



# World Congress on Industrial Biotechnology



OFFICIAL PROGRAM

July 23 – 26, 2017

Palais des congrès de Montréal

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# Conference Sponsors

BIO is the world's largest biotechnology trade association representing biotechnology companies, academic institutions, state biotechnology centers and related organizations across the United States and in more than 30 other nations. BIO members are involved in the research and development of innovative healthcare, agricultural, and industrial and environmental biotechnology products. Corporate members range from entrepreneurial companies developing a first product to Fortune 500 multinationals. We also represent state and regional biotech associations, service providers to the industry, and academic centers. The mission of BIO is to be the champion of biotechnology and the advocate for its member organizations – both large and small.

## DIAMOND



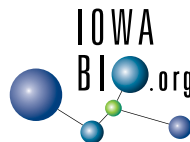
## GOLD



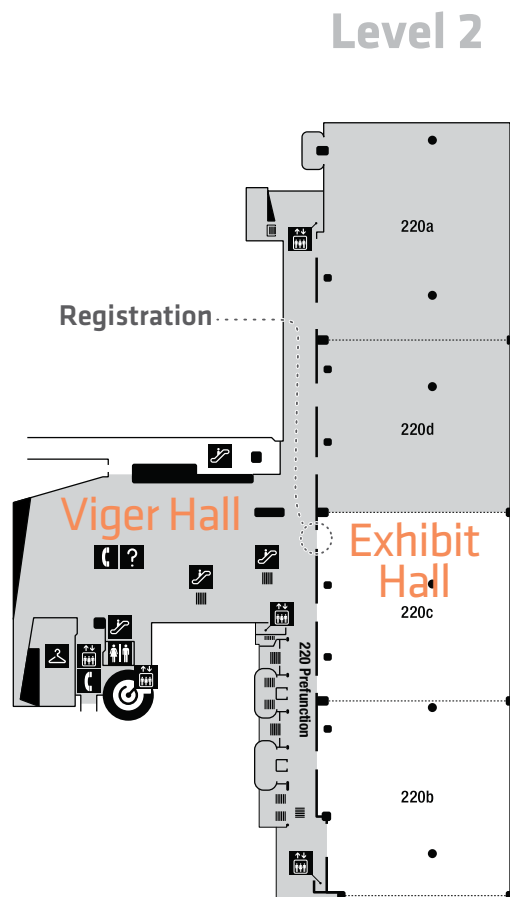
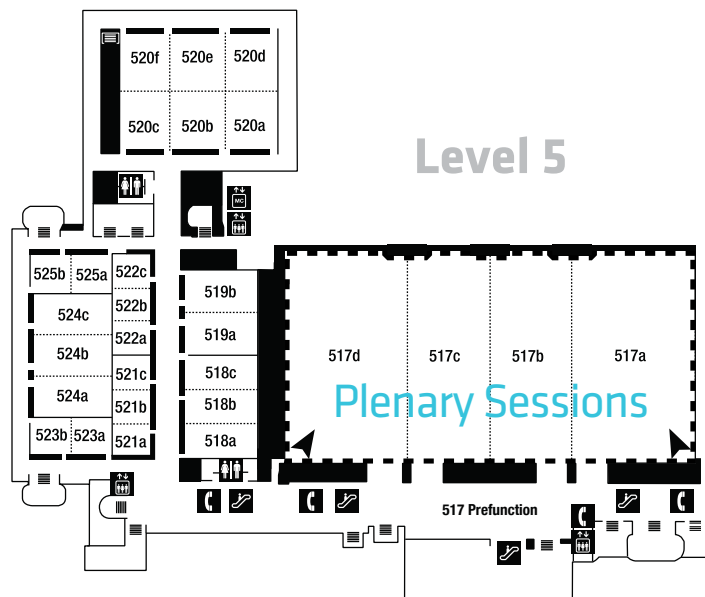
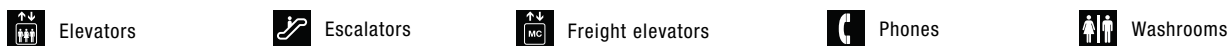
## SILVER



## BRONZE



# Conference Center Floorplan & Locations



TRACK	TITLE	ROOM
1	Growing Global Biobased Markets	521 ABC
2	Feedstocks, Agricultural Crop Technology, and Biomass Supply	518 C
3	Research & Technical Presentations	522 ABC
4	Synthetic Biology & Genomics Research	519 A
5	Advanced Biofuels and Biorefinery Platforms	519 B
6	Renewable Chemicals & Biobased Materials	520 C
7	Flavors, Fragrances, & Food Ingredients	520 B

## EXHIBIT HALL

Location: Hall 220 BC and for a list of exhibitors visit page 40.

The Exhibit Hall features 30+ exhibitor organizations showcasing the latest in technology, the BIO Partnering area, poster presentations, continental breakfasts, networking receptions and refreshment breaks all in one space.

## REGISTRATION

Location: Hall 220 C and registration hours are as follows: Sunday, 2:00 pm – 7:00 pm; Monday, 6:30 am – 6:00 pm; Tuesday, 6:30 am – 5:30 pm; Wednesday, 7:00 am – 12:00 pm

## PLENARY SESSIONS

Location: Ballroom 517 and see page 6 for Plenary Session schedule.

Don't miss a great line-up of leading industry executives discussing the latest in biofuels, household and personal care, airline industries, technology breakthroughs, business partnerships and sustainability initiatives at a global scale.

## BREAKOUT SESSIONS

Location: 518-522 and see page 10 for the breakout session schedule.

The breakout program is designed to keep you on the cutting edge of industrial biotech with 7 diverse content tracks.

## WORKSHOPS

Location: 518-522 and the same room as breakout sessions. See page 12 for workshop schedule.

Workshops are designed for specific and focused discussions on business or technical information.

## BIO ONE-ON-ONE PARTNERING™

Location: Hall 220 BC and see page 38 for more information and a map on page 41.

Partnering is at an all-time high! Stop by the partnering desk with questions. Don't forget to download our new mobile app.

## GREENTECH INVESTOR SESSIONS

Location: Room 518 A and see page 17 for more information.

Don't miss CEOs and COOs making formal 15-minute presentations on their technology development and business models to an elite audience of investors and analysts.

## RECEPTIONS

See page 37 for more information on receptions and refreshment breaks.

Sunday: Women in Industrial Biotechnology Reception: Room 524 A

Sunday: Welcoming Reception: Room 725 and Terrace

Monday: Grand Exhibit Hall Reception (Exhibit Hall)

Tuesday: Business Partnering Reception with Poster Presentations (Exhibit Hall)

## CONTINENTAL BREAKFAST

Monday morning (5th Level)

Tuesday morning during the Breakfast Plenary (Ballroom 517)

Wednesday morning (Exhibit Hall)

## REFRESHMENT BREAKS

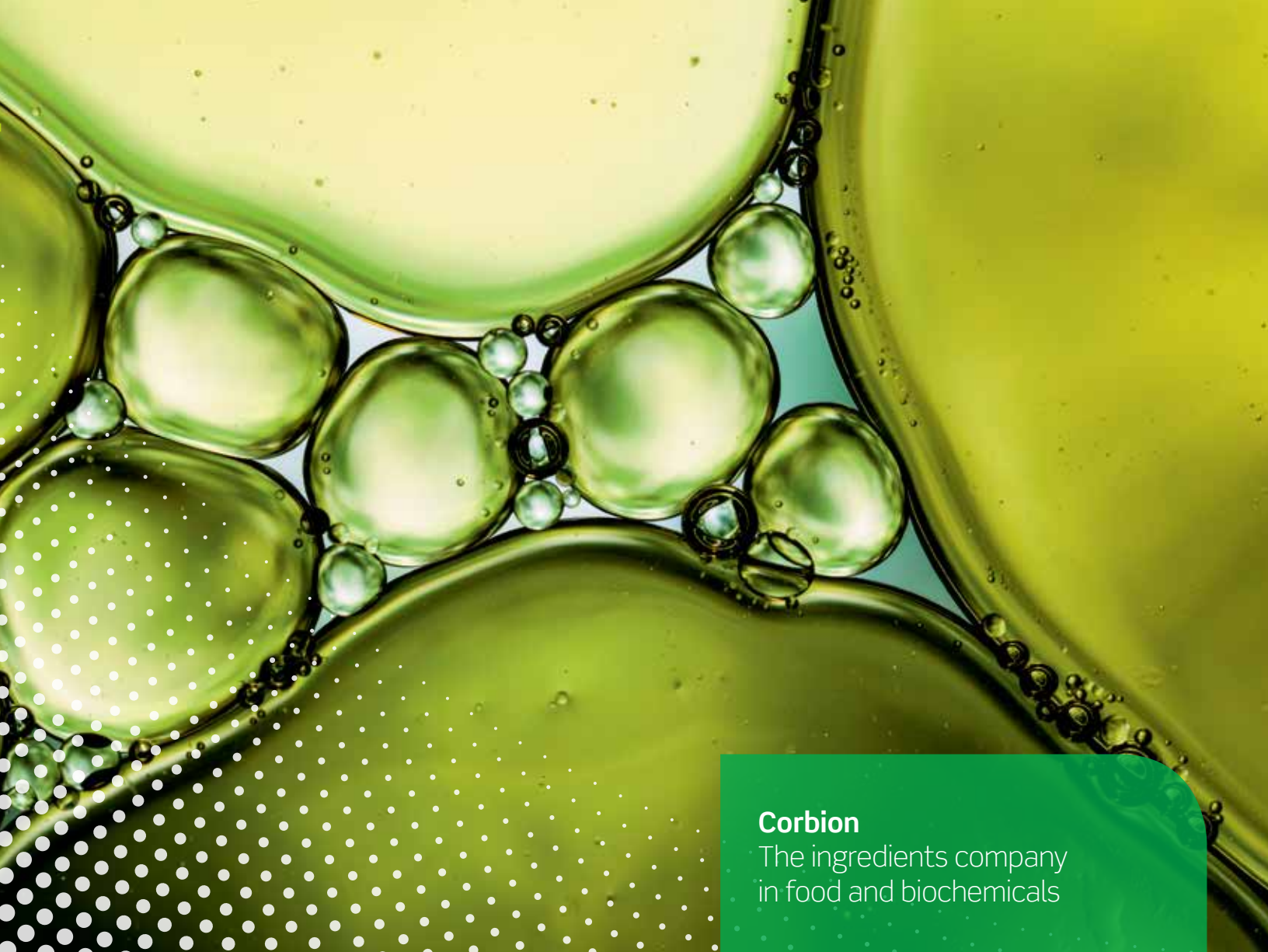
Monday – Wednesday morning (Exhibit Hall)

## SPEAKER READY ROOM

Location: Room 523 A

## PRESS ROOM

Location: Room 525



## Corbion

The ingredients company  
in food and biochemicals

- ▶ Designed by science
- ▶ Powered by nature
- ▶ Delivered through dedication

## Innovation for a sustainable future

Corbion is the global market leader in lactic acid, lactic acid derivatives and lactides, and a leading company in functional blends containing enzymes, emulsifiers, minerals and vitamins. The company delivers high performance biobased products made from renewable resources and applied in global markets such as bakery, meat, pharmaceuticals and medical devices, home and personal care, packaging, automotive, coatings and adhesives. Its products have a differentiating functionality in all kinds of consumer products worldwide.

### MORE INFORMATION

 [www.corbion.com](http://www.corbion.com)



# Corbion

## Plenary Program

### Why Bet on Renewables? Attracting Private Capital for Renewable Chemical Commercialization & Presentation of the George Washington Carver Award for Innovation in Industrial Biotechnology

Monday • July 24 • 11:45 am – 1:30 pm Ballroom 517

Plenary sponsored by



Award sponsored by



This dynamic investor panel will focus on renewable chemical project investment from early stage financing to late stage investments. Panelists will highlight the key drivers affecting renewable portfolio development for the investment community, and will discuss new areas of growth within the renewable chemicals sector.

#### MODERATOR

**Federico Berruti**, Associate Partner, McKinsey & Company

#### SPEAKERS

**Brian Baynes**, Partner, Flagship Pioneering

**William Byun**, Principal, Conchubar Capital Advisory

**Pavel Molchanov**, Senior Vice President and Equity Analyst, Raymond James & Associates

**Felipe Pereira**, Chemicals Sector Manager, Brazilian National Development Bank

### Biotech and the Future of Food Ingredients, Flavorings, and Personal Care

Monday • July 24 • 3:45 pm – 5:00 pm Ballroom 517



Hear from global thought leaders as they discuss the state of play for biobased food ingredients, flavorings, and personal care. Speakers will highlight technological innovations in this sector, current and future market trends, and opportunities and challenges throughout the supply chain to commercialize these products.

#### MODERATOR

**Gwen Rosenberg**, President, Rosenberg Business Communications

#### SPEAKERS

**John Melo**, President and Chief Executive Officer, Amyris

**Markus Pompejus**, Vice President Innovation & Scouting Bioscience Research, BASF SE

**Joachim Schulze**, Managing Director, EW Biotech GmbH (EWB)  
**Jill Zullo**, Vice President, Bioindustrials NA, Cargill

### Second Generation Biofuels Poised for Big Wins

Tuesday • July 25 • 8:30 am – 10:00 am Ballroom 517



Learn about the necessary factors to successful commercialization and growth of low carbon fuels. Speakers will discuss the economics that are paramount to fuel applications, the use of second generation feedstocks, conversion technologies and the importance of identifying the right molecules, and finally the role of automakers and airlines in driving market demand for these products.

#### MODERATOR

**Jim Lane**, Editor and Publisher, The Digest

#### SPEAKERS

**Pramod Chaudhari**, Executive Chairman of Praj Industries Ltd.

**Marc Delcourt**, Chief Executive Officer, Global Bioenergies

**Jonas Markusson**, Innovation and Product Development Manager, SEKAB

**Hermann Pengg**, Head of Renewable Fuels & Lifecycle Analysis Department, Audi AG

**Mario Pennisi**, Chief Executive Officer, Life Sciences Queensland

**Mena Salib**, Manager of Aircraft Noise and Emissions, Air Canada

### Effectively Communicating the Benefits of Industrial Biotechnology & Presentation of the Rosalind Franklin Award for Leadership in Industrial Biotechnology

Tuesday • July 25 • 11:45 am – 1:30 pm Ballroom 517



This session will feature key opinion leaders as they discuss how to meaningfully communicate about the biobased economy. Topics will include current industry messaging, how the political climate influences how people view innovation, and the perception around the use of industrial biotechnology.

**MODERATOR**

**Rebecca Coons**, Senior Editor, Chemical Week, IHS Chemical

**SPEAKERS**

**Herman Betten**, Global Head of Public Relations, DSM

**Melody Bomgartner**, Senior Business Editor, Chemical & Engineering News

**Doris de Guzman**, Senior Consultant – Bio-Materials, Tecnon OrbiChem USA

**Stephan Herrera**, Vice President, Strategy and Public Affairs, Evolva

**Sylvie Latieule**, Director, Info Chimie Magazine

**A Revolution in Biobased Products and Packaging & Presentation of the BIO Leadership and Legacy Award in Industrial Biotechnology**

Wednesday • July 26 • 11:45 am – 1:30 pm Ballroom 517

Sponsored by

Award sponsored by



Global demand for renewable materials has led to a shift in the production of sustainable, biobased polymers. Session panelists will highlight recent innovations in plastics and packaging materials. Attendees will also hear how these game changing biobased materials compete in a global market, what sustainable production means to their supply chain, and how to overcome barriers to commercializing these products.

**MODERATOR**

**Richard P. Eno**, Senior Partner, Roland Berger LLC

**SPEAKERS**

**Thijs Rodenburg**, Chief Executive Officer, Rodenburg Biopolymers

**Michael Saltzberg**, Global Business Director, Biomaterials, DuPont Industrial Biosciences

**Gustavo Sergi**, Renewable Chemicals Business Director, Braskem

**Puneet Trehan**, Material Innovation and Development Leader, IKEA

**Bob Walsh**, Senior Vice President, Energy Sector, Intrexon



Biocatalysts discovers, develops and manufactures speciality enzymes for a wide range of industries, providing commercial quantities of stable product suitable for global shipment



**What makes us different?**

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**30 YEARS LATER,  
OUR IDEAS ARE  
ONLY GETTING  
BIGGER.**

ALL IT TAKES TO MAKE THE WORLD A BETTER PLACE IS LIMITLESS  
CURIOSITY AND A FEW DECADES' WORTH OF GOOD IDEAS.

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# ENERGY: BUILT BETTER

Intrexon has created the first-ever natural gas-to-liquids methanotroph bioconversion platform which converts natural gas into chemicals used for synthetic rubber, acrylics, resins, spandex and gasoline blendstock.

