



September 2023

An NMIN Grand Finale Gathering

Planning for NMIN's 2024 Research Conference gaining momentum

The culminating event of the NMIN network, its [2024 Research Conference](#), will gather Canada's foremost nanomedicine researchers and innovators for three days of rich, collegial scientific exchange and networking.

The event boasts a stellar line-up of speakers.

NMIN's Founding Scientific Director, the much celebrated nanomedicine superstar and LNP pioneer Dr. **Pieter Cullis**, will share his insights into the bold, rapidly emerging future of mRNA-based medicines.

Former Theme III Research Leader Dr. **Shana O. Kelley**, now at Northwestern University, will discuss the new biomedical research hub she heads, the Chan Zuckerberg Biohub Chicago, as well as related research breakthroughs, some linked to foundational NMIN-supported research.

Former NMIN HQP Dr. **Dominik Witzigmann** will present on his experience as CEO of NMIN spin-off company NanoVation Therapeutics, which is designing novel lipid nanoparticle delivery systems to enable cutting-edge gene therapies.

From beyond the network ranks, former Fortune 500 executive and CMO and four-time startup founder **Sean Moffit** of FutureProofing will share his insights as a thought leader in company innovation, brand leadership, business transformation and emerging technologies.

Panel sessions will explore the future plans and potential of NMIN's three Core Facilities, Theme-based programs of research, and Network spin-off companies.

The diverse range of research represented within the Network and its talented trainees will be showcased in trainee research presentations and a trainee poster competition.

A concluding future-oriented panel on the commercial and research opportunities arising from new

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MESSAGE FROM THE EXECUTIVE DIRECTOR

When NMIN was awarded NCE funding in April 2019, the Network was ready to hit the ground running thanks to the extensive preparations by its team of founding NCE applicants, NMIN future investigators and Board members. Immediately post-launch, NMIN researchers met in person in Vancouver in May 2019 to refine the network's research strategy and by August 2019 the first round of project funding received Board approval—quite possibly a record timeline for NCE research project initiation.

Then, NMIN's first Scientific Meeting occurred 13-14 September 2019 in Vancouver, cementing research collaborations and partnerships. When the COVID pandemic was declared in March 2020, just one year after NMIN's launch, no one foresaw how nanomedicines—and specifically the work of NMIN researchers—would be catapulted into the global limelight due to their role in helping halt the pandemic, validating the Network's vision and propelling the field forward.

This intersection of a community's vision and drive with opportunity born of crisis helps explain how NMIN has come so far, so fast.

The trajectory of the Network, its outputs to date and its legacy will be explored and duly celebrated in NMIN's [2024 Research Conference](#).

Meanwhile, NMIN research and its capacity-building efforts continue "full speed ahead." NMIN is poised to make the most of the time and resources remaining to it as an NCE in this, its final full year of operation.

In terms of HQP opportunities, decisions will soon be announced regarding the final round of NMIN undergraduate studentships and graduate awards. Twenty-nine applications were received by the deadline of 15 September and are currently under review.

[Travel awards](#) are available for HQP to attend NMIN's 2024 Research Conference and other eligible events, and NMIN invites applications to its [Nanomedicines Translated](#) and its [Lab Exchange & Skills Development](#) programs.

NMIN researchers, please encourage your trainees to take advantage of these opportunities while they last!

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An NMIN Grand Finale Gathering—continued

nanomedicine innovations and ecosystem developments will wrap up the conference on its final day.

Please note:

- The deadline for [abstract submissions](#) to the poster competition is Monday 6 November 2023.
- [Early-bird registration](#) rates are available until 20 October 2023.

[Sponsorship opportunities](#) are available for like-minded organizations to support and be part of this event.

We look forward to you joining us from 24-27 January 2024 at the Fairmont Waterfront Hotel in Vancouver's spectacular harbourfront, to celebrate the significant accomplishments and promising future of Canada's world-renowned community of nanomedicine researchers and innovators.

RESEARCHER NEWS

NMIN Research Leader Dr. Warren Chan [published NMIN-supported research](#) in *Nature Materials* challenging a long-standing theory about how nanoparticles enter and exit the tumours they are meant to treat.



[READ MORE](#)

NMIN Founding Director Dr. Pieter Cullis was named to the [Order of BC](#), received the [Sultan Karim Medal](#), was feted as a [Tang Prize awardee](#), and was featured in a [story in the Toronto Star](#) about the potential uses of LNPs for the treatment of disease.



[READ MORE](#)

NMIN Researcher Dr. Keith Pardee and colleagues secured \$1.8M in [seed funding](#) for the NMIN spin-off company he co-founded, Liberum Biotech.



