Group Snow Removal Performance Metric	Clackamas
	Snow Plow Training/Simulator	South Parking Lot (Outside)
	RECEPTION WITH EXHIBITORS Grand Ballroom	

CONFERENCE AGENDA

WEDNESDAY, JUNE 8

7:00am-2:00pm	CONFERENCE CHECK-IN Grand Ballroom	
7:00am-8:15am	BREAKFAST WITH EXHIBITORS Grand Ballroom	
7:00am-2:00pm	TRADESHOW Grand Ballroom	
8:30am-9:30am	BREAKOUT SESSIONS	ROOM
	W1: PCB's 101 Snow & Ice Products	Clackamas
	W2: Using Technology & Training to Reduce Salt Usage	Multnomah
	W3: Soil & Water Quality Testing	Timberline
	Snow Plow Training/Simulator	South Parking Lot (Outside)
9:30am-10:15am	BREAK WITH EXHIBITORS Grand Ballroom	
10:15am-11:15am	BREAKOUT SESSIONS	ROOM
	W4: Deicer Toxicity/PNS Specifications & QPL	Clackamas
	W5: Chlorides & AG Based Products	Multnomah
	W6: Montana DOT Tow Plow	Timberline
	Snow Plow Training/Simulator	South Parking Lot (Outside)
11:15am-12:30pm	LUNCH WITH EXHIBITORS Grand Ballroom	
12:30pm-1:30pm	BREAKOUT SESSIONS	ROOM
	W7: Weather Utilization of Technology in Winter Maintenance	Clackamas
	W8: Connected Vehicles Data Management	Multnomah
	W9: Idaho MDSS/RWIS Performance Measures	Timberline
	Snow Plow Training/Simulator	South Parking Lot (Outside)
1:30pm-2:00pm	BREAK WITH EXHIBITORS Grand Ballroom	
2:00pm-3:30pm	CLOSING GENERAL SESSION WINTER OPERATIONS ROUNDTABLE Mount Saint Helen's Ballroom	
2:00pm-5:00pm	EXHIBIT TEAR DOWN Grand Ballroom	
3:30pm-4:00pm	CONFERENCE WRAP-UP Mount Saint Helen's Ballroom	

SESSION DESCRIPTIONS

TUESDAY, JUNE 7

T1: EVOLUTION OF SALT BRINE & LIQUIDS

10:30 am - 11:30 am | Timberline Room

Speakers: Mark Devries, Application Expert, Vaisala, Inc.

Bret Hodne, Public Works Director, City of West Des Moines

A look at how agencies went from typically using abrasives to the implementation of deicing chemicals. Discussion to include why agencies made this transition, the benefits from using salts, and how agencies came to use salt brine and produce it internally.

T2: CHEMICAL CHARACTERISTICS OF DEICERS

10:30 am - 11:30 am | Multnomah Room

Speaker: David Wilkening, Ph.D., President, Wilkening Associates

This session will discuss basic science of deicing chemicals, commonly used deicing chemicals, their proper use and potential misuse.

T3: DALTON HIGHWAY FLOOD

10:30 am - 11:30 am | Clackamas Room

Speaker: Michael Coffey, Southcoast Region Director, Alaska Department of Transportation & Public Facilities

This presentation will highlight the Alaska Department of Transportation and Public Facilities (DOT&PF) response to two consecutive extreme flood events on the Dalton Highway, the lifeline to the North Slope oil fields in arctic Alaska. Also featured will be the Unified Incident Command (UIC) that was established between the State of Alaska and Industry to manage the event. Throughout the 2½ month response effort, DOT&PF collaborated with industry representatives, stakeholders and the public as part of the UIC to respond to the disaster and successfully reopen the Dalton Highway.

SNOW PLOW TRAINING/SIMULATOR

TUESDAY, JUNE 7

WEDNESDAY, JUNE 8

South Parking

10:30 am - 4:30 pm

8:30 am - 2:00 pm

Lot (Outside)

Trainer: Todd Heck, Training Services Manager, L-3 Driver Training Solutions

L-3 driving simulators provide high fidelity real world driving environments for snowplow trucks. There will be certified trainers available to provide information, instruction and feedback. L3 trainers are industry experts with over 100 years of combined experience in adult education and driver training. Be sure to visit their booth, for conference discount pricing.