## POTENTIAL OF NATURAL GAS

Utilizing natural gas as a feedstock unlocks the ability to develop products for less than the current cost of LNG. This feedstock is also not connected to food supplies, which prevents a fuel-price/food-price relationship like that of corn and sugar. It's economically viable in a \$50/barrel oil world, competitive with Fischer-Tropsch GTL, but efficiently scales down.

## DROP-IN FUELS

Isobutanol has a higher gross potential margin compared to other fuel products –2x the projected yield at 1/10 the input cost. It also reduces carbon monoxide emissions, and has a gas energy density that is well above other oxygenated fuels.

## OTHER APPLICATIONS

1,3-Butadiene, MMA Precursors and 1,4-Butanediol offer identical replacements with sub-\$1,000 per ton COGS and address a growing, global demand for production.



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Learn more at [dna.com/markets/energy](http://dna.com/markets/energy)

## Breakout Sessions Monday • July 24

	<b>Growing Global Biobased Markets</b> Room 521 ABC	<b>Research and Technical Presentations</b> Room 522 ABC	<b>Advanced Biofuels and Biorefinery Platforms</b> Room 519 B	<b>Feedstocks, Agricultural Crop Technologies, and Biomass Supply</b> Room 518 C
8:30 am – 10:00 am • Session 1	<p><i>Sponsored by</i></p> 		<p><i>Sponsored by</i></p> 	
	<p><b>Delivering Downstream Value: Collaborating for Success in Branded Products</b></p> <p><i>James Iademarco, Strategic Avalanche</i> <b>Caroline Hadfield</b>, Amyris <b>Rick Hanson</b>, Croda <b>John Shaw</b>, Itaconix <b>Timothy Staub</b>, Green Biologics</p>	<p><b>Renewable Chemicals: Scale-up and Market Opportunities</b></p> <p><i>Jeff Passmore, Passmore Group Inc.</i> <b>Tom Beardslee</b>, Verdezyne Inc. <b>Philippa Davies</b>, Tecnon OrbiChem <b>Cesar Granda</b>, Earth Energy Renewables <b>Ryan Smith</b>, Origin Materials</p>	<p><b>Cluster Approaches to Biotechnology</b></p> <p><i>Paul Lansbergen, Forest Product Association of Canada</i> <b>Marc Lepage</b>, Genome Canada <b>Jean-Pierre Martel</b>, FPIInnovations <b>Perry Toms</b>, Steeper Energy <b>Richard Wayken</b>, GetOut4Sport</p>	<p><b>Microalgae: The Solution for Sustainable Ingredients in Animal Feeds</b></p> <p><i>Valerie Harmon, Harmon Consulting Incorporated</i> <b>Amha Belay</b>, Earthrise Nutritionals <b>Geoff Horst</b>, Kemira Industries <b>Len Smith</b>, Heliae Development, LLC <b>Xun Wang</b>, Triton Algae Innovations</p>
10:30 am – 11:45 am • Session 2	<p><b>Bioeconomy Policy Under Political Climate Change: Will “Made in the USA” Trump Cheap Fossil Fuels?</b></p> <p><i>Peter Matlock, JBEI/LBNL</i> <b>Paul Bryan</b>, Independent Consultant <b>Jim Lane</b>, Biofuels Digest <b>Vineet Rajgarhia</b>, Total Raffinage Chimie, SA <b>Larry Sullivan</b>, The Citadel</p>	<p><b>Biotech Protection in the US, Canada, and EU: Is This a New Era?</b></p> <p><i>Stephen Maebius, Foley &amp; Lardner LLP</i> <b>Geoffrey Mowatt</b>, DLA Piper LLP <b>Hans Sauer</b>, Biotechnology Innovation Organization <b>Kristel Schorr</b>, Foley &amp; Lardner LLP <b>Leonard Werner-Jones</b>, Hoffman Eitle</p>	<p><b>Latest Developments in R&amp;D Support for Forest Biorefinery Development in Canada</b></p> <p><i>Jean Hamel, FPIInnovations</i> <b>Fernando Preto</b>, CanmetENERGY Ottawa, Natural Resources Canada <b>Michelle Ricard</b>, FPIInnovations <b>Eric Soucy</b>, CanmetENERGY, Natural Resources Canada <b>Minh Tan Ton-that</b>, National Resource Council</p>	<p><b>Canadian Biomass Supply Chain Improvements to Increase Investment Opportunities</b></p> <p><i>Sean McKay, Composites Innovation Centre</i> <b>Hank Froese</b>, SWM International (Schweitzer-Mauduit Canada) <b>Roger Samson</b>, Resource Efficient Agricultural Production- Canada <b>Jan Slaski</b>, InnoTech Alberta <b>Jordan Solomon</b>, Ecostrat Inc.</p>
1:45 pm – 3:15 pm • Session 3	<p><b>Global Knowledge Development with International Partners</b></p> <p><i>Murray McLaughlin, Bioindustrial Innovation Canada</i> <b>Ludo Diels</b>, VITO <b>Manfred Kircher</b>, CLIB2021 <b>Mario Pennisi</b>, Life Science Queensland <b>Willem Sederel</b>, Biobased Delta</p>	<p><b>Challenges and Dilemmas in Product Innovations and Funding Mechanisms in the Biobased Industry</b></p> <p><i>Jose Vitor Bomtempo, UFRJ</i> <b>Paulo Coutinho</b>, SENAI Biosynthetic Innovation Institute <b>Paulo Pavan</b>, Fibria <b>Mark Riedy</b>, Kilpatrick Townsend &amp; Stockton LLP</p>	<p><b>Protecting Innovations in Biofuels and Biobased Materials in the Face of Uncertain IP Policy</b></p> <p><i>Barbara Rudolph, Finnegan, Henderson, Farabow, Garrett &amp; Dunner, LLP</i> <b>Charles Collins-Chase</b>, Finnegan, Henderson, Farabow, Garrett &amp; Dunner, LLP <b>Christine Lhulier</b>, DuPont Industrial Biosciences <b>Claire Schultz</b>, logen Corporation <b>Len Smith</b>, Heliae Development, LLC</p>	<p><b>Carinata: Expanding the Oilseeds Supply Chain</b></p> <p><i>Jim Lane, Biofuels Digest</i> <b>Christophe Beaunoir</b>, Avril Oilseeds Processing <b>Steve Fabijanski</b>, Agrisoma <b>Rolf Hogan</b>, RSB <b>Ambassador Martin Vidal</b>, Government of Uruguay</p>



Italics indicates session moderator.

<b>Synthetic Biology and Genomics Research</b> Room 519 A	<b>Flavors, Fragrances, and Food Ingredients Track</b> Room 520 B	<b>Renewable Chemicals and Biobased Materials</b> Room 520 C	
Sponsored by  <b>ENERGY</b>   Energy Efficiency & Renewable Energy BIOENERGY TECHNOLOGIES OFFICE	Sponsored by  <b>BIOCATALYSTS</b> exceeding enzyme expectations	Sponsored by  <b>evolve</b>	8:30 am – 10:00 am • Session 1
<b>Utilizing Synthetic Biology to Address Global Challenges</b>  <i>Bruce Dannenberg</i> , Phytonix Corporation <i>Gary Anderson</i> , South Dakota State University <i>Andy Bass</i> , Intrexon <i>Peter Lindblad</i> , Uppsala University <i>Vikramaditya Yadav</i> , University of British Columbia	<b>Performance Enzymes for Food Ingredients</b>  <i>Vincent Sewalt</i> , DuPont Industrial Biosciences <i>Andrew Ellis</i> , Biocatalysts <i>John Perkins</i> , DSM <i>Chandrakant Rathi</i> , Advanced Enzyme Technologies Ltd. <i>Marc Struhalla</i> , c-Lecta GmbH	<b>Sustainable Pathways to Furanics, FDCA, and Design of New Polymers</b>  <i>Jim Barber</i> , Barber Advisors LLC <i>Stephen Roest</i> , Corbion <i>Jesper Van Berkel</i> , Synvina <i>Michael Saltzberg</i> , DuPont Industrial Biosciences	
<b>Synthetic Biology: The Emergence of a New Value-Chain?</b>  <i>James Iademarco</i> , Strategic Avalanche <i>Vonnie Estes</i> , Estes Advisors <i>Jason Kelly</i> , Ginkgo Bioworks <i>Emily Leproust</i> , Twist Bioscience <i>Alexandre Zanghellini</i> , Arzeda	<b>Synthesizing Specialty Ingredients for Cosmetics, Flavors, Food Ingredients, Fragrances</b>  <i>David Demirjian</i> , zuChem, Inc. <i>Rainer Figge</i> , Alderys <i>Neil Goldsmith</i> , Evolve <i>Pramod Kumbhar</i> , Praj Matrix <i>Emmanuel Petiot</i> , DEINOVE	<b>Renewable Chemicals and Thermoplastics for Performance Materials</b>  <i>Marcel Lubben</i> , Reverdia <i>Natalie Bittner</i> , Covestro <i>Stefano Facco</i> , Novamont SpA <i>Mateus Lopes</i> , Braskem <i>David Sudolsky</i> , Anellotech, Inc.	10:30 am – 11:45 am • Session 2
<b>Microbial and Synthetic Approaches to CO2 Utilization</b>  <i>Blaine Metting</i> , Green Earth Institute Co., LLC <i>Alex Beliaev</i> , Pacific Northwest National Laboratory <i>Gert-Jan Gruter</i> , Avantium <i>Carolina Zampol Lazaro</i> , University of Montreal <i>Hideaki Yukawa</i> , UCEDI	<b>Engineering Flavors and Fragrances Molecules</b>  <i>Gwen Rosenberg</i> , Rosenberg Business Communications <i>Edi Eliezer</i> , Conagen Inc. <i>Toine Janssen</i> , Isobionics <i>Alexander Oelke</i> , Lonza Ltd	<b>Scaling Novel and Innovative Processes for Commercialization</b>  <i>Bryan Yeh</i> , Intrexon <i>Nick Bourdakos</i> , LanzaTech <i>Gary Folkert</i> , Cargill, Inc <i>Cecil Massie</i> , Amec Foster Wheeler <i>Todd Pray</i> , Advanced Biofuels Process Demonstration Unit (ABPDU), US DOE Berkeley National Lab	1:45 pm – 3:15 pm • Session 3

## Workshops Tuesday • July 25

	Room 521 ABC	Room 522 ABC	Room 519 B	Room 518 C
10:30 am – 11:45 am	<p>Presented by</p> 	<p>Presented by</p> 	<p>Presented by</p> 	<p>Presented by</p>  <p>United States Department of Agriculture</p> <p><b>Rural Development</b></p>
	<p><b>below50 – Promoting the World’s Most Sustainable Fuels</b></p> <p><i>Gerard J. Ostheimer</i>, below50  <b>Michael Burns</b>, Novozymes  <b>Angela Foster-Rice</b>, United Airlines  <b>Jennifer Holmgren</b>, LanzaTech  <b>Graham Noyes</b>, CA Low Carbon Fuels Coalition</p>	<p><b>Creating the Value Chain for Biobased Aromatics an Important Class of Renewable Chemicals by the Biorizon Program</b></p> <p><i>Joop Groen</i>, Biorizon-TNO  <b>Natalie Bittner</b>, Covestro  <b>Ed de Jong</b>, Avantium  <b>Gihan Hewage</b>, Lux Research  <b>Jan Harm Urbanus</b>, TNO</p>	<p><b>Insurance and Other Funding Mechanisms as Risk Mitigation Tools for Bioeconomy Equity and Debt Financing</b></p> <p><i>Co-Moderators: Jon Cozens</i>, New Energy Risks; <i>John Kirkwood</i>, Faegre Baker Daniels LLP; <i>Mark Riedy</i>, Kilpatrick Townsend &amp; Stockton LLP  <b>Brian Baynes</b>, Flagship Ventures LLC  <b>Emily Bockian Landsburg</b>, Ultra Capital LLC  <b>Kevin Moore</b>, ADM  <b>Jordan Solomon</b>, Ecostrat Inc.</p>	<p><b>A Thriving Bioeconomy: USDA’s Role in Policy, Research, Development and Commercialization</b></p> <p><i>Harry Baumes</i>, USDA  <b>Mark Brodziski</b>, USDA  <b>Gene Lester</b>, USDA  <b>World Nieh</b>, USDA  <b>Marie Wheat</b>, USDA</p>

## Breakout Sessions Tuesday • July 25

	Growing Global Biobased Markets Room 521 ABC	Research and Technical Presentations Room 522 ABC	Advanced Biofuels and Biorefinery Platforms Room 519 B	Feedstocks, Agricultural Crop Technologies, and Biomass Supply Room 518 C
2:30 pm – 4:00 pm • Session 4	<p>Sponsored by</p> 		<p>Sponsored by</p> 	
	<p><b>Piloting a Course for Europe: The Support and Development Mechanisms Allowing the Bioeconomy to Take Off</b></p> <p><i>Roger Kilburn</i>, Industrial Biotechnology Innovation Centre  <b>Dirk Carrez</b>, Biobased Industries Consortium (BIC)  <b>Arno van de Kant</b>, Bioprocess Pilot Facility  <b>Brecht Vanlerberghe</b>, BioBase Europe Pilot Plant  <b>Kris Wadrop</b>, The Centre for Process Innovation (CPI) &amp; BioPilots UK</p>	<p><b>On Track to Bio-Based Aromatics from Lignin?</b></p> <p><i>Manfred Kircher</i>, CLIB2021  <b>Ludo Diels</b>, VITO  <b>Gerard Mignani</b>, Solvay  <b>Eddie Peace</b>, West Fraser  <b>Willem Sederel</b>, Biobased Delta</p>	<p><b>Scaling Up Renewable Natural Gas: How to Move Forward?</b></p> <p><i>Bruce Dale</i>, Michigan State University  <b>Rebecca Boudreaux</b>, Oberon Fuels  <b>Harrison Clay</b>, BP  <b>Johannes Escudero</b>, Coalition for Renewable Natural Gas  <b>Brian Foody</b>, Iogen Corporation  <b>Joachim Pheiffer</b>, Biopract  <b>Fabrizio Sibilla</b>, Italian Biogas Consortium</p>	<p><b>The Unified Field Studies of the Algae Testbed Public Private Partnership: What Did We Learn and Where are We Going?</b></p> <p><i>John McGowen</i>, Arizona State University  <b>Valerie Harmon</b>, Harmon Consulting Incorporated  <b>Lieve Laurens</b>, National Renewable Energy Laboratory  <b>Edward Wolfrom</b>, National Renewable Energy Laboratory</p>

Italics indicates session moderator.



I BELIEVE IN

# FANTASY

For years, we've been told that cellulosic ethanol is a "fantasy fuel." And it is.

So we've spent a decade planning, researching, and working hard to make that fantasy a reality.

And now it's going to change the world.  
For real.



