

**John R. Evans Leaders Fund
Backgrounder**

Quebec

The Canada Foundation for Innovation (CFI) Board of Directors approved a contribution of \$36,778,814 to support 118 infrastructure projects in the province.

Project Title	Maximum CFI Contribution
----------------------	---------------------------------

Concordia University

Polymers for a hydrogen economy: Designing electrolytes and ionomers for the anion exchange membrane fuel cell	\$130,000
Improving wound dressing technology through use of natural ingredients and sustainable light energy sources	\$184,976
Accelerating the application of next-generation electric vehicles by developing new battery materials	\$168,833
On scaling computing infrastructure for foundational modeling in computational pathology	\$238,054
Sustainable zero-waste biomass for carbon-neutral processes and bio-circular economy via data-driven approaches	\$220,985
CARBON: Cryo-NMR for Accelerated Research in Biology, Organic Chemistry and Nanoscience	\$791,581
6 projects	\$1,734,429

McGill University

Optimizing body composition analysis to investigate new treatments for tissue loss syndromes	\$120,000
Discovery of patient-specific therapies for brain cancers	\$167,000
A multi-component integrative platform for studying highly pathogenic respiratory RNA viruses	\$256,059
Robotic fabrication for sustainable and autonomous construction	\$338,646
Laboratory for synergistic design and development of shared automated electric mobility systems	\$80,000
Revealing the hidden peripheral drivers of painful temporomandibular disorders: A multimodal and AI-driven approach	\$80,000
Visualizing essential macromolecular complexes in their native environment	\$356,044
Facility for quantum material growth, sample preparation and characterization	\$403,118
A helium-free nuclear magnetic resonance facility for sustainable agricultural and environmental research	\$111,639
Dual function materials for selective capture of CO ₂ and conversion to fuels	\$327,381
A multiscale, open-science approach to digital cognitive phenotyping in	\$99,083

transdiagnostic psychiatry	
Long-term health consequences of E-cigarette use	\$210,000
Mapping tumour microenvironment interactions with spatial biology	\$239,559
Multiscale structural biology of biomineralization	\$338,277
Organic electronic materials for energy and quantum applications	\$283,097
Advancing nanoscale research for improved infection control and therapeutic applications	\$391,904
Inter-brain synchrony as a novel social biomarker of psychiatric illness and treatment response	\$174,904
MiniHub for Engineering and Producing Viruses and Virus-like Particles (MHVEP)	\$255,257
Complex fluid characterization and fragmentation in disease transmission	\$310,020
Applied performance sciences studio lab	\$409,970
Sustainable and resilient tall mass timber construction: Development of performance-based wind design approaches	\$316,328
Environmental nucleic acids discovery hub	\$800,000
New paradigms for the evaluation of human movement biomechanics	\$782,485
EdTech for effective and equitable education	\$370,627
Understanding the causes and impacts of water cycle biases in the Canadian earth system model for model improvement	\$100,332
Understanding chronic inflammatory haematopoiesis and its role in cancer promotion	\$449,704
RACE4NbCS: Rapid Assessment of Carbon Emissions for Nature-based Climate Solutions	\$133,261
Advancing high-resolution translational brain research with cutting-edge single-cell methods	\$379,805
Aquatic infrastructure for novel experimental studies in behaviour, ecology and evolution	\$212,288
Genomic medicine in renal cell carcinoma	\$236,938
Bioengineering and monitoring the development of transplantable human lung alveoli using microfluidic-based approaches	\$800,000
2 Photon tools to map cerebellar circuits in health and disease	\$173,600
32 projects	\$9,707,326

Polytechnique Montréal

Exploration of ultra high temperature phase transitions in pyrometallurgy	\$160,403
Over-the-air testing and validation for radar imaging systems and hardware	\$162,734
Research infrastructure on the modernization of power systems using power electronics	\$299,564
Infrastructure for autonomous robot-assisted in-situ subsurface prospecting of critical minerals	\$175,000

