



NEWS — FOR IMMEDIATE RELEASE

TRANSMEDTECH INSTITUTE: PROPELLING QUÉBEC TO THE FOREFRONT OF HEALTH TECHNOLOGY INNOVATION

Montréal, Monday, April 24, 2017 – What if researchers, physicians, engineers, patients, students, equipment vendors, and public health system stakeholders all worked together to devise the medical technologies of tomorrow? That is the founding vision behind the TransMedTech Institute, created by Polytechnique Montréal, Université de Montréal, Centre hospitalier universitaire Sainte-Justine, Centre hospitalier de l'Université de Montréal, the Jewish General Hospital of Montreal, and several academic, government, socio-economic and industrial partners, and inaugurated today at CHU Sainte-Justine.

Headed by Dr. Carl-Éric Aubin, a professor of Mechanical Engineering at Polytechnique Montréal and a CHU Sainte-Justine researcher, the project—the only one of its kind in Canada—is dedicated to accelerating the design, development and implementation of innovative diagnosis and treatment solutions for the three main groups of diseases that pose the greatest threats to the health of Canadians: cancer, cardiovascular illnesses and musculoskeletal disorders. The Institute benefits from \$60 million in funding from its partners as well as a \$35.6-million grant from the federal government's Canada First Research Excellence Fund.

Research in open-innovation mode: both a scientific and a human adventure

“TransMedTech is a whole new way of approaching healthcare research and innovation,” says Professor Aubin, the recently appointed Executive and Scientific Director of the Institute. “The Institute’s cornerstone is its Living Lab, an open-innovation ecosystem that will be located at CHU Sainte-Justine. By breaking down barriers between research, medicine, industry R&D, and healthcare delivery, we are establishing an extremely fertile environment for the sharing of expertise and the mobilization of knowledge, where everyone learns from the experience and know-how of others. Every idea, whether it originates with a researcher, a physician, an engineer, a patient, or an industry professional, can help bring about a solution, which is then validated. We’re talking about true collective intelligence.”

Professor Aubin continues: “For researchers, this is an opportunity to step outside the ‘ivory tower’ of the laboratory, if you will, and understand the realities and needs of users and hospital settings, as well as the challenges of the healthcare system. Communication and collaboration play a crucial role; all participants in TransMedTech will be called upon to develop the common language they need to innovate together.”



Gaining speed in the race against disease

“From the social and human standpoints, the fight against cancer is a necessity and priority. Access to new technologies that improve diagnosis, treatment and post-treatment monitoring of cancer tumours will have a considerable impact on cure rates for our patients,” enthuses Dr. Té Vuong, a radiation oncologist at the Jewish General Hospital. She adds: “Working in interdisciplinary teams means that these new technologies, like nanorobotics, will lead to new paths to cures that involve less toxicity and need not rely on mutilating surgery. This approach creates both wealth and the hope for successful treatments with benefits including better quality of life and greater cost-effectiveness for our health system.”

In the traditional linear process of scientific innovation, the time between the emergence of a new solution concept and deployment of the eventual commercialized product in healthcare settings is measured in years or even decades. The open-innovative approach implemented at the TransMedTech Institute aims to reduce cycle times for development, validation, transfer to the healthcare system, and use. It also takes into account the socio-economic issues affecting the healthcare system, biomedical product and service providers, and the population.

Bringing research closer to the patient’s bedside

“Patients have vital knowledge stemming from their personal experiences living with disease and in the healthcare system,” explains Vincent Dumez, a patient and Co-director of the Université de Montréal Centre of Excellence on Partnership with Patients and the Public (CEPPP). “They are increasingly well informed and involved in their care. They also have a growing desire to share that knowledge with members of the scientific and industrial community, and play proactive roles in the development of solutions. So the TransMedTech Institute is going to help us shift into high gear in the patient-as-partner era.”

Interdisciplinarity in research: a breeding ground for high-impact breakthrough technologies

The research teams currently working at the TransMedTech Institute already possess internationally renowned expertise in the priority target areas: cancer, cardiovascular disease, and musculoskeletal disorders. Each of these fields poses significant challenges for our healthcare system, given the aging population, the complexity of the diseases involved, and the growing need for qualified resources within the system.

The Institute is expected to deliver a wide array of technological breakthroughs, from screening, diagnosis and prognosis tools to minimally invasive treatment and care tools, real-time augmented reality–assisted navigation tools, biomaterials, smart materials, personalized rehabilitative and assistive technologies, and more.



Attracting, training and retaining top talents

Boasting a critical mass of some 60 researchers, comprising leading players in their respective fields, major names in the medical technology industry, and essential health-sector policy-makers, the TransMedTech Institute clearly has what it takes to attract the best talents.

That attractiveness will be confirmed in the months to come, with some 30 researchers set to join the ranks of the Institute, along with highly qualified staff and specialists in innovation.

In addition, a hundred or so students will have the opportunity to work at the heart of this open-innovation ecosystem, in the process acquiring extraordinary scientific and entrepreneurial skills, ranging from proficiency in basic, applied and clinical research methodologies to expertise in technological innovation and deep understanding of challenges, concepts and cultures specific to various disciplines and areas.

