Canadian Faculties of Medicine are integral to solving the COVID-19 Crisis

- Collectively, the AFMC's doctors and scientists not only provide care to patients and teach the next generation of doctors and scientists, but also conduct research that leads to ground breaking discoveries, new drugs, vaccines, devices, tests, and systems.

- It is of critical importance that the Canadian Scientific community come together to help solve the COVID-19 crisis and Faculties of Medicine across the country are integral to this enterprise.

- AFMC would like to thank the Government of Canada for their recent $1.1B investment for COVID-19 Research and Testing as well as its $291 million investment to extend expiring federal graduate research scholarships and post-doctoral fellowships.

- Of the 99 research grants funded through the Canadian Institutes of Health Research (CIHR) COVID-19 Rapid Research Funding opportunity, more than half (54) are within Canadian Faculties of Medicine.

- Health research areas of focus include:
  - **Development of rapid point of care tests:** The University of Ottawa, University of Alberta, University of Toronto, University of Calgary and McGill University
  - **Analysis of the SARS-COV-2 virus strain**: The University of Toronto, University of Alberta, University of British Columbia and Université de Sherbrooke
  - **Development of vaccine and vaccine testing:** The University of Saskatchewan and Université Laval
  - **COVID-19 drug discovery through structural biology and data analytics:** University of British Columbia and University of Toronto
  - **Identification of biomarkers that predict severity of the virus:** Dalhousie University, University of Toronto, University of Calgary and McGill University
  - **Development of surveillance tools**: The University of Toronto, McGill University and University of Manitoba
  - **Understanding and communicating risk and risk assessments:** The University of Toronto, University of Ottawa, University of Alberta and University of Manitoba

- Social and policy research areas of focus include:
  - **Understanding the Socio-Cultural Implications of COVID-19:** Dalhousie University, University of Toronto, University of Alberta, Memorial University of Newfoundland, University of British Columbia, University of Manitoba and Calgary University
  - **Conducting systematic assessment of the effectiveness of COVID-19 policies:** McGill University, University of Toronto, University of Alberta, University of Manitoba, Western University and Dalhousie University
  - **Working on outbreak management strategies:** University of Manitoba, University of British Columbia and University of Toronto

- o **Development of a formal guideline for COVID-19 management:** The University of British Columbia, Western University and University of Ottawa
  - o **Developing guidelines for health care workers:** The University of Toronto

- The University of Saskatchewan, University of Manitoba, McGill University, University of Toronto, University of British Columbia, University of Alberta and McMaster University have Biosafety Level 3 (BSL3) laboratories for research. This type of laboratory has air that is purified and requires scientists to wear personal protective equipment as well as shower before exiting. These labs conduct crucial research on established and emerging infectious diseases like COVID-19.

- With the Government of Canada's investments, Canadian scientists have the opportunity to make enormous contributions to solving the COVID-19 pandemic and advancing innovation internationally.

- In addition to Government, Faculties of Medicine are also collaborating with industry to fight the COVID-19 pandemic. For example, Roche Pharmaceuticals and Diagnostics is working with McMaster University, McGill University, Western University and University of Toronto.

Testimonials

Dalhousie University developing a point-of-care device

Dr. Kelvin is one of three Dalhousie principal investigators who received Canadian Institutes of Health Research rapid-response funding for COVID-19 research, announced in early March. His immediate goal is to identify biomarkers and develop a point-of-care device that staff in emergency departments can use to quickly predict if people presenting with the disease will have a mild or severe case.

"We've been working with emerging infectious pathogens for years, including the H7N9 influenza and SARS viruses," says Dr. David Kelvin (PhD), a professor and Canada Research Chair in Dal Med's Department of Microbiology & Immunology. "So we're working with a lot of well-developed tools and strategies. This allows us to quickly pivot and turn our attention to a new pathogen."

https://medicine.dal.ca/news/2020/04/01/facing_the_new_coronavirus__dalhousie_researchers_help_galvanize_scientific_response_to_the_new_pandemic.html

University of Alberta develops interactive tool for mapping COVID-19 spread

In an effort to help people and public health officials, a team of University of Alberta researchers have developed an interactive tool to visualize past, current and future data for the COVID-19 pandemic.

