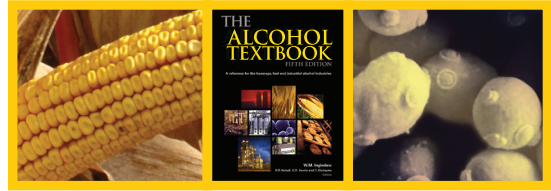


The Alcohol School 2017



Agenda

Montréal

InterContinental Montréal
September 10-15, 2017



ETHANOL
TECHNOLOGY
INSTITUTE

6120 West Douglas Avenue
Milwaukee, WI 53218 USA
800 583-6484 | 414 393-0410
Fax 414 358-8012
institute@ethanoltech.com
www.lbds.com

Ethanol Technology Institute Staff

Graeme Walker, Ph.D, DSc

Scientific Director
gwalker@lallemand.com

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nantoniades@lallemand.com

Liz Ward, Ph.D

Registration Coordinator
lward@lallemand.com

Hotel Information

InterContinental Montréal

360 rue St-Antoine Ouest
Montréal, Québec H2Y 3X4 Canada
514 987-9900
Fax 514 847-8730
<https://aws.passkey.com/go/AlcoholSchool2017>

Montréal Information

Greater Montréal Convention and Tourism Bureau

www.tourism-montreal.org

Facility Visits

Préfontaine Yeast Plant

Lallemand Inc.

1620 rue Préfontaine
Montréal, Québec H1W 2N8
Canada
514 522-2133
www.lallemand.com

National Research Council of Canada

6100 Royal Mount
Montréal, Québec H4P 2R2
Canada
514 496-6100
www.nrc-cnrc.gc.ca/eng/

Diageo Global Supply

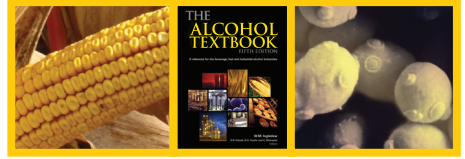
Valleyfield

1 rue Salaberry
Valleyfield, Québec J6T 2G9
Canada
450 373-3230
www.diageo.com

Greenfield Global

3300 boulevard Marie-Victorin
Varenes, Québec J3X 1P7
Canada
450 652-1800
www.greenfield.com

The Alcohol School 2017



Sunday

SEPT 10, 2017

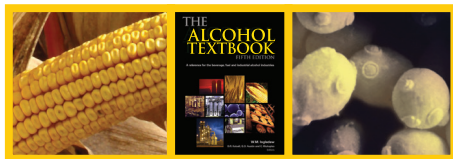
5:00 pm – 9:00 pm

REGISTRATION AND WELCOME

Chez Plume
Bistro

Once you've checked into the hotel, please come and find the Alcohol School staff at the Chez Plume Bistro (on the reception desk level across the bridge) anytime after 5 pm. You will have a chance to register for the school, have your picture taken (to later share with your classmates for networking purposes), put your school materials back in your room, and then join us for hors d'oeuvres and an open bar to say hello to old and new friends and get the week off to a good start.

