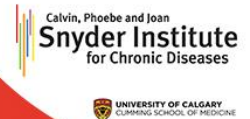




A NEWSLETTER FROM
**The Snyder Institute
for Chronic Diseases**



September 2023

Research news

New vaccine may be the best option yet in preventing pneumococcal pneumonia



“Captain of the Men of Death” is the phrase Sir William Osler used in 1918 to describe pneumococcal pneumonia, the most widespread and fatal of all acute infectious diseases. While *Streptococcus pneumoniae*, or pneumococcus, remains the most commonly identified cause of community-acquired pneumonia, a new vaccine is available to prevent this infection. *Streptococcus pneumoniae* can cause many infections, including meningitis (infection of the membranes surrounding the brain and spinal cord) and sepsis (a severe bloodstream infection), but pneumonia remains the most

common. We spoke with [Dr. Chris Mody, MD](#), about this and other vaccines and their contribution to advances in health care.

Mody is a clinician-scientist, professor, and member of the Snyder Institute for Chronic Diseases at UCalgary. After many years of study and a keen interest in pneumococcal vaccines, Dr. Mody shares his insights about the immense potential of another type of vaccine – the protein conjugate vaccine – and weighs its benefits against older pneumococcal vaccines. [Read more.](#)

Liver fibrosis: giant cells step in to compensate for impaired immune function



A team of researchers from UCalgary's Cumming School of Medicine and Charité – Universitätsmedizin Berlin has uncovered a previously unknown compensatory mechanism found in liver disease. If Kupffer cells (KCs), a specific kind of immune cells found in the liver, become impaired by tissue scarring, immune cells originating in the bone marrow flow to the organ, where they form larger cell clusters to perform the same function. The research team led by [Dr. Paul Kubes, PhD](#), and [Dr. Moritz Peiseler, MD](#), have observed for the first time how the liver preserves its bacterial filtration function even in the presence of disease.

Dr. Peiseler is a scientist and physician in the Department of Hepatology and Gastroenterology at Charité in Berlin, is a former postdoc in the Kubes' lab and is the first author of the study. The team's fundamental findings, which may contribute to developing new treatments for liver damage, [are published in the journal *Science*](#).

Operation of award-winning COVID-19 wastewater monitoring program transitions to public health authorities



After three years of research impact, national attention, and remarkable public uptake, continued operation of the joint UCalgary and University of Alberta COVID-19 wastewater monitoring program has been handed off to Alberta Health and Alberta Precision Laboratories (APL). The COVID-19 wastewater monitoring program, led at UCalgary by researchers from the Cumming School of Medicine (CSM), Faculty of Science, Schulich School of Engineering and Advancing Canadian Water Assets (ACWA,) has been testing wastewater for early signs of COVID-19 cases since June 2020.

“Our team is advancing the science looking at other respiratory and transmissible viruses, bacterial pathogens and antimicrobial resistance, and substances of potential abuse,” says [Dr. Michael Parkins, MD](#), professor in the CSM, member of the Snyder Institute and infectious disease specialist.

“We believe strongly in the potential of wastewater monitoring, and we’re excited to see where this research will take us next.” [Read more](#).

In search of a vaccine for deadly leishmaniasis



Armed conflict in northern Ethiopia between 2020 and 2022 displaced huge numbers of people, driving some into refugee camps elsewhere in the country and in eastern Sudan. Aid agencies struggled to service the remote locations, and people found themselves in areas rife with visceral leishmaniasis, a parasitic disease also known as kala-azar. Now, with Sudan experiencing conflict and city dwellers fleeing to the countryside, there are concerns that history could be about to repeat itself.

Along with many like-minded experts around the globe, Snyder Institute member [Dr. Nathan Peters, PhD](#), discusses his hope for immunization to provide much needed protection against the neglected parasitic disease in conflict zones.

Although cutaneous forms of the disease, such as that caused by the *Leishmania major* parasites present in the region, are less often fatal than visceral leishmaniasis, the consequences are still significant. “We call them less severe forms of the disease, but that is not what you are thinking if you ever sit down with infected kids and see the lesions on their skin,” says Dr. Peters. [Read more](#).