"This will help convince people to take the pandemic more seriously," said project lead David Wishart, a U of A professor with expertise in biology, biochemistry and computing science. "I think by making the data more accessible, more visual and more interactive, more of the public and more health officials can be more informed."

https://www.folio.ca/scientist-develops-interactive-tool-for-mapping-covid-19-spread/

University of Manitoba leads study on effective n95 mask decontamination

University of Manitoba clinician-scientists and their research partners at Canada's National Microbiology Laboratory (NML) have identified effective standard hospital sterilization techniques that may enable in-demand N95 masks to be sterilized up to 10 times for reuse in clinical settings.

"Medical masks are used by health-care workers, with the N95 providing the best protection against tiny aerosol particles that carry the novel coronavirus. At the start of the pandemic, it was clear we were going to be facing dramatically heavy demands for the N95s," said lead author Dr. Anand Kumar, professor of medicine (critical care and infectious diseases), medical microbiology/infectious diseases and pharmacology/therapeutics at the University of Manitoba. "Our team wanted to explore how different brands and models of N95s responded to standard hospital sterilization technologies in an attempt to identify safe options for their reuse in the event of supply shortages."

https://news.umanitoba.ca/um-researcher-leads-study-on-effective-n95-mask-decontamination-during-covid-19-crisis/

Université de Montréal et Université McGill analyse l'impact de la COVID-19

Une équipe de recherche de l'Université de Montréal et de l'Université McGill a obtenu un financement de 500 000 $ des Instituts de recherche en santé du Canada pour adapter et appliquer des méthodes d'apprentissage automatique aux systèmes de surveillance numérique des maladies qu'exploitent l'Agence de la santé publique du Canada et l'Organisation mondiale de la santé (OMS).

«L'objectif principal de notre étude est de parvenir à décrire comment les communautés réagissent à la COVID-19 et à documenter la mise en œuvre et l'efficacité des interventions de santé publique au pays et dans le monde», affirme Caroline Quach-Thanh, professeure au Département de microbiologie, infectiologie et immunologie de l'UdeM et médecin responsable de l'unité de prévention et de contrôle des infections au CHU Sainte-Justine, où elle assure la planification des mesures liées à la COVID-19 en ce qui concerne la prévention de la maladie et la gestion des employés exposés.

https://nouvelles.umontreal.ca/article/2020/03/30/analyser-l-impact-mondial-de-la-covid-19-grace-a-l-intelligence-artificielle/

University of Ottawa working on nasal spray vaccine

uOttawa virologist Dr. Marc- André Langlois secured $1-million in CIHR funding to pursue a combination of tools against COVID-19, including therapeutic and diagnostic antibodies and a nasal spray vaccine. Dr. Langlois' team has access to a certified Containment Level 3 lab in Ottawa, allowing the uOttawa and National Research Council scientists to safely work on the live infectious SARS-CoV-2 virus.

"We hope to isolate antibodies that are cross-reactive to several key members of the coronavirus family," says Dr. Langlois. "So if ever there is another outbreak of a new coronavirus, we will already have tools to counter it."

https://med.uottawa.ca/en/news/virologist-leads-attempt-develop-coronavirus-nasal-spray-vaccine

University of Toronto developing a blood test to screen COVID-19 immunity

A team of researchers at Sinai Health and the University of Toronto is in the early stages of developing a blood test that can identify who is immune to COVID-19 on a mass scale.

Professor **Anne-Claude Gingras**, project co-lead, said the test works by detecting antibodies in the immune system of infected patients.

"The entire city has come together to make this possible," said Dr. Gingras, a senior investigator at Sinai Health's Lunenfeld-Tanenbaum Research Institute (LTRI) and a professor of molecular genetics at U of T. "This test is being developed with the goal of monitoring the percentage of the population that has been infected and to help in identifying those individuals that may have protective immunity."

https://medicine.utoronto.ca/news/toronto-research-ramps-blood-test-screen-covid-19-immunity

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