SESSION DESCRIPTIONS

TUESDAY, JUNE 7

T4: SALT BMP'S DOES NOT STAND FOR: SALT – BUY MORE PRODUCT

12:30 pm - 1:30 pm | Timberline Room

*Speakers: Mark Devries, Application Expert, Vaisala Inc.
Wilfred Nixon, Ph.D., Vice President for Science & the Environment, Salt Institute*

In recent years and during some extreme winter conditions, salt use exceeded the amount of salt available. This session will explore recent research that was conducted about today's best management practices in procurement, storage and usage of salt during winter maintenance operations.

T5: DATA COLLECTION/AVL

12:30 pm - 1:30 pm | Multnomah Room

Speaker: Joe Schmit, Technology Manager, Washington State Department of Transportation

This session will cover Washington State Department of Transportation's (WSDOT) winter snow and ice automated data collection system utilizing real-time AVL/telematics technology. We will be going into the nuts and bolts, from plow to spreader, of our AVL program. Discussion to include lessons learned and the overall AVL program concept, and how it is benefiting our winter operations program.

T6: MAINTENANCE CONTRACTING IN BRITISH COLUMBIA

12:30 pm - 1:30 pm | Clackamas Room

Speaker: Ian Pilkington, Director, Highway Maintenance Contract Renewal, BC Ministry of Transportation & Infrastructure

Highway maintenance in British Columbia, Canada has been undertaken by private contractors since 1988. This presentation will describe the history of privatized highway maintenance in BC, the changes that have occurred over the various contract cycles and the upcoming process to renew the contracts that will be expiring in the next couple of years.

SESSION DESCRIPTIONS

TUESDAY, JUNE 7

T7: UTILIZATION OF TECHNOLOGY IN WINTER MAINTENANCE

2:00 pm - 3:00 pm | Timberline Room

Speakers: Mark Devries, Application Expert, Vaisala Inc.

Bret Hodne, Public Works Director, City of West Des Moines

This session will provide a glimpse into some of the new winter maintenance technologies that have been implemented in recent years. From North America or abroad, speakers will share some of the innovative equipment they have discovered during their travels around the country and across the globe.

T8: A REVIEW OF WSDOT'S SNOW & ICE EQUIPMENT

2:00 pm - 3:00 pm | Multnomah Room

Speakers: Greg Hansen, Fleet Manager, Washington State Department of Transportation

James Morin, Branch Manager, Washington State Department of Transportation

This session will be an overview of the WSDOT snow and ice fleet including various new pieces of equipment, such as the Hook Lift System, that we are currently incorporating into the fleet in an effort to improve usage and efficiency. We will briefly go over some of the different truck configurations and discuss how these tend to impact truck readiness and function. Discussion will also include Automatic Vehicle Location as it relates to our fleet and our recent Tow Plow test in Spokane.

T9: LIGHTING SNOW PLOW OPERATIONS

2:00 pm - 3:00 pm | Clackamas Room

Speaker: Laura Fay, M.Sc., Research Manager, Western Transportation Institute

Best practices in the use of headlights, work lights, and warning light technology in snow plow operations focused on different types of light bulbs, the color of the light, intensity of the light, mounting locations, flashing patterns and flashing interval, and amperage requirements will be discussed. Information will also be presented on the mechanism to prevent snow blowing over the plow onto the windshield, mechanism to keep lights clear of snow, retro-reflective markings, and day versus night settings for vehicle lights.

SESSION DESCRIPTIONS

TUESDAY, JUNE 7

T10: CHLORIDE SAMPLING IN BRIDGE DECKS

3:30 pm - 4:30 pm | **Timberline Room**

Speaker: Ray Bottenberg, P.E., Bridge Engineer, Oregon Department of Transportation

Discussion to include best practices in the use of headlights, work lights, and warning light technology in snow plow operations focused on different types of light bulbs; the color and intensity of the light; mounting locations; flashing patterns and intervals; and amperage requirements. Also presented will be information on the mechanism to prevent snow blowing over the plow onto the windshield; mechanism to keep lights clear of snow; retro-reflective markings; and day versus night settings for vehicle lights.

T11: AVALANCHE CONTROL

3:30 pm - 4:30 pm | **Multnomah Room**

Speaker: John Stimberis, Avalanche Forecast Supervisor, Washington State Department of Transportation

Highway Avalanche Control involves more than just detonating explosives to trigger avalanches. Forecasting the hazard (likelihood of avalanche release and potential size), assessing the risk to the highway, choosing the best type of mitigation to address the risk and scheduling these activities are all part of workflow for a highway avalanche forecaster.