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<b>Synthetic Biology and Genomics Research</b> Room 519 A	<b>Flavors, Fragrances, and Food Ingredients Track</b> Room 520 B	<b>Renewable Chemicals and Biobased Materials</b> Room 520 C
<p><i>Sponsored by</i></p>  <p>Energy Efficiency &amp; Renewable Energy BIOENERGY TECHNOLOGIES OFFICE</p>	<p><i>Sponsored by</i></p>  <p>exceeding enzyme expectations</p>	<p><i>Sponsored by</i></p>  <p>evolve</p>
<p><b>An Ecosystem to Rapidly Deliver Commercial Bioprocesses</b></p> <p><i>Christophe Schilling</i>, Genomatica  <i>Claes Gustafsson</i>, ATUM  <i>Christopher Ryan</i>, Gevo  <i>Colin South</i>, Enevolv</p>	<p><b>Opportunities to Produce Nutritional Value Products</b></p> <p><i>Scott Chaplin</i>, SCMC Consulting  <i>David Anton</i>, Cellana  <i>Jacques Beaudry-Losique</i>, Algenol Biotech LLC  <i>Steve Hartig</i>, ICM, Inc.  <i>Sean O'Connor</i>, Nuclelis</p>	<p><b>Advancements in PLA and PHA: Synthesis and Improved Performance</b></p> <p><i>Marc Lankveld</i>, Corbion  <i>Derek Atkinson</i>, Total Corbion PLA by  <i>Philip Goodier</i>, Plaxica  <i>Mark Herrema</i>, Newlight Technologies, Inc.  <i>Puneet Trehan</i>, IKEA  <i>Marc Verbruggen</i>, NatureWorks, LLC</p>

2:30 pm - 4:00 pm • Session 4

## Breakout Sessions Wednesday • July 26

	<b>Growing Global Biobased Markets</b> Room 521 ABC	<b>Research and Technical Presentations</b> Room 522 ABC	<b>Advanced Biofuels and Biorefinery Platforms</b> Room 519 B	<b>Feedstocks, Agricultural Crop Technologies, and Biomass Supply</b> Room 518 C
8:30 am – 10:00 am • Session 5	<p><i>Sponsored by</i></p> 		<p><i>Sponsored by</i></p> 	
	<p><b>Bioproducts Demands and Feedstock Security: Experiences for Inclusive Biorefinery Models</b></p> <p><i>Patricia Osseweijer, TU Delft</i> <i>Hayo de Feijter, Sunchem</i> <i>Sjors Geraedts, GoodFuels</i> <i>Oskar Meijerink, SkyNRG</i> <i>Hans van der Sluijs, DSM-Poet</i></p>	<p><b>Waste Nutrients and Energy for Production of Microalgae and Other Industrial Microorganisms</b></p> <p><i>Simon Barnabé, University of Quebec in Trois-Rivieres</i> <b>Roberto Armenta</b>, Mara Renewables Corporation <b>Julien Bley</b>, Innofibre-Cegep de Trois-Rivieres <b>John McGowen</b>, Arizona State University <b>Stephen O'Leary</b>, National Research Council Canada</p>	<p><b>Achieving Radical GHG Emissions Reductions from Novel Biorefinery Value Chains</b></p> <p><i>Frederic Clerc, EnVertis Consulting</i> <b>Virginie Chambost</b>, EnVertis Consulting <b>Robert Larocque</b>, FPAC <b>Pierluigi Picciotti</b>, Beta Renewables <b>Ziyad Rahme</b>, Sustainable Development Technology Canada</p>	<p><b>Building the Value Chain for Biomass: From the Farm to the Consumer and the Need for Partners</b></p> <p><i>Sandy Marshall, Bioindustrial Innovation Canada</i> <b>Ken Beach</b>, Mitsui (Canada) Ltd. <b>Mike Hartmann</b>, BioAmber <b>David Park</b>, Cellulosic Sugar Producers Cooperative <b>Andrew Richard</b>, Comet Biorefining</p>
10:30 am – 11:45 am • Session 6	<p><b>Replicating Commercial Success in the Canadian Forest Industry</b></p> <p><i>Matthew Schacker, Natural Resources Canada</i> <b>Richard Berry</b>, CelluForce <b>Bruno Marcoccia</b>, Domtar <b>Eddie Peace</b>, West Fraser <b>Balázs Tolnai</b>, Kruger Inc.</p>	<p><b>Industrial Synergies and the Circular Economy</b></p> <p><i>Marie-Helene Labrie, Enerkem</i> <b>Timothy Cesarek</b>, Enerkem <b>Peter Nieuwenhuizen</b>, AkzoNobel <b>Daniel Normandin</b>, Institute for the Environment, Sustainable Development and Circular Economy <b>Ryan O'Gara</b>, SKB Environmental</p>	<p><b>Advanced Bioethanol Technologies</b></p> <p><i>Ian O'Hara, Queensland Government</i> <b>Alex Baker</b>, Leaf Resources Ltd. <b>Shizhong Li</b>, Tsinghua University <b>Mikio Matsumoto</b>, EV System Laboratory, Nissan Research Center <b>Martin Mitchell</b>, Clariant</p>	<p><b>Biomass Quality Network Canada: Agricultural Biomass Quality Standards for the Biochemicals, Bioenergy, Biofuels and Biomaterials Sectors</b></p> <p><i>Lin-P'ing Choo-Smith, Composites Innovation Centre</i> <b>Ray Bergstra</b>, MTN Consulting Associates <b>Babak Owlam</b>, CSA Group <b>Stu Porter</b>, Biofuels Consulting Canada Inc. <b>Alvin Ulrich</b>, Biolin Research Inc.</p>

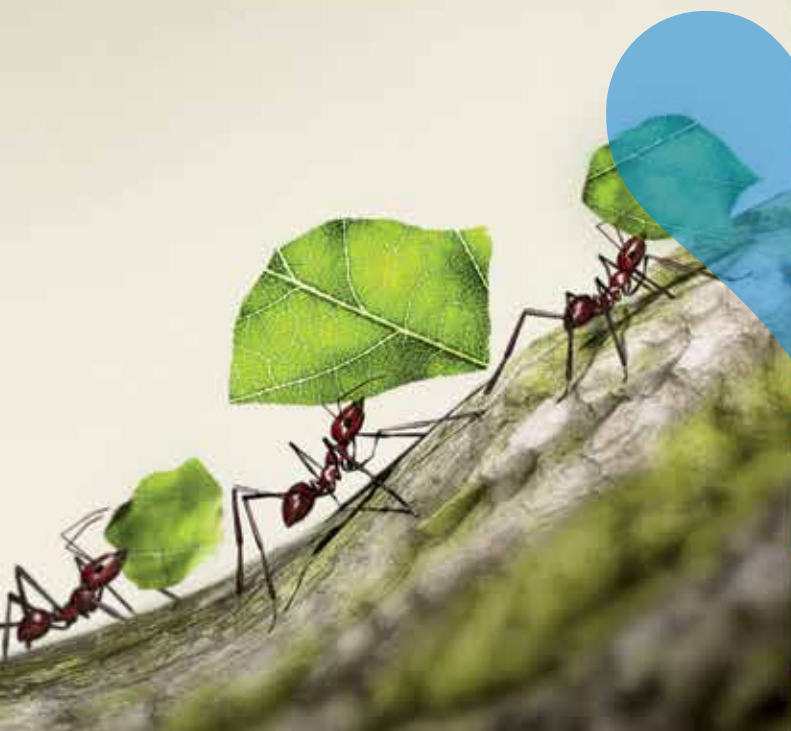
Italics indicates session moderator.

<b>Synthetic Biology and Genomics Research</b> Room 519 A	<b>Flavors, Fragrances, and Food Ingredients Track</b> Room 520 B	<b>Renewable Chemicals and Biobased Materials</b> Room 520 C
Sponsored by  Energy Efficiency & Renewable Energy BIOENERGY TECHNOLOGIES OFFICE	Sponsored by  exceeding enzyme expectations	Sponsored by  evolve
<b>Expanding Synbio Platforms for High Value Products</b>  <i>Daniela Quaglia</i> , PLOS Synbio <b>William Bardosh</b> , TerraVerdae Bioworks <b>Lori Giver</b> , Calysta <b>Derek Greenfield</b> , Industrial Microbes <b>Guy Helin</b> , Syngulon	<b>Harnessing Industrial Biotechnology to Meet Aquaculture Feed Needs</b>  <i>Joel Stone</i> , ConVergInce Advisers, LLC <b>Andre Dumas</b> , The Center for Aquaculture Technologies Canada <b>Larry Feinberg</b> , KnipBio <b>Josh Silverman</b> , Calysta <b>Bryan Tracy</b> , White Dog Labs	<b>Generating Customer Value with Renewable Chemicals</b>  <i>John Shaw</i> , Itaconix <b>Chris Guske</b> , D-Squared Biotech Consulting <b>Peter Nieuwenhuizen</b> , AkzoNobel <b>Robert Nolles</b> , Cosun Biobased Products <b>Greg Smith</b> , Croda
<b>Synthetic Biology Used to Design and Manufacture Renewable Chemicals</b>  <i>Ian Fotheringham</i> , Ingenza Ltd. <b>Kari Koivuranta</b> , VTT Technical Research Centre of Finland Ltd. <b>Andrey Zarur</b> , Greenlight Biosciences	<b>Microalgae Ingredients for Foods: A Biomass Source to Enrich the Biobased Foods Industry</b>  <i>Matt Carr</i> , Algae Biomass Organization <b>James Irwin</b> , Algaecan Biotech <b>Xun Wang</b> , Triton Algae Innovations <b>Rebecca White</b> , Qualitas Health <b>Ross Zirkle</b> , DSM Nutritional Products	<b>Meeting Brand Owner and Retailer Demand for Green Chemicals, Materials and Products Through Renewable Chemicals and Biobased Materials</b>  <i>Joel Stone</i> , ConVergInce Advisers LLC <b>Karen Graziano</b> , Acme Hardesty <b>Kaj Johnson</b> , Method <b>Derek McPhee</b> , Amyris <b>Martin Wolf</b> , Seventh Generation

8:30 am – 10:00 am • Session 5

10:30 am – 11:45 am • Session 6

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## GreenTech Investor Sessions (Monday only)

### Monday • July 24

**8:30 am – 3:20 pm**

**LOCATION: Room 518a**

During the BIO GreenTech Investor Sessions, emerging companies covering advanced biofuels and renewable chemical platforms will share their new technologies and value proposition through formal 15-minute presentations to an elite audience of investors and analysts.

Innovative companies were selected to participate in this program based on the following criteria:

- breakthrough clean technologies
- bio-based consumer product strategies
- proof of concept
- extensive intellectual property coverage

### Investor Perspectives

The investor panel is comprised of an international group of leading investors who will open the investor session with discussions focused on investment opportunities and trends in GreenTech.

### BIO GreenTech Investor Sessions Schedule

All presentations will take place on the fifth level.

MONDAY • JULY 24	
Time	Presenting Company
8:30 am - 8:45 am	<b>BOSK Bioproducts</b>
8:50 am - 9:05 am	<b>DMC Biotechnologies, Inc.</b>
9:10 am - 9:25 am	<b>DEINOVE</b>
9:30 am - 10:10 am	<b>Investor Panel</b>
10:00 am - 10:30 am	<b>Refreshment Break</b>
10:35 am - 10:50 am	<b>S2G BioChemicals Inc.</b>
10:55 am - 11:10 am	<b>enEvolv</b>
11:15 am - 11:30 am	<b>Lygos, Inc.</b>
1:45 pm - 2:00 pm	<b>Mercurius Biorefining, Inc.</b>
2:05 pm - 2:20 pm	<b>Kalion, Inc.</b>
2:25 pm - 2:40 pm	<b>Leaf Resources Ltd</b>
2:45 pm - 3:00 pm	<b>Industrial Microbes</b>
3:05 pm - 3:20 pm	<b>Prospect Bio</b>

#### MODERATOR:



**Roger Wyse**  
Managing Partner  
Spruce Capital Partners

#### PANELISTS:



**Brian Baynes**  
Partner  
Flagship  
Pioneering



**Shaun Healey**  
Senior Ventures  
Associate  
BP Ventures



**Ganesh Kishore**  
Managing  
Partner  
Spruce Capital  
Partners



**Emily Landsburg**  
Director  
Ultra Capital



**Felipe Pereira**  
Chemical Sector  
Manager  
Brazilian National  
Development  
Bank (BNDES)



**Jason Webber**  
Principal  
Sustainable  
Conversion  
Ventures

## GreenTech Investor Sessions Presenting Companies

### Monday • July 24

8:30 am – 8:45 am

#### BOSK Bioproducts

BOSK Bioproducts was created in 2016 to commercialize its new technology (patent pending) and the biopolymer (PHA) that it produces. This PHA is produced by fermentation of Pulp and Paper mills waste. It is 100% biodegradable, compostable and non-toxic. BOSK uses natural strains (no GMO) and no solvents for extraction/purification. Their main advantage as compared to competition is lower production cost (low cost of carbon source and energy). BOSK's Bioproducts mission is to commercialize biosourced and compostable finished products based on our proprietary PHA, through industrial partners reproducing Value Chain in plastic industry.

8:50 am – 9:05 am

#### DMC Biotechnologies, Inc.

DMC is leading the low cost sustainable transformation of multiple product markets. Their novel, patent-pending technology for rapid engineering of robust microbial hosts enables the production of a broad diversity of specialty chemicals, flavors, fragrances, nutraceuticals, natural products, pharmaceuticals, and APIs. Deployment of their Synthetic Metabolic Valve (SMV) technology dramatically reduces the cost and development timeline from discovery to commercial performance. Their ultra low cost development will democratize metabolic engineering efforts, creating a multitude of commercially viable bioprocesses and delivering sustainable routes to both new and existing products.

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Contact: Stephan Herrera  
VP, Strategy & Public Affairs  
+1 415 794 4005 stephanh@evolve.com

**9:10 am – 9:25 am****DEINOVE**

DEINOVE is a biotech company that discovers, develops and produces compounds with industrial value from rare microorganisms, for the healthcare, nutrition and cosmetics markets. These innovative production methods represent a sustainable and competitive alternative. For this, DEINOVE relies on two key assets: a unique strain bank with 6,000 rare bacteria that have not yet been exploited, mainly of the *Deinococcus* genus; and a genetic, metabolic and fermentation engineering platform that enables them to customize these natural micro-factories, transforming them into new industry standards. Its main compounds in development are carotenoids (antioxidants/coloring agents - the company aims to be able to sell the first batches of target compounds by 2018) and novel antibiotics (a first lead is currently undergoing optimization and preclinical studies).

**10:35 am – 10:50 am****S2G BioChemicals Inc.**

S2G Biochem is a global-leading chemical conversion company that is galvanizing a new era of refining for a wide variety products we use everyday. They build, unlocking the simple sugars from the natural environment to help create sustainable consumer and industrial products. They produce high-value chemicals from low-cost renewable byproducts of the forest products, agricultural and biofuel industries. S2G Biochem will help shift the industrial chemical industry from its traditional dependence on fossil fuels to a sustainable future based on renewable organic feedstocks.

**10:55 am – 11:10 am****enEvolv**

enEvolv is a synthetic biology company that engineers microbes to produce bio-based products. enEvolv collaborates with pharmaceutical, nutrition, energy and specialty chemical companies to develop novel strains and improve their existing strains. Their proprietary platform enables them to build and screen strain designs in massive parallel at approx.100,000x higher throughput than the current best practices. This approach results in unprecedented efficiency and effectiveness in strain engineering.

**11:15am – 11:30 am****Lygos, Inc.**

Lygos employs cutting edge synthetic biology techniques to generate microbial catalysts to convert agricultural feedstocks into fine and commodity chemicals. Their robust high throughput screening and strain construction facilitates the rapid optimization of pathways to convert cheap and renewable feedstock to high value chemicals.

**1:45 pm – 2:00 pm****Mercurius Biorefining, Inc.**

Mercurius Biofuels was founded in 2009 and later incorporated into Mercurius Biorefining. Their mission is to produce a wide range of biomaterials, with a focus on drop-in biofuels for aviation and diesel engines. In addition, the process generates valuable by-products such as FDCA, a monomer which can be further used in bioplastics. The patented REACH process (Renewable Acid-hydrolysis Condensation Hydrotreating) is a novel application of proven technologies, and allows for divergent product streams using raw, cellulosic (and hemicellulosic) non-food waste & residues. Feedstock sources include municipalities (MSW), forestry and agriculture.

**2:05 pm – 2:20 pm****Kalion, Inc.**

Kalion is an early stage industrial biotech company focused on providing low-cost access to glucaric acid and 5-3-hydroxybutyrolactone (3-HBL) using traditional and green fermentation technology. Glucaric acid and 3-HBL were identified as “Top Value Added Chemicals from Biomass,” and multi-billion dollar markets for use of the two chemicals are limited by cost and availability. Kalion is engaged with academic and industrial partners to develop a wide range of applications to exploit the economic benefits of access to low cost glucaric acid.

**2:25 pm – 2:40pm****Leaf Resources Ltd**

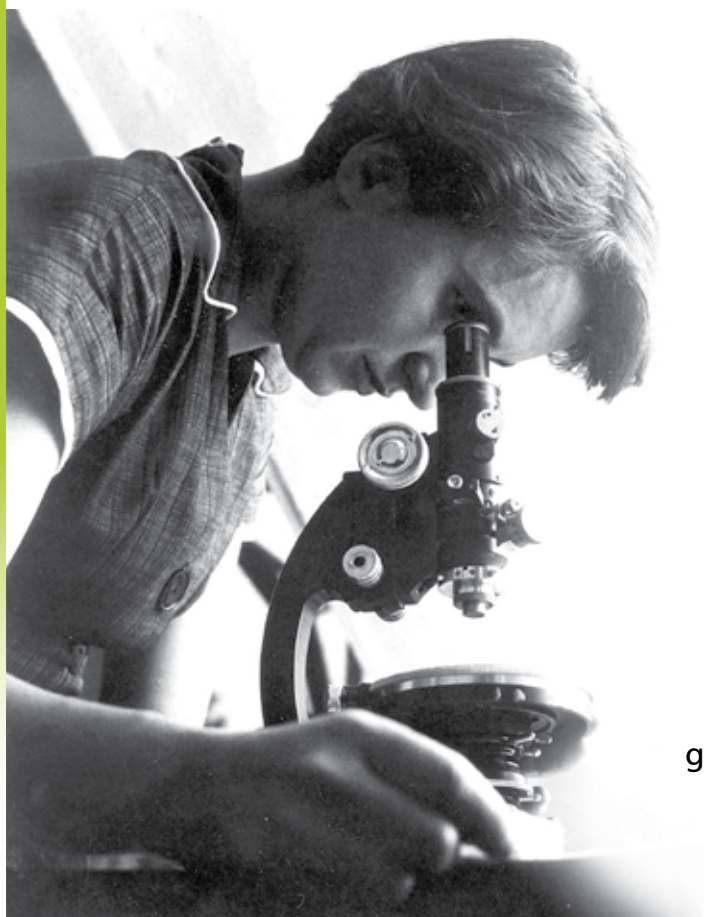
Leaf Resources is one of the world's leading companies in converting plant biomass into fermentable sugars. Their proprietary process for converting biomass-to-functional industrial sugars enable a myriad of downstream technologies for the production of renewable chemicals that will substitute petrochemicals used in manufacturing today. With their project development and continued technical innovation they are building a robust global business centered on renewable carbon containing products to deliver environmental and economic benefits to our shareholders and our planet.