The Alcohol School 2017



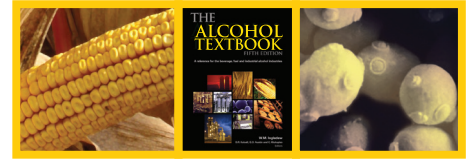
Monday

fuel alcohol session

SEPT 11, 2017

7:30 am – 8:30 am	REGISTRATION	SARAH BERNHARDT ROOM
8:30 am – 8:45 am	Welcome <i>Angus Ballard, Lallemand Biofuels & Distilled Spirits (USA)</i>	
8:45 am – 9:00 am	Introduction to the Agenda <i>Graeme Walker, Ethanol Technology Institute (Scotland)</i>	
9:00 am – 9:30 am	The Global Fuel Alcohol Industry <i>Craig Pilgrim, Lallemand Biofuels & Distilled Spirits (USA)</i>	
9:30 am – 10:00 am	The Global Distilled Spirits Industry <i>Steve Wright, Lallemand Biofuels & Distilled Spirits and Spiritech (Canada)</i>	
10:00 am – 10:30 am	COFFEE BREAK	
10:30 am – 11:10 am	Grain Receiving, Storage and Milling <i>Robert Piggot, Lallemand Biofuels & Distilled Spirits (Canada)</i>	
11:10 am – 11:50 am	Enzymes as Processing Aids in Alcohol Production <i>Phil Shaffer, Lallemand Biofuels & Distilled Spirits (USA)</i>	
11:50 am – 12:00 pm	STRETCH/COMFORT BREAK	
12:00 pm – 12:30 pm	Maximising Starch Conversion to Ethanol <i>Robert Osborne, Novozymes (USA)</i>	
12:30 pm – 1:00 pm	Yield, Efficiency and Profitability in Alcohol Plants <i>Jack Swanson, Lallemand Biofuels & Distilled Spirits (USA)</i>	
1:00 pm – 2:00 pm	LUNCH	
2:00 pm – 2:45 pm	Feedstocks for Fuel Alcohol Production <i>Dale Monceaux, AdvanceBio LLC (USA)</i>	SARAH BERNHARDT ROOM
2:45 pm – 3:30 pm	Wet Mill Processes for Corn Ethanol Production <i>Scott Kohl, White Energy (USA)</i>	
3:30 pm – 4:00 pm	COFFEE BREAK	
4:00 pm – 4:45 pm	Grain Mashing for Fuel Alcohol <i>Ben Sunderhaus, Lallemand Biofuels & Distilled Spirits (USA)</i>	
4:45 pm – 5:30 pm	Fractionation Technologies for Alcohol Production <i>Vijay Singh, University of Illinois (USA)</i>	

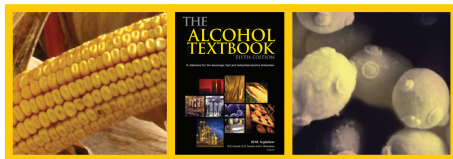
The Alcohol School 2017



Monday beverage alcohol session SEPT 11, 2017

7:30 am – 8:30 am	REGISTRATION	SARAH BERNHARDT ROOM
8:30 am – 8:45 am	Welcome <i>Angus Ballard, Lallemand Biofuels & Distilled Spirits (USA)</i>	
8:45 am – 9:00 am	Introduction to the Agenda <i>Graeme Walker, Ethanol Technology Institute (Scotland)</i>	
9:00 am – 9:30 am	The Global Fuel Alcohol Industry <i>Craig Pilgrim, Lallemand Biofuels & Distilled Spirits (USA)</i>	
9:30 am – 10:00 am	The Global Distilled Spirits Industry <i>Steve Wright, Lallemand Biofuels & Distilled Spirits and Spiritech (Canada)</i>	
10:00 am – 10:30 am	COFFEE BREAK	
10:30 am – 11:10 am	Grain Receiving, Storage and Milling <i>Robert Piggot, Lallemand Biofuels & Distilled Spirits (Canada)</i>	
11:10 am – 11:50 am	Enzymes as Processing Aids in Alcohol Production <i>Phil Shaffer, Lallemand Biofuels & Distilled Spirits (USA)</i>	
11:50 am – 12:00 pm	STRETCH/COMFORT BREAK	
12:00 pm – 12:30 pm	Maximising Starch Conversion to Ethanol <i>Robert Osborne, Novozymes (USA)</i>	
12:30 pm – 1:00 pm	Yield, Efficiency and Profitability in Alcohol Plants <i>Jack Swanson, Lallemand Biofuels & Distilled Spirits (USA)</i>	
1:00 pm – 2:00 pm	LUNCH	
2:00 pm – 2:45 pm	Raw Materials for Beverage Alcohol Production <i>Douglas Murray, Diageo (Scotland)</i>	SALON SHERWOOD
2:45 pm – 3:30 pm	Mash Preparation in the Beverage Distilling Industry <i>Steve Wright, Lallemand Biofuels & Distilled Spirits and Spiritech (Canada)</i>	
3:30 pm – 4:00 pm	COFFEE BREAK	
4:00 pm – 4:45 pm	Rum Production <i>Shernell Layne, Lallemand Biofuels & Distilled Spirits (Barbados)</i>	
4:45 pm – 5:30 pm	Canadian Whisky Production & Aspects of Continuous Improvement <i>Martin Laberge, Diageo Global Supply (Canada)</i>	