Published papers

Eftekhari R, Ewanchuk BW, Rawji KS, Yates RM, Noorbakhsh F, Kuipers HF, Hollenberg MD: [Blockade of proteinase-activated receptor 2 \(PAR 2\) attenuates neuroinflammation in experimental autoimmune encephalomyelitis](#). *Journal of Pharmacology and Experimental Therapeutics* 2023 Sep 12:JPET-AR-2023-001685. doi: 10.1124/jpet.123.001685. Online ahead of print. PMID: 37699708. *This paper was selected by the editor to be highlighted in ‘Viewpoint’, a section of the publication featuring cutting-edge findings. Well done Hollenberg research team!****

Congrats



- **Dr. Simon Hirota, PhD** [appointed associate dean, Research Infrastructure](#), effective August 15
- **Dr. Paul Kubes, PhD** was elected a [Fellow of the Canadian Academy of Health Science \(CAHS\)](#) this week in recognition of his contributions to advancing health sciences in Canada.
- **Dr. Marie-Claire Arrieta, PhD** and **Dr. Joe Harrison, PhD** were [two of five UCalgary faculty members elected](#) into the Royal Society of Canada's College of New Scholars, Artists and Scientists
- **Dr. Marie-Claire Arrieta, PhD** received an [Azrieli New Ideas to Advance Knowledge in Neurodevelopment](#) grant
- **Drs. Justin Chun, PhD, MD, Mark Gillrie, MD, PhD, Nargis Khan, PhD and Henry Nguyen, MD** [received CFI-JELF grants](#) to study kidney disease, inflammation, pneumonia and TB.
- **Dr. Nargis Khan, PhD** was awarded a [Tier II Canada Research Chair in Tuberculosis](#) and other highly infectious respiratory pathogens
- Snyder's Strategic Advisory **Board Chair Matt Brister and Tara Brister** [received the Alumni Service ARCH Award](#) for their massive impacts on the UCalgary community and its alumni
- **Dr. Laura Sycuro, PhD** was awarded an NSERC Early Career Researcher award for *Life on the inside: Defining the adhesion and invasion behaviours of human microbiota*
- **Dr. Robert Newton, PhD** was awarded an NSERC Discovery Grant for *Dynamic effects of inflammatory cytokines on signaling and gene expression: Modulation and priming of epithelial cell responses*
- Snyder Research Equipment Grant recipients:
 - **Dr. Pina Colloroso, PhD** and the **Human Organoid Innovation Hub** – Stackable Incubators
 - **Dr. Björn Petri, PhD** – VS HM5 Automated Hematology Analyzer
 - **Dr. Simon Hirota, PhD** – Countess 3 FL Cell Counter Starter Package and Reusable Slides
- Snyder Clinical Problems in Chronic & Infectious Diseases Incubator Grant recipients:
 - **Drs. Mark Gillrie, MD, PhD and Bas Surewaard, PhD** – Evaluating Alveolar Macrophages as Reservoirs for Intracellular Bacterial Survival and Therapeutic Targets in *S. aureus* Pneumonia
- **Dr. Régine Mydlarski, MD** and her research group received a \$2 million CIHR grant for *Skin Investigation Network of Canada (SKIN Canada): Advancing interdisciplinary, patient-relevant research to improve skin health*. Dr. Mydlarski also received the 2023 Award of Merit from the Canadian Dermatology Association
- **Dr. Carla Coffin, MD**, received a CIHR planning and Dissemination Grant for the Canadian Hepatitis B (CanHepB) Network and Canadian

Association for the Study of Liver (CASL) [conference in Calgary](#)
September 29

- **Dr. John Conly, MD** has begun a sabbatical at University of Oxford, is a Visiting Fellow with the Kellogg College, and returns to Calgary July 1/24
- **Postdoc Dr. Michelle Asbury (Dr. Marie-Claire Arrieta)** was awarded the L'Oréal Canada For Women in Science Research Excellence Fellowship. This prestigious fellowship is awarded to only 4-5 scientists/year

Well done! Congratulations to you all!

Education news

Snyder Graduate Seminar Series – October



October 2, Theatre One:

- Laura Godin, MDIM MSc Graduate Student
Dr. Jenne's Laboratory, Department of Microbiology, Immunology & Infectious Diseases
- Ryan Chaffee, MDMI MSc Graduate Student
Dr. Pillai's Laboratory, Department of Microbiology, Immunology & Infectious Diseases

October 9, Thanksgiving holiday, no seminar

October 16, Theatre One:

- Sisay Belay, MDMI MSc Graduate Student
Dr. Muruve's Laboratory, Department of Medicine
- Rachita Panda, MDIM PhD Graduate Student
Dr. Kubes' Laboratory, Department of Microbiology, Immunology & Infectious Diseases