**2:45 pm – 3:00 pm****Industrial Microbes**

Industrial Microbes is a synthetic biology startup commercializing new processes for methane-based fermentation. Methane is a new feedstock that has the potential to transform the bioeconomy by lowering costs, unlocking new chemical markets, and reducing carbon emissions. Industrial Microbes was launched in 2014 by three founders with experience engineering microbes for commercial-scale chemical production at LS9, an industry leader in the bio-based synthesis of fuels and chemicals. The founders were starting members of the group that developed a commercial strain and process to produce detergent fatty alcohols, a \$3 billion global market. The company mission is to expand the palate of feedstocks available for fermentation production, in order to help partners increase margins and expand product lines.

**3:05 pm – 3:20 pm****Prospect Bio**

Based in Palo Alto, CA, Prospect Bio's unique metagenomic approach to sourcing naturally found biosensors delivers custom biosensors quickly and cost effectively. Prospect biosensors greatly accelerate customer R&D timelines and expand screening capabilities. In this way, Prospect Bio enables the use of synthetic biology in diverse industries from flavor and fragrances to agriculture to nutrition.



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and to motivate and educate young  
generations of women who have this calling.

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## Poster Presentations (during Tuesday Reception)

PRESENTER NAME	PRESENTER AFFILIATION	POSTER TITLE
<b>ADVANCED BIOFUELS AND BIOREFINERY PLATFORMS</b>		
Nathalie Bourdeau	Innofibre-Cégep de Trois-Rivières	Decreasing Production Cost Through Colocation
Kenji Kawamura	Toray Industries, Inc.	Membrane-integrated Bioprocess for Industrial Production of Bio-based Chemicals: Application to Membrane Purification Process
Kyeong Keun Oh	Dankook University	Evaluation of the Process Parameters to Scale-up of Continuous Twin Screw-Driven Reactor (CTSR) for High Throughput of Biomass Pretreatment
Daniel Liao	Sheridan College	Reducing the Cost & Energy Requirement of Ethanol Recovery Using Pass-Through Distillation Technology
Adriane Milagres	University of São Paulo	Recombinant Expression of an Xylanase VI (GH30) from <i>Trichoderma Reesei</i> with Potential Application in the Xylan Isolation from Sugarcane Base
<b>FEEDSTOCKS, AGRICULTURAL CROP TECHNOLOGIES, AND BIOMASS SUPPLY</b>		
Abdelhamid Addala	ALGERIE	<i>Nigella Sativa</i> L. Seeds Biomass as a Potential Sorbent in Sorption of Lead from Aqueous Solutions and Wastewaters
James Hettenhaus	Biomass Supply Systems	Why Dry Corn Stover Feedstock Contributes to Cellulosic Biofuel Shortfall & How it Can Be Corrected
Pierre-Olivier Lemire	UQTR	Techno-Economic Assessment of an Advanced Regional Biomass Processing Depot (RBPD): Case Study of the Bécancour Waterfront Industrial Park (Quebec)
Anick Poirier	MAPAQ	Value Chain Based on Dual Approach: A Sustainable Way to Promote Bioproduct in Quebec
<b>FLAVORS, FRAGRANCES, AND FOOD INGREDIENTS TRACK</b>		
Alexey Dudnik	The Novo Nordisk Foundation Center for Biosustainability	BachBerry: Bacterial Hosts for Production of Bioactive Phenolics from Berry Fruits
<b>GROWING GLOBAL BIOBASED MARKETS</b>		
Nilofar Abdehagh	CHFour Biogas Inc.	Biologically Activated Generation (BAG) System: Development of Geotube Applications in Biogas Production Processes
<b>RENEWABLE CHEMICAL AND BIOBASED MATERIALS</b>		
Mostafa Aghaei	Biopolynet Inc	The Power of Patented BioNanoCoil on the Recovery of Industrial Wastewater
Laura Baers	IDTechEx	The Role of Bio-based Materials in 3D Printing
Maria Felipe	University of São Paulo	Bioprospecting of Antarctic Yeasts Using Hemicellulosic Hydrolysate of Sugarcane Straw for Biosurfactants Production
Cesar Granda	Earth Energy Renewables	Improving the Value Proposition of Industries that Generate Organic Effluents and By-products with a Bolt-on Technology for Producing Fatty Acids
Asuka Hannya	Osaka Gas Co., Ltd.	Fermentative Production of Ketone Body, (D)- $\beta$ -hydroxybutyrate (D-BHB) with 99% Enantiomer Excess

PRESENTER NAME	PRESENTER AFFILIATION	POSTER TITLE
<b>RENEWABLE CHEMICAL AND BIOBASED MATERIALS</b> continued		
<b>Spencer Imbrogno</b>	University of Toronto	Activation of Neutral Oligosaccharide Feedstocks by Dual-Enzymatic Oxidation
<b>Jimin Park</b>	Korea Institute of Science and Technology (KIST)	Enzyme-Inspired Renewable Nanomaterials Release Biochemical Molecules for Tissue Engineering
<b>Kyung Moon Park</b>	Hongik University Sejong Campus	Continuous Lysine Conversion into Cadaverine Using Immobilized Whole Cell E. coli with Lysine Decarboxylase
<b>Jeff Robert</b>	Fluid Quip Process Technologies	Industrial Sugars for the Biochemical Industry
<b>Simão Soares</b>	SilicoLife	SISBI: Software to Aid the Industrial Biotechnology Decision Process
<b>Daijiro Tsukamoto</b>	Toray Industries, Inc.	Production of Bio-based 1,3-Butadiene: Fermentation and Membrane Integrated Purification of 2,3-Butanediol followed by its Catalytic Dehydration
<b>Derek Vardon</b>	National Renewable Energy Laboratory	Hybrid Technology for Biomass Conversion to Polymer Precursors
<b>RESEARCH AND TECHNICAL PRESENTATIONS</b>		
<b>Azin Amiri</b>	UBC, UPM	Maximizing Lactococcus lactis NZ9000 Biomass under Respiration-Permissive Conditions in Batch Cultivation
<b>Mohan Babu</b>	Praj Matrix	Use of Yeast for the Production of Biobased Molecules
<b>Lorena Cintra</b>	Federal University of Goiás	Hemicellulases Supplementation Enhanced Glucose Released Yield During Sugarcane Bagasse Hydrolysis
<b>Carol Nathali Flores Fernandez</b>	Universidad Nacional Mayor De San Marcos	Wheat-based Dried Distiller's Grain with Solubles as a Source for Isolating Protease-producing Bacteria
<b>Reyna Gomez-Flores</b>	The University of Western Ontario	Production of Bioethanol and Biobutanol from Sugarcorn: A Canadian Alternative to Renewable Fuels
<b>Claudio Fuentes Grunewald</b>	Swansea University	New Down Stream Membrane Process Approach for Microalgae Pigment Production
<b>Simon Heinze</b>	Technical University of Munich	XynE from Clostridium thermocellum defines a new GH family
<b>Jonathan Herlet</b>	Technical University of Munich	A New Approach to Evaluate Enzymes for Biotechnology in Regard to pH and Temperature
<b>Mandeep Kaur Marway</b>	McMaster University	New Generation of Antibiotics from Streptomyces
<b>Alexander Oelke</b>	Lonza Ltd	From Strain Development to Process Excellence: Recent Examples from Optimization and Debottlenecking of Complex Bio-manufacturing Processes
<b>Sasisanker Padmanabhan</b>	Praj Industries Limited, India	Large Scale Post-Pretreatment of Biomass to Improve Saccharification Efficiency: Use of Simple and Inexpensive Chemical Additives

PRESENTER NAME	PRESENTER AFFILIATION	POSTER TITLE
<b>RESEARCH AND TECHNICAL PRESENTATIONS</b> continued		
<b>Ajay Babu Pazhayattil</b>	Apotex Inc.	Assessment Methods for Newly Launched Bio-Pharma Products (Stage 3A)
<b>Maryam Rezadehbashi</b>	Center for Oil & Gas Research and Development	Using Metabolic Potential of Microorganisms to Develop Sustainable Technology for Treatment of Industrial Wastewater
<b>Kirsten Steinbusch</b>	Delft Advanced Biorenewables	Piloting In-situ Oil Recovery Method for Emulsified Fermentation Broth
<b>Mervi Toivari</b>	VTT Technical Research Centre of Finland Ltd	Superior Yeasts for Biotechnical Production
<b>SYNTHETIC BIOLOGY AND GENOMICS RESEARCH</b>		
<b>Qinhong Wang</b>	Tianjin Institute of Industrial Biotechnology, Chinese Academy of Sciences	Green and Aromatic Future: Expanding the Repertoire of Aromatic Chemicals via Synthetic Shikimate Pathway



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## Award Presentations

### The George Washington Carver Award for Innovation in Industrial Biotechnology



**Monday • July 24**

**11:45 am-1:30 pm**

**LUNCH PLENARY SESSION  
TO FOLLOW**

The George Washington Carver Award for Innovation in Industrial Biotechnology was created to recognize significant contributions

by individuals in the field of industrial biotechnology and its application in biological engineering, environmental science, biorefining and biobased products. The award emphasizes the important goal of using biotech innovation to develop sustainable bio-based value-chains. By honoring those who have worked successfully toward this goal in the private sector, government or academia, this award will serve as a lasting memorial to the original vision of George Washington Carver who, over a century ago, pioneered the creation and commercialization of sustainable biobased products and materials and energy derived from renewable agricultural feedstocks.

#### ABOUT GEORGE WASHINGTON CARVER

George Washington Carver achieved world renown by using agriculture and science to produce everyday products,

changing the nature of farm economics and sustainability. From an early age, Carver pursued an interest in plants, eventually earning a graduate degree in botany from Iowa State University. Dr. Louis H. Pammel, the distinguished scientist with whom Carver worked at Iowa State, called him “a brilliant student, the best collector and the best scientific observer I have ever known.” Carver devoted his career to teaching sustainable farming, which for him included developing new uses of agricultural products that could boost farm profits. To help farmers adopt sustainable practices, Carver and his students developed more than 300 industrial uses for peanuts, sweet potatoes, and other crops that could be grown in rotation with cotton and corn. Carver’s inventions included plastics, glue, soaps, paints, dyes for cloth and leather, medicines and cosmetic ingredients. His work inspired leaders of the chemurgy movement, whose proponents looked for ways to replace petrochemicals with farm-derived products. Leaders of the chemurgy movement such as Charles Kettering and William Jay Hale proposed that anything made from a hydrocarbon could be made from a carbohydrate. Today, industrial biotechnology companies are following the path laid out by George Washington Carver and the founders of the chemurgy movement, using renewable agricultural resources to manufacture plastics, chemicals, pharmaceuticals, and even food ingredients. The science has developed in ways that Carver may never have imagined,



#### 2017 GEORGE WASHINGTON CARVER AWARD RECIPIENT

**Jeff Broin**

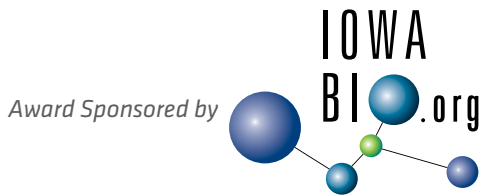
Chairman & CEO of POET

Jeff is a distinguished innovator, entrepreneur and leader in the industrial biotechnology industry, and ranks among the most influential people in agriculture as well. His privately held, integrated business model handles the design and construction, management, marketing, commodity trading and research and development for all 28 biorefineries. He has used industrial biotechnology to create robust value chains and is most proud of his contribution to the agriculture segment in the United States and abroad. Biofuels have created a market for

agricultural products, which have rejuvenated rural America. Each biorefinery contributes an average of \$200 million annually to its local community, and POET purchases over 550 million bushels of grain annually from over 20,000 farmers.



but the work remains true to his goal – a sustainable agricultural economy that includes production of useful everyday products.



#### Past recipients include:

- 2016: J Craig Venter, PhD**, Co-Founder, Human Longevity, Inc.
- 2015: Jonathan S. Wolfson**, CEO, Solazyme
- 2014: Ellen Kullman**, Chair of the Board and CEO, Dupont
- 2013: Dr. Jay D. Keasling**, University of California, Berkeley
- 2012: Steen Riisgaard**, President & CEO, Novozymes
- 2011: Feike Sijbesma**, CEO, DSM
- 2010: Greg Stephanopoulos**, MIT
- 2009: Charles Holliday, Jr.**, Former CEO, DuPont
- 2008: Patrick Gruber**, CEO, Gevo Inc.

## The Rosalind Franklin Award for Leadership in Industrial Biotechnology



**Tuesday • July 25**

**11:45 am-1:30 pm**

**LUNCH PLENARY SESSION  
TO FOLLOW**

Just as Rosalind Franklin paved the way for women in the biotechnology field, the BIO Rosalind Franklin Award is awarded to a pioneering woman in the industrial biotechnology sector who has made significant contributions to the advancement of the biobased economy and biotech innovation. The Rosalind Franklin Award stands as a lasting memory to the legacy left by Rosalind Franklin, who was instrumental in the discovery and our greater understanding of the molecular structure of DNA, by honoring those women who too have made significant contributions

in industrial biotechnology. Through Rosalind Franklin's use of X-ray diffraction images, the true double helix structure of DNA was discovered. Indeed, it was with the help of Franklin's images and writings that eventually led Francis Crick and James Watson to release their 1953 model of the structure of DNA. Though often overlooked, Rosalind Franklin's critical work and discovery in the field has allowed the expansive growth of the biotechnology industry to become what it is today. As said by John Desmond Bernal, a fellow X-ray crystallographer, of Franklin's crystallographic portraits of DNA, "Her photographs were among the most beautiful X-ray photographs of any substance ever taken." With this award BIO hopes to not only honor Rosalind Franklin's legacy, but honor those women who have also shown exemplary leadership and led the way through previously uncharted territory.



### 2017 ROSALIND FRANKLIN AWARD RECIPIENT

**Vonnie Estes**

Vonnie Estes' career has been driven by a passion for technology and sustainability. Estes has held leadership roles at prominent companies including DuPont, Monsanto, and Syngenta along with small start-ups and venture funds to identify revolutionary science and bring products to market. She has built a number of agricultural and bio-industrial start-ups with successful exits. Serving on company, advisory, industry, and government boards, Estes is a known voice in the industry with frequent publications and speaking engagements. Estes is an executive who gets things done, with a vision to commercialize new technologies, creating revolutionary products that are good for people and the planet.



#### Past recipients include:

- 2016: Anna Rath**, President & CEO, NexSteppe
- 2015: Jennifer Holmgren, PhD**, Chief Executive Officer, LanzaTech
- 2014: Debbie S. Yaver, PhD**, Director, Expression Technology, Genomics and Bioinformatics, Novozymes

## The BIO Leadership and Legacy Award in Industrial Biotechnology

Award Sponsored by



**Wednesday • July 26**

### LUNCH PLENARY SESSION TO FOLLOW

BIO is proud to present the second annual BIO Leadership and Legacy Award in Industrial Biotechnology at this year's BIO World Congress. This award is presented to an individual who has shown exemplary leadership and who has dedicated a significant portion of their career to advancing industrial biotechnology and growing the biobased economy. The recipient has helped lay the ground work for the continued growth and success of industrial biotechnology.

The BIO Leadership and Legacy Award honors those who have left a lasting impression on the industry and whose legacy will endure the test of time. This award is dedicated to all who have and continue to leave their mark on the field of industrial biotechnology.

#### Past recipients include:

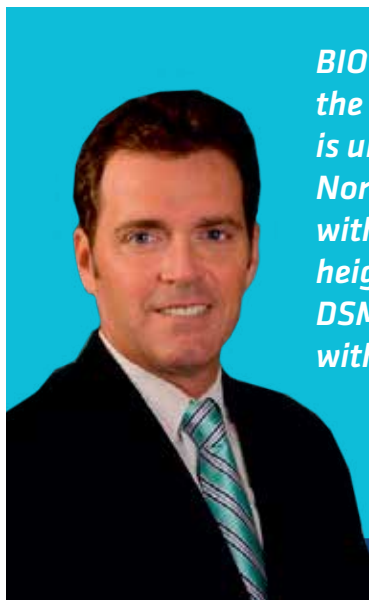
**2016: Dr. Ganesh Kishore**, Managing Partner, Spruce Capital Partners



### 2017 BIO LEADERSHIP AND LEGACY AWARD IN INDUSTRIAL BIOTECHNOLOGY RECIPIENT

**Dr. Gord Surgeoner**

During his 30-year career, Dr. Surgeoner has been a dedicated leader who works tirelessly to promote initiatives and champion causes that are important to the well-being of the province of Ontario and its citizens. Dr. Surgeoner is a strong advocate for the Canadian Biobased Economy, Canadian agriculture, advancing sustainability, and the opportunities Canada has in a global marketplace.



