

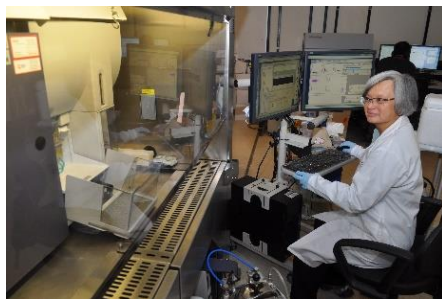


A NEWSLETTER FROM
**The Snyder Institute
for Chronic Diseases**



March 2024

Snyder Community Resource (SCoRE) Open House demonstrates innovative research facilities



On March 20, the Snyder Institute hosted our successful SCoRE Open House event, with a goal to inform the university community about the cutting-edge research facilities available to all UCalgary researchers at Snyder labs.

Attendees heard presentations about the workings of the [IMC](#) and its [Advanced Imaging & Biomarker Discovery Platform](#) and [Germ Free Facility](#), the [Biobanking Resource Laboratory](#), [Bioinstrumentation Laboratory](#), [Human Organoid Innovation Hub \(HOIH\)](#), [Kipnes Lymphatic Imaging Suite](#), [Live Cell Imaging Labs](#), [Mouse Phenomics Resource Laboratory](#), [Nicole Perkins Microbial Communities Core labs](#), [TAMARATT Lung Suite](#), [Calgary Metabolomics Research Facility](#), and the CL3 facility. Attendees enjoyed interactive tours of some of these facilities, learning about how they can help advance many types of research. [Learn more about our SCoRE resources.](#)

Research news

New study finds direct communication path between the lungs and the brain



Researchers at UCalgary's Snyder Institute have discovered that the lungs communicate directly with the brain when there is an infection. Findings show the brain plays a critical role in triggering the symptoms of sickness, which may change the way we treat respiratory infections and chronic conditions.

"The lungs are using the same sensors and neurons in the pain pathway to let the brain know there's an infection," says [Dr. Bryan](#)

[Yipp, MD '05](#), MSc'05, clinician researcher at the Cumming School of Medicine, member of the Snyder Institute and senior author on the study. “The brain prompts the symptoms associated with sickness; that overall feeling of being unwell, feeling tired and losing your appetite. The discovery indicates we may have to treat the nervous system as well as the infection.” [Read more.](#)

Snyder researchers report results of Phase II clinical trial translating UCalgary discovery to target lung and kidney inflammation in COVID-19



A paper recently published in the *British Medical Journal Open (BMJ Open)* by Snyder Institute/Cumming School of Medicine members [Dr. Ranjani Somayaji, MD](#) (first author), and [Dr. Daniel Muruve, MD](#) (senior investigator) and their research team details the results of the international Phase II human trial for LSALT peptide targeting acute lung and kidney inflammation in hospitalized patients infected with SARS-CoV-2 virus (COVID-19).

LSALT peptide is a dipeptidase-1 (DPEP-1) inhibitor that was discovered and characterized by a team of scientists at the University of Calgary and the Snyder Institute for Chronic Diseases. The basic work was published in the journal *Cell* in 2019 and *Sci Adv* in 2022. The drug has been translated from the bench to bedside in conjunction with Arch Biopartners Inc. (a company co-founded by the scientists) to treat inflammation and organ injury in the kidneys, lungs, and liver in humans. [Read more.](#)

Classic Pac-Man video game helps explain nationally recognized arthritis research



Two University of Calgary scientists are being recognized for their innovations supporting the treatment of osteoarthritis, a common and debilitating swelling of the joints affecting millions worldwide. Arthritis Society Canada named Cumming School of Medicine researchers [Dr. Antoine Dufour, PhD](#), (a Snyder Institute member) and Dr. Roman Krawetz, PhD, (McCaig Institute for Bone and Joint Health) among the recipients of the national charity's Top 10 Research Advances of 2023 award. The scientists led a team of researchers in a study of how the enzyme Tryptase β disrupts natural anti-inflammatory and joint lubricating activities, contributing to the onset of osteoarthritis. Drs. Dufour and Krawetz use a Pac-Man analogy to help decode the complex science of arthritis. [Read more.](#)

How some heart medications impact gut health: Snyder member Dr. Jane Shearer



UCalgary researcher and Snyder/Libin member Dr. Jane Shearer, PhD, and Postdoctoral Fellow Dr. Chunlong Mu, PhD, are investigating the complex relationships between heart medications and gut health to gain a clearer understanding of this intricate interplay.

