Press release

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$1.5 million to support cancer research by leveraging data!

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Early this year, Génome Québec, Oncopole and IVADO joined forces to launch the "Omics Data Against Cancer" (ODAC) competition.

Genomics and the study of cancer are two particularly complex fields of life science research, involving many challenges. To find solutions, researchers generate massive quantities of data that are difficult to interpret. Digital intelligence tools and methods enable the exploration of these large data sets and ultimately the extraction of the information necessary for a better understanding of life science, and therefore the fight against cancer.

The aim of this competition was therefore precisely to promote multidisciplinary research in artificial intelligence, omics and oncology in order to support the development of AI applications and methodologies to better mine cancer research data sets.

Today, the three organizations are proud to announce the winners of this competition and to present their projects:

- Amin Emad (McGill University, Mila) and Morag Park (Rosalind and Morris Goodman Cancer Research Centre) are developing artificial intelligence models to predict response to drug combinations in poor-outcome cancer patients. Learn more

- Ian Watson, Hamed S. Najafabadi (McGill University, Goodman Cancer Research Centre) and John Stagg (Université de Montréal, CHUM Research Centre) are developing "MELANO-PREDICT," a clinically applicable algorithm for predicting checkpoint inhibitor response in melanoma. Learn more

- Jacques Drouin (Université de Montréal, Montréal Clinical Research Institute) and Marc G. Bellemare (McGill University, Mila) are collaborating on decoding the cancer epigenome with novel artificial intelligence discovery tools. Learn more

- Mathieu Blanchette (McGill University, School of Computer Science) and his team are working on deciphering mechanisms of epigenetic alterations in cancer using 3D-genomics-informed deep learning. Learn more

- Sébastien Lemieux (Université de Montréal, IRIC) and his team are seeking to develop novel dimensionality reduction approaches for vector-based representations of expression profiles and chemical compounds to assist in the development of acute myeloid leukemia therapies. Learn more

"The competition results announced today are a powerful indicator of Québec's competitiveness in genomics and artificial intelligence, two focus areas for cutting-edge technology. 'Omics' cancer research, which generates a large and complex data set, can only be leveraged to its full potential by combining it with artificial intelligence," said Daniel Coderre, President and CEO of Génome Québec. He added: "The intersection of these two major fields of excellence will enable Québec to position itself uniquely internationally and, above all, will help accelerate advances in cancer research. That said, I want to congratulate the five winning research teams for their excellent projects, which hold the promise of a better future in the treatment of this disease."

Renaldo Battista, Executive Director, Oncopole, stated: "The ODAC program represents a unique opportunity to bring together multidisciplinary expertise in artificial intelligence, omics science and cancer to advance cancer research. I want to acknowledge the outstanding collaboration between Oncopole, IVADO and Génome Québec behind this initiative." Mr. Battista added: "This competition is an opportunity, once again, to highlight the importance of supporting cutting-edge research with the goal of ensuring that these innovations result in improved care and services. I would like to congratulate the winning teams for their highly promising projects aimed at developing innovative tools for the benefit of oncology research."

And IVADO Chief Executive Officer Gilles Savard said: "Digital intelligence tools and their resulting data-mining methods represent a tremendous opportunity to accelerate research, particularly in the health sector. We are convinced that a better understanding of cancer pathologies can emerge from these collaborations and with it, innovative solutions to better confront them. By providing this joint funding with Génome Québec and Oncopole, we are directly promoting the synergy between biomedical sciences and artificial intelligence, two hubs for excellence in Montréal research. We therefore wish the five winning teams the best of success in the continuation of their work!"

About

Génome Québec
Génome Québec's mission is to catalyze the development and excellence of genomics research and promote its integration and democratization. It is a pillar of the Québec bioeconomy and contributes to Québec's influence and its social and sustainable development.The funds invested by Génome Québec are provided by the ministère de l'Économie et de l'Innovation du Québec (MEI), the Government of Canada, through Genome Canada, and private partners.
To learn more, visit: www.genomequebec.com

Oncopole
Oncopole is a Quebec hub for research, development and investment to accelerate the fight against cancer. Created in February of 2017, it is the product of a unique co-creation process led by the Fonds de recherche du Québec - Santé (FRQS) and made possible by an initial $15M investment from Merck Canada. Oncopole's mission is to act as a catalyst leveraging actions made by the key players in Quebec's oncology and innovation research ecosystem. As a result, it aims to position the province as a leader in the field. Its priorities of action, namely research, entrepreneurship, commercialization and integration of innovation, as well as clinical relevance, are orchestrated in order to foster the mobilization of stakeholders, the discovery of innovative approaches to fight cancer and, ultimately, a positive impact for the benefit of patients.
For more information: www.oncopole.ca

IVADO
IVADO is the fruit of an initiative of HEC Montréal, Polytechnique Montréal and Université de Montréal. With the support of its ecosystem linking the academic, industrial and institutional sectors, IVADO develops leading-edge expertise in the various fields of digital intelligence (including data science, artificial intelligence and operations research) and helps transform novel scientific discoveries into concrete applications, economic opportunities and benefits for society.
For more information: www.ivado.ca

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