October 23, HSC 01500:

- Liam Wilkinson, MDMI MSc Graduate Student
Dr. Canton's Laboratory, Department of Biochemistry and Molecular Biology
- Kaetlyn Phillips, MDMI MSc Graduate Student
Dr. Arrieta's Laboratory, Dept. of Microbiology, Immunology & Infectious Diseases

October 30, Theatre One

- Eric Pimentel, MDMS MSc Graduate Student
Dr. Winston's Laboratory, Department of Biochemistry and Molecular Biology
- Lauren Bowron, MDMI MSc Graduate Student
Dr. Parkins' Laboratory, Department of Microbiology, Immunology & Infectious Diseases

Panel Discussion: Guiding Postdocs through the application process for faculty positions, October 13, 1:30 – 3pm, Theatre One

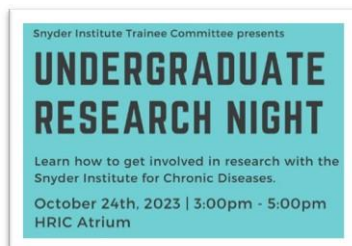
The Snyder Institute Trainee Committee (SITC) is pleased to invite you to participate in a panel discussion workshop aimed at guiding postdoctoral fellows through the process of applying for faculty positions. This workshop will last 90 minutes. The panelists for this discussion will be Dr. Nargis Khan, Dr. Simon Hirota and Dr. Claire Arrieta. Attendance is limited to room availability space. Please use the link [here](#) and RSVP.

IRN/GIRG Trainee Committee (IGTC) seeking committee members by October 13

The IRN/GIRG Trainee Committee (IGTC) invite you to join their Committee. The IGTC will be responsible for organizing social and networking events for trainees and faculty to promote a culture of community within IRN and GIRG. Examples of successful events they have held in the past include indoor soccer, ping pong tournaments, BBQs, the Shaffer Davison Research Awards Day and more! If you have not done so already, follow them on Instagram [@igtc.uofc](#) to see what they have been up to.

The IGTC will meet on a monthly/ad hoc basis to plan events. The IGTC invite all IRN and GIRG graduate students and PDFs to self-nominate if you are interested in being part of the IGTC team for 2023-24. Please email your self-nominations to igtc.ucalgary@gmail.com by October 13, 2023. Please include your full name, the name of your supervisor and the position you are interested in (chair, co-chair/treasurer, secretary, general member). If you have any questions about the IGTC, roles, and positions, please email igtc.ucalgary@gmail.com.

SITC Undergraduate Research Night, October 24, 3 – 5pm, HRIC Atrium



Are you an undergraduate student interested in pursuing research in microbiology, inflammation, immunology, or infectious diseases? Are you a Snyder Institute faculty member currently recruiting new undergraduate and/or graduate students into your lab? If yes, join the Snyder Institute Trainee Committee for their [Undergraduate Research Night!](#)

All individuals with previous research experience are invited to join as participants including undergraduate and graduate students, as well as postdoctoral fellows and supervisors. Refreshments will be provided and door prizes will be drawn throughout the event! Register for the event as an attendee or participant. [Learn more here](#).

Introduction to R workshop, October 31 & November 1, 9:30am – 4pm, HSC 1462B



R has become one of the most popular programming languages globally and is used in diverse research areas, including bioinformatics, physics, math, social sciences, and many more. Join Sahar Bagheri, MSc., and Dr. Ewandson Luiz Lameu who will smoothly guide you through the most fundamental and some other more advanced capabilities of R. Registration required.

[Register here](#) by October 20 or email

sahar.bagheri1@ucalgary.ca or ewandsonluiz.lameu@ucalgary.ca.

SITC Postdocs and Research Associates Seminar Series



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.

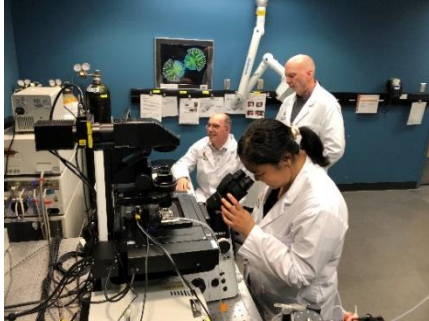
The seminars take place monthly. If you are interested in joining this and further opportunities, please provide your contact information [here](#).

