



November 13, 2008

\$2 million supports DNA sequencing of 1,000 plant species

Alberta iCORE researcher leads international genome project

Edmonton... A top Alberta researcher, Dr. Gane Ka-Shu Wong, will lead the Alberta 1,000 Plants Initiative, an international project focused on finding new genomic information that could lead to new medicines and a range of value-added plant products.

“This breakthrough project not only aims to improve human health and help the environment, but could also be the seed for a whole new bio-products industry in Alberta to diversify our vital agricultural sector,” said Doug Horner, Minister of Alberta Advanced Education and Technology. “It’s exciting for the Alberta government to attract high quality talent like Dr. Wong, from the U.S., as well as support from international partners.”

The Alberta 1,000 Plants Initiative is supported by the Alberta government, the Alberta Agricultural Research Institute (AARI), Genome Alberta, the University of Alberta and international partners including the Beijing Genomics Institute (China) and Musea Ventures (USA).

Dr. Wong was recently recruited as a Research Chair in Biosystems for the Informatics Circle of Research Excellence (iCORE). Technology developed by Dr. Wong, who holds a cross appointment between the Faculty of Science and the Faculty of Medicine & Dentistry at the University of Alberta, will be used to determine the gene sequence of 1,000 plants. Results could be used for breeding improved crops, from which high-value bio-products and medicinal compounds can be commercialized. After the first phase of the Alberta 1,000 Plants Initiative, the most promising plant species will be selected for further commercialization development.

“My work has focused on finding ways to bring speed and cost-saving to DNA sequencing and applying the data to enhance selective breeding of useful plant species,” said Dr. Wong. “Incredibly, only about 100 plant species DNA sequences have been analyzed in the proposed manner, so this project has real potential for new discoveries that can make nature work for us.”

The project will also expand the province’s research and development capacity in genomics and provides valuable experiences for post-secondary students in Alberta and China, who may have opportunities for exchange under the project. Major international projects, like this one require long-term relationships such as, the memoranda of understanding held between Alberta and China’s Ministry of Science and Technology and the Shenzhen Bureau of Science and Technology.

As part of the researchers' strategy to see the project have a positive impact worldwide, all of the sequence data they produce will be made available to the public on the Internet, through the GenBank database at www.ncbi.nlm.nih.gov/Genbank/.

Dr. David Bailey, President and CEO of Genome Alberta, said, "The Alberta 1,000 Plants Initiative is a bold initiative that takes advantage of the latest advances in genomics science and will create a wealth of information that could advance the province's bio-products industry."

"Dr. Wong's research is on the leading edge where genomics and information technologies converge," said Randy Goebel, President and CEO of iCORE. "Alberta is rewarded as another iCORE Research Chair's expertise and research outcomes support the development of innovative communities within Alberta and attracts industry and international funding."

Growing knowledge-based, value-added activity in Alberta's life sciences research and industry sector is one of Premier Stelmach's priorities for building Alberta's next generation economy.

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Attachment: Alberta 1,000 Plants Initiative project partners

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To call toll-free within Alberta dial 310-0000.

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Project Partners

Advanced Education and Technology (AET)

Investing in science and technology today is critical to ensure prosperity and a high quality of life tomorrow. Alberta Advanced Education and Technology focuses on the application of science and research and the innovative use of technology to shape the future of the province.

Alberta Agricultural Research Institute (AARI)

AARI funds projects to advance Alberta's position in the global agriculture and food sector. AARI enhances the economic contributions of the Alberta agricultural and food industry through support for research, development and technology transfer with a strategic emphasis on life sciences.

Alberta Informatics Circle of Research Excellence (iCORE)

iCORE invests in high calibre research scientists working on fundamental and applied problems in emerging areas such as wireless communications, artificial intelligence, bioinformatics, and quantum and nanocomputing. It operates several grant programs to develop iCORE Chairs at Alberta universities.

Beijing Genomics Institute (BGI)

BGI focuses its research activities on genomics and bioinformatics, transforming raw genomics data into useful information for life sciences. BGI participated in the International Human Genome Project and the award-winning Chinese Superhybrid Rice Genome Project.

Musea Ventures

Musea Ventures was founded in 2007 by Sass and Talli Somekh to create and invest in new companies with exciting technologies in the field of alternative energy and biology.

Professor Gane Ka-Shu Wong

In addition to the Alberta 1,000 Plants Initiative, Dr Wong's \$4-million, 4-year iCORE Research Chair supports his broad-based research into the human genome. He is also jointly appointed in the Department of Biological Sciences (Faculty of Science) and the Department of Medicine (Faculty of Medicine & Dentistry) at the University of Alberta. Dr. Wong received his BAsC from the University of British Columbia in 1983 and his PhD from Cornell University in 1990.

Project Funding

Alberta Advanced Education and Technology	\$1,500,000
Musea Ventures	\$500,000
	<u>Total funding</u>
	\$2,000,000

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