[READ MORE](#)

NMIN Researcher Dr. Shana Kelley was co-leader of the development of a [new DNA identification approach](#) that could improve monitoring for chronic diseases.



[READ MORE](#)

Message from the Scientific Director—continued

On the research front, 94% of NMIN's total funding has been awarded (\$13.8M of \$14.6M). Of those awarded funds, 73.5% (\$10.8M) has been released.

This illustrates the degree to which NMIN is on schedule to maximize its use of NCE funds in support of innovative research, with only \$3.8M still to be awarded or released.

Part of this remaining funding will be issued through NMIN's Strategic Initiative (SI) program. Sixteen full applications will be reviewed this fall, of which 12 can be supported, with funding decisions expected in December 2023.

NMIN PIs leading on-going projects should note that release of their remaining research award monies is dependent upon Research Management Committee (RMC) approval of their final project reports and final progress reports, due by 31 October 2023. The RMC will review the reports and make decisions on eligibility for the release of the final funding installments on 14 November 2023.

PIs should further note that if they retain [unspent NMIN funding beyond the end of NMIN's NCE mandate](#) at 31 March 2024, their host institutions must report to NSERC the subsequent use of those funds, and if any funds remain unspent at 31 March 2025, the PI's host institution must return those funds to NSERC.

One reason NMIN's research program is in such good standing is due to the excellent stewardship of Dr. Rasika Kulkarni, who has served as NMIN's Manager, Research Administration, since October 2021. On behalf of the Network, I extend a heartfelt thanks to Dr. Kulkarni and wish her every success as she leaves NMIN to take the next step in her career path.

In the months left to NMIN as an NCE, I look forward to the collective achievements to come, and to consolidating the Network's exciting legacy plans.

Certainly our 2024 gathering in Vancouver will be the highlight of our remaining time together. I look forward to seeing you there!

Dr. Diana Royce, Ed.D.
Executive Director, NMIN

NMIN PIs
please note:

Final Progress Reports
for all Rounds 1-5 &
SI-Comm projects

ARE DUE:
31 October 2023

Thank you and farewell!

NMIN's Manager, Research Administration, Rasika Kulkarni has moved to UofT

Over the past two years, Dr. Rasika Kulkarni helped guide NMIN's research program through its most active and critical phase.

Dr. Kulkarni joined NMIN in October 2021, just in time to participate in the *Research Integration Workshop* for NMIN's Grand Challenges program applicants. She subsequently managed the related Grand Challenges international peer review and award processes.


Following this, she helped launch and oversee NMIN's call for and allocation of Rounds 4 and 5 research funding, while accelerating the Strategic Initiatives program and managing the final reporting and funding release processes for Rounds 1 and 2 research.

During her tenure, NMIN met or exceeded all its key performance indicators for research in terms of partnerships, leveraging of non-NCE funding, and overall program timelines and milestones. She leaves NMIN's research portfolio in excellent shape as the project PIs position their projects for completion.

"Rasika has been a wonderful colleague - so supportive of NMIN investigators, and always personable, timely and conscientious in her contributions," says Executive Director Dr. Diana Royce.

"My role and that of the RMC was made so much easier by Rasika's diligent and thoughtful approach," adds Scientific Director Dr. Gilbert Walker. "We wish her the best, and extend to her our sincere thanks for her valuable contributions." RMC Chair, Dr. Terry Allen, similarly commends Dr. Kulkarni.

Dr. Kulkarni completed her final day of work for the Network on 15 September 2023 to assume a new role as Research Program Officer for the University of Toronto's Emerging Pandemic Infections Consortium in the Temerty Faculty of Medicine.



"I thank NMIN for giving me the opportunity to work with such a vibrant network of scientists doing such important research," comments Dr. Kulkarni. "It was truly a privilege to be a part of NMIN's efforts to advance the field. I will miss being exposed to the ideas and energy of the Network, and I will especially miss its amazing investigators and my fellow staff members."

Collaboration, Inc.

Another network legacy: NMIN's national database of nanomedicine-related R&D capacity

To facilitate collaboration among nanomedicine researchers and labs, NMIN is creating an online database of Canadian nanomedicines researchers and the expertise, specialized instrumentation and protocols in their labs.

Thanks to the many researchers who have already shared their information, the database is rapidly growing.

