

CEOCFO Magazine - The Most Powerful Name In Corporate News and Information

A Non-Profit Organization Targeting the Development and Management of Large Scale Research Projects in the Competitive Areas of Genomics and Related Biosciences, Genome Prairie Provides Expertise and Access to Resources for Stakeholders

**Healthcare
Advanced Bioscience Research**

**Genome Prairie
101-111 Research Drive
Saskatoon, SK S7N 3R2
306-668-3570
www.genomeprairie.ca**



**Reno Pontarollo
President and CEO**

BIO: Dr. Pontarollo was appointed as Genome Prairie's President and Chief Executive Officer in April 2013 and is responsible for the organization's overall operations both in Manitoba and Saskatchewan.

Prior to being appointed as President and CEO, Dr. Pontarollo served as Genome Prairie's Chief Scientific Officer. He was responsible for ten Genome Prairie-led and supported pro-

jects including the Value Addition Through Genomics and GE³LS (VAL-GEN), Total Utilization of Flax Genomics (TUFGEN) and Microbial Genomics for Biofuels and Co-Products from Biorefining Processing (MGCB²). He is also responsible for developing international relationships to these and emerging projects Canadian Triticum Advancement Through Genomics (CTAG), Microbial Assessment for Value-Add, Environment and Natural Resources (MAVEN) and Prairie Gold.

Dr. Pontarollo held research appointments at the Department of National Defense Medical Countermeasures Section and the Vaccine & Infectious Disease Organization (Saskatoon). Prior to joining Genome Prairie, Dr. Pontarollo was the Director of Research for Pyxis Genomics where he led a program on innate immunity.

Dr. Pontarollo graduated from the University of Saskatchewan in the Department of Veterinary Microbiology in 1999. His primary areas of research have been in genomics, molecular biology, vaccine development, and immunology. Dr. Pontarollo has a PhD from the University of Saskatchewan and an MBA from Athabasca University.

About Genome Prairie

Genome Prairie supports stakeholders across Manitoba and Saskatchewan in capturing and maximizing the benefits of advanced research in genomics and related biosciences. This role is achieved by aligning the partners and resources needed to develop and manage targeted projects addressing regional priorities. Genome Prairie also enables participation among regional researchers in Genome Can-

ada's competitive granting process for large-scale projects.

The field of genomics and related biosciences is highly competitive and requires significant levels of expertise, knowledge and access to capacity/resources. It takes knowledge, relationships and motivation to turn ideas into reality through discovery and innovation. Genome Prairie's targeted efforts in project development, project management and stakeholder engagement ensure that the Prairie Provinces maintain and enhance their reputation as a location of choice for innovation and commercialization.

**Interview conducted by:
Lynn Fosse, Senior Editor
CEOCFO Magazine**

CEOCFO: Mr. Pontarollo, would you tell us the concept at Genome Prairie?

Dr. Pontarollo: Genome Prairie is a non-for profit organization, and we are one of six genome centers from across Canada in partnership with Genome Canada. Our main goal is to help develop and manage large-scale research projects. We focus on genomics and the translation of genomics to commercial products and commercial services.

CEOCFO: How do you help the company manage? What do you bring to the table, and how are projects implemented from your end?

Dr. Pontarollo: We have a staff of project managers, a chief scientific officer and a vice president of science programs. We are currently looking for a director of business development as well. What we help academic scientists do is find connections with com-

panies who will help them potentially bring their product to a useful means in society. Also, the scope of most of our projects is beyond what a normal academic scientist would use to run their programs. Most scientists are living off single applicant research grants in the 50,000 to 150,000 dollar range. Our awards are for large teams involve multiple institutions, often international partners and business partners, and have been as high as 23 million dollars over four years. This is a different beast altogether.

CEOCFO: Would you please tell us about what you are working on today or some of the projects you have worked on?

Dr. Pontarollo: When I started with Genome Prairie, I started as a project manager. I have my PhD and an MBA, and I suppose that is why I landed in this role. I was the project manager for the largest Genome Canada funded project at that time; the North American Conditional Mouse Mutagenesis (NorCOMM) project, which was

part of the international knockout mouse consortium. The goal of that project was to create a fee for user (public or private) resource of commonly used laboratory mice that were identical (clones) except for one thing. One mouse would have a single gene that was inactivated or modified, so that the scientists could control the expression of that gene and see how it affected the development of that mouse or its response to certain drugs. It is a tool used by the industry and academia extensively to evaluate new treatments. Genome Prairie has had several research projects since 2000. Most of them revolve around the agriculture sector, which is mostly due to our geographic location. We are located in the middle of the Canadian prairies, in Manitoba and Saskatchewan; where over 55 percent of the arable land is in Canada for agriculture. We also have a robust research community to support that, and therefore many of our projects are focused on cereal grains (wheat, barley,

rye and durum), oilseeds (Canola, mustard, rapeseed, and flax), and pulse crops (lentils, peas and chickpeas); the main crops on the prairies. We focus on the development of new varieties and a better understanding of how they respond to climate change. We are also very active in the energy and mining sectors. We just finished one on the microbial enhanced oil recovery. The oil in this part of the country is hard to recover, so we are helping industry develop an environmentally friendly and sustainable microbiology-based approach to extracting trapped oil out of the ground. We are also working with one of Canada's most well-known companies, Cameco Corporation, one of the world's largest uranium producers, and a small startup corporation called Contango Strategies here in Saskatchewan. Together, we are applying metagenomic analysis to the uranium mining industry, looking at everything from enhanc-

“The novelty and euphoria created by a potential scientific project is a trap. Focusing on developing an investment-worthy proposal that is backed by a highly integrated scientific, communication, and management plan and team is the formula for success. In this business there are many great ideas, but for an idea to result in a significant outcome it needs the support of a solid plan.”