The Alcohol School 2017



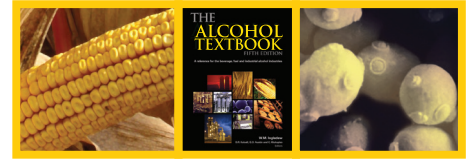
Tuesday

combined
session

SEPT 12, 2017

8:30 am – 9:20 am	Sugar Feedstocks for Fuel and Beverage Alcohol <i>Jaime Finguerut, Centro de Tecnologia Canavieira, CTC (Brazil)</i>	SARAH BERNHARDT ROOM	
9:20 am – 10:10 am	Current Challenges and New Opportunities in Alcohol Production <i>Vijay Singh, University of Illinois (USA)</i>		
10:10 am – 10:40 am	COFFEE BREAK		
10:40 am – 11:30 am	Physiology of Ethanol-Producing Yeasts <i>Graeme Walker, Ethanol Technology Institute (Scotland)</i>		
11:30 am – 12:20 pm	Very High Gravity Alcohol Production & Associated New Technologies <i>Mike Ingledew, Professor Emeritus, University of Saskatchewan (Canada)</i>		
12:20 pm – 12:30 pm	STRETCH/COMFORT BREAK		
12:30 pm – 1:00 pm	Yeast Production for Fuel and Beverage Alcohol <i>Luis Ortega, Lallemand Biofuels & Distilled Spirits (Canada)</i>	SARAH BERNHARDT ROOM	
1:00 pm – 2:00 pm	LUNCH		Ravel
2:00 pm – 2:45 pm	Yeast: Propagation for Fuel and Beverage Alcohol <i>Craig Wills, Lallemand Biofuels & Distilled Spirits (USA)</i>		
2:45 pm – 3:30 pm	New Yeasts for Fuel and Beverage Alcohol <i>Emily Stonehouse, LBDS/Mascoma (USA)</i>		
3:30 pm – 4:00 pm	COFFEE BREAK		
4:00 pm – 4:45 pm	Distillation: Theory <i>Phil Madson, KATZEN International Inc (USA)</i>		
4:45 pm – 5:30 pm	Distillation: Practice <i>Tara Vigil, KATZEN International Inc (USA)</i>		

The Alcohol School 2017



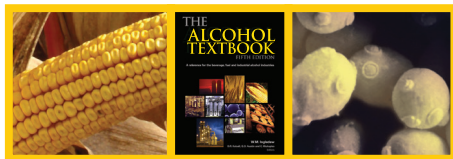
Wednesday

combined
session

SEPT 13, 2017

7:40 am	BUSES FOR ALL TO NRC RESEARCH LABS	
8:30 am – 8:40 am	Welcome to Lallemand R&D at NRC <i>Frederic D'Aoust, Lallemand Biofuels & Distilled Spirits (Canada)</i>	NRC RESEARCH LABS
8:40 am – 9:00 am	Introduction to Mascoma <i>Emily Stonehouse, LBDS/Mascoma (USA)</i>	
9:00 am – 9:45 am	Yeast Stress and Fermentation <i>Mike Ingledew, Professor Emeritus, University of Saskatchewan (Canada)</i>	
9:45 am – 10:30 am	Microbial Contamination & Control in a Distillery <i>Francois van Zyl, Lallemand Biofuels & Distilled Spirits (USA)</i>	
10:30 am – 11:00 am	COFFEE BREAK	
11:00 am – 12:00 pm	LAB VISITS	
12:00 pm – 12:30 pm	Fluorescence Tests for Distillery Microbes <i>Annick Mercier, Lallemand Biofuels & Distilled Spirits (Canada)</i>	
12:30 pm – 1:30 pm	LUNCH	
1:35 pm – 2:40 pm	LAB VISITS	
2:45 pm – 3:20 pm	Key Analytical Methods for Process Monitoring <i>Joseph Kalkwarf, Lallemand Biofuels & Distilled Spirits (USA)</i>	
3:20 pm – 3:50 pm	COFFEE BREAK	
3:50 pm – 4:30 pm	Process Control to Improve Alcohol Yield <i>Hank Brittain, OpX Control Inc (USA)</i>	
4:30 pm – 5:00 pm	Troubleshooting Problem Fermentations in Alcohol Plants <i>Ben Sunderhaus, Lallemand Biofuels & Distilled Spirits (USA)</i>	
5:05 pm	BUSES BACK TO HOTEL	
7:00 pm – 10:30 pm	Wine, Beer and Spirits Tasting <i>Complimentary food provided</i>	Les Voutes (caves under hotel)
Lab Visit I <i>Technology Lab, LBDS</i>	Tour of Fuel Ethanol and Distilled Beverage Laboratory <i>Discussions on various aspects of fermentations applied to beverages and biofuels</i>	
Lab Visit II <i>Strain Development Lab</i>	Tour of Molecular Biology Strain Improvement Laboratory <i>Demonstration of yeast mutagenesis and screening techniques</i>	
Lab Visit III <i>Microbiology Lab</i>	Tour of Culture Collection/Microbiology Laboratory <i>Demonstration of yeast counting by microscope and plating</i>	
Lab Visit IVa <i>Process Lab</i>	Tour of Yeast Scale-up and Process Control Laboratory <i>Demonstration of yeast production and scale-up strategies</i>	
Lab Visit IVb <i>Beer Lab</i>	Tour of Beer Application Laboratory <i>Demonstration of characterization of beer yeast and fermentation ingredients</i>	
Lab Visit V <i>Genetics Lab</i>	Tour of Genetic Identification Laboratory <i>Demonstration of yeast and bacteria identification</i>	
Lab Visit VI <i>Animal Nutrition Lab</i>	Tour of Animal Nutrition Laboratory <i>Discussion of the use of coproducts and their values for animal nutrition</i>	