*BIO's policy and advocacy leadership in the industrial and environmental sector is unmatched in Washington, D.C. DSM North America benefits from interacting with BIO's policy experts. With the heightened activity in Washington, DSM's membership with BIO provides us with a voice and a seat at the table.*



**Hugh Welsh**

President and General Counsel,  
DSM North America

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## Plenary Speaker Biographies



### Brian Baynes

Partner  
Flagship Pioneering

Dr. Brian Baynes is an investor, entrepreneur/inventor, and executive in the sustainability and life sciences sectors. He joined Flagship Pioneering as a Partner in 2009. Dr. Baynes founded and was CEO/Chairman of Midori (healthy fibers for food,

feed, and pharmaceutical applications), Celexion (protein and cell engineering), and Codon Devices (synthetic biology platform technology). He also served as a Director of Kaleido Biosciences (shaping the microbiome), Joule Unlimited (solar fuels), Red Rock Biofuels (biomass to liquids), Mascoma (cellulosic ethanol), Cadena Bio (healthy fibers in nutrition), and Be Power Tech (distributed power systems for buildings). Prior to joining Flagship, Dr. Baynes was with an engineer at ExxonMobil, and a Director in the MIT School of Chemical Engineering Practice at Mitsubishi Chemicals and General Mills. He holds a BChE from the University of Delaware and a PhD in chemical engineering from MIT.



### Federico Berruti

Associate Partner, Bio-Materials  
McKinsey & Company

Federico M. Berruti is an Associate Partner based in the Toronto office of McKinsey & Company. Federico joined the firm in the fall of 2013.

Federico is actively involved in knowledge and client support efforts in the biofuel, chemicals, and renewable energy sectors – and subjects such as sustainability, energy policy, and circular economy. He also works extensively with banking, institutional investor/pension fund, private equity, infrastructure, and public sector clients.

Federico also has a passion for entrepreneurship, technology, and startup companies and has been actively involved in shaping this area of the firm (McKinsey New Ventures and McKinsey Solutions) and co-leads McKinsey's global automation service line.

Before joining McKinsey, Federico was a co-founder and Vice-President of Agri-Therm Inc., where he gained experience in the energy and renewables sector (pyrolysis and gasification biofuels), financing, venture capital, strategy, marketing, and sales and operations. Agri-Therm is an engineering design company focused on the design and deployment of mobile pyrolysis and gasification reactors to produce biofuels, chemicals, and biochar.

Federico received his PhD and BESC in chemical and biochemical engineering from Western University, where he was an NSERC Vanier Canada Graduate scholar. He graduated with high distinction and the James M. Hay Gold Medal. He received his HBA from the Ivey Business School, where he graduated with distinction.



### Herman Betten

Global Head of Public Relations  
DSM

Global Director External Affairs for Royal DSM, leading a global team of external communications and public affairs professionals to support the company in realizing its business strategy and objectives and to enhance, support

and protect the company reputation. Responsibilities include external profiling of Executive Committee members, financial communications as well as strategy communications, as well as Royal DSM's engagement with the World Economic Forum as Strategic Partner. Helping the company and its business groups with (global) reputation sensitive subjects and issues as well as crisis/emergency communications and issue management. Responsible for all external channels including digital and social media. With DSM since 2007, before that a 15 year career in (financial) journalism.



### Melody Bomgardner

Senior Business Editor  
Chemical & Engineering News

Melody Bomgardner is a Senior Business Editor at Chemical & Engineering News, the weekly news magazine of the American Chemical Society. Since 2008, Melody has covered topics including

advanced biofuels, biobased chemicals, biobased plastics, alternative energy, and food and agriculture for the magazine. She received her undergraduate degree in environmental sciences from the University of Virginia and holds an M.B.A. from Johns Hopkins University.



### William Byun

Principal  
Conchubar Capital Advisory

William I.Y. Byun is the Managing Director of Asia Renewables Conchubar, a renewable energy development firm, and the Principal managing the Conchubar Group's US\$ 100 million PE fund in Asia, focused on industrial policy related

infrastructure. He has more than 25 years practice in emerging markets energy transactions, include for the past 15 years, with respect to the assessments of new energy sectors including from bio-based sources and technologies. He also advises various governments in Asia on investments, renewables, energy investments and policy. He is also on the adjunct faculty of California State University and a Jurist for the Global Energy Prize for energy science research in Russia.



### Pramod Chaudhari

Executive Chairman  
Praj Industries Ltd.

Pramod Chaudhari, is Executive Chairman of Praj Industries Ltd. Praj Group is global provider of end-to-end Technology and Engineering solutions for Bio-Energy, Bio-Chemical and Bio-Pharma industry.

As a first generation techno-entrepreneur, he founded Praj in 1983.

He dreamt and developed Praj into a world-class engineering company specialized in Agri-processing opportunities.

With strong belief in principle of triple bottom-line, his business model is inherently scalable, replicable and sustainable. Praj fostered the emergence of advanced technologies in certain Bio-Energy and allied space. As India's biggest Biofuel Technology company, Praj has in excess of 750 footprints in over 75 countries, across five continents.

Deeply passionate about environment, Pramod is committed to develop clean and green technologies. As a champion of the powerful premise that 'Innovation and Entrepreneurship can change the world for better', he has been a tireless crusader in propagating spirit of entrepreneurship and intrapreneurship.

Pramod is a 'Distinguished Alumnus of IIT Bombay (1971)' and an alumnus of Harvard Business School (AMP 1995).



### Rebecca Coons

Senior Editor, Chemical Week  
IHS Chemical

Rebecca fell into science reporting after graduating from Providence College with degrees in Chemistry and English and landing her first job as an editor at Genetic Engineering & Biotechnology News.

In 2007 she became a reporter at Chemical Week magazine. Rebecca started out covering commodity chemicals, feedstocks, and pricing, eventually graduated to specialty chemicals and regulations, and for the last five years has covered green chemistry, innovation, and renewable chemicals and fuels. She also side hustles as executive editor of the peer-reviewed journal Industrial Biotechnology. When she's not combing Google Alerts for story ideas, she can probably be found watching The Simpsons, playing on her touch football team, or cheering on the New England Patriots.



### Doris de Guzman

Senior Consultant  
Tecnon OrbiChem USA

Doris joined UK-based Tecnon OrbiChem in March 2013 as a senior consultant covering bio-based chemicals feedstocks for the company's Bio-Materials Chemical Business Focus newsletter published every end of the month. Tecnon OrbiChem

has served the global petrochemical intermediates, chlor-alkali, synthetic fibres and resin industries with independent market consultancy for 40 years.

Doris has been covering the business of green chemistry for more than 16 years and provides expertise on oleochemicals, biofuels, bioplastics, industrial biotechnology and other renewable chemical products as creator and author of the Green Chemicals Blog. The blog has an average 15,000 to 20,000 unique readers per month. Doris also brings experience of covering specialty chemicals markets catering to surfactants, flavors and fragrances, cosmetics and personal care, consumer care products, and other industrial specialties during her 12-year stint as senior editor at ICIS Chemical Business magazine.

Doris holds a B.Sc. in Chemical Engineering from the University of Santo Tomas, Philippines. She also holds a license as a registered nurse in the state of New York.



### Marc Delcourt

Chief Executive Officer  
Global Bioenergies

Marc Delcourt, Global Bioenergies -  
Cofounder and CEO

After his scientific training (Ecole Normale Supérieure, PhD in Molecular Biology), Marc Delcourt turned to business creation in the field of industrial biotechnology. Marc

Delcourt has co-founded the company Global Bioenergies in 2008, and serves as its CEO since then.



### Rick Eno

Senior Partner  
Roland Berger LLC

Rick Eno is a senior partner at Roland Berger where he works with chemical and energy companies on strategic and operational issues. Roland Berger is a global management consultancy, with 2500 employees worldwide and

operations in 38 countries. Prior to joining Roland Berger, Rick was President, CEO and a Board member at Metabolix, an industrial biotechnology company focused on bio-based polymers and chemicals. In that capacity, he also served as a member of the BIO I&E section governing board. Previously, Rick was a Vice President at Arthur D. Little where he led the global chemicals and oil & gas management consulting practice. He began his career at Chevron Corporation where he worked across a range of chemical segments in research and development, plant operations and construction management. Rick currently serves on the President's Council for Ceres, a non-profit promoting a sustainable future through investor and stakeholder engagement; the Advisory Council for Cornell University's School of Chemical and Biomolecular Engineering; and on the Alumni Advisory Board for Cornell's Atkinson Center for a Sustainable Future. Rick has a BS in Chemical Engineering from Cornell University, a MBA from University of Houston and is a Chartered Financial Analyst.



### Stephan Herrera

Vice President, Strategy and  
Public Affairs  
Evolva

Stephan Herrera is VP, Strategy & Public Affairs at Basel, Switzerland-based Evolva, which is brewing up next-gen health, wellness, and nutrition ingredients via yeast fermentation. Herrera is based in Evolva's Bay Area office.

Prior to Evolva, Herrera worked in IR/PR at Nektar Therapeutics and Sirna Therapeutics.

Prior to his operational roles in biotech, Herrera was a reporter and editor who specialized in the global business, science and politics of biotechnology, industrial biotech, and nanotechnology, holding staff reporting & editing gigs at leading magazines such as Forbes, Red Herring, and Nature Biotechnology. He was also a longtime contributor to the Economist and a contributing editor at MIT Technology Review.



### Jim Lane

Editor and Publisher  
The Digest

Jim Lane is the editor and publisher of The Digest, the world's most widely-read bioeconomy daily.



### Sylvie Latieule

Director  
Info Chimie Magazine  
Member of InfoPro Digital Group in Paris (France)

I'm the editor of 8 trade magazines in the chemical, pharmaceutical, oil & gas and environmental sectors

Background : Chemical Engineer degree (Chimie ParisTech) PhD in catalysis applied to the petroleum sciences prepared at the IFPEN (Paris-Lyon). First experience as a researcher teacher at the University of Ottawa (Canada). Started in journalism in 1995 as writer for InfoChimie, then editor in 2002 Creation of the magazine Industrie Pharma in 2003 Creation of Formule Verte magazine in 2010 dedicated to biobased chemistry and bioeconomy. Member of the "Club des Bioeconomistes" (think tank dedicated to Bioeconomy). Member of the « Société d'encouragement pour l'industrie nationale » (National Industry Incentive Corporation). Scientific advisor for the Plant Based Summit co-organized by InfoPro Digital, ACDV and IAR – Le Pôle de la Bioéconomie.



### Jonas Markusson

Innovation & Product  
Development Manager  
SEKAB

Jonas Markusson is managing innovation & product development at SEKAB E-Technology, in Ornskoldsvik, Sweden.

Markusson has held various positions within the chemical industry for the past 10 years, with experience in production, market research, regulatory affairs as well as research & development. In addition, Markusson is an organic chemist by training and has been working with both biofuels and bio-based chemicals as well as participated in development of European standards for bio-based products.

Currently Markusson is participating in and leading various project and initiatives towards different markets and applications utilizing forestry or agricultural biomass as raw material.



### John Melo

President & Chief Executive Officer  
Amyris

John Melo has 30 years of combined experience as an entrepreneur and thought leader in the global fuels industry and technology innovation. Mr. Melo has served as our Chief Executive Officer and a director since January 2007 and as our

President since June 2008. Before joining Amyris, Mr. Melo served in various senior executive positions at BP Plc (formerly British Petroleum), one of the world's largest energy firms, from 1997 to 2006, most recently as President of U.S. Fuels Operations from 2004 until December 2006, and previously as Chief Information Officer of the refining and marketing segment from 2001 to 2003, Senior Advisor for e-business strategy to Lord Browne, BP Chief Executive, from 2000 to 2001, and Director of Global Brand Development from 1999 to 2000. During his time at BP his contributions included the integration of the Castrol, Aral and Arco business into BP, the development of the BP Helios branding, led the development of an innovation culture inside BP through information technology, led the strategy and transformation of the US Fuels marketing business that resulted in an annual improvement of over \$1B in free cash flow to the corporation and had responsibility for over \$34B of annual sales and the largest marketing business unit at BP. Before joining BP, Mr. Melo was with Ernst & Young, an accounting firm, from 1996 to 1997, and a member of the management teams of several startup companies, including Computer Aided Services, a management systems integration company, and Alldata Corporation, a provider of automobile repair software to the automotive service industry. Mr. Melo currently serves on the board of directors of U.S. Venture & U.S. Oi Inc. (\$10B in annual revenue) and Renmatix, Inc., and also serves as Vice Chairman of the board of directors of BayBio. Mr. Melo was formerly an appointed member to the U.S. section of the U.S.-Brazil CEO Forum and was awarded the "Prince Henry" medal by the President of Portugal in 2014 for his contributions in advising the President through the recent economic recovery.



### Pavel Molchanov

Senior Vice President & Equity Analyst  
Raymond James & Associates

Pavel Molchanov joined Raymond James & Associates in 2003 and began work as part of the energy research team, becoming an analyst in 2006. He initiated coverage on the renewable energy / clean technology sector in 2006, followed by the integrated/multinational oil and gas sector in 2009. Mr. Molchanov has been recognized in the StarMine Top Analyst survey, the Forbes Blue Chip Analyst survey, and the Wall Street Journal Best on the Street survey. He graduated cum laude from Duke University in 2003 with a bachelor of science degree in economics, with high distinction, writing his senior honors thesis about OPEC's oil output policies.



### Hermann Pengg

Head of Renewable Fuels & Lifecycle  
Analysis Department  
Audi AG

Hermann Pengg is Head of the Renewable Fuels department at Audi AG and CEO of the newly founded Ltd company to run Audi's e-gas plant. One of his main responsibilities was the ramp-up

of the world's first 6 industrial scale (6 MW) Power-to-gas plant (AUDI e-gas-plant). Formerly, he held a position as CTO at Solarfuel GmbH, Stuttgart, responsible for patents and R&D. Before that, he co-founded a company operating in the biomass field and ramped up a solar technology department for a roof building company. For more than 10 years, he worked in senior management positions in multinational industrial and Management Consulting companies. He holds a Ph.D. in Economics and Social Sciences at Vienna University of Economics, a Master degree in Physics at ETH Zurich and a Postdoc M.Sc. (Renewable Energy) at Vienna Technical University. He has published a book and several scientific papers.



### Mario Pennisi

Chief Executive Officer  
Life Sciences Queensland

Mario Pennisi is the inaugural CEO of LSQ. He has been the CEO of QCTN since its establishment in 2005, and has over 20 years experience in the life sciences industry. Mario has extensive experience in managing commercial operations in the life science industry. In the mid 1990s, in affiliation with US and German-based organizations, he established the first Queensland-based 'central laboratory', servicing international trials in the Asia-Pacific region. He was also a founding member of Queensland's first contract research organization.

Mario has overseen QCTN's growth to become Australia's peak industry group for therapeutic product service providers. QCTN represents over 100 members and it maintains relationships with strategic partners across the Asia Pacific Region and in Europe and North America.



### Felipe Pereira

Chemicals Sector Manager  
Brazilian National Development Bank

Felipe Pereira is graduated and has Master's degree in Chemical Engineering by Universidade Federal do Rio de Janeiro. He has been working for BNDES since 2009, as Research Manager at the Chemical Industry Department. Prior to that, he has

worked for 10 years as process engineer and Project Manager on industrial projects in Brazil, Germany and USA.



### Markus Pompejus

Vice President, Innovation & Scouting, Bioscience Research  
BASF SE

Dr. Markus Pompejus, as Vice President, heads Innovation & Scouting for Bioscience Research in BASF globally. He received his Ph.D. from Goettingen University, Germany, was a research associate at the

University Goettingen and joined BASF in 1996. Dr. Pompejus had various responsibilities and leadership roles in BASF in Germany, South Korea and the U.S., ranging from research, product and process development, commercial operations, production, new business development to general management. Prior to his current role, he was Vice President White Biotechnology North America, with locations in Tarrytown, NY and San Diego, CA. Dr. Pompejus assumed his current position in April 2014, located in Ludwigshafen, Germany, leading a global team with global responsibility.