Advanced Lunar and Extreme Robotics Laboratory (ALERT)	\$125,000
BEAM: A borehole exploration apparatus for multiparameter geophysics	\$125,000
Novel ultrasound probes for imaging capillary function in vivo using dynamic Ultrasound Localization Microscopy	\$125,000
7 projects	\$1,172,701

Université de Montréal

Advanced mass spectrometry for xenobiotic and metabolite analysis to enhance precision research in veterinary medicine	\$309,168
Spinning disc microscopy infrastructure for advanced imaging and structural biology applications	\$171,600
Coherent terahertz spectroscopy facility for quantum materials discovery	\$373,909
Physical-virtual 3D interfaces via machine learning	\$216,020
High performance biomarker testing of the mechanistic association between insomnia and Alzheimer's disease	\$145,204
Contaminants chimiques et biosurveillance de l'exposition humaine	\$694,024
CONTAC - Carbon Observatory Network for the Terrestrial and Aquatic Connectivity	\$244,289
VROOMM: The first photon-counting high-resolution optical spectrograph for faint exoplanet detection	\$300,000
Orchestrating 3D-order in covalent organic frameworks: Synthesis, photophysics and sensing	\$342,586
Infrastructure for computational methods development in cancer research	\$129,158
Enhanced recovery after surgery for spinal cord injury with early brain-modulated activity-based therapy	\$688,813
A rapid response flux tower infrastructure to quantify disturbance impacts on potential nature-based climate solutions	\$94,404
Developmental neurolinguistics laboratory	\$477,518
Multiplexed quantitative and single-cell functional genomics of mammalian transcriptional cis-regulation	\$205,656
TARGETted interventions during pregnancy and their impact on maternal and childhood ASTHMA (The TARGET Asthma Project)	\$134,586
Automated and fast-imaging platform for thick samples to study the brain and the retina	\$322,970
Ancient Maya landscapes: Archaeological survey and excavations in a neotropical setting	\$41,781
17 projects	\$4,991,686

Université de Sherbrooke

Development of novel oncolytic virotherapies to reshape the tumor microenvironment	\$458,692
Biodiversity dynamics of plant-insect food webs	\$124,239

Evaluation of contaminant transport through geosynthetics for improved sustainability in waste management	\$98,891
Systèmes de chromatographie ionique pour la décontamination des sols pollués et le stockage du CO2	\$99,001
Infrastructure for mechanistic studies of antimicrobial recalcitrance in polymicrobial communities	\$139,194
VÉLOs LABoratoires sur la multiExposition en milieu URBAIN (VeloLabE-Urbain)	\$105,098
Laboratoire SOCIALEX (Sciences sociales et méthodes expérimentales)	\$264,683
System for gold standard hemodynamic monitoring	\$107,977
Integrated approaches to study the microbiome and mechanisms of antibiotic resistance	\$381,315
EPIC2: A versatile platform for advanced Characterization of Photonic Integrated devices and Circuits	\$163,985
Advanced imaging to investigate subcellular mechanisms of neuronal function and targets for neurological disorders	\$269,526
Integrated platform for advanced mouse multi-omics	\$392,336
12 projects	\$2,604,937

Université du Québec - École de technologie supérieure

Optimiser les performances tout en réduisant les risques de blessures : Application au patinage de vitesse courte piste	\$100 000
In-ear sensing for multimodal health tracking and early disease detection	\$100 000
2 projects	\$200,000

Université du Québec – Institut national de la recherche scientifique

Aquatic Ecotoxicology and Ecophysiology Laboratory (AEEL)	\$223,000
High-efficiency deep learning computing for edge wireless communication	\$149,645
Studying laser-induced phase transformations of ceramic nanomaterials with a dynamic transmission electron microscope	\$151,243
From gene to personalized therapy to contribute to the sustainable health of people with rare diseases	\$242,125
4 projects	\$766,013

Université du Québec à Chicoutimi

SENSe platform: A state-of-the-art research infrastructure for studying mechanisms of sensorimotor control	\$100,000
Pour une histoire sociale de la filiation génétique : l'intégration de la parenté spirituelle au projet BALSAC	\$100,000
2 projects	\$200,000