Explore the database-in-development:

<https://www.nanomedicines.ca/expertise-database/>

Nanomedicine-related R&D capacity in Canada

A survey towards the development of a Canadian database of nanomedicine-related research expertise

As part of its legacy strategy, the NanoMedicines Innovation Network (NMIN) is creating an online database of Canadian nanomedicines researchers and the areas of expertise represented within their labs. The database is intended as a tool to facilitate collaboration among nanomedicine researchers and labs—within and beyond the NMIN Network, now and in the future.

If you would complete the form below by providing details about the research & development expertise within your lab, NMIN can include this information in an online database that facilitates collaborative research opportunities for NMIN participants and nanomedicine researchers Canada-wide.

Thank you. Please direct any questions to: dianaroyce@nanomedicines.ca

Name

First

Last

Email

Institution

1. Please indicate the type(s) of NANODELIVERY in which your lab specializes:

- ☐ Lipid-based
- ☐ Polymer-based
- ☐ Inorganic
- ☐ Other

2. Please indicate the TARGETING APPROACH(ES) in which your lab specializes:

- ☐ Active targeting (e.g., antibody modification of nanomedicine)
- ☐ Physical targeting (e.g., use of pH sensitive nanomedicine)
- ☐ Other

3. Please indicate the principal APPLICATION(S) of the nanodelivery system(s) in which your lab specializes:

- ☐ Drug delivery
- ☐ Gene delivery
- ☐ Peptide/protein delivery
- ☐ Nano-imaging
- ☐ Other

4. Please indicate the DISEASE MODEL(S) in which your lab specializes:

- ☐ Cancer
- ☐ Heart failure
- ☐ Rare diseases
- ☐ Arthritis
- ☐ Diabetes
- ☐ Infectious diseases
- ☐ Other

If you haven't already done so, please complete the [NMIN survey](https://www.nanomedicines.ca/expertise-survey/) with details about the R&D expertise within your lab for inclusion in the database.

Complete the NMIN survey:

<https://www.nanomedicines.ca/expertise-survey/>

NMIN's Highly Qualified Personnel (HQP) Program

Hitting the jackpot in Las Vegas

NMIN HQP win poster prizes at the 2023 CRS Annual Meeting in Nevada

Congratulations to the five NMIN HQP who were among the "Best Poster" winners at the 2023 Annual Meeting of the Controlled Release Society (CRS) in Las Vegas.



Karen Chan

Postdoctoral Fellow, UBC

Poster: A pH-sensitive liposomal formulation of host defence peptide for treating *Pseudomonas aeruginosa*



Yulin Mo

PhD candidate, University of Toronto

Poster: Light-Activated siRNA Endosomal Release (LASER) by Porphyrin Lipid Nanoparticles



Sabrina Roussel

PhD candidate, University of Laval

Poster: Insight onto the development and use of a new polymer for lipid-based nanotechnology drug delivery



Liza Silverman

PhD candidate, University of Victoria

Poster: Curcumin Increases Encapsulation of SN-38 and Lowers Polydispersity in Polymeric Nanoparticles



Jiamin Wu

PhD candidate, UBC

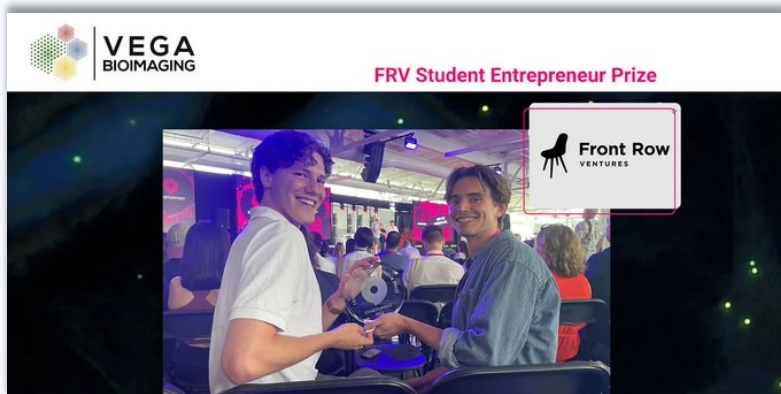
Poster: Engineering of novel cell-penetrating peptides for non-invasive delivery of protein and peptide drugs

[Visit the NMIN website](#)

for more information about *NanoMedicines Translated*, including eligibility requirements, benefits of participation, and how to apply.

Prizewinning pitch

NMIN is proud to announce that its start-up company Vega Bioimaging Technologies Inc. won the \$50K Student Entrepreneurship Prize at the Startupfest conference, held 10-12 July 2023 in Montreal.



The prize, sponsored by Front Row Ventures, recognizes the most effective elevator pitch—literally, with pitches being delivered to the judges in an elevator—made by students or recent graduates involved in the company.