[Journal Club Series](#)

[More upcoming SITC events](#)

Other news

Snyder Institute Catalyst Grant



The Snyder Institute is pleased to announce its new Catalyst Grant program. A \$1-million gift from the McKay Family Foundation is providing critical seed funding for researchers at the Snyder Institute. This grant program will help launch bold, innovative and unfunded research investigations which could lead to future new medical treatments.

The new [Snyder Institute Catalyst Grant](#) program bridges the gap for ambitious research projects which have the potential to attract substantial government support once promising initial data can be gathered. The grants support innovative, high-risk, high-reward research that aligns with the Snyder Institute's mandate and priorities and makes significant use of its [Live Cell Imaging Lab](#) and other core research platforms and affiliated platforms. [Learn more and apply!](#)

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](#)

Equipment sharing

As noted in the Congrats section above, Drs. Justin Chun, Mark Gillrie, Nargis Khan and Henry Nguyen [received CFI-JELF grants](#) to study kidney disease, inflammation, pneumonia and TB. They are willing to share their equipment to collaborate with colleagues. Here's a snapshot

:

- **Mark Gillrie**
The equipment is a confocal/resonant scanning microscopy platform with integrated microfluidics and environmental control for organ on a chip research. It will be housed in our lab, HRIC 4A29. It will be available on a limited basis to groups with appropriate training who are doing similar work when there is excess time beyond our lab's needs.
- **Nargis Khan**
The equipment is a Seahorse, and I have also contributed with the CFI-JELF to purchasing a Cell Sorter with CSM. The Seahorse measures the energy metabolism of live cells in real time. This is housed in my lab, HRIC 4C45, and of course, is available for collaborative use by others.

- **Henry Nguyen**

The equipment is a Cytex Spectral Flow Cytometer. It analyzes cells marked with fluorescent tagged antibodies and can measure up to ~40 parameters which is more than a conventional flow cytometer. It will be housed in the Nicole Perkins Microbial Core. My lab will have priority, but our aim is to share and facilitate the work of other users of the microbial core.

Grant Call: Precision Medicine and the Microbiome – Proof-of-Principle 2023: The Microbiome and Precision Nutrition – proposal deadline October 11

The Weston Family Foundation is pleased to announce the [Proof-of-Principle 2023](#) program, supporting high-impact translational or interventional research that seeks to understand and leverage the influence of the microbiome on health. This specific call for applications focuses on the role of the microbiome in precision nutrition. Funding available: Up to \$300K per project over up to 30 months.

CIHR Team Grants in Lung Health funding opportunity

The Canadian Institutes of Health Research are collaborating with the Canadian Cancer Society, the Canadian Lung Association, and the Heart and Stroke Foundation of Canada on the upcoming [Team Grants: Lung Health](#). This funding opportunity is also supported by in-kind contributions from Cystic Fibrosis Canada and Children's Healthcare Canada.

Alberta Centre for Advanced Diagnostics presents APEX Access Mentorship Program, September 2023 – April 2024

The APEX Access program is an EDI mentorship and training program that promotes underrepresented groups in the health diagnostics ecosystem via a province-wide network and mentors from across all of the axes of diversity.

Hybrid format – meetings and workshops will be held virtually and in-person on the University of Calgary main campus. Time commitment: up to 1 hour per month.

In this program, mentees connect with experienced researchers and leaders to learn about career opportunities in clinical and biomedical sciences. Each month, one mentor will speak about their career path and the skills they have developed in their career. Previous mentors have a wide variety of experience, including as a professor, clinical bioinformatician, start-up CEO, and science writer. Participants are also encouraged to attend professional development workshops each semester and contribute to discussions in our online community. This is a great opportunity to learn about the diversity of careers in the life sciences, build your leadership skills, and expand your professional network! For more information or to apply as a mentee or mentor, please visit the website: <https://www.albertadiagnostics.ca/access> or contact: apex.access@albertaprecisionexchange.ca

Alex's Lemonade Stand Foundation for Childhood Cancer 2024 Young Investigator Grant

Applications due December 11

The Young Investigator grant is a three-year award designed to support early career researchers, such as postdoctoral fellows, clinical fellows, or instructors, pursuing promising childhood cancer research ideas. These grants aim to cultivate the best and brightest researchers of the future who demonstrate a commitment to a research career in pediatric cancer. [Learn more.](#)

Do you have new trainees or new staff working with you?

If you do, please send us their contact information so we can add them to our mailing list and ensure they receive all pertinent Snyder news. Email snyderadmin@ucalgary.ca.