- Reno Pontarollo

ing recovery to the remediation of closed mining sites.

CEOCFO: How do you decide which projects to take on?

Dr. Pontarollo: It all depends on which stream we run them through. We have two main streams. One is the stream where we work with Genome Canada, which is a competitive process. Scientists from all over Canada submit applications through their regional genome center. Therefore, anybody from Saskatchewan to Manitoba who wants to compete for Genome Canada funding would submit an application through Genome Prairie. We would help them prepare proposals that are competitive on the national scene. Competitiveness is mostly based on two equally weighted criteria; the potential social and economic benefit realized for Canada, and scientific excellence. The second stream is our regional projects, and we listen to ideas from various companies and/or academics. We try to help

them throw together a case for investment in their idea and help them raise funding. In most cases we will manage these projects. An example would be our “Prairie Gold” project. We are helping the agriculture community, and two small companies develop two non-food oil seed crops for industrial applications, specifically for the production of fuels such as jet fuel or high value lubricants that are environmentally safe.

CEOCFO: When you look at a project, are you reviewing the scientific aspect only, or are you taking into account the nature of the company you are working with and perhaps the temperament of the scientist and their ability to take direction and receive help?

Dr. Pontarollo: It is certainly a partnership, and when you are looking at the feasibility of a project, the record

of accomplishment of the company and the academics are considered especially for the large-scale projects. We look at things such as if they

have had experience working in large-scale teams before. We also look at their publication record in that sector. Often, the disconnect between the academic scientists and the commercial partner is a difficult or challenging relationship to manage although it is important. Very seldom are we ever bringing two unknowns into the room. The maturity of the project at the time we begin to show interest in is at the point where the business and academic partner have already been in discussion and decided to move forward, and they are looking to us to help them.

CEOCFO: Is there a limit to the number of projects you can take on either because of funding or because of personnel?

Dr. Pontarollo: I like to push that limit. We are currently at six projects, and the highest we have concurrently managed is ten. Our colleagues in British Columbia or Ontario have more staff, and therefore are capable of

managing and developing more projects. What we have found is that our staff grows with the number of projects we have, so we have not hit a limit yet and I want to assume we would be capable of doing that; being flexible to take on more projects as we go on. We do have a standard operating budget that we get through the government of Canada, and as we obtain more projects, we obtain more operating funds. People are not a limitation if the projects and funding is there.

CEOFO: You mentioned earlier that because of the area you are in, agriculture has preponderance. Do you look for a particular mix when taking on projects, or is each one judged on its own merits?

Dr. Pontarollo: Each one is judged on their own merits independent of others, but that is not to say that we do not have lessons learned from previous applications and previous projects concerning what may or may not work on future projects. The projects that we work with respect to Genome Canada are often competitive in a certain sector or are targeted toward a certain segment of research. For instance, we just finished a competition in personalized health genomics, and Genome Prairie was not successful in getting a project in that competition. In a previous competition in agriculture and crops, however, we were able to get the lead three as well as parts of three others. There were only 13 projects rewarded, so being a part of six projects accounted for almost half of the total projects, and it was a big success story for us.

CEOFO: You previously mentioned your background in both science and business; what have you learned over the years that have been most helpful for you in running genome prairie?

Dr. Pontarollo: My PhD is in microbiology and immunology, and I primarily worked in the vaccine field. During that time, I worked in partnership with several companies. This experience helped me see the powerful relationship between academia and industry in the life sciences sector. What that taught me is the significant difference in running a research program and doing a development and commercialization program. I have also learned not to fall in love with the concept of the project, and to make sure that the substance is there in the project in order to make it work. We have entertained some very interesting proposals; one in particular was doing metagenomic analysis of ice environments in the Arctic. The idea of having a Genome Prairie project operating in the Arctic Ocean, aboard the Canadian Coast Guard Arctic research vessel "Amundsen" (an icebreaker) was a very intoxicating proposition. However, when we developed that project, we were rushed to throw it together and we had critical flaws in it. Everyone, including the reviewers, was very excited about the proposal, but it did not meet the standard of excellence needed. We did not have all of our ducks in our row. Therefore, the most important advice to anyone would be this. The novelty and euphoria created by a potential scientific project is a trap. Focusing on developing an investment-worthy proposal that is backed by a highly integrated scientific, communication, and manage-

ment plan and team is the formula for success. In this business there are many great ideas, but for an idea to result in a significant outcome it needs the support of a solid plan.

CEOFO: Where do you see Genome Prairie five years down the road?

Dr. Pontarollo: We have spent the last ten or twelve years developing a skill set in the work force in genomics. Genomics itself has changed considerably in the last 15 years. When a graduate student shows up in the lab and presses a button, they create more data points doing that than I did in my entire PhD thesis, which took me five years to do. In five years, we would like to see our influence in the prairies enabling every scientist to apply a genomics approach at any point in their program. The second thing I would like to see us do more is that after we have established that capacity and skill set in our research community-which we are very close to doing- is to start moving those discoveries and inventions that have been made using genomics approaches to practical use. I want to see new techniques for mining and oil recovery that use natural approaches, which are more environmentally sound. I want to see better health care solutions, and better diagnostics based on genomics to help doctors make decisions on how to treat patients. We are currently doing discovery projects and now we are going to start doing more translation projects that bring that knowledge to bear in order to affect human lives in a positive way.



Genome Prairie

**101-111 Research Drive
Saskatoon, SK S7N 3R2
306-668-3570
www.genomeprairie.ca**