### Thijs Rodenburg

Chief Executive Officer  
Rodenburg Biopolymers

Thijs Rodenburg has been involved in the Bioplastics industry since 2000, when his father started the development of bioplastics based on 2nd generation feedstock. Thijs headed the company in 2012 and changed the business strategy

from a R&D company into a commercial, sustainable bioplastic compound solution provider with the focus on valorization of side stream products and vertically integrated partnerships. Rodenburg has a successful track record in developing bioplastic solutions in cooperation with converters and brand owners. Shaking up the traditional markets.



### Gwen Rosenberg

President  
Rosenberg Business Communications

Gwen Rosenberg is President of Rosenberg Business Communications, which specializes in Public Relations / Investor Relations, strategic planning, crisis management, media outreach, and preparation of corporate and scientific documents. Her

background spans the biotechnology, therapeutics and diagnostics, food and beverage, and semiconductor industries.



### Mena Salib

Manager of Aircraft Noise and Emissions  
Air Canada

Mena Salib is the Manager of Aircraft Noise and Emissions at Air Canada. In his role Mena is working on contributing towards building a viable and sustainable path for aviation biofuels in Canada. He is focused on solutions that benefit a holistic

Canadian biojet economy from feedstock to flight. He also leads the implementation of Air Canada's biofuel initiatives.



### Michael Saltzberg

Global Business Director, Biomaterials  
DuPont Industrial Biosciences

Michael A. Saltzberg is the Global Business Director for Biomaterials at DuPont Industrial BioSciences. There he leads the development of a portfolio of emerging and growth businesses which utilize renewable feedstocks to make industrially

important chemicals and materials, including DuPont Sorona® polymer and Bio-PDO™ propanediol. Through the development of renewable biochemical and biomaterials, Mike and his team are solving critical issues for industries as varied as packaging and cosmetics to apparel and carpeting, all facing the challenges of offering high performance choices to their downstream customers while making their supply chains more sustainable.

Mike is a veteran of the industry with over twenty-nine years of experience at DuPont including R&D management, sales & marketing, and business development. He has led DuPont's efforts in Biomaterials business development since 2006. Mike is a native of Philadelphia, PA with a strong technical and business background. He holds a B.A. with Honors in Chemistry from Oberlin College and a Ph.D. in Materials Science and Engineering from the University of Pennsylvania.



### Joachim Schulze

Managing Director  
EW Biotech GmbH (EWB)

Joachim is Managing Director of EW Biotech GmbH (EWB), former known as the Biotechnology Division of thyssenkrupp Industrial Solutions (tkIS). His focus is to bridge the gap between lab and commercial operation for emerging and

established Biotech companies. Joachim has been in Engineering for over 26 years, planning and commissioning chemical and pharmaceutical plants all over the world. 9 years ago, Joachim started to build up the Biotechnology division for tkIS which has been divested to the EW Nutrition end 2016. With its Biotech Lab and industrial multipurpose Pilot Facility, EWB is in the position to scale up biotech processes to commercial scale. Joachim Schulze graduated in Chemistry and made his doctoral thesis in medical physics.



### Gustavo Sergi

Renewable Chemicals Business Director  
Braskem

Gustavo Sergi leads the business that focuses on Braskem's competitive renewable and sustainably matrix, currently in the Green Polyethylene global operation and on the development of new plastics and chemicals from renewable

source. Within the variety and wide range of the I'm green™ PE applications, his commercial and market development team are supporting companies to be committed with environmental aspects, finding a more sustainable alternative for their packaging and products, reducing their carbon footprint with the most competitive cost advantage, without a compromise on processing, quality or recyclability. Besides being the largest ethanol consumer of industrial purposes in Brazil, the business features green polyethylene industrial plant in RS and one of the most advanced R&D Center in South America. The Research Center for Renewable Chemicals features a multidisciplinary team in a variety of areas, including microbiology, chemical engineering, bioinformatics, fermentation and downstream processes. Our R&D network rely not only on Braskem's proprietary technology but also on global partnerships with companies committed to disruptive technology for the renewable chemistry.

Gustavo has experience in the petrochemical and sugar & ethanol businesses, with a background in M&A, commercial and supply chain.



### Puneet Trehan

Material Innovation and  
Development Leader  
IKEA

Puneet Trehan is a Masters in Engineering with diverse background in Supply Chain Management and Product Development. He has been with the IKEA group for the last 17 years in supply chain and last

5 years in Innovation.

He is presently working as Material Innovation Leader for Polymers responsible for the Innovation portfolio encompassing plastics, glues and foams: all with the same goal to "go renewable".

Over the last 10 years, he has been working mainly in setting up the value chains for futuristic technologies starting with Sold State Lighting and now the latest years for renewable polymers and chemicals.



### Bob Walsh

Senior Vice President, Energy Sector  
Intrexon

Mr. Walsh has served as our Senior Vice President – Energy Sector since 2013. Mr. Walsh has over 30 years of experience in the petroleum and chemical industries. Mr. Walsh served as Chief Commercial Officer of ZeaChem Inc., a cellulosic

biofuel and biochemical company, from 2011 to 2013. Prior to his time at ZeaChem, Mr. Walsh served as Chief Executive Officer of Aurora Algae, Inc., an algae production company, from 2008 to 2010, President of LS9, Inc., an industrial biotechnology company, from 2007 to 2008, Senior Vice President and Chief Operating Officer of Chemoil Corporation, from 2005 to 2006, and General Manager Supply, Europe for Shell Europe Oil Products, from 2001 to 2006. Mr. Walsh received a B.S. in Chemical Engineering from Purdue University.



### Jill Zullo

Vice President, Bioindustrials NA  
Cargill

Dr. Jill Zullo is Vice President, Bioindustrials for Cargill Starch and Sweeteners North America. Her responsibilities include the management of the existing BioIndustrial product lines (citric acid, lactic acid, industrial starch

and co-location businesses), as well as the development of new BioIndustrial businesses and products.

Jill began her career at Cargill in 1996 working on itaconic acid and citric acid fermentation development in the Corn Milling research group in Eddyville, Iowa. In 1998, Jill transferred to NatureWorks in Minnetonka, Minnesota, to develop the fermentation strategy for low cost lactic acid for the commercialization of polylactic acid. In 2001, Jill became the Director of Biotechnology Development Center where she led the development of new food and industrial products for Cargill. Jill was named Assistant Vice President and Technical Director for Starches and Sweeteners North America in March 2011. In this role, she led the research and development strategy and project portfolio across the food, feed and BioIndustrial product lines.

Jill graduated from the University of Minnesota with a Bachelor's Degree in Biology and received her PhD in Food Technology from Iowa State University. Jill grew up in Milwaukee, Wisconsin, and now lives in Excelsior, Minnesota, with her husband, Luca, and two active sons, Giovanni and Antonio. In her spare time, she enjoys biking, snorkeling, boating, reading and cooking with her family and friends.



## BIO Industrial & Environmental Section Governing Board



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## BIO Industrial & Environmental Section Member Companies

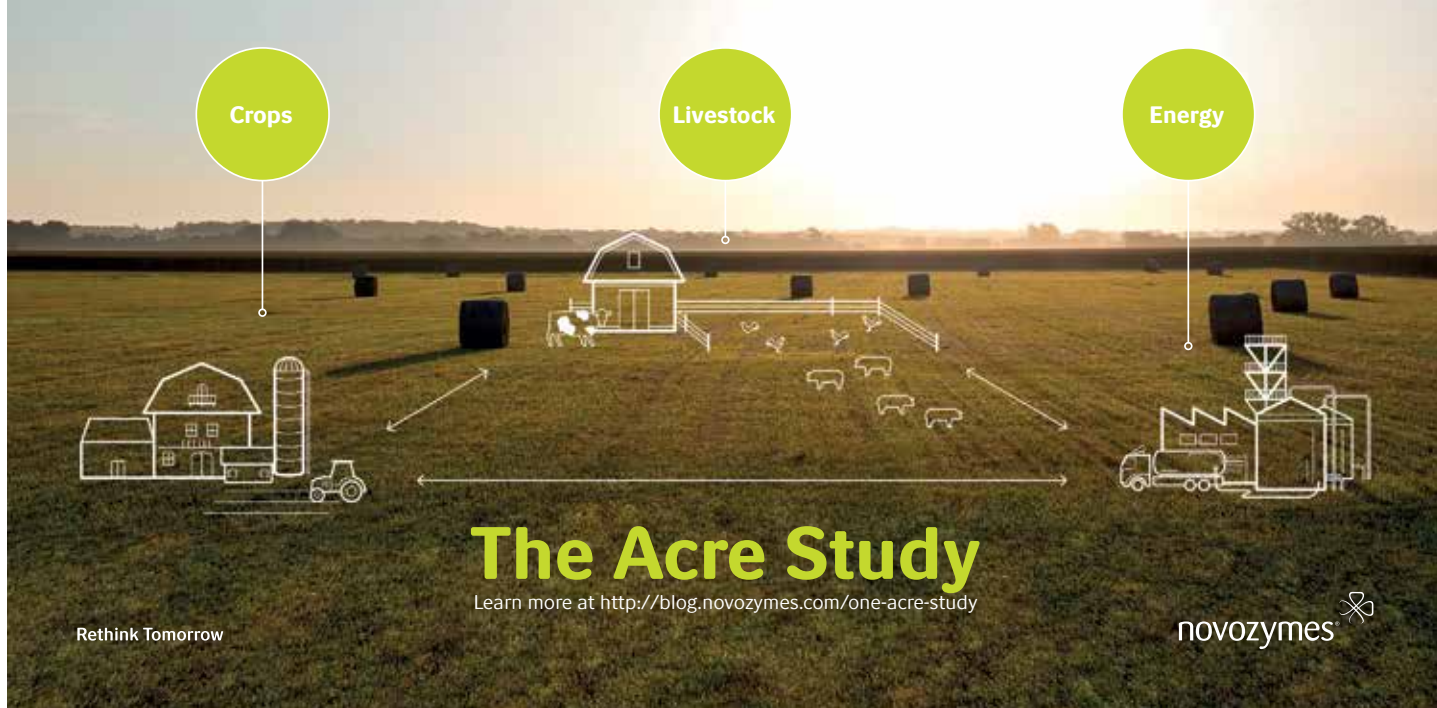
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### The Acre Study

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# BIO World Congress Team

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Managing Director



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**Erick Lutt**  
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## Program Committee Members

*We wish to thank the BIO World Congress on Industrial Biotechnology Program Committee for their hard work and dedication in screening 200 + submissions, locating speakers and organizing a very dynamic program.*

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Arzeda

**Roland Andersson**

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Consultant in Microbial Biotechnology, Science Advisor to Green Earth Institute Co., LLC, Tokyo

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*We thank the numerous other contributors who in some way have helped develop the program through outreach, panel ideas, and suggested topics.*

Join the transition  
towards profitable  
bio-aromatics.

[www.biorizon.eu/community](http://www.biorizon.eu/community)

**Biorizon**

The way to aromatics

## Receptions & Networking

### Sunday • July 23

#### Women in Industrial Biotechnology Reception

4:30 pm – 5:30 pm

Room 524 A

Sponsored by



This reception will celebrate women involved in all areas of industrial biotechnology. This reception has a limited number of spots available, so access will only be granted to those who RSVP.

#### Welcoming Reception

5:30 pm – 7:00 pm

7th Floor (725) and Terrace

Sponsored by



Join our kick-off event for the 14th Annual BIO World Congress, the Jazz in the Garden Reception! Catch up with colleagues and make new connections at this outdoor garden party featuring live jazz music, fresh air, refreshing drinks and summer hors d'oeuvres!

### Monday • July 24

#### Grand Exhibit Hall Reception

5:00 pm – 6:30 pm

Exhibit Hall

The Grand Hall Reception is centrally located in the heart of the exhibit floor. This is a perfect opportunity to network with global attendees from 30+ countries over delicious Canadian inspired food and drinks.

### Tuesday • July 25

#### Business Partnering Reception with Poster Presentations

4:00 pm – 5:30 pm

Exhibit Hall

Sponsored by



Join us as we toast to our 90% growth in BIO World Congress One-On-One Partnering meetings in the last two years! See new and innovative ideas in the field of industrial biotechnology, chat with exhibitors and network with other attendees.

## Continental Breakfasts & Refreshment Breaks

### Continental Breakfasts

Breakfast buffet with coffee service and teas

#### Monday • July 24

7:15 am – 8:30 am

5th Level

#### Wednesday • July 26

7:15 am – 8:30 am

Exhibit Hall

### Refreshment Breaks

(located inside the Exhibit Hall)

Coffee service, teas, sodas

#### MONDAY • July 24

10:00 am – 10:30 am

Sponsored by



3:15 pm – 3:45 pm

Sponsored by



#### TUESDAY • July 25

10:00 am – 10:30 am

Sponsored by



#### WEDNESDAY • July 26

10:00 am – 10:30 am

Sponsored by



## BIO One-on-One Partnering™

Partnering Sponsored by



The BIO World Congress is the preeminent conference for connecting venture capital with promising industrial biotech companies. BIO One-on-One Partnering™ makes it easy to identify potential partners online and request and schedule meetings during your time at the BIO World Congress on Industrial Biotechnology.

BIO One-on-One Partnering™ meetings will take place in 30 minute intervals. The BIO One-on-One Partnering™ Desk and meeting rooms are located in the Exhibit Hall.

### Partnering Desk Hours:

#### Monday • July 24

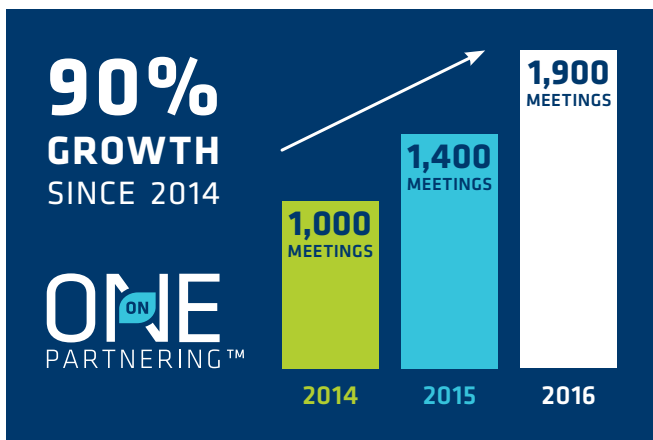
7:30 am - 5:00 pm  
(Partnering Desk opens at 7:00 am)

#### Tuesday • July 25

7:30 am - 5:30 pm  
(Partnering Desk opens at 7:00 am)

#### Wednesday • July 26

7:30 am - 11:30 am  
(Partnering Desk opens at 7:00 am)





S U C C E S S  L I V E S H E R E

WHERE  
INNOVATION  
GOES TO EXPAND  
ITS HORIZONS



How has Iowa become a world leader in the production of biofuel feedstocks? Why is Iowa able to produce the nation's second largest supply of biomass—with the potential to harvest 14.4 million dry tons a year? It's simple. Iowa has created an environment that cultivates innovation. Our academic institutions are world renowned for their dynamic research capabilities. And the USDA reports our renewable chemical production tax credit program is the industry's strongest existing incentive package. Check out our website today. Or stop by Booth 208 during BIO World Congress. Learn why Iowa is where innovation lives.

[iowaeconomicdevelopment.com](http://iowaeconomicdevelopment.com)

 [iowaeconomicdevelopment](https://www.facebook.com/iowaeconomicdevelopment)  
 [businessiowa](https://twitter.com/businessiowa)



\* 2003-2015 SOURCE: U.S. Census Bureau  
\*\* 2016 SOURCE: TEconomy Partners

## New BIO One-on-One Partnering™ App

Navigate your BIO partnering experience with our handy app



### Main functions of the app:

- View your schedule
- Browse and add programming
- Request to reschedule partnering meetings
- Send meeting requests



Download the BIO One-on-One Partnering™ App in the Google Play and Apple Stores  
Tip: Search "BIO One-on-One"



## Key Features of the Partnering System:

- **NEW!** Partnering mobile app allows you to view your scheduled meetings and programming on your mobile device!
- Enhanced company visibility through in-depth profiles and ability to attach presentations and media content
- View and add programming to your calendar
- Calendar integration with Outlook
- Manage meeting requests through a variety of filtering options & ability to tag requests
- The profile reflects terminology/quantifiers specific to the industrial biotechnology industry—search potential partners and existing clients by sector, location and technologies!

# Holland Biotech Pavilion

Visit us at booth #226



Join the Business Partnering Reception

Tuesday 25 July 4.00 pm - 5.30 pm

Win a Dutch bicycle, sponsored by Rabobank and Leiden Marketing!

## The Netherlands: leading player in the fields of biotechnology and biochemistry

The Netherlands is home to internationally renowned scientists with a strong reputation for knowledge and expertise in the fields of industrial biotechnology and biochemistry. Strong collaborations between the world-class academic and industrial sector, supported by the government, has led to ground breaking research and successful innovations.