T12: CENTRAL MAINTENANCE/UDOT WEATHER GROUP SNOW REMOVAL PERFORMANCE METRIC

3:30 pm - 4:30 pm | **Clackamas Room**

Speaker: Brandon Klenk, Methods Engineer, Utah Department of Transportation

This session will begin with a brief history of how UDOT has arrived at our present state of snow removal performance and then go through the process as we developed the metric to fit our present policy and performance measures

SESSION DESCRIPTIONS

WEDNESDAY, JUNE 8

W1: PCB'S 101 SNOW & ICE PRODUCTS

8:30 am - 9:30 am | Clackamas Room

Speaker: Dave Hope, P.Chem., CEO, Pacific Rim Laboratories, Inc.

PCB Poly Chlorinated Biphenyl. It is toxic and yet parts of it are not. It is banned by international treaty and yet can be legally found in objects we see or handle each day. PCBs are in the food that we eat, the water we drink and the air we breathe. And it can be in deicers as well!

W2: Using Technology & Training to Reduce Salt Usage

8:30 am - 9:30 am | Multnomah Room

Speaker: Kevin Hensley, Stormwater Manager, City of West Des Moines

This session will discuss the use of technology and training in a fast growing community. A regional in-house training program has been used to promote an environment that brings new ideas forward. Technology has been a large part of seeing the results of our training program.

W3: SOIL & WATER QUALITY TESTING

8:30 am - 9:30 am | Timberline Room

Speakers: Patti Caswell, Maintenance Environmental Program Manager, Oregon Department of Transportation, James Morin, Branch Manager, Washington State Department of Transportation

It is well known that winter maintenance materials can have adverse effects on the environment. Both Washington and Oregon DOTs have implemented a soil and water analysis program to evaluate potential effects to the environment from chloride-based deicers. WSDOT has been implementing a chloride sampling program for many years, and ODOT has done so consistently for the past three years as part of a pilot project to use solid salt (NaCl) in two highway locations. Sampling and analysis methods used will be discussed, as well as the results or findings to date.

SESSION DESCRIPTIONS

WEDNESDAY, JUNE 8

W4: DEICER TOXICITY/PNS SPECIFICATIONS & QPL

10:15 am - 11:15 am | [Clackamas Room](#)

Speaker: Ron Wright, Central Laboratory Manager, Idaho Transportation Department

The results from the Clear Roads research study on the Aquatic Toxicity of Deicing Materials will be presented. What are the major components of aquatic toxicity and how does that relate to applications of different products? The PNS Chemical Products and Inhibitor classifications and how to get onto the Qualified Products List will be outlined and discussed.

W5: CHLORIDES & AG BASED PRODUCTS

10:15 am - 11:15 am | [Multnomah Room](#)

Speaker: Laura Fay, M.Sc., Research Manager, Western Transportation Institute

Agriculturally derived products, or agro-based products, and complex chloride mineral (CCM) based products are increasingly employed in snow and ice control operations, either used alone or more commonly as additives or blended with traditional chloride-based products such as rock salt (solid sodium chloride) and salt brine (liquid sodium chloride). The measurement of the effectiveness of agro-based products has been limited. Information on each major finding will be discussed in the context of how this information can be applied to current snow and ice control practices.

W6: MONTANA DOT TOW PLOW

10:15 am - 11:15 am | [Timberline Room](#)

Speaker: Tony Strainer, Maintenance Review Supervisor, Montana Department of Transportation

The Montana Department of Transportation purchased eight tow plows with ten more being built or ordered. This presentation is a case study of Tow Plow implementation in Montana. The study includes the build, training, deployment, efficiencies gained and lessons learned.

SESSION DESCRIPTIONS

WEDNESDAY, JUNE 8

W7: WEATHER UTILIZING WINTER FORECASTS FOR OPERATIONAL DECISIONS

12:30 pm - 1:30 pm | Clackamas Room

Speaker: Ralph Patterson, Meteorologist, The Narwhal Group

Soldiers will tell you that there are two keys to winning battles: logistics and intelligence. If you know where the enemy is going to be and what they are planning, and you have the resources in place to stop them, then you'll win. It sounds deceptively simple, but, of course, it isn't quite that straightforward. In snow and ice control, if we knew where and when the snow was going to fall, what form it was going to fall in (light snow, freezing rain, heavy snow) and how much traffic we were going to have to deal with while trying to clear snow, life would be a whole lot simpler.

W8: CONNECTED VEHICLES DATA MANAGEMENT

12:30 pm - 1:30 pm | Multnomah Room

Speaker: Bill Legg, State ITS Operations Engineer, Washington State Department of Transportation

The advent of connected vehicles holds promise for those who are looking for easily accessible, better and more comprehensive data about what is happening on the road network. What can we really expect? Will the promises and reality collide?