The duo explored the impact of 12 medications, including beta blockers, statins and metformin, on gut microbiota health. Their study, published and selected as a journal cover in *ACS Pharmacology & Translational Science*, examined a cohort of Albertans ages 35 to 69 with conditions like high blood pressure and diabetes. It uncovered some important interactions and shed light on the impact of common medication combinations. [Read more.](#)

In the News *Toronto Star*: (Dr. George Chaconas) Ticks are already appearing in Ontario after a warm winter. [Here's what you need to know.](#)

Published papers

- **Wen Xuan (Wendy) Zhang**, (PhD student & first author), Arpan Sharma Neupane, Bruna Araujo David, Florent Ginhoux, Fernanda Vargas e Silva Castanheira, **Dr. Paul Kubes, PhD** (senior author). [A Functional Assessment of Fetal Liver and Monocyte-Derived Macrophages in the Lung Alveolar Environment.](#) *Journal of Immunology*, Volume 212, Issue 6, March 15, 2024. *This paper has been selected as a "Top Read" in March. Congratulations Kubes team!
- **Luke Brown, PhD candidate**, and **Dr. Elise Granton, PhD** (co-first authors), **Dr. Bryan Yipp, MD**, (senior author) et al. [Biofilm exopolysaccharides alter sensory-neuron-mediated sickness during lung infection.](#) *Cell*, March 21, 2024.
- Senior author **Dr. Ranjani Somayaji, MD** et al. [Creation of a CF-specific antibiotic spectrum index \(ASI\) as an antimicrobial stewardship initiative,](#) *Journal of Cystic Fibrosis*, March 2024.
- Jaemyung Shin (Biomedical Engineering), **Hyunjae Chung, PhD** (Human Organoid Innovation Hub), Hitendra Kumar, Kieran Meadows, Simon Park, **Dr. Justin Chun, MD, PhD**, Keekyoung Kim. [High throughput bioprinting of human](#)

[iPSC-derived kidney organoids using a low-cost, customizable 3D bioprinting system.](#) *Bioprinting*, Volume 38, April 2024, e00337.

Congrats



- **Dr. Bas Surewaard, PhD**, named [Tier II Canada Research Chair in Wild Microbiome and Infections](#)

- **Diana Changirwa, MSc**, fourth year MD-MSc student, Leaders in Medicine program and Immunology Graduate Program, Dept. of Critical Care Medicine, awarded an [Equity, Diversity and Inclusion Award](#). She is co-founder and member of the Snyder Institute EDI Committee, co-lead for the Policy and Engagement subcommittee

and the trainee-lead for the Snyder Institute on the Cumming School of Medicine EDI Leads network.

- **Dr. Rebekah DeVinney, PhD**, and **Dr. Johann Pitout, MD**, awarded a [Snyder Incubator Grant](#), Winter 2024.
- **Kathryn Strayer, MSc student** (Dr. Braedon McDonald, MD/PhD, & Dr. Christina Thornton, MD/PhD) awarded a [Paul Kubes Trainee Award of Excellence](#).
- **Liam Wilkinson, MSc student** (Dr. Johnathan Canton, PhD/Dr. Robin Yates, PhD) awarded a [Paul Kubes Trainee Award of Excellence](#).
- At the recent [Canadian Digestive Diseases Week \(CDDW\)](#) Canadian Liver Meeting Conference held in Toronto, our Snyder Institute graduate students gave stellar presentations. In the competition of oral presentations given at the Research Topics Days for graduate students selected from across Canada, our trainees placed in the top ranks:
 - 1st place: **Emily DeMichele, MSc student** (Buret lab), the title of her talk was “The role of hypoxia-inducible factor in cellular metabolic adaptation *Giardia* infection”.
 - 3rd place: **Parker Volk, MSc student** (McKay lab), the title of his talk was “Effects of *Hymenolepis diminuta* extracellular vesicles on mouse macrophages and their mitochondria”.
 - 4th place: **Olivia Sosnowski, PhD student** (Buret lab), the title of her presentation was: “Assessing the role of the microbiota dysbiosis on intestinal tuft cell functions upon *Giardia* infection”.