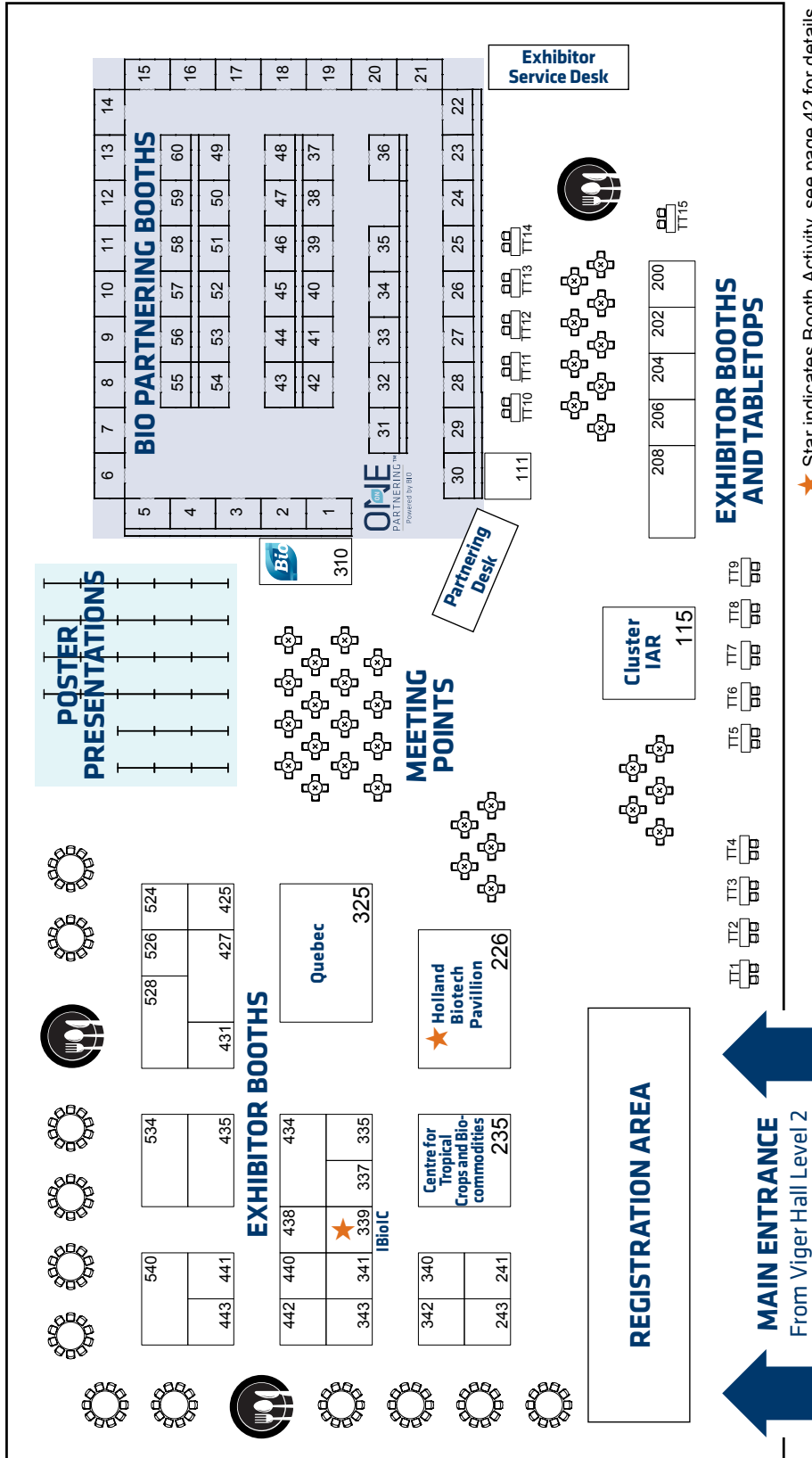
Several locations in the Netherlands offer state-of-the-art lab space and offices, as well as open access, shared facilities with high-end lab equipment, ready for pilot and demonstration projects for companies and researchers who want to avoid the capital outlay for setting up their own facilities. It is

also an ideal location for new production facilities as it provides excellent infrastructure and logistics.

The Holland Biotech Pavilion has been coordinated by BE-Basic Foundation: a leading international public-private partnership that develops industrial biobased solutions to build a sustainable society. BE-Basic Foundation initiates and stimulates collaborations between academia and industry, between scientists and entrepreneurs and between the Netherlands and abroad. [www.be-basic.org](http://www.be-basic.org).



# Exhibit Hall Floorplan as of June 28, 2017



★ Star indicates Booth Activity, see page 42 for details.

**BIO Partnering:**

- Monday, 7:30 am – 5:00 pm  
Partnering Desk opens at 7:00 am
- Tuesday, 7:30 am – 5:30 pm  
Partnering Desk opens at 7:00 am
- Wednesday, 7:30 am – 11:30 am  
Partnering Desk opens at 7:00 am

**Refreshment Breaks in the Exhibit Hall:**

- Monday, 10:00 am – 10:30 am and 3:15 pm – 3:45 pm
- Tuesday, 10:00 am – 10:30 am
- Wednesday, 10:00 am – 10:30 am

**Continental Breakfast in the Exhibit Hall:**

- Wednesday, 7:15 am – 8:30 am

**Registration Hours:**

- Sunday, 2:00 pm – 7:00 pm
- Monday, 6:30 am – 6:00 pm
- Tuesday, 6:30 am – 5:30 pm
- Wednesday, 7:00 am – 12:00 pm

**Exhibit Hall Hours:**

- Monday, 10:00 am – 6:30 pm
- 5:00 pm – 6:30 pm Grand Exhibit Hall Reception
- Tuesday, 10:00 am – 5:30 pm
- 1:30 pm – 2:30 pm Dedicated Exhibit Hall Hour
- 4:00 pm – 5:30 pm Business Partnering Reception with Poster Presentations
- Wednesday, 7:15 am – 11:45 am

## Exhibitor List as of June 30, 2017

### BOOTHS

Company	Booth #
Agri-Technology Commercialization Centre	427
Applied Chemical Technology	341
Bio Base Europe Pilot Plant	241
Bio-based Industries Consortium	202
Biobased Maine	442
BioIntelligence Technologies	204
BioNB	437
BIOTECanada	435
Canadian Prairie BioSciences	434
Chemical Institute of Canada	440
CLUSTER IAR	115
Corbion	431
CRB	337
EW Biotech GmbH	200
Flanders Investment & Trade	340
★ Holland Biotech Pavilion	226
★ Industrial Biotechnology Innovation Centre (IBioIC)	339
Iowa, State of	208
Itochu Chemicals America Inc.	206
M2 Inspired	243
Marks & Clerk Intellectual Property Services	111
Michigan State University Bioeconomy Institute	443
National Research Council Canada	343

★ Indicates Booth Activity

**IBioIC, Booth 339**

Networking Event: IBioIC Scotch Whisky Tasting  
Monday, July 24, 1:30 pm – 3:00 pm

**Holland Biotech Pavilion, Booth 226**

Networking Event: Highlights of the Dutch Bioeconomy  
Tuesday, July 25, 1:30 pm – 3:00 pm

Company	Booth #
Ontario East Economic Development Commission	441
Phage Consultants	425
Quebec	325
Queensland University of Technology	235
Sarnia-Lambton Hybrid Chemistry Cluster	534
Soyaoil Coatings	524
Sterne, Kessler, Goldstein & Fox	528
Twist Bioscience	335
USDA Rural-Business Cooperative Service	438

### TABLETOPS

Company	Tabletop #
ACIES BIO Ltd.	11
Algae Biomass Organization	7
Biofuels Digest	13
Eppendorf	14
EuropaBio	8
Evolva	1
Genome Quebec	2
Goudreau Gage Dubuc	5
Guangdong Grandeur Exhibition Group	10
Industrial Biotechnology/Mary Ann Liebert, Inc. Publishers	15
Lallemand Inc	4
LAVALLAB INC.	6
Praxair, Inc.	9
TECNON ORBICHEM	3
Vermeer	12

## Exhibitor Descriptions

### ACIES Bio Ltd.

Tabletop 11

Acies Bio Ltd. is a research-driven biotechnology company developing innovative products and platform solutions to improve people's lives and build a sustainable, bio-based future. It has full capacity and expertise to carry out microbial strain development and fermentation process optimization up to 10 m<sup>3</sup> pilot-scale for the most ambitious and technologically demanding projects. Acies Bio has in the past successfully carried out complete development of industrial production technologies for leading global pharmaceutical, biotech and agrochemical companies. [www.aciesbio.com](http://www.aciesbio.com)

### Agri-Technology Commercialization Centre Booth 427

The Agri-Technology Commercialization Centre is an internationally recognized cluster of agricultural innovation resources. Our mission is to enhance the research, development and commercialization of groundbreaking technologies and create and attract profitable businesses that advance Canada's leadership position in global markets.

By bringing together our three founding organizations – Bioenterprise Corporation, Soy 20/20 and Ontario Agri-Food Technologies – we've created a hub of specialized industry knowledge and market expertise. Today, that hub also includes the Livestock Research Innovation Corporation, expanding our breadth even further.

The Agri-Technology Commercialization Centre is supported by Agriculture and Agri-Food Canada and the Ontario Ministry of Agriculture and Food through Growing Forward 2, a federal-provincial-territorial initiative. [www.agritechcentre.ca](http://www.agritechcentre.ca)

### Algae Biomass Organization

Tabletop 7

The Algae Biomass Organization (ABO) is a non-profit organization whose mission is to promote the development of viable commercial markets for renewable and sustainable commodities derived from algae. Its membership is comprised of people, companies and organizations across the value chain. The ABO hosts the 11th annual Algae Biomass Summit in Salt Lake City, Utah, October 29-November 1, 2017. The Summit is the algae industry's premier event, where leading producers of algae products go to network with industry suppliers and technology providers, where project developers converse with utility executives, and where researchers and technology developers rub elbows with venture capitalists. [www.algaebiomass.org](http://www.algaebiomass.org)

### Applied Chemical Technology

Booth 341

Applied Chemical Technology (ACT) offers comprehensive research and development, engineering, design, automation and fabrication services from project inception to plant construction. ACT's services include product design, process development, equipment design, equipment modification, bench-scale and pilot-scale testing, plant design and fabrication. [www.appliedchemical.com](http://www.appliedchemical.com)

### Bio Base Europe Pilot Plant

Booth 241

Bio Base Europe Pilot Plant (Ghent, Belgium) is a flexible and diversified pilot facility for the development, scale-up and custom manufacturing of biobased products and processes at kilogram to multi-ton scale. BBEP offers a large variety of expertise and equipment for biomass pretreatment, biocatalysis, fermentation, green chemistry and DSP. A wide range of state-of-the-art industrial equipment, and an experienced and flexible team, serve customers from around the world in the field of biomass pretreatment, fermentation, downstream purification, bio-catalysis and explosion proof green chemistry. Bio Base Europe Pilot Plant is fully independent, and has successfully scaled-up more than 180 bio-processes for more than 120 companies in the last four years. [www.bbeu.org/pilotplant](http://www.bbeu.org/pilotplant)

### Bio-based Industries Consortium

Booth 202

We are the private partner in a \$4 billion partnership with the European Union. Projects are funded across the whole value chain to deploy a competitive bio-based market in Europe. Research is key but deployment and commercialisation are essential in this unique public-private partnership. We invite SMEs, large companies and brand owners to join us to add to the needed critical mass, to access EU funding, and to benefit from the largest network of bio-based actors in Europe. [www.biconsortium.eu/membership/join-us](http://www.biconsortium.eu/membership/join-us)

### Biobased Maine

Booth 442

Biobased Maine is a trade association promoting the sustainable use of renewable biomass from forests, farms, and sea to manufacture the next generation of biobased chemicals, materials, and fuels. We aim to expand biobased product manufacturing in Maine through applied research, technical assistance, and information sharing that supports new product development, process engineering, and market assessment. Our members include manufacturers, raw material suppliers, landowners, farmers, consultants, research institutions, private equity and non-governmental organizations – all committed to a sustainable biobased industry in Maine. [www.biobasedmaine.org](http://www.biobasedmaine.org)

### Biofuels Digest

Tabletop 13

With a readership of 650,000 on the web, newsletters, and social media, the Biofuels Digest is the world's most widely-read biofuels daily, covering bioenergy production, finance, policy, and research. 62 percent of subscribers call it "the best online biofuels media". The Digest is home to the 50 Hottest Companies in Bioenergy, the 30 Hottest Companies in Biobased Materials & Renewable Chemicals, the Top 100 People in Bioenergy, SuperData, and the Biofuels Digest Index. In addition to the online publication, the Digest launched BioChannel TV in 2015. [www.biofuelsdigest.com](http://www.biofuelsdigest.com)

### BioIntelligence Technologies

Booth 204

BioIntelligence Technologies enables Intelligent Biomanufacturing, from R&D to production. Peoples at BioIntelligence Technologies design, develop and commercialize intelligent instruments, gathering together data from every sources and performing real-time analytics so as to unveil hidden high-level information, enabling continuous optimization of operations and financials. [www.biointelligence.com](http://www.biointelligence.com)

**BIOTECCanada****Booth 435**

BIOTECCanada is the national industry association with more than 200 members located nationwide, reflecting the diverse nature of Canada's health, industrial and agricultural biotechnology sectors. In addition to providing significant health benefits for Canadians, the biotechnology industry has quickly become an essential part of the transformation of many traditional cornerstones of the Canadian economy including manufacturing, automotive, energy, aerospace and forestry. [www.Biotech.ca](http://www.Biotech.ca)

**Canadian Prairie BioSciences****Booth 434**

The Canadian Prairie provinces – Manitoba, Saskatchewan and Alberta – have joined forces to showcase their bioscience capabilities. This region is rich in renewable agriculture and forest resources, and offers easy access to biomass. Collaboration between the provinces takes advantage of advanced research into bioproducts and biocomposites, world-class infrastructure, a highly skilled workforce and supportive governments. [www.cdnbiosciences.ca](http://www.cdnbiosciences.ca)

**Chemical Institute of Canada****Booth 440**

The Chemical Institute of Canada (CIC) comprises three professional societies representing Chemistry (CSC), Chemical Engineering (CSCHE) and Chemical Technology (CSCT) in Canada. It is dedicated to advancing chemical science and engineering via two annual conferences, publishing 'ACCN, the Canadian Chemical News' as well as 'The Canadian Journal of Chemical Engineering.' [www.cheminst.ca](http://www.cheminst.ca)

**CLUSTER IAR****Booth 115**

**IAR** – The French Bio Economy Cluster supports and strengthens Industries, R&D Centers & Academics developing Biobased products and Bioprocesses.

**115-A. NOVASEP:** A leading provider of services in the field of molecule production and purification for the life science and chemical industries, based on specialized technologies, from laboratory equipment to turnkey plants.

**115-B. ARD:** An R&D company specialized in developing and scaling up processes and products from lab to industrial demonstration including CMO, in Plant fractionation, white biotechnology, green chemistry and environmental services.

**115-C. AMERIDIA/CHEMISTRIA:** Designs and supplies complete separation/purification process lines for Sugar, Starch and Green Chemicals industries, maximizing product quality, cost effectiveness, and minimizing environment impact.

[www.iar-pole.com](http://www.iar-pole.com)

**Corbion****Booth 431**

Corbion: biobased solutions, designed by science, powered by nature, and delivered through dedication. Corbion is the global market leader in lactic acid and lactic acid derivatives, and a leading company in emulsifiers, functional enzyme blends, minerals and vitamins. The company delivers high performance biobased products made from renewable resources and applied in global markets such as bakery, meat, pharmaceuticals and medical devices, home and personal care, packaging, automotive, coatings and adhesives. Its products have a differentiating functionality in all kinds of consumer products worldwide. [www.corbion.com](http://www.corbion.com)

**CRB****Booth 337**

CRB is a global design, construction, and consulting firm that relentlessly pursues and delivers success for our clients in advanced technology industries. CRB was founded in 1984 as a single three-person office and has grown to a team of more than 900 passionate professionals in 15 offices throughout the world. CRB's Construction Services Group was founded in 1997 and is a full-service construction management and design-build firm with approximately 200 employees to serve the specialized needs of life science manufacturing and research facilities nationwide. CRB's single-minded focus on putting our clients' interests first – every day, on every project – defines us as a firm. [www.crbusa.com](http://www.crbusa.com)

**EuropaBio****Tabletop 8**

EuropaBio, the European Association for Bioindustries, promotes an innovative and dynamic European biotechnology industry. EuropaBio and its members are committed to the socially responsible use of biotechnology to improve quality of life, to prevent, diagnose, treat and cure diseases, to improve the quality and quantity of food and feedstuffs and to move towards a biobased and zero-waste economy. EuropaBio represents 79 corporate and associate members and bio-regions, and 17 national biotechnology associations in turn representing over 1800 biotech SMEs. [www.europabio.org](http://www.europabio.org)

**Evolva****Tabletop 1**

With demand rising for more specialized, functional and sustainable ingredients, mass-market product producers are looking for next-generation ingredient suppliers.