Université du Québec à Montréal

Nanospectroscopie Raman in situ pour les matériaux avancés appliqués en énergie et en santé	\$472,978
μTRACE. Tracage dendroisotopique et dendrogéochimique des changements environnementaux au sein de l'écosystème boréal.	\$425,315
Plateforme de la Boussole durable : une infrastructure pour l'analyse du cycle de vie de la consommation au Canada	\$267,329
Plateforme pour l'étude du protéome sombre dans les neuropathies	\$474,115
4 projects	\$1,639,737

Université du Québec à Rimouski

A laboratory for compound-specific ¹⁴ C to study the impact of climate change on the oceanic & atmospheric carbon cycle	\$239,753
Impact des activités humaines sur la stabilité du génome et ses conséquences sur la biodiversité	\$139,143
Programme pancanadien de détection et de surveillance d'instabilités en parois rocheuses	\$169,277
3 projects	\$548,173

Université du Québec à Trois-Rivières

La biomécanique appliquée au service de la santé neuromusculosquelettique	\$163,049
Platform for the study of bioenergetic reprogramming in health and disease	\$172,580
2 projects	\$335,629

Université du Québec en Abitibi-Témiscamingue

Outils de caractérisation des matériaux miniers en vue de leur gestion responsable	\$64,446
Appareil de mesure des gaz à effet de serre en temps réel	\$39,177
2 projects	\$103,623

Université du Québec en Outaouais

Antennes et surfaces électromagnétiques avancées pour les systèmes sans fil émergents	\$185,000
Renforcer la résilience de la vigne en climat froid par les outils OMICs	\$199,462
2 projects	\$384,462

Université Laval

Hybrid stereo-electroencephalography in drug-resistant focal epilepsy: Epileptic biomarkers and cognitive neuroscience	\$199,986
Information technology infrastructure for mathematical modeling and health economics of infectious diseases	\$120,000
Référentiel Tracéologique Expérimental Collaboratif (RTEC)	\$26,186

Organ-on-chip: The next generation disease modeling and drug screening platform	\$120,000
Optogenetics in nonhuman primates	\$120,000
Development of green methods for the recovery of critical and strategic metals from e-waste	\$108,376
Exploring galaxy clusters environments with SpICE, a new imaging Fourier transform spectrometer at Mont-Mégantic	\$120,000
Chaire de recherche du Canada en efficacité énergétique	\$114,189
Deep immunophenotyping of the impact of early life stress on sex-specific determinants of lung immune responses	\$119,238
Field robotics	\$120,000
Étudier les sols pour assurer la durabilité et la résilience des agroécosystèmes	\$82,922
Analyse dynamique de la mitochondrie par imagerie confocale à haut débit et haute résolution	\$310,000
VIVADATA: protéger la vie privée pour encourager la valorisation des données de santé	\$93 500
Multiscale and multimodal quantitative imaging of brain tumor	\$229,244
Laboratoire de suivi de la qualité de l'eau dans les communautés nordiques du Nunavik	\$116,207
Cutting-edge real-time genomics and informatics to transform the diagnostic and surveillance of infectious diseases	\$175,533
Integrated platform for advanced housing and body composition analysis in rodents	\$151,739
RECLAIM - Recycling of E-waste using Carbon dioxide, LIBS, and elemental Analysis for valuable Metals recovery	\$399,977
Robotic non-invasive brain stimulation guided by neurodynamics	\$115,233
State-of-the-art platform to the early and rapid detection of herbicide resistance in weeds	\$128,307
Single-cell high-throughput proteomics to pioneer tailored immunotherapy strategies in pediatric oncology	\$175,533
Biology and control of zoonotic and pandemic respiratory viruses	\$627,936
Quantum dots towards enabling reproducible quantum technologies	\$128,573
23 projects	\$3,902,679

NOTE: As part of this announcement, an additional \$8,487,419 was awarded under the Infrastructure Operating Fund (IOF), a mechanism that assists institutions with the incremental operating and maintenance costs associated with the new infrastructure.