Upcoming events

Register now: Snyder Institute Research Day October 11



After several years of cancelled and virtual events, we are pleased to hold the Snyder Institute's 2023 **in-person** Research Day on Wednesday, October 11. **Our Research Day 2023 will highlight the high impact research being conducted by some of our most recently recruited members. Here is a snapshot of some of the talks and presentations:**

- Johnathan Canton: Apolipoprotein control of antigen cross presentation by conventional dendritic cells
- Antoine Dufour: Playing the game of Pac-Man: Be careful when running with molecular scissors
- Nargis Khan: Maladaptive innate immune training links to chronic inflammation in colitis
- Katharina Lahl: Immune responses to rotavirus infection at the maternal-neonatal interface
- Andrew Leidal: Secretory autophagy in inflammatory lung conditions
- Braedon McDonald: Immunotherapy through microbiota editing: harnessing microbiota-immune interactions to combat infections in the ICU
- Bas Surewaard: Looking at the wild side of infectious disease research
- Christina Thornton: The role of the lung microbiome in suppurative disease

This not-to-be-missed day of insights and revelations about the science and medicine we study and practice will be an excellent opportunity for Snyder members to connect with colleagues, trainees and staff. Attendees are invited to join us for a reception in the HRIC Atrium at the close of the talks. **Registration is required. Lunch and reception will be provided to all registered attendees. Please register soon, and no later than Wednesday, October 4, 2023.** [RSVP and register.](#)

McFarlane Diabetes Symposium, October 12, 9am – 3:30pm, Cal Wenzel Precision Health 2E23

Join us at the McFarlane Diabetes Symposium as basic, translational, and clinical diabetes researchers from the University of Calgary will come together to foster collaboration and develop a vision for the future. Find out more about the program and [register here.](#)

Snyder/MIID Coffee Meet-ups for Faculty: Next meet-up October 18, 10 – 11am, UCVM HRIC 2AC56



Snyder Faculty members, come and get to know your Snyder/MIID colleagues! [Please join us for coffee and treats](#) in an informal setting on **October 18, 10 – 11 am.** *We'll provide the coffee and treats; please bring your own mug or cup if possible. [New location: UCVM HRIC 2AC56.](#)

Canadian Liver Foundation LIVERight Gala honouring Dr. Sam Lee, October 28, 6 – 11pm, Sheraton Cavalier Hotel, Calgary

Don't miss a night of fun on October 28 to unmask Liver Disease. This year the gala will honour Dr. Sam Lee for his 30 years as a Hepatologist in Alberta. Meet some of the people who inspire us each day to raise research funds for the over 100 different liver diseases and help us to celebrate some of the strides we are making here in Alberta. The LIVERight Gala is an annual signature event that raises funds for liver research and education. The commemorative theme continues to focus on our accomplishments that are made possible by the contributions from the philanthropic sector, medical professionals and patients/volunteers. [Purchase tickets here](#) or call/email Kari Furnell, Regional Manager, Alberta: (403) 276-3390, kfurnell@liver.ca to reserve.

Snyder Institute Mini-Medical School Series starts November 6



The Snyder Institute's Mini-Medical School is designed for anyone who is interested in learning about chronic, infectious and inflammatory diseases. Our interactive lecture series features topics such as chronic pain and IBD, COVID-19 diagnosis, treatment and vaccines, kidney

diseases, autoimmune diseases, viruses that cause cancer, the interplay of microbiome and mental health in children, respiratory diseases and much more. Each lecture combines basic science with real life clinical situations to give Canadians a better understanding of the effects of chronic diseases on the body. Each presenter is highly knowledgeable and respected in their field of research, and most are current members of the Snyder Institute for Chronic Diseases at UCalgary's Cumming School of Medicine.

Tentative dates: Nov. 6, Dec. 4, Jan. 8, Feb. 5, Mar. 4, Apr. 8, and May 6, from 6:30 to 8 pm. Details to follow.

Snyder EDI Action Group next meeting November 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 will be 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.

Regular meetings are held on the 4th Monday of every **other** month, 10:30-11:45 am, in HSC G382

- September 25, 10:30 am in G382
- November 27, 10:30 am in G382
- January 29, 10:30 am in G382
- March 25, 10:30 am in G382
- May 27, 10:30 am in G382

Learn more about the [Snyder Institute EDI Action Group](#).

Do you want 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 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 Holly if you have any questions (holly.kerr@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 Holly Kerr, holly.kerr@ucalgary.ca

snyder.ucalgary.ca/

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