- **Dr. Henry Nguyen, MD**, awarded the 2024 [CIHR-INMD-CASL Early Career Researcher Partnership Prize](#), recognizing exceptional young investigators studying liver disease and are members of the Canadian Association for the Study of Liver (CASL).
- **Dr. Carla Coffin, MD** is President-elect, [Canadian Association for the Study of Liver \(CASL\)](#) for 2024 – 2026, and will replace current President (2022 – 2024) **Dr. Mark Swain, MD**, as his term is ending.
- **Dr. Dylan Pillai, MD, PhD**, awarded an [Accelerating Innovations into CarE \(AICE\) Concepts grant](#) from Alberta Innovates for his research MAPLAMP: Machine Learning-Aided Precision in LAMP Diagnostics for Accurate Quantification and Prediction of Infectious Disease Outcomes. The Alberta Innovates AICE Program serves to advance early-stage health research and innovation that demonstrates high commercial potential in priority areas of precision health. Dr. Pillai is one of seven Alberta researchers to receive the total \$6.3M.
- **Shahina Wiehler** (Proud lab) awarded a [UCalgary Teaching Award](#) – Non-Academic Staff, Individual, Cumming School of Medicine and Snyder Institute, for outstanding contributions to teaching and learning.

Congratulations, well done everyone!

Welcome new members

- [Dr. Sabine Gilch, PhD](#), Faculty of Veterinary Medicine. Focus of research: using cell culture and animal models to study the molecular and cellular biology of prion infections. The long-term goal is to translate basic research into novel diagnostic or therapeutic targets to combat prion diseases.
- Associate member [Dr. Amanda Grant-Orser, MD](#), Respiriologist, Director of the Foothills Medical Centre ILD Clinic, and Clinical Assistant Professor, UCalgary. Her current research focuses on interstitial lung abnormalities, including their prevalence and risk of progression.
- Associate member [Dr. Amir Sanati Nezhad, PhD](#), Associate Professor, Department of Biomedical Engineering and the Department of Mechanical and Manufacturing Engineering with a joint affiliation with the Center of BioEngineering for Research and Education (CBRE), at the Schulich School of Engineering. His research program focuses on bioinspired microfluidics, tissue engineering and biosensors.

We look forward to working with you!

Education news

Snyder Institute's Endowed Chair Seminar Series: April 18, 2 – 3 pm, Theatre Four, HSC, Foothills Campus



Featuring [Dr. Jay K. Kolls, MD](#), the John W. Deming Chair in Internal Medicine, Professor of Medicine and Pediatrics and Director of the Center for Translational Research in Infection and Inflammation at the Tulane School of Medicine. Dr. Kolls will present **CD4+ T Cell Immunity in the Respiratory Tract**. Hosted by Dr. Margaret Kelly. [Register here.](#)

SITC Postdocs and Research Associates Seminar Series – Friday, April 26, 2 to 3 pm, HSC Theatre One



Our next Postdocs & Research Associates Seminar Series lectures will take place on April 26, speaker to be confirmed, and then on **May 31, Marcela Davoli Ferreira, PDF** from Dr. Kathy McCoy's lab will present, also in Theatre One, 2-3 pm.

As part of the series of events on professional development and education for members within the Snyder Institute, the Snyder Institute Trainee Committee (SITC) holds a seminar series dedicated to

Postdocs and Research Associates seeking an opportunity to present their research or improve their teaching skills by giving a chalk talk for the Snyder community. The seminars take place monthly. If you are interested in joining this and further opportunities, please provide your contact information [here](#).

