



**General Sustainable Agriculture and Forestry Production Bioindustrial Innovation Food Innovation Ecosystem Services and Biodiversity Biological Greenhouse Gas Management Alberta Prion Research Institute**

## November 12, 2015

The Alberta Innovates Bio Solutions (AI Bio) quarterly e-newsletter is for stakeholders in Alberta's research and innovation system and the agriculture, food and forest sectors. It offers information about the research and innovation activities at AI Bio and in the global bio sectors. The e-newsletter aims to advance knowledge in Alberta's bio community and stimulate new project ideas, connections and collaborations. Click on a business line category in row above to skip down to that section.

### General

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#### **You're Invited to December 11, 2015 Open House at Alberta Innovates**

**Alberta Innovates Bio Solutions** - November 08, 2015

On Friday, December 11, 2015 from 1 to 3 p.m., join our colleagues in Alberta Innovates, government, industry and academia at the joint Alberta Innovates Bio Solutions and Alberta Innovates Energy and Environment Solutions Open House. Celebrate the holiday season at our informal, drop-in mixer to meet our leadership and staff and make connections with others in Alberta's research and innovation system.

#### **Alberta Innovates Bio Solutions now falls under the responsibility of Alberta Economic Development and Trade**

**Government of Alberta** - October 22, 2015

On October 22, 2015, Alberta's Premier, Rachel Notley, announced the formation of the new department of Economic Development and Trade with the Honourable Deron Bilous as Minister and Jason Krips as the Deputy Minister. The new ministry brings under one umbrella work that is currently spread between several departments including Innovation and Advanced Education and International and Intergovernmental Relations.

#### **SAVE THE DATE May 11, 2016 is Impact Innovation 2016**

**Alberta Innovates Bio Solutions** - November 08, 2015

Come to Alberta Innovates Bio Solutions' Impact Innovation 2016 public lecture in Edmonton on Wednesday, May 11, 2016. It is free and open to the public. Attendees at past lectures have said the speakers gave presentations that were of high quality, short, in plain language and interesting. Attendees also liked the networking and cross-research thinking.

### Sustainable Agriculture and Forestry Production

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#### **Taking stock of carbon pools in Alberta's forests**

**Alberta Innovates Bio Solutions** - November 10, 2015

To mitigate the effects of climate change, governments strive to balance out CO2 emissions from human activity with

carbon pools in nature, like forests. In a three-year research project funded by Alberta Innovates Bio Solutions, Dr. Fangliang He from the University of Alberta is studying the distribution of forest biomass across Alberta. Using computer modelling and remote sensing, he and his team are determining how much carbon is being absorbed by forests and where the “carbon hot spots” are located.

### **U of A researchers have found how to increase marbling in steaks to improve taste**

Alberta Livestock and Meat Agency - November 01, 2015

For cattle producers, there is value in understanding how fat is deposited in tissues. It contributes to marbling, which improves carcass quality and producer returns, while improving meat tenderness and eating quality for the consumer. U of A researchers have found how this process works. This project is financially supported by AI Bio and ALMA.

### **Carleton profs developing smart fertilizer that deploys only when plants tell it to**

Biotechnology Focus - September 08, 2015

Imagine a fertilizer that stays in the ground until plants need to access it, instead of being washed away or giving plants more nutrients than they can handle. This research is financially supported by Alberta Innovates Bio Solutions.

### **Cigi milling project shows significant potential for Canadian food barley**

Canadian International Grains Institute - September 03, 2015

Cigi has been investigating better ways to mill Canadian food (hullless) barley into flour which may increase its potential for commercial use as a healthy ingredient...Funded by Alberta Innovates Bio Solutions with food barley varieties supplied by the Alberta Barley Commission (ABC), the project was carried out by Cigi's milling and analytical services areas. Work focused on developing milling techniques and other information that would improve the competitiveness of flour produced from Canadian food barley and wheat in health food and ingredient markets.

## Bioindustrial Innovation

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### **Major bioindustrial conference coming to Edmonton this month**

Alberta Innovates Bio Solutions - November 08, 2015

Find out the latest advances in the bioeconomy by registering for [Bioindustrial Innovations: Unlocking Value and Tackling Climate Change](#).

### **Alberta Bio Future program focused on accelerating growth of bioindustrial sector**

Alberta Innovates Bio Solutions - November 08, 2015

AI Bio's flagship bioindustrial initiative, called [Alberta Bio Future](#) (ABF), is off to a strong start with the launch of all three of its funding programs.