The Alcohol School 2017



Thursday

fuel alcohol session

SEPT 14, 2017

8:30 am – 9:20 am	Energy, Mass and Water Balance <i>Scott Kohl, White Energy (USA)</i>	SARAH BERNHARDT ROOM
9:20 am – 10:10 am	Dryhouse Technologies in Distilleries <i>Dale Monceaux, AdvanceBio LLC (USA)</i>	
10:10 am – 10:40 am	COFFEE BREAK	
10:40 am – 11:30 am	Oil Separation from Corn Ethanol Processes <i>Jennifer Aurandt, Valicor (USA)</i>	
11:30 am – 12:20 pm	New Technologies for Fuel Alcohol Production <i>Scott Kohl, White Energy (USA)</i>	
12:20 pm – 1:30 pm	LUNCH	
1:30 pm – 5:00 pm	Plant Tours to Greenfield Global, OR Diageo Global Supply OR Lallemand's Préfontaine Yeast Production Plant	

OPTION #1 Greenfield Global, Varennes, Québec

Greenfield Global of Quebec Inc. is an ICM-designed plant, completed in early 2007, that produces fuel-grade ethanol, carbon dioxide, distillers' dried grains, and MWDGS. Current capacity is 160 million liters (around 42 million US gallons) of fuel-grade ethanol per year, made from 15 million bushels of Québec corn. In 2008, Greenfield Global completed a second ICM-designed plant in Johnstown, Ontario, that produces 200 million liters of fuel-grade ethanol.

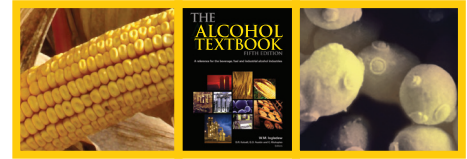
OPTION #2 Diageo Global Supply, Salaberry-de-Valleyfield, Québec

The original building dates from 1909 and became a distillery in 1938 producing alcohol for military purposes. It really became a whisky distillery in 1945 with the first whisky, Golden Wedding, being produced. During the fifties, new products such as Schenley OFC, Ron Carioca Rum, and Troika Premium Vodka came online. The sixties saw the construction of additional warehouses for aging and the addition of a grain dryer. On October 22, 1969, the one-millionth barrel was produced, followed by the second millionth in 1986. Today, the plant continues to produce world-renowned brands such as Smirnoff vodka, Captain Morgan rums, Gordon's London Dry gin, and VO Canadian whisky. In 2008 the plant was acquired by Diageo, the largest spirits manufacturer in the world. With the 2015 addition of a can line for RTDs and a specialty line for all Crown Royal reserve brands, today the plant produces over 5.5 million cases of beverage alcohol annually.

OPTION #3 Lallemand's Préfontaine Yeast Plant Montréal, Québec

Lallemand was founded in Montréal at the end of the 19th century by a young immigrant from the Alsace region of France, Fred "Lallemand." The plant on Préfontaine Street was built in 1915, with production of baker's yeast starting there in 1923. Roland Chagnon acquired the business in 1952 and set it on a path of expansion. The Chagnon family remains the current owner. Today, the plant produces a range of liquid, cake, and dry yeasts for the fuel ethanol, beverage alcohol, and baking industries.