Snyder Graduate Seminar Series – April



All lectures begin at noon. Pizza: first come first served; best to arrive by 11:50 am (limit 2 pcs. per person please)

April 1 – Easter Monday, no seminar

April 8, Theatre One:

- Ayesha Wijesinghe, MDIM PhD Graduate Student
Dr. Pillai's Laboratory, Dept. of Microbiology, Immunology & Infectious Diseases
- Theodore Nelson, MDIM MSc Graduate Student
Dr. Gillrie's Laboratory, Dept. of Microbiology, Immunology & Infectious Diseases

April 15, Theatre One:

- Kelsie Volek, BME MSc Graduate Student
Dr. Gillrie's Laboratory, Department of Biomedical Engineering
- Carolyn Graham, MDIM MSc Graduate Student
Dr. Kubes' Laboratory, Dept. of Microbiology, Immunology & Infectious Diseases

April 22, Theatre One:

- Pardis Kiani, MDMI MSc Graduate Student
Dr. McCoy's Laboratory, Dept. of Microbiology, Immunology & Infectious Diseases
- Camila Gaio, MDIM MSc Graduate Student
Dr. Peters' Laboratory, Dept. of Microbiology, Immunology & Infectious Diseases

April 29, Theatre One:

- Nabil Royez, MDMI PhD Graduate Student
Dr. Pillai and Dr. Kim's Laboratories, Department of Microbiology, Immunology & Infectious Diseases
- Noga Sharlin, MDMI MSc Graduate Student
Dr. Corcoran's Laboratory, Dept. of Microbiology, Immunology & Infectious Diseases

Save the Date! May 16, 2024 – Snyder Institute Endowed Chair Seminar Series featuring Dr. William Agace (hosted by Dr. Kathy McCoy).

One Health Summer Institute 2024, June 9-15. Register by March 29.



The One Health Summer Institute (OHSI) 2024 is a week-long class and field-based program exploring a One Health approach to watershed planning. Learn how human activity impacts the Bow River Basin, which begins in the Rocky Mountains of Alberta, and is a critical source of water supporting the basin's human, animal, plant

and ecosystem health and services as well as numerous economic activities in the region. Gain insight into the science, management strategies, and collaborative transdisciplinary skills necessary for sustaining the health and viability of the basin and the diverse ecosystems it contains. **Application deadline is March 29, 2024.** [Find out more & apply here.](#)

Other news

New student-led art exhibit combines art, science and medicine



Calgary graduate students Julianna Svishchuk (Snyder Institute) and Valerie Cates (McCaig Institute) turned inspiration into action, helping transform a space on the Foothills campus into a colourful gathering spot for reflecting on art, science and medicine. Speaking at the opening of the exhibit, MD/PhD student Svishchuk emphasized the showcase was “driven by a love of art, science and medicine.” Cates added their aim was to

"create something beautiful and thought-provoking that encourages people to think about research differently." [Learn more.](#)

Melbourne-Calgary Infection and Immunity Initiative



A collaboration between the Snyder Institute for Chronic Diseases at UCalgary's Cumming School of Medicine and the Doherty Institute at the University of Melbourne is exploring shared opportunities for faculty and trainees engaged in the study of microbiology and immunology, and research interests in the diagnosis, management and prevention of infectious diseases. Future potential collaborations may be in the form of joint projects, visiting professors, shared trainees and exchanges.

An opportunity exists to create mutually beneficial projects, leveraging strengths from each institution leading to future ambitious research with transformative potential. Both universities have received transformational donations from Geoff Cumming, who is keen to see these types of collaborative research opportunities move forward for the benefit of all populations affected by infectious diseases and future pandemics. More information coming soon!

Paediatric cancer opportunity for postdocs

[CureSearch Young Investigator International Award in Pediatric Cancer Drug Development](#)

Amount: \$75,000 (US) annually for up to three years

LOI Deadline: April 14, 2024 - 12:00 PM

Eligibility: PhD, MD-PhD with no more than six years beyond completion of post-doctoral training, projects should be focused on pediatric oncology drug development. Applicants are encouraged to submit projects addressing areas of high unmet need in pediatric cancer research.