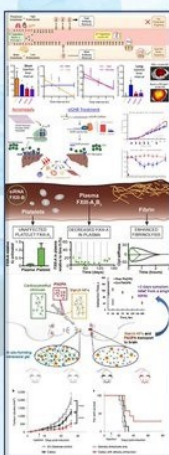
Vega Bioimaging—co-founded by NMIN researcher Dr. Michel Meunier of Polytechnique Montréal and by CEO and former NMIN HQP Cécile Darvot—was represented in the competition by Julien Fillion and Arnaud Latreille (pictured above).

NMIN Lab Exchange & Research Skills Development Awards 2023-24 Competition

- The Lab Exchange Program supports NMIN trainees spending between six weeks and six months working on research projects with national or international investigators and their teams.
- The Research Skills Development Award Program provides support for training opportunities to cultivate the next generation of nanomedicine scientists and entrepreneurs in Canada.

Deadline: first-come, first-serve, subject to funding

[MORE INFO](#)



NANOMEDICINES TRANSLATED

NMIN
NANOMEDICINES INNOVATION NETWORK
RESEAU D'INNOVATION NANOMÉDECINES

NMIN's NanoMedicines Translated Program engages NMIN HQP in a hands-on learning process to produce clear-language summaries of their NMIN-supported, peer-reviewed research publications.

Participants in the program produce a communications tool by which to disseminate their research to the broader public and acquire knowledge translation skills.

NMIN 2024 Poster Competition

The 2024 NMIN Poster Competition will take place during the [2024 Research Conference](#) at the Fairmont Waterfront Hotel in Vancouver, BC, 24-27 January 2024.

The Poster Competition is open to NMIN-funded trainees and members of the NMIN HQP Network (NHN) who are interested in presenting research findings related to NMIN's mission and mandate. Abstracts that present results with high commercial or clinical potential are strongly encouraged.

Cash prizes will be awarded for the top posters. All approved abstracts will be included in the virtual Abstract Book, made available to registered meeting participants.

Abstract Submission Deadline: **Monday 6 November 2023**

[Call for Abstracts](#) | [Abstract Guidelines](#)

[Sample Abstract](#) | [Application Form](#)



NMIN Travel Awards

are available to NMIN Highly Qualified Personnel (HQP) to support their participation in events aligned with NMIN's mission and scope of research



NMIN
NANOMEDICINES INNOVATION NETWORK
RESEAU D'INNOVATION NANOMEDICINES

NMIN Travel Awards are available to NMIN HQP to support their participation in NMIN's [2024 Research Conference](#) (23-27 January 2024 in Vancouver, BC), as well as the up-coming NMIN supported events [From Innovation to Impact: Deep Tech Transforming the Future of Healthcare](#) (16-17 October 2023 in Edmonton, AB) and [Vancouver Nanomedicine Day](#) (15 November 2023 in Vancouver, BC).

For inquiries about NMIN Travel Awards, please contact divyarao@nanomedicines.ca

Events

DEEP-TECH CANADA
NMN

**From Innovation to Impact:
Deep Tech Transforming the Future
of Healthcare**

Edmonton, Alberta

October 16-17, 2023

NMN
NANOMEDICINES INNOVATION NETWORK
RESEAU D'INNOVATION NANOMEDICINES

**VANCOUVER
NANOMEDICINE DAY**

November 15, 2023

Pharmaceutical Sciences Building
University of British Columbia, Vancouver, BC, Canada

Call for Abstracts
Deadline: 1 October 2023

Recent & Up-coming NMN Lectures

NMN
NANOMEDICINES INNOVATION NETWORK
RESEAU D'INNOVATION NANOMEDICINES

LECTURE SERIES

Selective ablation of solid tumors using a p53-targeted FAST-LNP gene therapy

 **Dr. John Lewis**
Professor, Department of Oncology, & Bird Dogs Chair in Translational Oncology,
University of Alberta



The quest for next-generation lipid nanoparticles for cell-specific delivery of mRNA

 **Dr. Gaurav Sahay**
Associate Professor in the Department of Pharmaceutical Sciences;
Co-Director for the Center of Innovative Drug Delivery and Imaging (CIDD); The College of Pharmacy, Oregon State University

Pieter Cullis Invitational Lecture



NMN



Dr. Aaron Wheeler

28 September 2023

11 am PT | 2 pm ET



Dr. Keith Pardee

Coming soon

Date & time TBD



Dr. Kathryn Whitehead

4 October 2023

11 am PT | 2 pm ET



Dr. Michel Meunier

21 November 2023

11 am PT | 2 pm ET