W9: IDAHO MDSS/RWIS PERFORMANCE MEASURES

12:30 pm - 1:30 pm | Timberline Room

Speaker: Dennis Jensen, Winter Operations Coordinator, Idaho Department of Transportation

This session will discuss Idaho's winter performance measuring system, AVL/RWIS integration for operational critiques, using data to make adjustments in winter operations.

SESSION DESCRIPTIONS

CLOSING SESSION | WEDNESDAY, JUNE 8

2:30 pm - 3:30 pm | Mount Saint Helen's Ballroom

WINTER OPERATIONS ROUNDTABLE

Moderator: Bret Hodne, Public Works Director, City of West Des Moines

Panelists: Michael Coffey, Southcoast Region Director, Alaska Department of Transportation & Public Facilities

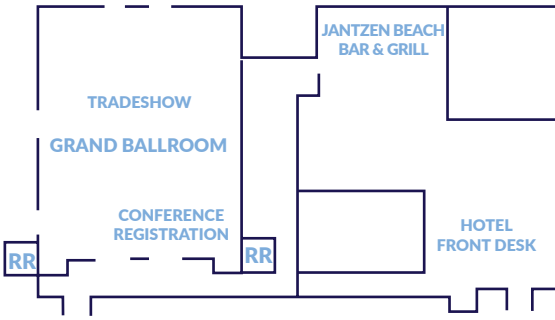
Mark Devries, Application Expert, Vaisala Inc.

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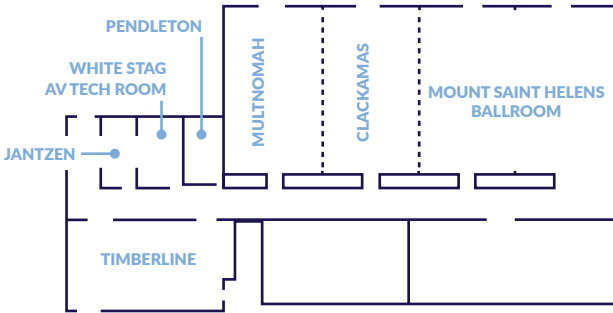
One of the more difficult aspects of winter maintenance is sharing what you have learned, being made aware of what you have not and finding sources of information to help bridge the gap. This “talk show” format will provide an opportunity for attendees to present current challenges, get operational advice and have all of your questions answered. Please come armed with a list of your agencies challenges.

FLOOR PLAN

MAIN LEVEL



LOWER LEVEL



EXHIBITOR LIST

COMPANY	BOOTH#
Kueper North America	1
Northend Truck Equipment, Inc.	2
Pacific Northwest Snowfighters/Clear Roads	3
Tec Equipment	4
Compass Minerals	5
RWC Group	6
Pioneer Truckweld, Inc.	7
EnviroTech Services, Inc.	8
Ag Enterprise Supply, Inc.	9
Salt Distributors, Inc.	10
Winter Equipment Company	11
Weathernet, LLC	12
Monroe Truck Equipemnt, Inc.	13
Rivertop Renewables	14
Eureka Chemical Company	15
The Paradigm Group, LLC	16
FORCE America, Inc.	17
VariTech Industries	18
Roadwise, Inc.	19
Henke Manufacturing	20
Salt Institute	21
Lakeside Industries/EZ Street Asphalt	22
Vaisala, Inc.	23
NASi	24
Whelen Engineering Company, Inc.	25
Accu-Steel, Inc.	26
Dustbusters Enterprises, Inc.	27
BSM Technologies (Webtech Wireless is a Division of BSM Technologies)	28
Traffic Safety Supply	29
Evolutions Edges	30
America West	31
Kois Brothers Equipment Company	32
Holt Technologies, LLC	33
Henderson Products, Inc.	34
Stephen Newcombe Service, LLC	35
L-3 Driver Training Solutions	36
Owen Equipment	37
Certified Cirus Control Systems	38
Snowquip, Inc.	39

Thank You!

A great big Thank You goes out to Oregon Department of Transportation, Washington Department of Transportation and Event Dynamics for their generosity, hard work and hospitality hosting the PNS Snow Conference.

We would also like to personally thank Conference Co-Chairs Patti Caswell, Scott Rattay ODOT, Jay Wells, James Morin WSDOT for their tireless efforts, planning and organizing the event.

Special thanks to Joanie Pop, Emily Houg Event Dynamics and Erica Mulherin WSDOT Graphics for all of your attention to detail!



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