### **Alberta's bioinnovation strengths on display at World Congress on Industrial Biotechnology**

Alberta Innovates Bio Solution - November 08, 2015

AI Bio once again played a central role in Alberta's delegation to this year's World Congress, held in Montreal -- the largest global bioindustrial conference held each year.

### **Biotech companies supported by AI Bio featured in the news**

Alberta Innovates Bio Solutions - November 08, 2015

Two cutting-edge Edmonton companies that received development support from AI Bio's Advanced Chemicals and Materials Program, TerraVerdae BioWorks and SBI BioEnergy, have been featured in the news for their innovative

industrial bioproducts.

### **Alberta's biofuture holds promise**

[Edmonton Journal](#) - October 11, 2015

Re: "Bioenergy: An Alberta-grown solution," Opinion, Liz Brennan, Oct. 5. This informative piece notes Alberta's bioenergy sector is not only a significant contributor to the provincial economy, but also that "bioenergy products emit 80 per cent less in greenhouse gases, while still providing the desired energy service." Albertans might also be interested to learn that researchers, industry, innovation agencies and provincial departments are working together to accelerate growth of an emerging sector in our province – the bioeconomy – which includes the bioenergy industry Liz Brennan writes about.

### **Edmonton's Blatchford Redevelopment: An opportunity to showcase innovative wood products and construction**

[Logging and Sawmill Journal](#) - September 11, 2015

The Municipal Airport was a fixture north of Edmonton's downtown for nearly a century. Now the 217-hectare former airport site is being transformed into one of the world's largest sustainable redevelopment projects.

### **Wood Waste Recycling Program Benefits**

[Biomass Magazine](#) - July 27, 2015

In various forms, hundreds of thousands of metric tonnes of recyclable wood waste shows up at Alberta landfills every day. Solutions are available to recycle this renewable resource, including renewable energy production, one initiative of the Alberta Wood Waste Recycling Association, a collaborator of Alberta Innovates Bio Solutions.

## Food Innovation

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### **Understanding how milk boosts weight loss and health**

[Alberta Innovates Bio Solutions](#) - November 10, 2015

For generations, parents have urged their children to drink their milk—and for good reason. Milk contains calcium and other nutrients that are important for bodies of all ages. With funding from Alberta Innovates Bio Solutions, University of Calgary physiology researcher Dr. Prasanth Chelikani has spent the last three years investigating how the different components of milk protein help with weight loss and stave off both diabetes and cardiovascular problems.

### **Processors can avoid food poisoning from deli meat by using new food additive**

[Alberta Livestock and Meat Agency](#) - November 08, 2015

In partnership with the Alberta Livestock and Meat Agency (ALMA) and Alberta Innovates Bio Solutions, Dr. McMullen's team looked to determine whether a biopreservative could mitigate Listeria on ready-to-eat meats.

### **New chicken-based products now ready for processors - salt substitute & joint lubrication supplement**

[Alberta Livestock and Meat Agency](#) - November 08, 2015

With support from the Alberta Livestock and Meat Agency Ltd. (ALMA), Alberta Innovates-Bio Solutions (AI-BIO) and Maple Leaf Foods, Dr. Betti and his team successfully completed two innovative value-added projects that utilize poultry products - a salt substitute and joint lubrication supplement

## Ecosystem Services and Biodiversity

## Ecosystem Services and Biodiversity Science Symposium on September 16 offered new insights



[Ecosystem Services and Biodiversity Network](#) - November 10, 2015

On September 16, the Alberta Biodiversity Monitoring Institute (ABMI) hosted their first [Ecosystem Services & Biodiversity Science Symposium](#), an engaging series of presentations to more than 100 representatives from academia, NGOs and industry. The symposium showcased the latest knowledge on ecosystem services and biodiversity and was part of ABMI's outreach on their project [Ecosystem Services Assessment](#). The project is financially supported by Alberta Innovates Bio Solutions and aims to develop system to assess and map ecosystem services across Alberta to better understand how planning and management decisions affect the landscape and increase benefits to Albertans.

## Wetlands decision-makers invited to help develop a wetlands research strategy for Alberta

[Alberta Innovates Bio Solutions](#) - November 12, 2015

Beginning in early 2016 with a workshop, a five-year wetlands research strategy will be developed by the Alberta government in partnership with independent experts, and stakeholders with connections to wetlands in Alberta. The development process is coordinated by the Alberta Land Institute with financial support from Alberta Innovates Bio Solutions, Alberta Innovates Energy and Environment and Alberta Environment and Parks. Stakeholders interested in helping develop the wetlands research strategy may contact the Alberta Land Institute.