Propelling Montréal and Québec to the forefront of global biomedical innovation

The impact of the TransMedTech Institute on Montréal's positioning in the health sciences and technology sector promises to be considerable, with lasting concrete effects on the industry—all the more so given that it will be convergent with that of the other two technology ecosystems recently implemented in the city: the Institut de valorisation des données (Institute for Data Valorization, or IVADO) and the McGill University NeuroHub, resulting in tremendous potential for synergies.

The Institute will also provide public-policy-makers with a better understanding of the needs of patients and health professionals in Montréal and beyond.

Canada First Research Excellence Fund

The Canada First Research Excellence Fund (CFREF) supports postsecondary institutions in their efforts to become global research leaders. The Fund helps them to make breakthrough discoveries, seize emerging opportunities and strategically advance their greatest strengths on the global stage, and implement large-scale, transformational and forward-thinking institutional strategies.

OFFICIAL QUOTES

- “The Canada First Research Excellence Fund will equip Canada to respond to some of the most pressing issues it will face in the future: brain health, sustainable food and water supplies, environmental concerns and future energy supplies. The research supported through the Fund will make the country stronger.”

– *The Honourable Kirsty Duncan, Minister of Science*



- “The impact of this CFREF investment will enable Polytechnique Montréal to advance its strengths and its status as a world leader in an area in which it excels: medical technologies. In doing so, Polytechnique Montréal has a greater advantage at competing with the best in the world for talent and breakthrough discoveries, and creating long-term health and economic benefits for all Canadians.”
 - *Ted Hewitt, President, Social Sciences and Humanities Research Council, and Chair, Canada First Research Excellence Fund Steering Committee*
- “The Québec government is proud to contribute to the success of this major project through \$6.8 million in financial assistance. The investment reflects the excellence of Polytechnique Montréal and our university hospital research centres in the design and development of innovative medical technologies. The TransMedTech Institute will undoubtedly broaden our expertise and ability to innovate, recognized the world over in the life sciences industry.”
 - *Dominique Anglade, Minister of Economy, Science and Innovation and Minister responsible for the Digital Strategy*
- “This project will drive the design and development of next-generation medical technologies while also enhancing dialogue between the designers and users of those technologies, so as to better meet patients’ needs. I am confident that the TransMedTech Institute, with the support of our government, will provide new solutions to our health and social services network, which can then be deployed throughout Québec and indeed around the world.”
 - *Dr. Gaétan Barrette, Minister of Health and Social Services, Government of Québec*
- “The TransMedTech Institute is a model for convergence between major research and teaching institutions, large hospitals, and the medical technology industry. Polytechnique is pleased and proud to be part of this one-of-a-kind ecosystem. The world-class research work that will be developed at the Institute will be a key factor in attracting talents to Montréal and retaining them, and the resulting medical innovations will actively contribute to the advancement of our society.”
 - *Christophe Guy, CEO, Polytechnique Montréal*
- “The TransMedTech Institute is unique in the world: a crossroads of innovation that will enable us to optimize integration of care, research, teaching and business partnerships in order to better meet patients’ needs. At the CHU Sainte-Justine, we are proud to host the Living Lab, a space where users and patients will be at the heart of the innovation process, as part of a structure for co-creation of new ideas that will be transformed into concrete solutions and implemented into the health system. We thank the CHU Sainte-Justine Foundation and its donors, who are remain steadfastly committed to healthcare for mothers and children in Québec, and to supporting innovation by allowing us to carry out these large-scale projects.”
 - *Dr. Fabrice Brunet, President and CEO, CHUM–CHU Sainte-Justine*
- “This new institute is a further demonstration of our universities’ pulling power, and yet more proof that, when it comes to innovation, Montréal is doing the right things. I have no doubt that



this institute will be a success: when a major engineering school, a prestigious faculty of medicine and leading research hospitals join forces, and are supported by visionary governments and philanthropists, they can accomplish anything.”

– *Dr. Guy Breton, Rector, Université de Montréal*

- “The Jewish General Hospital, a key facility in the Centre intégré universitaire de santé et de services sociaux du Centre-Ouest-de-l’Île-de-Montréal, is proud to play a crucial role in this pace-setting research into the clinical applications of nanotechnology. We are doing so by developing and strengthening partnerships and relationships—a vital aspect of our ongoing commitment to innovative research that provides healthcare users with the most effective and up-to-date care.”

– *Dr. Lawrence Rosenberg, President and CEO, CIUSSS du Centre-Ouest-de-l’Île-de-Montréal*
(integrated health and social services university network for west-central Montréal)

- “The health and care of the future will be shaped by new technologies. The relevance and impact of the solutions developed at the TransMedTech Institute will be optimized by the multidisciplinary teams working there. Since collaboration is a core component of MEDTEQ’s mission, we will be there to help the Institute maximize the benefits of its projects.”

– *Diane Côté, President and CEO, MEDTEQ*

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MEDIA KIT, including photos, backgrounder and video: <http://bit.ly/TransMedTech>

Website: transmedtech.org

INTERVIEW REQUESTS AND INFORMATION

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