



COVER STORY

GENOMICS CAN BE USED FOR WHAT???

We get a lot of funny looks when we mention genomics in the same sentence as mining or offshore energy.

Of course, it's hard to imagine how genomics can impact industries that deal mainly with dirt, rocks, steel and sub-surface oil and gas. But when we explain how tiny organisms (microbes) play a role in mineral extraction, remediation and even souring and corrosion, it's easier to see how genomics can benefit the mining, oil & gas and environmental sectors.

Filling Knowledge Gaps

The confusion about what genomics is, and how it can help Atlantic Canada is a key challenge. That's why so much of our current strategic plan is focused on bridging that knowledge gap. First, we're reaching out to different groups to introduce the idea of genomics in their sector, whether it's agriculture and aquaculture, fisheries and forestry, human health or the resource industries mentioned above. (See Talking To Industry on the back cover.)

Connecting to Expertise

Second, linking companies to genomics experts that can help

them identify the areas where omics technologies can provide the biggest benefit. From there, we help the companies develop proposals, and secure funding. You can learn more about this Genomics Opportunity Review Program on page 3.



Procuring Investment

Although we look at a range of funding sources, one program currently available is Genome Canada's new Genomics Application Partnership Program, which invests in genomics R&D that is co-led by business and academia (read more on page 3).

Building the Future

As we introduce omics technologies and expertise to regional companies, we are aiming for strategic genomics research and development that leads to increased profitability, competitiveness and sustainability for Atlantic Canadian companies. If

you would like to learn more about how genomics could help you or the companies you work with, please contact us.

COLLABORATION

To help us identify and support these opportunities with industry, we rely on collaborative relationships with a network of regional partners such as: life sciences industry associations; national, regional and provincial economic development and funding agencies; and university industry liaison offices.

IN THIS EDITION

- National Collaboration Tool
- Genomics Across The Sectors
- Genome Canada's Genomics Application Partnership Program
- Genome Atlantic's Genomics Opportunity Review Program
- Talking With Industry
- New Board Members

COLLABORATIONS

A CANADIAN DATABASE OF ALL THINGS GENOMICS

(Almost) everything you ever wanted to know about genomics in Canada can now be found in one convenient website. The Genomics Sector Innovation Network (www.gsin.com) is a central database of genomics researchers, funders, technology centres, intellectual property and companies. It's a great resource to link the minds and machines that are helping genomics thrive across the country.

CHECK OUT WWW.GSIN.COM

But like all databases, it's only as good as the information that's in it. And right now, data from Atlantic Canada doesn't reflect all the expertise and resources in our region.

Please take a minute to create a profile for yourself, your lab or your company. It will help increase your chances of finding collaborators and partners right across the country. It's quick, easy and free to be a part of this database. Visit www.gsin.com to get started, or contact us for more information.



RESOURCES

MORE GENOMICS RESOURCES

If you're looking for information about how genomics can be applied to a range of sectors, Genome Atlantic's new website is a great place to start. www.genomeatlantic.ca/transformers

The site provides documents and videos to illustrate how genomics can benefit six main sector groupings: human health, agriculture, fisheries and aquaculture, forestry, energy and mining, and the environment. Check it out, and please share it widely to help us spread the word.



In addition, Genome Canada, in partnership with the six regional Genome Centres, has released strategy documents for the use of genomics in four key sectors: Forestry, Fisheries and Aquaculture, Agri-Food, and Energy and Mining. The strategies are the result of a national consultation with



industry, academic and government representatives from each sector grouping. The strategies outline the main challenges and issues, and outline areas where genomics can be applied.

THE STRATEGIES OUTLINE THE MAIN CHALLENGES AND ISSUES FOR CANADA'S KEY SECTORS, AND OUTLINE AREAS WHERE GENOMICS CAN HELP

You can find the full documents (and the strategy briefs) at the same website: genomeatlantic.ca/transformers



CHECK OUT: GENOMEATLANTIC.CA/TRANSFORMERS

GENOMICS OPPORTUNITY REVIEW PROGRAM

WHAT IS THE GENOMICS OPPORTUNITY REVIEW PROGRAM?

The Program is designed to help companies or government agencies identify areas within their business where genomics could provide the most benefit.

A farmer may want improved crop varieties that are better suited to climate conditions while requiring fewer chemical inputs. A livestock or aquaculture producer may be looking for higher yields through diet optimization. A hospital may want to increase efficiency through a genomics-based diagnostic test. An oil and gas company may be hoping to improve souring or corrosion issues. The solutions are endless, and completely dependent on the needs and opportunities of the company or department.

WHAT DOES A COMPANY OR DEPARTMENT HAVE TO DO?