Evolva leverages biotechnology and brewing technologies to supply this new high-margin segment of human and animal health, wellness and nutrition.

Our lead products are stevia (launching in 2018 | zero-calorie | stevia taste issue solved), resveratrol (commercially available | healthy aging | human and animal health and nutrition), and nootkatone (being developed to protect humans and animals against disease-transmitting biting pests such as mosquitoes and ticks).

Evolva produces products with clear consumer benefits. Contact **Stephan Herrera**, [stephanh@evolva.com](mailto:stephanh@evolva.com) for more information. [www.evolva.com](http://www.evolva.com)

**EW Biotech GmbH****Booth 200**

EW Biotech – your partner for turning your process into commercial reality. Our multi-purpose biotech facility allows our customers and partners to accelerate the transition from lab to industrial scale. Besides scale-up and tolling services, the facility enables expand research and development activities in the field of biotech products.

**Flanders Investment & Trade****Booth 340**

Flanders Investment and Trade is the Government Agency of Flanders-Belgium that promotes sustainable international business in the interest of both Belgian and overseas companies. The agency acts as a local support for Flemish companies in their international expansion, and is a one-stop-shop for international companies in their expansion plans into Western Europe.

Our objectives are to support economic development opportunities between bio-based economy companies and the Flanders region of Belgium. [www.flandersinvestmentandtrade.com](http://www.flandersinvestmentandtrade.com)

**Genome Quebec**

Tabletop 2

Génome Québec is an economic development organization that contributes to strengthening the competitiveness of the genomics innovation system in order to maximize its socioeconomic impact in Québec. It does so by funding major genomic research initiatives and putting in place the tools necessary for strategic and scientific development in the field.

Génome Québec is helping to accelerate the discovery of new applications for genomics in strategic areas such as health, environment, forestry and agrifood.

The funds invested by Génome Québec are provided by the ministère de l'Économie, de la Science et de l'Innovation du Québec (MESI), the Government of Canada through Genome Canada and private partners. [www.genomequebec.com/en/home.html](http://www.genomequebec.com/en/home.html)

**Goudreau Gage Dubuc**

Tabletop 5

Founded in 1966, Goudreau Gage Dubuc (GGD) is now one of Canada's most reputable full-service intellectual property firms. The firm consists of a team of lawyers, patent and trade-mark agents, and scientists, who are highly qualified and experienced in all areas of intellectual property practice. GGD can efficiently address all intellectual property matters, particularly in the fields of patents, trade-marks and domain names, industrial designs, copyright, trade secrets, legal protection of plants and seeds, as well as transfers of such rights and related litigation. From chemistry, industrial and clean technologies, biomaterials and biofuels, electronics, mechanical and electrical engineering to biotechnology and pharmaceuticals, computer technology, telecommunications and genetic engineering, we continuously define and redefine our expertise to meet the challenges presented by new and emerging technologies. GGD thus provides expert advice to its clients and foresees their intellectual property needs. [www.ggd.com](http://www.ggd.com)

**Holland Biotech Pavilion**

Booth 226

The Netherlands is home to internationally renowned scientists with a strong reputation in the fields of industrial biotechnology and biochemistry. Collaborations between the world-class academic and industrial sector, supported by the government, has led to ground breaking research and successful innovations. Also, Holland is the gateway to Europe, thanks to its excellent connections by road, air and water. The Holland Biotech Pavilion is coordinated by BE-Basic Foundation. [www.be-basic.org/wcib2017.html](http://www.be-basic.org/wcib2017.html)

**Industrial Biotechnology/Mary Ann Liebert, Inc. Publishers**

Tabletop 15

*Industrial Biotechnology*, the official journal of BIO's World Congress on Industrial Biotechnology, is the first and longest-running publication to report the science, business, and policy developments of the emerging global bioeconomy, including biobased production of energy and fuels, chemicals, materials, and consumer goods. Stop by table #TT15 or visit [www.liebertpub.com/ind](http://www.liebertpub.com/ind)

**Industrial Biotechnology Innovation Centre (IBioIC)**

Booth 339

Our vision is to create a truly distinctive, world-leading innovation centre for industrial biotechnology. As specialists in the sector, we have the knowledge and technical expertise to help stimulate the growth and success of the industrial biotechnology industry in

Scotland by connecting the dots between industry, academia and government. Through representing all four colours of IB, we are facilitating collaborations and guiding organisations from a concept or idea, through to industry adoption. [www.ibioic.com](http://www.ibioic.com)

**Iowa, State of**

Booth 208

The state of Iowa is leading the transition to a 21st century bioeconomy, where the world's most productive, fertile agricultural land and efficient supply chain are now providing the multiple feedstocks required for the next generation fuels and chemicals. Iowa not only excels in growing crops, producing biofuels, and raising livestock and poultry, but is also home to the next generation of biorenewables and biorefinery capabilities. Beginning with the world's leading university-based research and development centers, global seed, food and chemical companies are now producing the crops and renewable chemicals at the commercial scale necessary to provide feed, fuel and fiber for a growing global population. Iowa's central North American location provides for cost effective transportation and logistics to global markets. These attributes, combined with a highly-educated and productive workforce, advanced infrastructure and pro-business state government provide a ripe and robust environment for investment and profitable growth. [www.iowaeconomicdevelopment.com](http://www.iowaeconomicdevelopment.com)

**Itochu Chemicals America Inc**

Booth 206

Itochu Chemicals America is the sales and marketing partner for ion exchange and adsorbent resins from Mitsubishi Chemical, enzyme immobilization resins from Resindion, and silica gel for chromatography from Zeochem. We are involved with biofuel/biochemical processing including cellulosic, corn, beet, and cane sweet water purification (de-ashing/sugar fractionation), bio-catalysis, acid/base catalysis, color removal (using synthetic adsorbents), and organic acid/fermentation inhibitor removal using resins and silica gels. Itochu Chemicals America is looking for separation and purification opportunities with biobased fuel/chemical and renewable energy companies. [www.itochu-purification.com](http://www.itochu-purification.com)

**Lallemand Inc**

Tabletop 4

Lallemand Inc, a yeast and bacteria manufacturer has developed specialty yeast extracts for the biotech and fermentation industries. FNI 110, a clear yeast extract with low endotoxins, was evaluated on 5 different transformed E.coli cell lines for relative culture growth after 18 hours, plasmid DNA yield and protein expression. It showed excellent growth, good DNA yield and superior protein expression. Our internal use of yeast extracts in the production of various microorganisms gives us an in-depth understanding of your fermentation media requirements- that is, consistent quality products with minimum fermentation variability. [www.bio-lallemand.com](http://www.bio-lallemand.com)

**LAVALLAB INC**

Tabletop 6

Since 1982 Laval Lab has established its reputation in the scientific instruments sector with high quality products and after-sales service, for the life of the instrument. In collaboration with Solaris Biotechnology, we offer a complete line of Fermenters/ Bioreactors; volume from R&D up to pilot and production scale, Air lift system, Fermentation and Downstream equipment. [www.lavallab.com](http://www.lavallab.com)

**M2 Inspired**

Booth 243

M2 Inspired Multi-Media is a digital communications company specializing in creative video production for industrial and environmental biotechnology companies and organizations, and has been the official video production team for the World Congress since 2007. We help market your product and strengthen your brand with compelling, affordable productions and animation.

[www.m2inspired.com](http://www.m2inspired.com)

**Marks & Clerk Intellectual Property Services Booth 111**

Marks & Clerk is a global firm of intellectual property advisors.

- One of the world's leading IP firms with 16 locations worldwide
- A team of over 60 life sciences specialists spanning across the globe
- Local access to global resources
- Over 250 IP practitioners worldwide

Comprehensive range of services covering Patents, Trademarks, Designs, Domain Names and Copyright including: Protection worldwide; IP valuation and strategy; Portfolio management; Licensing and Due Diligence; Enforcement and Litigation; Clearance and searches; Validity and infringement opinions.

With our network of offices in Canada, Europe and Asia, and long-established relationships with other trusted IP firms worldwide, we are able to provide a consistently high quality, seamless and cost-effective service locally and globally. [www.marks-clerk.com](http://www.marks-clerk.com)

**Michigan State University Bioeconomy Institute**

Booth 443

MSU BI provides collaborative, custom-tailored solutions for process development and scale-up to accelerate your biobased technology to commercial readiness. Our experienced team takes a disciplined, stage-gated approach to weed out flawed paths and delivers a vetted, scalable technology. Our organization's facilities and capabilities combine industrial biotechnology with post fermentation chemistry expertise in a collaborative service model.

[www.bioeconomy.msu.edu](http://www.bioeconomy.msu.edu)

**National Research Council Canada**

Booth 343

The National Research Council (NRC) is the Government of Canada's premier research organization supporting industrial innovation, the advancement of knowledge, technology development and fulfilling government mandates. The NRC plays a unique role in Canada, undertaking large-scale mission-oriented research and development programs. NRC provides a national network of experts and facilities. It has world-class research and commercialization capacity in diverse areas including life sciences and emerging and disruptive technologies. In 2016, the National Research Council of Canada celebrated a hundred years of science excellence. [www.nrc-cnrc.gc.ca](http://www.nrc-cnrc.gc.ca)

**Ontario East Economic Development Commission**

Booth 441

Choosing Ontario East is Easy! The Ontario East Economic Development Commission promotes Eastern Ontario, Canada as a centre for investment and business growth. With over 140 members, the Commission represents more than 200 communities across eastern Ontario.

Ontario East Economic Development Commission is a one point of contact for site selectors, start up support and business growth.

[www.ontarioeast.ca](http://www.ontarioeast.ca)

**Phage Consultants**

Booth 425

Due to our extensive practical expertise and research-based knowledge, we are a world leader in prevention and eradication of contaminations in bioprocesses. We are also active in contract research and contract manufacturing services in all aspects of bacteriophage use in various fields of biotechnology, medicine, and food and crop protection. [www.phageconsultants.com](http://www.phageconsultants.com)

**Praxair, Inc.**

Tabletop 9

Praxair, Inc. is the largest industrial gases company in North and South America and one of the largest worldwide. The company produces, sells and distributes atmospheric, process and specialty gases, and high-performance surface coatings. Praxair products, services and technologies are making our planet more productive by bringing efficiency and environmental benefits to a wide variety of industries, including aerospace, chemicals, food and beverage, electronics, energy, healthcare, manufacturing, primary metals and many others. The Praxair booth at BIO World Congress will feature Praxair's industrial gases and its commitment to helping customers optimize their process performance. Visit us and learn about DO propagation and fermentation, gas and liquid mass transfer, nitrogen inerting and more! [www.praxair.com](http://www.praxair.com)

**Quebec**

Booth 325

Active for several decades, the bioindustry is a significant sector of the Québec economy. The chemical industry, ranked sixth among manufacturing sectors in Québec, employs over 24,000 people. This critical mass, paired with the size of the agricultural and forest industries, facilitates Québec's shift toward green chemistry and oleochemistry. Québec boasts high-level technological and industrial expertise in the areas of anaerobic digestion and biomethanization, industrial biocatalysis, biopolymers and biocomposites, and biocleaners and biolubricants.

Doing business in or with Québec means benefiting from:

- A network of dynamic companies dedicated to innovation and export
- A well-developed knowledge economy (19 university campuses, 45 college-level college-level applied research centres), and a strong structure to support economic and industrial development
- One of the lowest company set-up and operating costs among industrialized countries
- Significant agroforestry, marine, industrial and urban biomass which offers attractive potential for the development of new bioproducts

[www.economie.gouv.qc.ca](http://www.economie.gouv.qc.ca)

**Queensland University of Technology Booth 235**

QUT is a major Australian university that ambitiously positions itself as a university for the real world of today and tomorrow.

Our real world research priorities focus on being a globally leading university that delivers solutions to the challenges of today and of the future through high-impact research that spans discipline boundaries and works in partnership with end users, leveraging our deep technological strengths and alignment to the human capital and innovation needs of the global economy. [www.qut.edu.au/research/ctcb](http://www.qut.edu.au/research/ctcb)

**Sarnia-Lambton Hybrid Chemistry Cluster Booth 534**

Bioindustrial Innovation Canada (BIC) is a not-for-profit organization based in Sarnia, Ontario.

BIC's mission is to provide critical strategic investment, advice and services to business developers of clean, green and sustainable technologies. Our expertise in commercialization builds a stronger Canada.

BIC is focused on enabling Ontario and Canada to become globally recognized leaders in converting renewable resources, such as agricultural and forestry by-products and residues, into value-added bioenergy, biofuel, biochemical and biomaterials for use in a wide range of commercial applications along the chemistry value chain to advanced manufacturing. Initial efforts have targeted Sarnia-Lambton, which is well positioned to become a North American leader in industrial bioproducts manufacturing, and is an emerging bio-hybrid chemicals cluster. BIC has played a critical role in attracting anchor companies to the region, which form key assets in the cluster's chemistry value chain. [www.bincanada.ca](http://www.bincanada.ca)

**Soyaoil Coatings Booth 524**

World leading manufacturers of Bio Sustainable soya oil resin emulsions and paint coating products exclusively developed in Canada. 2017 is our commercialization for our range of unique bio sustainable products Worldwide, meeting and exceed environmental legislation. Our products benefit by being Zero VOC, Carbon neutral, 100% bio renewable and natural mineral content, retaining professional performance quality. We would like to meet interested organizations for future investment to fulfill rapid business expansion and representatives from commercial or government sectors interested in the supply and support of Bio Preferred products. [www.soyaoilcoatings.com](http://www.soyaoilcoatings.com)

**Sterne, Kessler, Goldstein & Fox Booth 528**

Sterne, Kessler, Goldstein & Fox' attorneys, registered patent agents, students and technical specialists include some of the country's most respected practitioners of intellectual property law. Most of our professionals hold an advanced level degree, including 60+ with doctorates in science and engineering. Our client base includes emerging and established companies, venture capital firms, individual entrepreneurs and universities – from bleeding edge technology fields like carbon footprint technologies, pharmacogenomics, and biofuels to next generation electronics and other consumer products. The firm is keenly focused on meeting and exceeding clients' expectations with integrated technical leadership across all areas of practice. We strongly believe leadership in strategic counsel, patent prosecution and patent office litigation

go together. Deep technical expertise aids our work before the PTAB and the courts and is integral to our work in patent prosecution - delivering unparalleled effectiveness through our well-integrated, strong litigation practice. [www.skgf.com](http://www.skgf.com)

**TECNON ORBICHEM Tabletop 3**

Tecnon OrbiChem has been a world leader in providing data and analysis to the petrochemical industry since 1976. We are now one of the world's foremost marketing consultancies to the bulk chemicals, petrochemicals and plastics industries. We specialise in Chemical Intermediates, Synthetic Fibres and Resins.

In September 2013, Tecnon OrbiChem launched a new groundbreaking monthly newsletter service, Bio-Materials and Intermediates Chemical Business Focus.

The service offers a detailed and comprehensive coverage of markets, prices and developments for bio-based chemicals and bio-polymers, alongside that for their petrochemical equivalents. It also covers oleo-chemicals in the same report.

Our extensive coverage also includes Industry News as well as Economic News and Agricultural Feedstock News affecting the Bio-Materials markets.

In addition, each month, there is a new Chemical Profile, which offers a comprehensive yet compact summary of the market for a particular chemical – in both its petro-chemical and bio-chemical form. [www.orbichem.com](http://www.orbichem.com)

**Twist Bioscience Booth 335**

At Twist Bioscience, our expertise is accelerating science and innovation by leveraging the power of scale. We have developed a proprietary semiconductor-based synthetic DNA manufacturing process featuring a high throughput silicon platform capable of producing synthetic biology tools, including genes, oligonucleotide pools and variant libraries. By synthesizing DNA on silicon instead of on traditional 96-well plastic plates, our platform overcomes the current inefficiencies of synthetic DNA production, and enables cost-effective, rapid, high-quality and high throughput synthetic gene production, which in turn, expedites the design, build and test cycle to enable personalized medicines, pharmaceuticals, sustainable chemical production, improved agriculture production, diagnostics and biodetection. We are also developing new technologies to address large scale data storage. [www.twistbioscience.com](http://www.twistbioscience.com)

**USDA Rural-Business Cooperative Service Booth 438**

USDA has many programs and resources to assist stakeholders to respond to bioeconomy-related issues and opportunities, including financial and technical assistance, basic scientific research to the development and commercialization of new technologies, outreach and education, and infrastructure -creating jobs, economic growth and reducing our dependence on oil. USDA is leading the way for a clean energy future. [www.usda.gov](http://www.usda.gov)

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### PREMIER MEDIA PARTNER



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### SUPPORTING ORGANIZATIONS