## Register now for Land Use 2016 conference May 4 to 5, 2016

[Alberta Land Institute](#) - November 10, 2015

The Land Use 2016 conference, co-hosted by Alberta Land Institute and Alberta Innovates Bio Solutions, is western Canada's premier forum on land use research, planning, and policy. To be held May 4 to 5, 2016 at the Edmonton Westin Hotel, the conference brings together decision makers and researchers from Alberta and around the world. Speakers will explore the theme of Regional Planning — how it influences the provision of ecosystem services, the use of agricultural land, and governance.

## Reversing the Auction: Conservation Auction Experiences in Australia

[Alberta Land Institute](#) - October 27, 2015

On October 26, 2015 the more than 100 attendees at a workshop hosted by the Alberta Land Institute (ALI) learned how market-based instruments, like reverse auctions, are increasingly becoming established as tools for conservation in Australia. Alberta researchers will use this approach in ALI's [Alberta's Living Laboratory wetlands project](#) in the restoration of wetlands in the Nose Creek watershed. Alberta Innovates Bio Solutions is a funder of this wetlands project.

## Biological Greenhouse Gas Management

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### Register now for November 25 workshop "The Basics—what is GHG accounting & how do we track carbon?"

[Alberta Innovates Bio Solutions](#) - November 08, 2015

Measuring and tracking carbon flows is essential for understanding how changes in practice impact GHG emissions. Accounting for GHG emissions is also a requirement in many industrial sectors, and forms the basis of Alberta's carbon offset program. Attend the workshop on November 25 in Edmonton, "Accounting for GHGs" to learn both the basics and the complexities of tracking carbon from biological and industrial processes.

### **Graduate students get the 'big picture' on biological greenhouse gas emissions control**

Alberta Innovates Bio Solutions - November 08, 2015

An international workshop in Alberta not only gave graduate students a unique, 'big picture' look at biological methods to reduce greenhouse gas emissions, the students themselves organized and delivered the entire event.

### **Biological GHG Management Program Funds Waste Characterization Study for the City of Lethbridge**



Climate Change and Emissions Management Corporation - November 08, 2015

Alberta's Climate Change and Emissions Management Corporation has committed millions of dollars in funding to five projects that are helping Alberta municipalities adapt to climate change and improve landfill practices. The Waste Characterization Study for the City of Lethbridge receives \$69,000 from the CCEMC-AI Bio Biological Greenhouse Gas Management Program.

### **Global investors eyeing opportunities in Alberta as province focuses on climate policy**

CleanTech Canada - September 09, 2015

EDMONTON—A group of 120 Canadian, American and European institutional investors with assets of \$4.6 trillion see a significant opportunity in Alberta's shifting carbon regulations. The group, which was organized by NEI Investments, has delivered a letter to Alberta Premier, Rachel Notley, supporting the government of Alberta's commitment to update and strengthen its climate policy.

## Alberta Prion Research Institute

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### **Alberta Prion Research Institute ramps up activities and launches two funding programs**

Alberta Innovates Bio Solutions - November 08, 2015

The Government of Alberta provided the Alberta Prion Research Institute, a business line in Alberta Innovates Bio Solutions, with \$27.5 million over five years through March 2020 to continue its mandate of building research capacity in Alberta in the prion and protein misfolding fields.

### **Research applications invited by November 30, 2015 to APRI Explorations Program**

Alberta Innovates Bio Solutions - November 08, 2015

Applications for the fourth round of the Explorations Program are now being accepted. The Explorations Program allows Alberta-based investigators to seek funding for research directly related to prion diseases and prion-like human neurodegenerative diseases and dementias. The Alberta Prion Research Institute offers two tiers of funding for the Explorations competition: grants of up to \$200,000 for a maximum of two years, and grants of up to \$500,000 for a maximum of three years.

### **U of A researchers discover that bile acids could be the cure to prion diseases**

University of Alberta - September 03, 2015

Dr. Valerie Sim and her colleagues at the Centre for Prions and Protein Folding and a clinical neurologist at the University Hospital in Edmonton recently found that two forms of bile acids could prolong the life of prion-infected mice. This project is financially supported by the Alberta Prion Research Institute, a business line in AI Bio.

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