Those who are interested can simply contact us. We need to hear what business challenge or opportunity needs to be addressed, and what's been done so far. From there, we can work together to determine the next best step. That may be engaging a genomics/business expert to complete a detailed review to identify the optimal opportunities to apply genomics, or it may be validating genomics work that is already happening. Or it could be helping to refine a genomics proposal and procure funding. Again, it's based on what the company needs.

WHAT DOES GENOME ATLANTIC DO?

We try to provide any services that are required to help a proponent (company or department) leverage

genomics technology, which can include some or all of the following:

- Introductory meeting with the proponent to discuss key challenges and opportunities
- Source genomics expert to conduct a review to identify and prioritize genomics-based opportunities
- Review findings with proponent, including potential impact, preliminary estimates of time and budgets and funding sources
- Develop blueprint of research requirements, and work with the proponent to prioritize and shape the project scope
- Develop project plan, and identify and help procure funding
- Manage project as needed

GENOMICS APPLICATION PARTNERSHIP PROGRAM

GENOMICS APPLICATION PARTNERSHIP PROGRAM (GAPP)

Last summer saw the much-anticipated launch of the Genomics Application Partnership Program (GAPP), which is designed to address the needs of companies and others who see genomics as a key driver of innovation within their process or product line.

Driven by company and government needs, the program supports research and development activities that help to move genomics from the bench to the workplace. Projects have a unique leadership structure, being co-led by the intended end user of the technology (i.e. company or government department) and the academic lead.

The Program attempts to cater to the needs of business and other end users by having a rolling intake and a quick decision-making process. The proposal teams must be able to powerfully attest to the need for the project and its ability to create clear socioeconomic benefit.

THE PROGRAM SUPPORTS RESEARCH AND DEVELOPMENT ACTIVITIES THAT HELP TO MOVE GENOMICS FROM THE BENCH TO THE WORKPLACE

At Genome Atlantic, we've been working with a variety of researchers, companies and government agencies to provide guidance and support through the GAPP application process. Strong project ideas are emerging from a range of sectors, including healthcare, forestry, aquaculture, agriculture, oil and gas and others.

IF YOU ARE INTERESTED IN EITHER OF THESE PROGRAMS, PLEASE CONTACT US.

INDUSTRY NEWS

TALKING TO INDUSTRY

Here is a snapshot of some of the industry engagement activities we have conducted in the last while:

Dalhousie University's Dr Sean Myles presented to the agri-food community in Charlottetown. He explained the role of genomics in informing breeding and disease management in a range of **food production** environments.

Genome Atlantic's Shelley King spoke at several finfish and shellfish **aquaculture** meetings, describing local and national efforts around genomics in these areas.

We collaborated with the organizers of NACE, a corrosion conference

in Halifax. Jaspreet Mand, from the University of Calgary, explained how genomics research of microbes involved in corrosion is helping the Alberta **oil and gas** industry.

Genome Atlantic's Andy Stone presented to **environmental** professionals through a partnership with the Environmental Services Association of Nova Scotia and ECOCanada.

We partnered with Petroleum Research of Newfoundland and Labrador to co-host a meeting of the **oil and gas** industry and researchers in St. John's. The meeting addressed key challenges for offshore producers, and explored opportunities for genomics-based solutions.

NEW FACES ON THE GENOME ATLANTIC BOARD

Genome Atlantic has always been grateful to have a strong, diverse and engaged Board of Directors.

In June we sadly said farewell and thank you to two dedicated Board members, Barrie Black and Don Ridley, who had jointly served the Board for more than a dozen years.

Fortunately, their vacancies were filled by two equally distinctive professionals; Judy Shaw and Laurent Bernier.

Judy Shaw has extensive experience in the agriculture biotechnology space, spending the bulk of her career with companies such as Syngenta and Novartis, specializing in issues management, sustainability and stewardship, and industry relations. Currently residing in PEI, she is active in the realm of public and regulatory affairs within the agri-food sector as principle of Judy Shaw & Associates.

Laurent Bernier has a rich background in the promotion and commercialization of biotechnology. Laurent's career history includes many leadership positions, such as founding Executive Director of BioAtlantech, and Vice President Eastern Canada for Foragen Technology Management Inc., a venture capital fund created to help commercialize early-stage, agricultural technologies.

Laurent is truly an expert in the advancement of complex research into practical and profitable products, and is currently Vice President Compliance and Intellectual Property of BioAmber (spinout from Diversified Natural Products) in Montreal.

We are delighted to welcome these two knowledgeable professionals to our Board.

WHO WE ARE

Genome Atlantic is a not-for-profit organization with a mission to develop and lead a program of genomics research that delivers tangible economic, social and environmental benefits to Atlantic Canada.

Partnering with government, academic, industry and research institutions, it has enabled over \$71 million in genomics research and development projects in topics ranging from agriculture to forestry, aquaculture and human health. It is one of six genome centres across the country, under the umbrella of Genome Canada.

CONNECT WITH US

HOW TO FIND US

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