Snyder Institute funding reminder

- Snyder internal funding opportunities can be found on our website under [Membership & Funding](#)
- Snyder internal scholarship opportunities can be found on our website under [Education & Scholarships](#)

Upcoming events

The Snyder Institute presents Mini-Medical School: All about HIV, April 8, 6:30 – 8 pm, in-person and online



Join us for the Snyder Institute's Mini-Medical School, presented in person and also online by **Dr. John Gill, MD**, a clinician and professor in the Departments of Medicine and Microbiology, Immunology, and Infectious Diseases at the University of Calgary's Cumming School of Medicine, and a full member of the Snyder Institute. Dr. Gill is also the Medical Director of the Southern Alberta HIV Clinic.

Dr. Gill's work centres on HIV infection and encompasses multiple areas, including antiretroviral therapy, antiviral resistance, viral phylogenetics, opportunistic infections, and the epidemiology and costs of care delivery for HIV in Southern Alberta. This interactive lecture will be presented in person at Health Sciences Centre Theatre 4, UCalgary's Foothills campus, and also online via zoom. Mini-Medical School lectures are free, but you must register to attend. [Register here.](#)

Science in the Cinema presents *Five Feet Apart*, April 23, 6 pm, Central Library Downtown



In this film adaptation of Rachael Lippincott's #1 New York Times bestselling novel, *Five Feet Apart* depicts the love story of two teens grappling with one minor complication – they can't get within a few feet of each other without risking their lives. Following the film, join [Dr. Christina Thornton, MD, PhD](#), clinician-scientist with the Snyder Institute, for an engaging conversation and Q&A session on the topic of cystic fibrosis.

FREE admission and popcorn! Open to the general public, this screening is presented in partnership with the Snyder Institute for Chronic Diseases, the Cumming School of Medicine and the Central Library. Seating is first-come, first-served. [Learn more and register here.](#)

Snyder EDI Action Group next meeting May 27, 10:30 – 11:45am, HSC G382



[Dr. Laura Sycuro, PhD](#), is the Portfolio Lead of the Snyder EDI Action Group. Launched in Fall 2022 by Snyder trainees Dr. Karen Lithgow and Diana Changirwa, the Group currently has ~30 members working to initiate policies and advance practices that address structural inequities, celebrate diversity and promote an inclusive environment for all.

Three sub-committees have formed and are managed by Action Leaders: one faculty member and one staff or trainee member for each group.

Open to all faculty, trainees & staff who want to get involved

There are opportunities to join as a member-at-large or sub-committee leader. Learn more about the [Snyder Institute EDI Action Group](#).

Riddell Centre for Cancer Immunotherapy upcoming events

- May 6, 3-4 pm: Research Rounds, Robert Puckrin, HS Room 1500 and via Zoom
- May 13, 3-4 pm: Work in Progress, Hobin Seo, HS Room 1500 and via Zoom

Would you like to contact someone at the Snyder Institute?

On our website, our [Contact Us page](#) has some useful contacts.

We want to hear from you! Send us your news

We invite all Snyder members, trainees and staff to send us your news about successes, lectures, workshops... anything that you would like to share with the membership. We will make every effort to post it, and the best ways for us to share your news are through our:

- [Snyder newsletter](#)
- [Snyder website](#) (as long as your news fits the site's guidelines)
- Twitter, LinkedIn, Instagram and Facebook channels

Do you want help publicizing your event/lecture/workshop? Send us the details **at least one month before the event date**. Please contact Anurag if you have any questions (anurag1@ucalgary.ca). Thank you.

For the latest news and information, visit us at snyder.ucalgary.ca,
and at



If you have news to share, please send it to Anurag,
anurag1@ucalgary.ca

snyder.ucalgary.ca/

This message was sent to you because you are a
Community Member of The Snyder Institute for
Chronic Diseases.

To unsubscribe, please reply "unsubscribe".

Snyder Institute for Chronic Diseases
Cumming School of Medicine

University of Calgary
3280 Hospital Drive NW
Calgary, Alberta, T2N 4N1

© University of Calgary 2024