VISION: to establish and mobilize a network drawn from academia, industry, and not-for-profit research enterprises to maintain and improve Canada’s position as a global leader in developing next generation nanomedicines.

MISSION: to develop novel therapeutics to cure high-burden human diseases and new diagnostics to detect disease more precisely; to commercialize these products to bring health and economic benefits to Canadians; and to train the skilled workforce required by the growing nanomedicines industry.

FUNDING: NMIN was awarded $19,125,024 in funding over 5 years (2019-2024) by the Government of Canada through the Networks of Centres of Excellence (NCE) Program.

RESEARCH INVESTMENTS & NETWORK MEMBERS

Total NMIN researchers: 120 | Total PIs: 28
Total collaborators: 74

RESEARCH THEMES:

Targeted Drug Delivery (Theme I)
Leaders: Drs. Marcel Bally & Shyh-Dar Li
University of British Columbia

Enabling Gene Therapies (Theme II)
Leaders: Drs. Pieter Cullis & Christian Kastrup
University of British Columbia

Diagnostics (Theme III)
Leaders: Drs. Warren Chan & Michel Meunier
University of Toronto

IMPACTS & OUTPUTS (2019-2022):

248 trainees engaged
76 peer-reviewed publications
25 jobs created
24 pre-clinical technology dossiers
8 IP outputs
8 patents filed
6 spin-off companies
2 invention disclosures
PARTNERS 2022
Total partner organizations: 117
By country
- Canada 85 73%
- USA 20 17%
- Germany 2 2%
- Belgium 1 1%
- China 1 1%
- Denmark 1 1%
- Ireland 1 1%
- New Zealand 1 1%
- Sweden 1 1%
- Singapore 1 1%
- Switzerland 1 1%
- United Kingdom 1 1%

By sector
- Hospitals etc. 6 5.1%
- Federal 7 5.9%
- Other 10 8.5%
- NFPs 16 13.6%
- University 24 20.5%
- Industry 54 46.1%

HQP 2022
Total HQP engaged in NMIN research: 212
By level
- Masters 11%
- UnderGrad 9%
- PhD 28%
- Research staff 25%
- Postdoctoral Fellows 17%

By gender
- 55% Male
- 45% Female

By nationality
- 63% Canadian
- 37% International

NANOCORE
Nanomedicines Formulation and Characterization Core Facility
Leaders: Drs. Pieter Cullis & Christian Kastrup, University of British Columbia
Mission: To develop high-quality, state-of-the-art lipid nanoparticles encapsulating small molecule or nucleic acid drugs that enable proof-of-concept (POC) animal studies
To standardize the physicochemical characterization in order to identify critical parameters
Formulation: High-quality, state-of-the-art nanoparticle formulations encapsulating small molecule, peptide or nucleic acid drugs that enable proof-of-concept (POC) animal studies.
Physicochemical characterization: Comprehensive portfolio of characterization assays including sizing & structure analyses that guarantee reliable interpretation of in vitro & in vivo studies & further optimization.
No nanoparticle formulation will enter animal studies in NMIN without being rigorously characterized.

PHARMACORE
Pharmacology/Toxicology and Scale-up Core Facility
Leaders: Drs. Marcel Bally & Shyh-Dar Li, University of British Columbia
Mission: To help research partners develop promising nanomedicines and provide capabilities to advance new treatments from the bench to the clinic.
Capabilities: Pre-clinical in vitro, pre-clinical pharmacology, GLP-guiding safety, manufacturing

eHTA
early Health Technology Assessment platform
Leader: Dr. Larry Lynd, University of British Columbia
Mission: To enhance the value propositions of NMIN-funded technologies to healthcare payers by conducting early evaluations of their cost-effectiveness.
Capabilities: Cost-effectiveness analysis; target product profile development; societal impact assessment; bottom-up market sizing for business plans; strengthening reimbursement dossiers

PUBLICATIONS
from NMIN-funded research
1 April 2019—31 March 2023
- Peer-reviewed articles in refereed journals: 76
- Other published contributions: 355
- Specialized publications: 255
- Total: 686