The Alcohol School 2017



Thursday

beverage alcohol session

SEPT 14, 2017

8:30 am – 9:20 am	Beverage Alcohol Distillation Batch & Continuous Processes <i>Robert Piggot, Lallemand Biofuels & Distilled Spirits (Canada)</i>	SALON SHERWOOD
9:20 am – 10:10 am	Flavour Distillation for Grain Whisky <i>Douglas Murray, Diageo (Scotland)</i>	
10:10 am – 10:40 am	COFFEE BREAK	
10:40 am – 11:30 am	Pilot Fermentations for Yield Potential Analysis & Conversion Process Optimization <i>Kevin Smith, Brown-Forman Corporation (USA)</i>	
11:30 am – 12:20 pm	Analytical Methods for Distilled Spirits <i>Douglas Murray, Diageo (Scotland)</i>	
12:20 pm – 1:30 pm	LUNCH	
1:30 pm – 5:00 pm	Plant Tours to Greenfield Global, OR Diageo Global Supply OR Lallemand's Prefontaine Yeast Production Plant	

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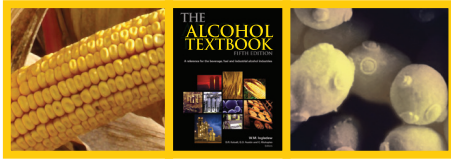
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The Alcohol School 2017



Thursday tour options SEPT 14, 2017

General Description

Each delegate will visit only one of the three tour options shown.

Only those on the Diageo tour will be provided with a box lunch due to the distance from the hotel. Other delegates will have lunch on their own and then join their tour group. Spaces are limited, and tours will be filled on a first-come, first-served basis.

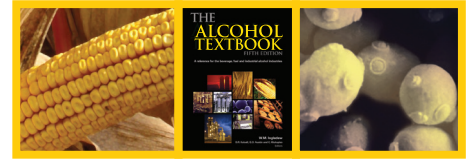
	TOUR OPTION 1: Greenfield Global		TOUR OPTION 2: Diageo Global Supply		TOUR OPTION 3: Lallemand's Préfontaine Yeast Plant	
	Group gh	Groups ij	Group a	Group b		
12:30						12:30
			bus	bus		
1						1
			box lunch served	box lunch served		
1:30	bus	bus			bus	1:30
2	Greenfield Global Fuel Plant	Greenfield Global Fuel Plant	Diageo Global Supply Valleyfield Distillery	Diageo Global Supply Valleyfield Distillery	Lallemand Préfontaine Yeast Plant Montréal	2
2:30						2:30
3						3
3:30						3:30
4						4
4:30					bus	4:30
5	bus	bus				5
5:30						5:30
6						6
6:30			bus	bus		6:30
7						7
7:30						7:30

Option 1: Greenfield Global Fuel Plant in Varennes, QC. Groups 1g, 1h, 1i, 1j

Option 2: Diageo Global Supply's Distillery in Valleyfield, QC. Lunch on the bus followed by the tour. Groups 2a, 2b

Option 3: Lallemand's Préfontaine Yeast Plant in Montréal. Groups 3e, 3f

The Alcohol School 2017



Friday fuel alcohol session SEPT 15, 2017

8:30 am – 9:10 am	2nd Generation Biofuels: Ethanol from Lignocellulose <i>Frederic D'Aoust, Lallemand Biofuels & Distilled Spirits (Canada)</i>	SARAH BERNHARDT ROOM
9:10 am – 9:50 am	Cellulolytic Enhancement of Dry Grind Corn Ethanol Processes <i>Charles Abbas, ADM (USA)</i>	
9:50 am – 10:10 am	COFFEE BREAK	
10:10 am – 10:50 am	Cellulosic Ethanol Production: State of Development <i>Susanne Retka Schill, Editor/Writer (USA)</i>	
10:50 am – 11:00 am	STRETCH/COMFORT BREAK	

Friday beverage alcohol session SEPT 15, 2017

8:30 am – 9:10 am	Gin and Vodka Production <i>Kirsty Black, Arbikie Distillery (Scotland)</i>	SALON SHERWOOD
9:10 am – 9:50 am	Craft Distilling: Challenges and Opportunities <i>Paul Cirka, Cirka Distilleries (Canada)</i>	
9:50 am – 10:10 am	COFFEE BREAK	
10:10 am – 10:50 am	Distilled Spirits Maturation <i>Martin Laberge, Diageo Global Supply (Canada)</i>	
10:50 am – 11:00 am	STRETCH/COMFORT BREAK	

Friday combined session SEPT 15, 2017

11:00 am – 11:40 am	A Nutritionist's View of Distillers Grains <i>Kurt Rosentrater, Iowa State University (USA)</i>	SARAH BERNHARDT ROOM
11:40 am – 12:30 pm	Technical Opportunities in the Industry – Where are we Going? <i>Phil Madson, KATZEN International Inc. (USA)</i>	
12:30 am – 1:00 pm	Course Wrap-up and Presentation of Certificates	